

Psychological Ownership of (Borrowed) Money

Eesha Sharma , Stephanie Tully, and Cynthia Cryder

Abstract

The current research introduces the concept of psychological ownership of borrowed money, a construct that represents how much consumers feel that borrowed money is their own. The authors observe both individual-level and contextual-level variation in the degree to which consumers feel psychological ownership of borrowed money, and variation on this dimension predicts willingness to borrow money for discretionary purchases. At an individual level, psychological ownership of borrowed money is distinct from other individual factors such as debt aversion, financial literacy, income, intertemporal discounting, materialism, propensity to plan, self-control, spare money, and tightwad–spendthrift tendencies, and it predicts willingness to borrow above and beyond these factors. At a contextual level, the authors document systematic differences in psychological ownership between different debt types. They show that these differences in psychological ownership manifest in consumers' online search behavior and explain consumers' differential interest in borrowing across debt types. Finally, the authors demonstrate that psychological ownership of borrowed money is malleable, such that framing debt using language lower in psychological ownership can reduce consumers' propensity to borrow.

Keywords

consumer finances, debt, financial decision making, mental accounting, psychological ownership

Online supplement: <https://doi.org/10.1177/0022243721993816>

Debt refers to money that is borrowed and must be repaid. While debt provides financial flexibility when consumers face liquidity constraints, excessive consumer debt can pose serious challenges to consumers' financial health and psychological well-being (Brown, Taylor, and Price 2005; Sweet et al. 2013), and even to the economy as a whole (Mian and Sufi 2015). Such weighty consequences underscore the importance of understanding determinants of consumers' willingness to borrow.

A growing trend is the use of debt to fund discretionary purchases. Indeed, U.S. consumers now identify discretionary spending as the most common category of spending contributing to their outstanding credit card debt (Leonhardt 2019). The current research aims to add to the growing body of research on consumers' decisions to incur debt for discretionary purchases (e.g., Tully and Sharma). In doing so, we introduce an important new construct that differs across individuals and contexts, predicts which consumers are most likely to borrow, and explains why some forms of borrowing may be more attractive than other forms; this construct is the psychological ownership of borrowed money.

Borrowed money, by definition, is money available for use by one entity that is owned by another. Thus, a consumer's use of borrowed money involves using money that is not their own.

Despite this feature of borrowed money, in the current research, we suggest and find that consumers can feel as though borrowed money is their own. That is, we propose that people can experience psychological ownership of borrowed money, regardless of legal ownership. Further, although consumers' willingness to incur debt undoubtedly results from multiple factors, the current research finds that the extent to which consumers experience psychological ownership of borrowed money is an important and previously unidentified factor in explaining debt uptake.

Across six studies and using multiple measures of psychological ownership, we demonstrate that consumers experience psychological ownership of borrowed money to differing degrees. We show that these feelings of psychological ownership are distinct from many other individual-level factors (e.g., debt aversion, spare money, self-control) and demographic characteristics. In addition, variation in psychological ownership predicts

Eesha Sharma is Associate Professor of Business Administration, Tuck School of Business, Dartmouth College, USA (email: eesha.sharma@tuck.dartmouth.edu). Stephanie Tully is Assistant Professor of Marketing and Business School Trust Faculty Scholar, Graduate School of Business, Stanford University, USA (email: smtully@stanford.edu). Cynthia Cryder is Associate Professor of Marketing, Olin Business School, Washington University in St. Louis, USA (email: cryder@wustl.edu).

which consumers are more willing to use borrowed money. We further demonstrate that psychological ownership of borrowed money is shaped by context. Specifically, we draw from research on the psychological ownership of possessions and organizations to hypothesize and show that psychological ownership of borrowed money in the form of credit is generally higher than psychological ownership of borrowed money in the form of a loan. We show that these differences in psychological ownership result in differential willingness to borrow across debt types. Finally, we demonstrate that in contexts where consumers' psychological ownership of borrowed money would typically be higher (i.e., in the case of "credit"), describing borrowed money with terminology lower in psychological ownership reduces consumers' willingness to borrow.

Theoretical Development

Existing research on consumer debt has examined a number of factors that influence borrowing. For example, consumer characteristics such as age and income predict debt incurrence (Kim and DeVaney 2001; Zhu and Meeks 1994), and structural features of financing options (e.g., total debt amount, interest rate, duration) can influence debt uptake as well (e.g., Gross and Souleles 2002; Kim and DeVaney 2001; Soman and Cheema 2002).

Aside from such objective factors, research has also shown that psychological factors pertaining to consumers' finances can impact decision making as well (see work on subjective wealth [e.g., Piff et al. 2010; Sharma and Alter 2012; Sussman and Shafir 2012; Tully, Hershfield, and Meyvis 2015; Zauberman and Lynch 2005]). For example, people's decisions to repay debts can be influenced by their subjective sense of progress or desire to close debt accounts at the expense of minimizing total interest charges (Amar et al. 2011; Kettle et al. 2016).

Much of the existing research on consumer debt focuses on predicting overall debt levels, with less research focusing on understanding discretionary borrowing decisions in particular (for an exception, see Tully and Sharma [2018]). This gap is notable because discretionary spending is an important contributor to consumers' debt levels (Leonhardt 2019; Weisbaum 2019). In addition, in the case of debt for discretionary purchases, consumers have substantial leeway over whether to incur debt, allowing psychological factors to play an influential role. Thus, we focus the current investigation on a psychological factor that can help shed light on discretionary borrowing decisions: psychological ownership of borrowed money.

Psychological Ownership

Psychological ownership is defined as the extent to which someone feels that a given target is theirs and belongs to them (Pierce, Kostova, and Dirks 2001). Much of the existing research on psychological ownership comes from the management literature and suggests that people can experience a sense of ownership of organizations (e.g., Pierce, Kostova, and Dirks

2001). The construct of psychological ownership has also been examined in terms of consumers' feelings toward possessions (e.g., Beggan 1992; Peck and Shu 2009; Pierce, Kostova, and Dirks 2003; Shu and Peck 2011). The notion of psychological ownership evolved from the research on the psychology of possession and property (e.g., "what is mine"). Understanding that objects belong to people is believed to be relatively fundamental, emerging in children as early as 18 months (Hay 2006; Nelson 1976). Although objective, or legal, ownership can contribute to feelings of psychological ownership, psychological ownership is a subjective, self-derived perception that does not require actual possession or legal ownership to exist.

Prior work on psychological ownership has examined why feelings of psychological ownership manifest. Scholars studying psychological ownership tend to agree that its origins stem from humans' fundamental needs for efficacy and a sense of identity (for reviews, see Dawkins et al. [2017]; Pierce, Kostova, and Dirks [2001, 2003]). To start, psychological ownership over a target can provide a sense of efficacy. That is, to the extent that people feel psychological ownership over a desirable target, they may experience a sense of power, control, or influence (e.g., Pierce, O'Driscoll, and Coghlan 2004). Second, psychological ownership can convey one's identity, both to oneself and to others. For instance, consumers' possessions are often considered to reflect who they are, and therefore, perceptions of ownership can reinforce individuality or positive identity perceptions (Dittmar 1992).

Taken together, perceptions of psychological ownership encapsulate feelings of possession toward a target. These feelings result from basic human motives, can apply to a range of targets (e.g., organizations, material possessions), and can be distinct from legal or actual ownership. The focus of the current research is to introduce the concept of psychological ownership of borrowed money and to examine its role in consumers' willingness to borrow.

Psychological Ownership of Money

The current research investigates perceptions of psychological ownership of money. Although there is little direct empirical work on the psychological ownership of money, Shu (2018) measured consumers' psychological ownership of social security benefits through beliefs of having "earned" the money and found that these beliefs predicted consumers' stated preferences for when they preferred to claim those benefits. Similarly, Soman, Cheema, and Chan (2012) found that people were more willing to use a business loan when they had exclusive and direct access to the funds because they felt the funds belonged to them. These findings provide support for the proposition that people can experience psychological ownership of monetary resources. In the current work, we suggest that psychological ownership can be felt toward a broad range of monetary resources, and that such perceptions are particularly interesting in the case of borrowed money.

We define psychological ownership of borrowed money as the extent to which funds that are available to be borrowed

feel like one's own money. We propose that these perceptions vary along a continuum that ranges from a consumer feeling like borrowed money is not at all their own money at one end, to feeling like borrowed money is entirely their own money at the other end. For example, imagine that two consumers each receive a line of credit worth \$1,000. A consumer at one end of the continuum might view the money as belonging entirely to the bank that lent it, making her feel that she has only temporary access to the bank's funds until they must inevitably be repaid; this consumer would be considered lower in psychological ownership of borrowed money. By contrast, a consumer at the other end of the continuum might view those same funds as entirely his own, similar to using his own cash; this consumer would be considered higher in psychological ownership of borrowed money.

We propose that consumers can experience a sense of psychological ownership of borrowed money despite the fact that borrowed money is inherently owned by another entity. This proposition is in line with the established notion that legal, or actual, ownership is not a prerequisite for feelings of psychological ownership of a target (e.g., Pierce, Kostova, and Dirks 2001). Indeed, psychological ownership of borrowed money may manifest because it can serve many of the same human needs that psychological ownership over possessions and organizations are believed to serve. Psychological ownership of borrowed money can provide a sense of efficacy and control because owning money provides the ability for consumers to acquire things that they need or want. In addition, money has been discussed as an extension of the self (Belk 1988) and is thus likely to influence a person's sense of identity. Accordingly, feeling ownership over borrowed money might shape a consumer's perceptions of their wealth and independence.

Psychological ownership as a general construct is believed to be a function of the given individual and situation (Etzioni 1991; Pierce, Dirks, and Kostova 2003). Although the motives of efficacy and positive self-identity that underlie psychological ownership are universal, the strength of these motives differs across individuals (Pierce, Dirks, and Kostova 2003). Therefore, some individuals may seek feelings of psychological ownership to a greater degree than do others. Moreover, differences in personality traits, self-confidence, and personal values impact the desirability of ownership within any particular domain (Pierce, Dirks, and Kostova 2003). Thus, due to differing needs across individuals for feeling psychological ownership in general, and due to differing esteem placed on the possession of money and borrowed money in particular, we expect individuals to vary in their sense of psychological ownership of borrowed money. In other words, because of variance in consumers' needs for efficacy and self-identity, as well as variance in the extent to which consumers believe borrowed money can help serve these needs, we predict that psychological ownership of borrowed money will vary across individuals.

We also consider how psychological ownership may vary across contexts. In doing so, we focus on a basic factor on which debt can vary: debt type. Consumers have

unprecedented access to available financing in a variety of forms (Filak 2016; Kline 2018), but the most common forms available to consumers for discretionary purchases are "credit" and "loans" (Federal Reserve 2006). Although in economic terms "credit" and "loans" are largely interchangeable, financial products are typically marketed as one type or another (e.g., credit cards, credit lines, personal loans, payday loans), in part due to common differences in structural properties. Here, we suggest that individuals systematically experience greater psychological ownership of borrowed money in the form of credit compared with loans.

First, by the very nature of their naming conventions, loans are less suggestive of actual ownership than is credit. Compared with the word "credit," the word "loan" is more closely linked to the actual owner of the funds (a lender), both conceptually and semantically. Indeed, in a Pilot Study among 400 online participants, we found that participants are more likely to spontaneously bring to mind the lender (i.e., a bank or other institutional lender) when thinking about a personal loan than when thinking about a credit card ($B = .44$, Wald $\chi^2 = 8.36$, $p = .004$; for details, see the pilot study in the Web Appendix). Thus, differences in terminology suggest that borrowed money in the form of credit (vs. loans) may be higher in psychological ownership because loans are more readily associated with the legal owner of the money.

Second, financial products offered to consumers as "credit" (e.g., credit cards, lines of credit) may better serve the needs underlying psychological ownership. Funds marketed as "credit" are generally more readily accessible, have less stringent preapproval requirements, and fewer restrictions regarding use of the funds relative to loans. This greater autonomy over how the money is spent may confer greater feelings of efficacy for credit compared with loans. In addition, borrowed money in the form of "credit" may be perceived more positively with respect to how its possession impacts one's sense of identity. For instance, terms such as "creditworthy" may serve as a positive signal of one's wealth. Indeed, premium credit cards have been shown to convey a sense of personal wealth and status (Bursztyn et al. 2017). Moreover, prior research has shown that consumers use their credit limit as a signal of their future earnings potential (Soman and Cheema 2002).

In summary, borrowed money marketed as credit may increase perceptions of efficacy and affirm one's self-identity relative to borrowed money marketed as loans. In support of this proposition, the same pilot study described previously also showed that when participants thought about someone using borrowed money, they were more likely to evoke someone with greater efficacy and a more positive self-identity when considering someone using credit as opposed to someone using a loan (for complete details, see the pilot study in the Web Appendix). Thus, we suggest that consumers experience greater psychological ownership of borrowed money in the form of credit compared with borrowed money in the form of loans.

Psychological Ownership and Willingness to Borrow

In the current research, we suggest that understanding psychological ownership of borrowed money is valuable because it can predict consumers' interest in and likelihood of incurring debt. Previous research has shown that indebtedness is an aversive state, and that people view obligations as unfavorable and burdensome (Goei et al. 2003; Prelec and Loewenstein 1998). Indeed, feeling obligated can evoke unpleasant psychological and physiological responses (Goei and Boster 2005; Greenberg and Shapiro 1971). To the extent that feelings of psychological ownership reduce one's sense of indebtedness, greater psychological ownership should increase the inclination to use borrowed funds. Analogously, the less that consumers experience psychological ownership over borrowed funds, the less inclined they should be to use those funds. Consequently, we hypothesize that individual variation in the extent to which consumers view borrowed money as their own will predict willingness to borrow. Because we expect that borrowed money in the form of credit will elicit greater psychological ownership than borrowed money in the form of a loan, we further hypothesize that people will be more willing to borrow money in the form of credit versus loans. Finally, because we suggest that differences in willingness to borrow across debt forms result from differences in psychological ownership, changes to psychological ownership perceptions should moderate the relationship between debt type and willingness to borrow.

The remainder of this article is organized as follows. We first investigate individual variation in psychological ownership of borrowed money (Study 1). We show that consumers differ in the extent to which they feel psychological ownership of borrowed money and that these perceptions are distinct from debt aversion, financial literacy, intertemporal discount rates, materialism, propensity to plan, self-control, spare money, tightwad–spendthrift tendencies, gender, age, and income. Moreover, these perceptions predict consumers' interest in available financing above and beyond those factors. Next, we investigate potential contextual influences on psychological ownership and show that psychological ownership perceptions systematically differ by debt type (Studies 2–5), can predict differences in consumers' online searches across debt types (Study 2), and can explain differential interest in willingness to borrow across debt types (Studies 4 and 5). These differences in willingness to borrow persist when the debt types are structurally identical (Study 4) and occur even when debt that is higher in psychological ownership is more costly than debt that is lower in psychological ownership (Study 5). Finally, we demonstrate that using terminology that is lower in psychological ownership can reduce interest in borrowing with debt types that are typically higher in psychological ownership (e.g., “credit”; Study 5). Having documented psychological ownership of borrowed money as a distinct and consequential factor, we conclude with implications for research and practice. Preregistrations for all preregistered studies and data for all studies in the article and supplemental materials are publicly available at <https://researchbox.org/111>.

Study 1: Individual-Level Variation in Psychological Ownership and Willingness to Use Financing

Study 1 was designed to examine whether individual variation in consumers' perceptions of psychological ownership of borrowed money predicts their willingness to borrow. In addition, we aimed to examine whether psychological ownership of borrowed money is a construct that is distinguishable from other existing individual-level constructs. To do so, we measured debt aversion, spare money, tightwad–spendthrift scores, materialism, intertemporal preferences, financial literacy, propensity to plan for money in the long run, self-control, and demographics. Moreover, we aimed to examine the relative predictive power of psychological ownership of borrowed money in borrowing decisions relative to these known constructs.

Method

This study was preregistered on AsPredicted.org (<https://aspredicted.org/blind.php?x=3ip894>). Participants were 501 individuals ($M_{\text{age}} = 30.51$ years, $SD = 10.81$ years; 53.7% female) on Prolific Academic who completed this study in exchange for monetary compensation. As preregistered, 16 participants were removed from analysis due to having inconsistent switching points on the intertemporal titration task, leaving a final sample of 485 participants.

First, participants were asked to indicate their agreement with three statements designed to capture feelings of psychological ownership of borrowed money: (1) “Borrowed money feels like my money,” (2) “Spending borrowed money feels like accessing my own money early,” and (3) “Spending borrowed money feels like spending money that's NOT MINE to spend” (nine-point scales; 1 = “strongly disagree,” and 9 = “strongly agree”; last measure was reverse-scored).

Next, participants answered a number of questions regarding their financial behaviors. The two primary dependent measures captured participants' willingness to borrow. The first asked, “If you needed additional money to finance your purchases and had access to a credit card, how willing would you be to use the credit card to finance your purchases?” (1 = “not at all willing,” and 9 = “very willing”). The second asked, “If you needed additional money to finance your purchases and had access to a personal loan, how willing would you be to use the personal loan to finance your purchases?” (1 = “not at all willing,” and 9 = “very willing”).

Participants then completed three secondary dependent measures regarding their past behavior. They indicated whether they used a credit card in the past year (1 = Yes, 0 = No); whether they used a personal loan in the past year (1 = Yes, 0 = No); and whether they ever had a revolving credit card balance, personal loan, line of credit, payday loan, or peer-to-peer loan (1 = “Yes, I have had one or more of these,” 0 = “No, I have never had any of these”).

We next administered several individual-level questions in a randomized order. Tightwad–spendthrift tendencies were measured using the established four-item scale (Rick, Cryder, and Loewenstein 2008). To measure debt aversion, we used a three-item scale that has been shown to negatively predict debt incurrence: (1) “Owing money is basically wrong,” (2) “There is no excuse for borrowing money,” and (3) “You should always save up before borrowing something” (five-point scales; 1 = “strongly agree,” and 5 = “strongly disagree”; reverse-scored; Callender and Jackson 2005). We also administered the 6-item scale measuring propensity to plan for money over the long run (Lynch et. al, 2010), a 13-item self-control scale (Tangney, Baumeister, and Boone 2004), 3 financial literacy questions (Lusardi and Mitchell 2011), and a 6-item materialism scale (Richins 2004). We also included an intertemporal choice titration task in which participants made a series of 15 choices involving getting \$30 now and \$X in 45 days (where X ranged from \$30 to \$60) to calculate participants’ intertemporal discount rates. Responses to the titration task were converted into a discount rate using the hyperbolic model, which has been found to effectively fit descriptive data (Hardisty et. al, 2013; Mazur, 1987). This choice method has been shown to better predict real-world consequences compared with other discounting measures (Hardisty et. al, 2013). In addition, we measured participants’ perceptions of their spare money using three items from Berman et. al (2016, Study 3): (1) “How much spare money do you currently have?” (1 = “very little spare money,” and 11 = “a lot of spare money”), (2) “How much financial constraint do you currently have?” (1 = “very little financial constraint,” and 11 = “a lot of financial constraint”; reverse-scored), and (3) “Imagine that next month you had an unexpected expense of \$1,500 such as a medical bill or a necessary car repair. How likely is it that you would be able to pay this bill in full and on time without having to dip into your retirement fund, borrow money, or charge it to a credit card?” (1 = “very unlikely,” and 11 = “very likely”). Finally, we collected demographic information including gender, age, and income.

Results

Psychological ownership of borrowed money and willingness to borrow. The three questions assessing psychological ownership of borrowed money provided reliable internal consistency (Cronbach’s $\alpha = .79$) and had an average interitem correlation of .56. Combining the three measures of psychological ownership of borrowed money revealed that consumers varied in their feelings toward borrowed money (responses ranged from 1 through 9; $M = 3.30$, $SD = 1.93$).

We regressed willingness to finance one’s purchases using a credit card on participants’ psychological ownership of borrowed money. As we predicted, psychological ownership of borrowed money positively and significantly predicted participants’ willingness to borrow using a credit card ($B = .364$, $t(483) = 7.13$, $p < .001$, 95% confidence interval [CI] = [.26, .47], $R^2 = .095$). Similarly, psychological ownership of borrowed money was a significant predictor of participants’

Table 1. Correlations Between Psychological Ownership and Other Individual-Level Constructs.

	Psychological Ownership ($\alpha = .79$)
Tightwad–spendthrift ($\alpha = .75$)	.269***
Debt aversion ($\alpha = .63$)	−.342***
Planning for money ($\alpha = .94$)	−.174***
Self-control ($\alpha = .81$)	−.108*
Materialism ($\alpha = .79$)	.176***
Spare money ($\alpha = .75$)	−.110*
Financial literacy ($\alpha = .44$)	.060
Discount rate (single score)	.107*
Age	.134**
Gender (female)	.015
Income	.042

* $p < .05$.

** $p < .01$.

*** $p < .001$.

willingness to borrow using a personal loan ($B = .379$, $t(483) = 7.99$, $p < .001$, 95% CI = [.29, .47], $R^2 = .117$).

Next, we explored the secondary measures of past borrowing behavior. A binary logistic regression found that psychological ownership of borrowed money predicted whether participants had used a credit card in the past year ($B = .127$, Wald $\chi^2 = 4.71$, $p = .030$, 95% CI = [.012, .242]). Psychological ownership of borrowed money also predicted whether participants had used a personal loan in the past year ($B = .254$, Wald $\chi^2 = 15.03$, $p < .001$, 95% CI = [.126, .383]). Finally, psychological ownership of borrowed money predicted whether participants had ever used any of the forms of debt listed ($B = .134$, Wald $\chi^2 = 7.72$, $p = .005$, 95% CI = [.039, .228]).

Discriminant validity. We next examined whether the measures of psychological ownership of borrowed money were distinct from the other individual-level constructs measured. Table 1 provides the correlations between psychological ownership of borrowed money and the other constructs measured. Of note, many of the correlations are in the direction that might be expected based on the foundations of psychological ownership as a general construct (i.e., efficacy and self-identity). For example, people with greater spendthrift tendencies and those higher in materialism (with higher spending aspirations) and those lower in spare money (with less sufficient resources to meet their desired spending) may believe that access to borrowed money can help them reach their desired spending, inspiring greater thoughts of efficacy. These participants were higher in psychological ownership of borrowed money. In addition, participants with greater debt aversion (who view

borrowing money as wrong) may have stronger beliefs that debt will reflect negatively on their self-identity, and these participants were lower in psychological ownership of borrowed money.

Next, as preregistered, for each construct measured with at least three items, we tested the discriminant validity of psychological ownership using confirmatory factor analysis. Specifically, for each construct, we tested whether a model with two separate factors (psychological ownership of borrowed money and the other construct) that were allowed to covary would fit the data significantly better than a unidimensional model that assumes perfect covariance between the two factors. For each confirmatory factor analysis, the model with two separate factors outperformed the model with only one factor (all $ps < .001$), suggesting that psychological ownership of borrowed money is a distinct construct (Anderson and Gerbing 1988; for more details, see the Web Appendix).

Unique predictive power of psychological ownership of borrowed money. While each of the constructs measured significantly predicted at least one of the primary or secondary dependent measures, psychological ownership was the only construct that significantly predicted all five dependent measures (all $ps \leq .030$) and was the *only* construct to significantly predict having used a personal loan over the past year (for full results, see the Web Appendix).

We also conducted more formal tests of the unique predictive power of psychological ownership of borrowed money above and beyond the eight individual-level variables we collected. Because we did not have theoretical predictions about the relative importance of the eight measured constructs, we conducted a stepwise-hierarchical regression on willingness to finance one's purchases using a credit card. We entered the eight established constructs and demographic variables together in a first block and entered psychological ownership of borrowed money in a second block (Cohen et al. 2003, p. 161). Doing so enabled the model to identify the factors offering predictive value among all the factors entered. The first block identified participants' discount rate, debt aversion, tightwad-spendthrift tendency, and gender as predictors of interest in applying for the credit card ($R^2 = .126$). Importantly, the second block revealed that psychological ownership of borrowed money significantly increased the predictive ability of the model as indicated by inclusion in the model and a significant R^2 change ($R^2 = .167$, $F(1, 477) = 23.25$, $p < .001$).

We replicated this analysis for willingness to finance one's purchases using a personal loan. For this dependent measure, discount rate, debt aversion, materialism, and age were identified as significant predictors of willingness to borrow in the first block ($R^2 = .092$). Again, however, psychological ownership of borrowed money added significant predictive ability over and above these factors as indicated by inclusion in the model and a significant R^2 change ($R^2 = .154$, $F(1, 477) = 34.77$, $p < .001$). For full hierarchical regression results for both measures, see Appendix A). Robustness analyses on the two primary dependent measures as well as additional

analyses of the secondary dependent measures appear in the Web Appendix.

Study 1 provides evidence that there is individual-level variation in feelings of psychological ownership of borrowed money. It also demonstrates that these feelings are distinct from other known constructs such as debt aversion, spare money, financial literacy, tightwad-spendthrift tendencies, intertemporal discount rates, materialism, and self-control, propensity to plan for the long run, and demographics. In addition, this study found that psychological ownership had unique predictive power. It predicted both of the primary dependent measures above and beyond all of the established, measured constructs. Moreover, it was the only construct that significantly predicted all five dependent measures, which included both past and future financial behaviors.

We ran a conceptual replication of this study (<https://aspredicted.org/blind.php?x=h39m2i>) in which participants were first shown a real advertisement for an American Express personal loan and indicated their interest in applying for it. Subsequently, we measured psychological ownership of borrowed money as well as other psychological constructs. This study also measured objective understanding of whether borrowed money needed to be repaid to ensure that psychological ownership was not a reflection of misunderstanding whether in fact it was truly one's own money. Replicating Study 1, we found that psychological ownership predicted interest in applying for the personal loan ($B = .66$, $t(201) = 9.04$, $p < .001$, $95\% \text{ CI} = [.52, .81]$, $R^2 = .289$) and did so over and above other individual-level constructs ($F(1, 197) = 29.51$, $p < .001$). Importantly, these results could not be explained by misunderstanding whether the money is one's own because 97% of participants accurately understood that borrowed money needs to be repaid. For complete study results, see Supplemental Study 1 in the Web Appendix).

In another conceptual replication of Study 1, we found that higher psychological ownership predicted participants' considerations about getting a new credit card, self-reported searches for new credit cards, and self-reported credit card applications over the six months prior to when the study was conducted (for complete study details, see Supplemental Study 2 in the Web Appendix). In addition, preliminary evidence suggests that psychological ownership of borrowed money is a construct that translates across cultures (see Kenya pilot study description in the "General Discussion" section).

Study 2: Exploring Psychological Ownership Across Debt Types

Having documented natural variation in psychological ownership across individuals, we next examined differences in psychological ownership resulting from contextual factors. Specifically, we tested whether feelings of psychological ownership of borrowed money are generally higher for borrowed money in the form of credit compared with borrowed money in the form of a loan. As an initial test of this idea, we investigated whether differences in psychological ownership would

Table 2. Complete Search Term Phrases Used in Study 2.

Psychological Ownership	Pretested Search Term Phrase	Credit Card Version	Loan Version
1. higher	My money	My credit card money	My loan money
2. higher	My cash	My credit card cash	My loan cash
3. higher	My funds	My credit card funds	My loan funds
4. higher	My own money	My own credit card money	My own loan money
5. higher	Spending my	Spending my credit card	Spending my loan
6. lower	Repaying a...	Repaying a credit card	Repaying a loan
7. lower	Borrowing on a...	Borrowing on a credit card	Borrowing on a loan
8. lower	Borrowed money	Borrowed credit card money	Borrowed loan money
9. lower	Borrowing	Credit card borrowing	Loan borrowing
10. lower	Debt	Credit card debt	Loan debt

manifest in how consumers search for financial products online. We predicted that search terms reflecting higher psychological ownership would be used more in conjunction with credit cards compared with loans. Conversely, we predicted that search terms reflecting lower psychological ownership would be used more in conjunction with loans compared with credit cards.

Method

We collected online search data to test for systematic differences in searches for credit cards and loans. We first generated a list of 20 potential search term phrases that could be used in conjunction with the terms “credit card(s)” and “loan(s)” that we expected to vary in psychological ownership. We expected ten search term phrases to be higher in psychological ownership (e.g., “my money”) and thus more likely to be used in conjunction with “credit card,” and ten search term phrases to be lower in psychological ownership (e.g., “borrowed money”) and thus more likely to be used in conjunction with “loan” (for all pretested search term phrases, see the Web Appendix). Table 2 includes the complete search term phrases that were used in the main study.

These 20 search term phrases were pretested for degree of psychological ownership in a preregistered study (<https://aspre.redicted.org/blind.php?x=uw52c4>) among a sample of 51 Amazon Mechanical Turk workers. Participants were asked to rate all 20 search term phrases based on the extent to which each phrase reflected higher versus lower psychological ownership using the following question: “To what extent does the search phrase below feel like it’s about someone’s own money versus feel like it’s about money that does not belong to them?” (1 = “More like someone’s own money—money someone can spend as they like,” and 7 = “More like money that doesn’t belong to them—money that must be repaid”). In line with our preregistration, we identified the search term phrases that participants rated as the five highest and five lowest on psychological ownership and found that these groups of search term phrases significantly differed from each other in average psychological ownership ($t(50) = 11.60, p < .001$).

In accordance with our preregistration, we used the Google trends comparison tool to collect measures of relative search

volume (Google 2018). The Google trends comparison tool permits the collection of relative search term volumes for up to five search terms for a selected geographic area, across a specified time interval, on a weekly basis. Google calculates the weekly measures by first assessing the percentage of searches for each search term as a function of all the Google searches in that geographic area for that week. Google then normalizes all of the resulting responses on a range of 0 to 100. That is, Google identifies the week and search term that has the highest proportion of searches and gives that search term volume in that week a score of 100. It normalizes all of the remaining weekly scores of each search term relative to this value.

We used the following procedure to create our data set. For each search term phrase (e.g., my money), we collected the search volumes for the phrase paired with credit card (e.g., my credit card money) and paired with loan (e.g., my loan money) relative to one another, in the United States for each week for 52 weeks (week of August 26, 2018, through the week of August 15, 2019). Specifically, for each search term phrase, the two terms (e.g., my credit card money, my loan money) were entered into the Google trend comparison tool without quotation marks, and we specified those words as “search terms” (vs. topic, company, or location). In this example (i.e., my money), the highest search volume across the two search terms during the 52-week period was for the credit card version of the search term (i.e., my credit card money) in week 46; thus, this observation (i.e., my credit card money, week 46) received a score of 100, and all the other scores (i.e., my credit card money, weeks 1–45 and 47–52; my loan money, weeks 1–52) were standardized relative to this search volume (i.e., my credit card money, week 46) and ranked between 0 and 100 accordingly.

Our hypothesis predicts an interaction where searches are greater for credit cards versus loans for search term phrases higher in psychological ownership, but lower for credit cards versus loans for search term phrases lower in psychological ownership. To examine this prediction, we regressed Google search volume on a contrast-coded variable indicating the debt type ($-1 = \text{loan}, 1 = \text{credit card}$), psychological ownership ($-1 = \text{lower}, 1 = \text{higher}$), and their interaction. We included search term fixed effects to account for heterogeneity in search term popularity (“my own [debt type] money” and “[debt type]

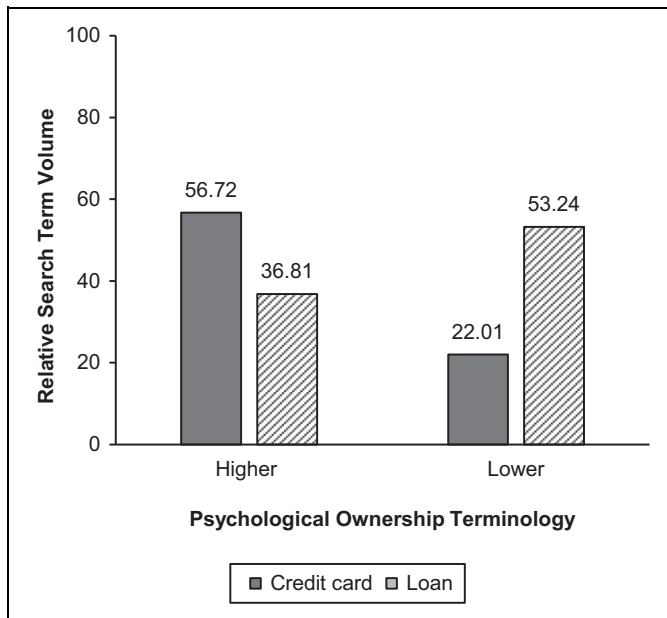


Figure 1. Relative search term volume by debt type and psychological ownership in Study 2.

Notes: Figure 1 depicts the average relative Google search term volumes for higher versus lower psychological ownership terminology when paired with the term credit card versus loan.

borrowing” used as reference levels). We also controlled for week-level heterogeneity in the data via week-level fixed effects (week 52 used as the reference level).

There was a main effect of debt type ($B = -2.83$, $SE = .49$, $\text{Wald } \chi^2 = 33.66$, $p < .001$) and a main effect of psychological ownership ($B = -2.33$, $SE = 1.09$, $\text{Wald } \chi^2 = 4.56$, $p = .033$). Most importantly, we found the expected interaction ($B = 12.79$, $SE = .49$, $\text{Wald } \chi^2 = 687.72$, $p < .001$; for model details and full regression results, see the Web Appendix). While credit cards were searched more often than loans when search terms reflected higher psychological ownership, loans were searched more often than credit cards when search terms reflected lower psychological ownership (for estimated marginal means, see Figure 1). Graphs reflecting relative search volume on a pair-by-pair basis are available in Appendix B. Additional analyses and robustness checks are available in the Web Appendix.

These results provide initial evidence that psychological ownership varies across debt type and can predict consequential behavioral outcomes. Because these data are correlational, it is possible that other factors may have contributed to the pattern of results. One possibility is that these results reflect differences in how normal or acceptable these phrases seem when used in conjunction with the terms credit card or loan. To assess this possibility, we ran a posttest with 100 online participants. Participants were asked to imagine each phrase being used in a sentence and to rate how acceptable it would be for someone to use the phrase (1 = “completely unacceptable,” and 7 = “completely acceptable”), how normal it would sound for someone to use the phrase (1 = “not at all normal,” and 7 =

“completely normal”), and how strange or awkward it would be for someone to use the phrase (1 = “not at all strange/awkward,” and 7 = “completely strange/awkward”; reverse-scored). Participants rated all 20 phrases used in the main analysis in a randomized order. In contrast to what would be predicted by this alternative explanation, higher psychological ownership terms were rated as significantly less acceptable, less normal, and more strange when the phrases included credit cards as compared with when they included loans (all $ps < .001$). Moreover, there were no differences in ratings of how acceptable, normal, or strange the terms were by debt type for phrases lower in psychological ownership (all $ps \geq .173$). For more details, see the Web Appendix.

While we found no evidence that these results were due to differences in the acceptability or awkwardness of using these phrases in conversation, as with every correlational study, it is not possible to address every possible alternative explanation. Thus, the remaining studies used more tightly controlled experiments that examined whether psychological ownership varies by debt type and predicts willingness to borrow.

Study 3a: Visualizing Psychological Ownership I

The differences in online search behavior for credit cards and loans in Study 2 suggest that consumers experience greater psychological ownership of borrowable money in the form of credit cards as compared with loans. Study 3a was designed to extend these findings to credit lines more generally and to expand the number of methods used to measure psychological ownership. In particular, we developed a visual measure of the construct that depicted money in a bank on one end of a continuum and money clutched in one’s hand on the other end of the continuum, to minimize reliance on specific terminology or question wording.

Method

Participants were 162 ($M_{\text{age}} = 21.27$ years, $SD = 2.02$ years; 49% female) students at Dartmouth College who completed the study in exchange for partial course credit. Sample size was determined based on the maximum number of students who were able to complete the study within the experiment session, and no participants were excluded. The experiment followed a two-condition between-subjects design that varied debt type: line of credit versus loan.

Participants were asked to imagine getting access to either a line of credit or loan and to indicate whether the funds “would feel more like they belong to another entity or more like they belong to you” using a slider scale with nine points (1 = “would completely feel like they belong to another entity,” and 9 = “would completely feel like they are mine to spend”; see Figure 2). Higher scores indicated greater psychological ownership of borrowed money. Participants then answered demographic questions and were given the opportunity to provide comments.

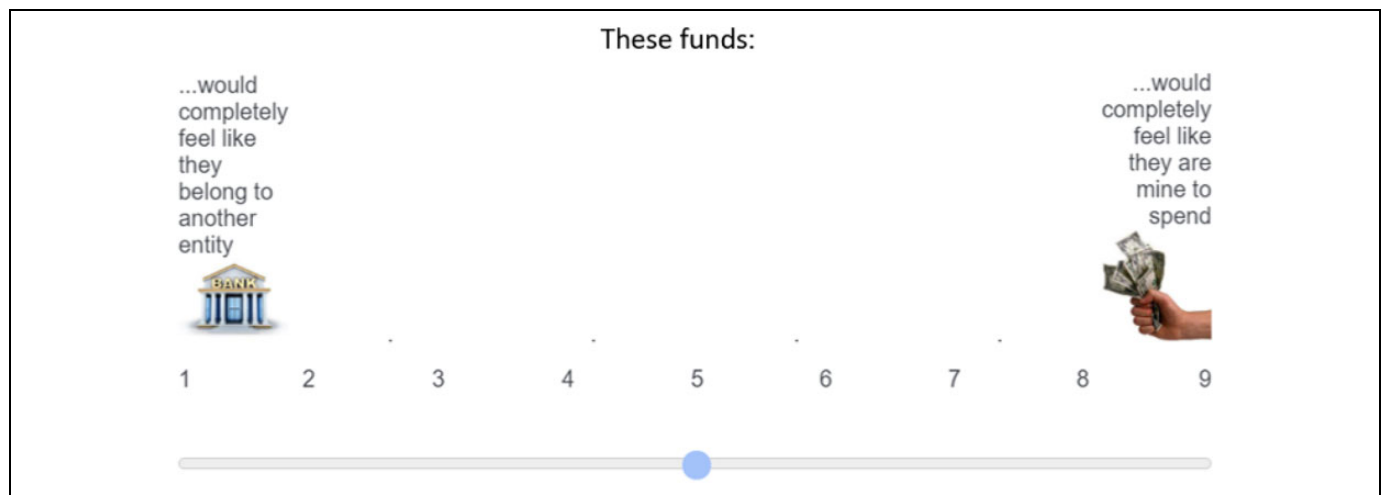


Figure 2. Visual stimuli presented to participants in Study 3a.

Notes: Figure 2 depicts the sliding-scale dependent measure shown to participants in both conditions (line of credit vs. loan) in Study 3a.

Results and Discussion

In line with our expectations, participants perceived greater psychological ownership of the financing available in the form of a line of credit ($M = 4.16$, $SD = 1.98$) compared with the loan ($M = 3.06$, $SD = 1.81$; $F(1, 160) = 13.47$, $p < .001$). Thus, replicating the results of the online search data in Study 2, Study 3a showed that psychological ownership was higher for available financing in the form of credit lines compared with loans.

Study 3b: Visualizing Psychological Ownership II

In Study 3b, we developed another visual measure of psychological ownership of credit versus loans, examining whether participants envisioned these funds more as being money added to their account (their money) or as money that was owed to another entity (borrowed money). Moreover, we held constant the amount of funds and interest rate participants considered to ensure they were thinking about credit lines and loans that were structured similarly.

Method

Participants were 607 ($M_{\text{age}} = 34.33$ years, $SD = 11.97$ years; 55% female) individuals on Amazon Mechanical Turk who completed this study in exchange for monetary payment. No participants were excluded in the analysis of this study. The experiment employed a two-condition between-subjects design that varied debt type: line of credit versus loan.

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

remaining balance will incur a 15% interest rate.” Next, participants were instructed: “Please think for a minute about how access to this [**line of credit/loan**] would make you feel about your finances.” Then, they viewed two visual depictions (see figure 3). Both visual depictions displayed a bar graph, with one representing an increase of \$500 (i.e., their money in the bank) and the other representing a decrease of \$500 (i.e., money owed to someone else). Participants were asked, “Which of these pictures best depicts how this [**line of credit/loan**] would make you feel about your finances?” Participants were asked to select one of the two figures.

Next, participants completed an instruction check question: “To ensure you were paying attention, please indicate which of the following you were asked to imagine getting” (1 = “a \$500 personal loan,” 2 = “a \$500 line of credit,” 3 = “a \$500 holiday bonus,” and 4 = “a \$500 fine”). Finally, participants provided demographic information.

Results and Discussion

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

Psychological ownership. There was a significant effect of debt type on the dependent variable. As we predicted, participants considering a line of credit (53.4%) were more likely to perceive those funds as their own money in the bank (an increase of \$500) as compared with participants considering a loan (30.8%; $\chi^2(1) = 31.92$, $p < .001$).

Consistent with the results shown in Study 3a, participants in Study 3b were more likely to view a line of credit as their own money compared with a loan—this time, measured by whether they visualized the funds as being added to or taken away from their account. A replication of this study comparing access to loans with access to credit cards is available in the Web Appendix (Supplemental Study 3), as is another



Figure 3. Visual stimuli presented to participants in Study 3b.

Notes: Figure 3 depicts the dependent measure (binary choice) provided to participants in both conditions (line of credit vs. loan) in Study 3b.

conceptual replication measuring psychological ownership of borrowed money using the three-item scale described in Study 1 (Supplemental Study 4).

Study 4: Psychological Ownership Mediates Willingness to Borrow Across Debt Types

Study 4 was designed to examine whether systematic differences in psychological ownership across debt types influence willingness to borrow. Moreover, we have suggested that differences in psychological ownership across debt forms may in part arise from the stronger association between the terminology of loans (vs. credit) and thoughts of the legal owner (the lender). This suggests that psychological ownership differences may emerge even when debt types do not differ structurally. Although financing in the form of loans and credit can be structurally different, they need not be (for an example, see the Web Appendix). Thus, to explore whether differences in psychological ownership can emerge even when debt types are structurally identical, we provided all participants with detailed information about a financing product and its repayment structure, and varied only its labeling—as a form of credit or loan. Moreover, we measured understanding of the financing structure to ensure that objective understanding was similar across the debt types.

Method

This study was preregistered on As Predicted (<https://aspredicted.org/blind.php?x=is4s3z>). Participants were 503 individuals ($M_{\text{age}} = 34.2$ years, $SD = 11.6$ years; 54% female) on Prolific Academic who completed the study in exchange for monetary compensation. To ensure that all participants were thinking of similar uses for the financing offer, we first asked participants to think about a fun but unnecessary purchase that they wanted to make for themselves that would cost between

\$50 and \$1,000. Next, participants were randomly assigned to one of two conditions (credit vs. loan) in which they read about an available financing offer, which was adapted from a real offer for a flex loan. The offers were identical, except one was labeled “flex credit” and the other was labeled “flex loan.” Specifically, we provided participants with identical information explaining that the financing was revolving, was available for amounts between \$25 and \$4,000, offered minimum payment options, required no payments until the money was spent, had no late fees or prepayment penalties, and was provided on a convenient card accepted wherever Visa/Mastercard were accepted. See Appendix C for exact stimuli.

Then, participants were reminded of the purchase they wrote about wanting to buy earlier in the study. For the dependent measure, we asked, “If you did not have the money to pay for the purchase you wrote about, how willing would you be to consider using this [flex credit/flex loan] offer?” using a nine-point scale (1 = “not at all interested,” and 9 = “fairly interested”).

Next, we measured psychological ownership of borrowed money with a set of five measures. The first three were identical to those used in Study 1 (and Supplemental Study 1) but replaced the words “borrowed money” with “flex credit” or “flex loan” based on condition. We included two additional items that we thought would be consistent: “To what extent would this [flex credit/flex loan] feel like money to be repaid versus my money to spend?” (1 = “feels more like money to be repaid,” and 9 = “feels more like my money to spend”) and “To what extent would spending this [flex credit/flex loan] feel like using borrowed money versus your money” (1 = “more like borrowed money,” and 9 = “more like my money”).¹

We then administered a series of comprehension check questions to assess participants’ objective understanding of the

¹ Results remain unchanged using only the first three items.

financing terms. First, participants indicated which of two options better described the offer they wrote about: “It is revolving—you apply once and as long as you are below your [flex credit/flex loan] limit, you can use more money any time” or “It is one time—you can use money only one time and need to apply again if you would like to reuse funds.” Next, they indicated their understanding of the repayment obligations by selecting one of two options: “You only need to pay for [flex credit/flex loan] funding that you have spent” or “You must start paying toward your [flex credit/flex loan] as soon as you accept the offer.” Participants also indicated whether the funding was available on a convenient card that is accepted anywhere Visa is accepted (Yes/No). Finally, participants indicated which financing offer they recalled viewing (“flex credit,” “flex loan,” or “I cannot recall”).

We then asked participants two questions about their existing debt. We asked whether participants currently have a credit card (Yes/No), and if so, how often they fully repay their credit card bill(s) (“Every single month [i.e., I never have a revolving balance],” “Most months [i.e., multiple times per year],” “Occasionally [i.e., once every year or few years],” or “Never [i.e., I always have a revolving balance]”). Finally, participants completed demographic information and were permitted to leave any comments they had about the study.

Results

Comprehension check questions. Nearly all participants (98%) understood that the financing offer they received was for revolving debt (98%), that they only needed to make payments once they spent the money (98%), and that the available financing would be on a card accepted where Visa is accepted (96%). Finally, 99.6% of participants correctly identified the debt type that they had viewed. Responses to these four measures did not vary by condition $\chi^2 < 1$, indicating that the manipulation was successful and understood similarly across conditions.

Interest in financing. As we anticipated, participants in the credit condition ($M = 4.17$, $SD = 2.81$) were more interested in the financing offer than were participants in the loan condition ($M = 3.19$, $SD = 2.64$); $F(1, 501) = 16.04$, $p < .001$).

Psychological ownership. The five items assessing psychological ownership of borrowed money loaded onto a single factor, were sufficiently related ($\alpha = .85$), and were combined into a single measure. As we predicted, psychological ownership was higher in the credit condition ($M = 3.26$, $SD = 1.99$) than in the loan condition ($M = 2.80$, $SD = 1.90$); $F(1, 501) = 7.53$, $p = .006$).

Mediation. Psychological ownership predicted participants’ increased willingness to use the financing ($B = 1.02$, $t(501) = 21.67$, $p < .001$). We next tested whether psychological ownership mediated the effect of debt type on participants’ interest in the financing offer. Using Hayes’s (2013) PROCESS macro (Model 4; 20,000 bootstrap samples), we found support for partial mediation. The indirect effect of debt type on consumers’ interest in financing via the psychological ownership

measure did not contain zero (99% CI = [.06, .40]). The direct effect also remained significant (99% CI = [.08, .43]).

In line with the exploratory analyses included in our preregistration, we also examined whether the effect of debt type depended on participants’ current use of their credit card as a financing tool (i.e., whether they have a revolving balance). We found no evidence that this factor moderated the results, suggesting that the results were not driven solely by individuals who primarily used their credit card as an alternative way to spend (vs. borrow) (both $F_s < 1$).

We also considered the possibility that the effects found in Study 4 might depend on the nature of the purchases participants considered. We therefore conducted a separate 2×2 between-subjects study in which we varied debt type (flex credit vs. flex loan) and purchase type (discretionary vs. non-discretionary). Although there was directional evidence that the effect may be stronger for discretionary purchases, the interaction was not significant. Instead, we found a significant main effect of debt type ($F(1, 1497) = 12.03$, $p = .001$). For complete details of this additional preregistered study, see Supplemental Study 5 in the Web Appendix.

In Study 4, we found support for the mediating role of psychological ownership. Given that we observed partial rather than full mediation, even when holding constant the most common structural differences between credit and loans, it is possible that other structural differences that occur in the real world (e.g., ease of access, consequences of defaulting) continued to contribute to consumers’ greater willingness to borrow with credit compared with loans. Thus, in Study 5, we directly manipulate psychological ownership of borrowed money to examine its causal role in explaining differences in willingness to borrow for credit and loans.

Study 5: Moderating Psychological Ownership of Borrowed Money

The results of Study 4 suggest that differences in psychological ownership mediate the effect of debt type on willingness to borrow. We have suggested that differences in psychological ownership across debt type may, in part, be a function of semantic and conceptual properties of the term “loan” (vs. “credit”) naturally eliciting more thoughts related to the legal owner of the money. If so, including terminology highlighting the legal owner of the money should reduce psychological ownership and should do so to a greater degree for “credit” than for “loans”; in the case of “credit,” the legal owner is less top of mind, and therefore highlighting the legal owner should be more influential.

To examine this possibility, in addition to varying whether participants considered a financing offer in the form of credit or a loan, in Study 5, we also varied whether the message included language that is lower in psychological ownership, highlighting that the money belonged to another entity (a bank) and would need to be borrowed. We predicted that including terminology lower in psychological ownership would reduce willingness to use the financing and would do so to a greater degree for credit than for loans.

Method

This study was preregistered on AsPredicted.org (<https://aspredicted.org/blind.php?x=gj98w5>). Participants were 1,607 individuals ($M_{\text{age}} = 31.1$ years, $SD = 8.9$ years; 49% female) on Prolific Academic who completed the study in exchange for monetary compensation.

The study followed a 2×2 between-subjects design that manipulated debt type (line of credit vs. loan) and offer terminology (control vs. lower psychological ownership). As in Study 4, all participants first indicated a fun but unnecessary purchase that they were thinking about making. Next, participants imagined that in addition to their current savings, checking, and credit card accounts, their bank gave them an additional flex [loan/credit line] of \$500 (debt type varied by condition). Moreover, we varied interest rates across condition, such that the loan had a substantially lower interest rate (10%) than the credit line (15%) to reflect common interest rate patterns in the real world (we note that this interest rate variation should work against the patterns previously documented in this article). In the lower-psychological-ownership conditions, we also included language to highlight that the money from this offer was borrowed and belonged to the bank. These changes included the following additional line of text: “This [credit line/loan] lets you temporarily borrow money that belongs to the bank” (for complete stimuli, see Appendix D). We verified that this language indeed reduced perceptions of psychological ownership of borrowed money in a separate study reported in the Web Appendix.

After reviewing the offer, participants indicated how willing they would be to consider using the offer if they did not have the money to make the purchase they wrote about (1 = “not at all willing to consider,” and 9 = “very willing to consider”). Finally, participants completed an instruction check to assess whether they recalled the debt instrument they read about (options: “flex credit line,” “flex loan,” or “I don’t remember”), and provided demographic information.

Results and Discussion

Instruction check. The majority of participants (93.8%) correctly identified the debt type to which they were assigned.

Interest in the financing offer. There was a significant main effect of debt type ($F(1, 1,603) = 4.04, p = .045$). There was also a main effect of offer terminology ($F(1, 1,603) = 15.59, p < .001$). However, these main effects were qualified by a marginally significant interaction ($F(1, 1,603) = 2.99, p = .084$). In line with our preregistration, we conducted planned contrasts to examine differences in interest in the offers in the control and lower psychological ownership conditions separately. Consistent with the findings in our earlier studies, in the control conditions, participants were significantly more willing to consider the financing offer for the flex credit than for the flex loan ($M_{\text{credit}} = 3.61, SD = 2.72$ vs. $M_{\text{loan}} = 3.14, SD = 2.62$;

$F(1, 1,603) = 7.01, p = .008$). However, in the lower-psychological-ownership conditions there was no difference in willingness to borrow between the flex credit and flex loan ($M_{\text{credit}} = 2.90, SD = 2.31$ vs. $M_{\text{loan}} = 2.86, SD = 2.43; F < 1$). We note that this pattern arises due to a significant reduction in interest for the flex credit ($F(1, 1,603) = 16.05, p < .001$) as opposed to changes in interest for the flex loan ($F(1, 1,603) = 2.48, p = .116$).

In Study 5, highlighting the legal owner of the money decreased interest in a financing offer, and particularly did so for credit, a debt type typically higher in psychological ownership. We conceptually replicated this study examining interest in using a credit card versus personal loan offer, varying whether the offer included lower psychological ownership language ($F_{\text{interaction}}(1, 801) = 4.88, p < .027$; for details, see Supplemental Study 6 in the Web Appendix). These results provide additional evidence that psychological ownership plays a causal role in explaining differences in willingness to borrow across debt types.

General Discussion

Through six studies, and an additional six studies in the Web Appendix, the current work establishes the concept of psychological ownership of borrowed money and investigates its implications for consumer borrowing. Using a variety of methods and measures including scales, online search behavior, and visual representations, we find that consumers readily experience variation in psychological ownership of borrowed money. We demonstrate that natural variation in psychological ownership predicts which consumers will be most interested in borrowing. Moreover, we show that psychological ownership is a distinct construct and provides predictive ability in consumers’ willingness to borrow over and above other factors, including debt aversion, financial literacy, intertemporal discount rates, materialism, propensity to plan, self-control, spare money, tightwad–spendthrift scores, age, income, and gender. Importantly, our empirical evidence suggests that differences in psychological ownership do not merely reflect an unawareness or misunderstanding that borrowed funds must be repaid. Instead, psychological ownership of borrowed money reflects the extent to which consumers subjectively feel that borrowed money is their own.

Beyond the current work’s contributions to the literature on psychological ownership, this work also contributes to the literature on mental accounting. Existing mental accounting research shows that payment forms can impact consumers’ decisions. However, the existing research does not clearly generate predictions for different available debt types. For example, one explanation for differences across payment forms is explained by differences in the need to count and transfer money, which encourages rehearsal and salience of asset depletion (e.g., Raghurir and Srivastava 2008; Soman 2001, 2003). A second explanation pertains to differences in payment decoupling, whereby credit cards (relative to cash)

offer the ability to make purchases in the present and pay for them later, allowing consumers to enjoy the benefits of their purchase before the funds are actually removed from their account (e.g., Prelec and Loewenstein 1998; Thaler 1999; Tokunaga 1993). Notably, payment decoupling is the hallmark of all debt types and is thus held constant for financing using credit and loans. Thus, the current research offers two key contributions to the research on mental accounting. First, rather than focusing solely on current assets, we examine and demonstrate differences in payment forms in the domain of debt. Second, we introduce psychological ownership of money as a construct that can systematically differ across payment forms.

The current work demonstrates that psychological ownership of borrowed money varies across consumers. Although formally testing the reasons why consumers exhibit individual-level differences in psychological ownership of borrowed money is beyond the scope of this single article, we can look to the general psychological ownership literature to provide guidance for future research in this domain. For instance, according to the literature on the psychological ownership of organizations, psychological ownership of borrowed money should be based on the needs that it can serve (Pierce, Kostova, and Dirks 2001). Accordingly, the more strongly an individual is in need of feeling efficacious, and perceives that borrowed money can provide a sense of efficacy, the more they may be likely to seek and experience a sense of psychological ownership of borrowed money. In addition, the more that a consumer believes that borrowed money reflects positively (negatively) on their self-identity, the more (less) they may be likely to experience psychological ownership of borrowed money. However, the current research does not establish a direct relationship between these potential antecedents and psychological ownership of borrowed money; thus, future systematic research on the antecedents of psychological ownership is required. Relatedly, an important unanswered question is whether there is a common, overarching individual-level difference of consumers' psychological ownership that spans domains such as organizations, possessions, and finances. Or alternatively, psychological ownership could be a construct akin to risk tolerance (Weber, Blais, and Betz 2002), which is domain-specific.

In addition to varying across consumers, this research finds that psychological ownership of borrowed money systematically varies across debt types. We focused our investigation of variation in psychological ownership of borrowed money on differences between credit lines and loans. We examined these debt types because (1) these are common forms of debt that consumers can use for similar (discretionary) purchases, and (2) differences in terminology as well as common structural properties provide reasons why consumers might have higher psychological ownership of credit compared with loans. Indeed, across our studies we found that psychological ownership is systematically higher for credit than for loans, and these differences in psychological ownership arise even when these two debt types are quite similar in structure (or

even identical, as in Study 4). Our results suggest that differences in psychological ownership can influence willingness to borrow more so than key economic factors such as interest rates (Study 5). Thus, differences in psychological ownership can help explain why consumers may use debt in the form of credit for discretionary purchases, even when it is more costly than debt in the form of loans.

While we leverage the literature on psychological ownership to provide multiple reasons why psychological ownership may be higher for credit than for loans, examining which factors are most impactful in determining differences in psychological ownership was beyond the scope of the current research. However, it is notable that we found significant differences in psychological ownership even when the debt types were structurally identical (Study 4). Moreover, including language highlighting the legal owner of the borrowed money reduced willingness to borrow for credit to a greater extent than loans (Study 5). These findings suggest that differences in psychological ownership are at least in part influenced by the semantic and conceptual properties of the naming conventions. Future research is required to understand which factors are most influential and why. More broadly, the current work underscores the need for future research on the determinants of psychological ownership of borrowed money both across individuals and characteristics of debt instruments.

In the current work, we measure psychological ownership using self-report scales as well as two forms of visual representations. We find consistent results across all forms of measurement employed, suggesting that our results are not due to the specifics of how the construct was measured. Although future research would benefit from a more systematic investigation into scale development for psychological ownership of borrowed money, an advantage of the diversity of measures used here is that some measurements might be better suited to some contexts than others. For example, visual forms of measurement may be more adaptable to other cultures and languages, allowing for investigation into the extent to which psychological ownership of borrowed money is a cross-cultural phenomenon. As an initial step toward this end, we conducted an exploratory study with VisionFund, a financial services provider owned by World Vision. We measured psychological ownership of borrowed money perceptions among 88 of their microfinance borrowers in Kenya using a five-point scale adapted from the visualization scale used in Study 3a. Participants used the full range of the scale ($M = 2.92$, $SD = 1.49$), suggesting substantial variation in psychological ownership of borrowed money among this sample. Moreover, although everyone in our sample had borrowed money, there was a marginally significant relationship between psychological ownership of borrowed money and the number of loans participants had taken out in total with VisionFund. People with higher psychological ownership of borrowed money had taken out more loans from VisionFund than those with lower psychological ownership of borrowed money ($B = .439$, $p = .051$).

In addition to highlighting the need for future research on the psychological ownership of borrowed money, the current work should serve as a call to explore the role of psychological ownership in influencing a broader range of financial decisions. Although we focus on available financing in the current work, psychological ownership of money may vary across currently owned financial assets as well. For instance, the construct of psychological ownership of money might be especially important in interpersonal financial domains such as shared finances between romantic partners.

Our work has a number of important implications for policy makers and educators. Psychological ownership perceptions are powerful and may impact consumers to a greater

degree than central economic considerations such as interest rates. Indeed, Study 5 demonstrated that psychological ownership perceptions can encourage consumers to use certain forms of debt over others, even when those forms have substantially higher interest rates. This study also showed that perceptions of psychological ownership are malleable. Thus, changes to language used in credit card applications or credit card bills that encourage lower feelings of psychological ownership may reduce instances of unnecessary borrowing. More broadly, our work suggests that interventions that reduce psychological ownership of borrowed money may help reduce overborrowing and empower consumers to manage their money more effectively.

Appendix A: Hierarchical Stepwise Regressions for Primary Dependent Measures in Study 1

Table A1. Credit Card Willingness to Borrow.

Model		B	SE	Beta	t	p	95% CI	
							Low	High
1	(Constant)	1.860	.473		3.93	.000	.931	2.790
	Tightwad-spendthrift	.131	.024	.241	5.46	.000	.084	.178
	Debt aversion	-.356	.121	-.128	2.93	.004	.117	.595
	Gender (female)	.541	.196	.119	2.76	.006	.156	.926
	Discount rate	.099	.043	.099	2.30	.022	.014	.184
2	(Constant)	1.953	.463		4.22	.000	1.043	2.862
	Tightwad-spendthrift	.106	.024	.195	4.42	.000	.059	.154
	Debt aversion	-.172	.125	-.062	1.38	.169	-.073	.417
	Gender (female)	.561	.192	.123	2.93	.004	.185	.938
	Discount rate	.089	.042	.088	2.10	.037	.006	.172
	Psychological ownership	.261	.054	.221	4.82	.000	.155	.367

Notes: Psychological ownership is added as a significant predictor over and above other constructs as indicated by inclusion in Model 2.

Table A2. Personal Loan Willingness to Borrow.

Model		B	SE	Beta	t	p	95% CI	
							Low	High
1	(Constant)	.406	.577		.70	.483	-.729	1.540
	Debt aversion	-.492	.115	-.189	4.26	.000	.265	.719
	Discount rate	.126	.042	.133	3.03	.003	.044	.207
	Age	.027	.009	.134	3.02	.003	.009	.045
	Materialism	.250	.116	.097	2.16	.031	.022	.477
2	(Constant)	.770	.561		1.37	.171	-.333	1.872
	Debt aversion	-.267	.118	-.102	2.26	.024	.035	.499
	Discount rate	.115	.040	.122	2.85	.005	.036	.194
	Age	.019	.009	.093	2.13	.034	.001	.036
	Materialism	.139	.113	.054	1.23	.219	-.083	.362
	Psychological ownership	.303	.051	.272	5.90	.000	.202	.403

Notes: Psychological ownership is added as a significant predictor over and above other constructs as indicated by inclusion in Model 2.

Appendix B: Relative Search Volume for Each Pair of Search Terms Used in Study 2



Appendix C: Flex Credit Versus Flex Loan Stimuli Presented to Participants in Study 4

[Flex **credit**/a flex **loan**] gets you the right amount of cash for every situation and gives you the flexibility and control you need. [Flex **credit**/a flex **loan**] gives you the ability to apply once and withdraw cash at any time (up to a specified limit). With [flex **credit**/a flex **loan**] you pay it back at your own pace, with conveniently scheduled payments, or installments. [Flex **credit** is/Flex **loans** are] available from \$25 up to \$4,000, and have competitive interest rates.

Here's how it works. **You only owe money once you spend it.** On your [**credit/loan**] due dates, if you have used any portion of the [**credit/loan**], you will have the option to pay only a minimum amount due or pay an additional amount so you can pay down your [**credit/loan**] balance quicker. There's never any late fees. This is [**revolving credit**/a **revolving loan**], which means that as you pay down your balance, you will have the ability to take out additional funds as long as you are within your [**credit/loan**] limit. You can pay off your [**credit/loan**] early without penalty. Your [**credit/loan**] will be available on a convenient card and can be used wherever Visa/Mastercard are accepted.

Appendix D: Stimuli Presented to Participants in Study 5

Control Condition

A [LOAN/CREDIT LINE]

Imagine that in addition to your current savings, checking, and credit card accounts, your bank gives you an additional flex [loan/credit line] of \$500. With this [loan/credit line], you can spend up to \$500 per month. You can pay back as little or as much as you would like. Any remaining balance will incur a [10%/15%] interest rate.

Lower Psychological Ownership Terminology Condition

BORROW MONEY WITH A [LOAN/CREDIT LINE]

Imagine that in addition to your current savings, checking, and credit card accounts, your bank lets you borrow money with an additional flex [loan/credit line] of \$500. With this [loan/credit line], you can borrow up to \$500 of the bank's money per month. You can pay back as little or as much of their money as you would like. Any remaining balance will incur a [10%/15%] interest rate.

This [loan/credit line] lets you temporarily borrow money that belongs to the bank.

Acknowledgment

The authors wish to thank Nate Brown, Charity Mati, and VisionFund for their collaboration and assistance with data collection in Kenya. The authors also thank John Lynch, the Marketing Science Institute, and members of the Washington University in St. Louis journal club for feedback on previous drafts of the article.

Author Contributions

The first two authors contributed equally to this work and are listed in alphabetical order.

Associate Editor

Manoj Thomas


Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

ORCID iD

Eesha Sharma  <https://orcid.org/0000-0002-7787-1803>

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