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Examination of the Sampling Origin and the Range Hypothesis of Loss Aversion in 50-50 Gamble Settings

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We examined the relative sensitivities toward financial losses and gains in 50-50 gamble decision-makings. People are relatively more sensitive to losses when they actively engage with relatively higher gain values by rejecting/accepting them. However, merely seeing, actively thinking about, or subjectively evaluating them does not influence the loss aversion ratio.

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Beyond Utility: Psychological Antecedents and Consequences of Considering Present and Future States of Wealth

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Paper #1: The Power to Know What You Have: Feeling Powerful Increases Money Monitoring

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Paper #2: Debt Aversion and the Trajectories of Psychological Pain

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Paper #3: How Does Future Income Affect Present Discretionary Spending? The Role of Future Self-Continuity

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Paper #4: Examination of the Sampling Origin and the Range Hypothesis of Loss Aversion in 50-50 Gamble Settings

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SESSION OVERVIEW

Among different aspects of wellbeing, financial wellbeing tends to be one of the most problematic (Brown and Sharpe, 2014). For this reason, there has been an increasing interest among consumer behavior researchers in examining how financial decision making can improve consumer welfare and life satisfaction (e.g. Dunn, Gilbert, and Wilson, 2011; Fernandes, Lynch, and Netemeyer, 2014; Hershfield, 2011; Sussman and Alter, 2012).

This session examines a particular component of the consumer financial decision making process: The consideration of one's current and (potential) future state of wealth. The four papers demonstrate that considerations of states of wealth have important psychological consequences that go beyond their monetary utility and that can influence choices in the financial domain.

The session examines both psychological antecedents and consequences arising from different ways in which consumers think and feel about their current and future states of wealth. The antecedents include factors that motivate consumers to monitor their money. The consequences include consumers' intentions to take out loans, their likelihood to base present spending on future income expectations, and the propensity to accept risky gambles.

The paper by Garbinsky, Klesse, and Huang examines the effect of a psychological sense of power on money monitoring. They show that power can increase the extent to which consumers monitor their money due to enhanced perceived instrumentality of money.

The paper by Greenberg and Hershfield investigates how the trajectory of anticipated pain associated with taking out a loan affects consumers' likelihood to do so. They find that consumers who expect the psychological pain to increase over time are less likely to take out a loan than those who expect pain to decrease over time.

The paper by Schanbacher, Faro, and Botti examines how consumers' expectations of future income affect present discretionary spending. They find that consumers are less likely to spend at present when expecting an income decrease but are not more likely to spend when expecting an income increase. However, consumers expecting an income increase are more likely to spend when the sense of psychological connectedness to the future self is enhanced.

Finally, the paper by Jung, Critcher, Wong, and Nelson examines how the consideration of different sets of potential gains and losses shapes the subjective valuation of a particular gain or loss. They demonstrate that the range of gain and loss values in recently considered gambles impacts subjective valuation, and thus loss aversion.

This group of papers includes hypothetical studies as well as experiments with consequential behaviors. Questions raised for discussion include: How can the extent to which consumers track their money be increased? When do emotional responses to expected wealth help and when do they hinder consumer wellbeing? And related to that, how can consumers be encouraged to think about potential or expected future states of wealth in a way that fosters welfare enhancing choices? Interest in such questions is expected to connect researchers from diverse areas such as consumer financial decision-making, consumer welfare, affect, and behavioral economics.

The Power to Know What You Have: Feeling Powerful Increases Money Monitoring

EXTENDED ABSTRACT

How much money do you have? According to a recent survey, only half of all Americans would be able to correctly answer this question (Rossman, 2011). Knowledge of how much money one has is needed to avoid overspending. It is surprising that individuals fail to monitor their money considering that simple actions such as checking monthly bank statements, logging into online bank accounts, or counting the money in one's wallet could easily accomplish this task. With numerous vehicles available to help individuals monitor their finances, why are most people failing to do so?

While existing research has predominantly focused on dispositional factors and demographics (Bertrand, Mullainthan, & Shafir, 2006; Chen, 2013; Cole, Paulson, & Shastry, 2014; Vohs & Faber, 2007), we move beyond these stable factors to propose and test a psychological factor that contributes to money monitoring – the feeling of power. The advantage of examining a psychological factor, such as power, is that it is more malleable in nature and thus lends itself more easily to potential intervention strategies.

On the surface, it might appear that power, which leads to increased optimism and greater risk taking (Anderson & Galinsky, 2006), will be associated with decreased money monitoring. We, however, provide empirical evidence that power actually increases money monitoring because it increases the perceived instrumentality of the money one owns. To test our hypotheses, we conducted fifteen studies in total, ten of which yielded significant results consistent with our predictions. Below, we report five studies that best tested the proposed theory, and conclude with a meta-analysis of all studies.

S1: Power and Money Monitoring. The objective of Study 1 was to test whether manipulating how powerful one feels affects money monitoring tendencies. Participants were placed in the *high*

power, low power, or control condition, and expressed money monitoring intentions by indicating their likelihood of engaging in money monitoring behaviors (e.g., organize the money in their wallet). Participants differed in money monitoring tendencies, $F(2, 116) = 3.53$, $p = .033$; those in the high power condition ($M = 5.85$) monitored more than those in the low power ($M = 5.16$), $t(116) = 2.48$, $p = .015$, and control condition ($M = 5.35$), $t(116) = 1.95$, $p = .053$.

S2: Actual Money Monitoring and Financial Accuracy. The primary objective of Study 2 was to explore whether the effect of power on money monitoring intentions that was observed in Study 1 translates to actual money monitoring behavior. The second objective was to demonstrate the importance of engaging in money monitoring behaviors by showing its downstream effects on financial accuracy. Participants were placed in the *high power* or *low power* condition before playing Monopoly. When ready to play, we took a picture of their Monopoly money set-up, and assessed financial accuracy (i.e., “indicate how much money you had”). Those feeling powerful ($M = 6.26$) monitored their money more than those feeling powerless ($M = 5.30$), $t(101) = 2.45$, $p = .016$, as assessed by coders that rated pictures of their money set-ups. This increased monitoring enhanced financial accuracy, $t(102) = 2.251$, $p = .026$.

S3: The Mediating Role of Money Instrumentality. The objective of Study 3 was to shed light on the underlying mechanism of money instrumentality. Participants were placed in the *high power* or *low power* condition before playing Monopoly, and expressed money monitoring intentions (e.g., I would check how many bills I have of each kind). To assess perceived instrumentality, they indicated how many properties, houses, and hotels they thought they could buy. Those feeling powerful thought their money was more instrumental (i.e., they could buy more) than those feeling powerless, $t(99) = 3.431$, $p = .001$. This increase in instrumentality mediated the effect of power on monitoring (95% CI: .1211, .6026).

S4: Unpacking Money Instrumentality. The primary objective of Study 4 was to shed further light on the mechanism of money instrumentality by measuring this variable directly. The second objective was to rule out feelings of responsibility and subjective wealth as alternative explanations. Participants were placed in the *high power* or *low power* condition, and expressed money monitoring intentions. To more realistically assess instrumentality, participants expressed how much they could buy with their own money (e.g., “I can buy a lot with my money.”) We also measured responsibility and subjective wealth as alternative explanations. As predicted, instrumentality (CI = .0359, .4170), rather than responsibility (CI = -.1163, .3048) or subjective wealth (CI = -.3210, .0589), mediated the relationship between power and monitoring.

S5: Manipulating Money Instrumentality. The objective of Study 5 was to provide further evidence for the mechanism by directly manipulating it via a moderation-of-process approach (Spencer, Zang, & Fong, 2005). Focusing only on those feeling powerful, we directly manipulated instrumentality by varying financial feedback that participants received. Those in the *high instrumentality condition* saw a list of six products (product A, product B, etc.) and were told they could afford product A or product B, etc. Those in the *low instrumentality condition* randomly saw one of these six products. Those in the *no feedback condition* did not receive any feedback. Participants differed in money monitoring tendencies, $F(2, 147) = 4.247$, $p = .016$; those in the high instrumentality condition ($M = 5.91$) monitored more than those in the low instrumentality condition ($M = 5.14$), $t(147) = 2.89$, $p = .004$, and those in the no feedback condition ($M = 5.63$) monitored (marginally) more than those in the low instrumentality condition, $t(147) = 1.87$, $p = .064$.

In addition to these studies, a meta-analysis of the fourteen studies that tested the main effect utilizing META XL software (Study 5 was not included because it does not examine the effect of power on money monitoring) confirmed that feeling powerful increased money monitoring relative to feeling powerless, with $d = .35$. Theoretically, our findings add to research on power and financial decision making (e.g., Garbinsky, Klesse, & Aaker, 2014). In addition, our research provides valuable insights for financial institutions: Financial advisors should create an environment that makes customers feel “at power.”

Debt Aversion and the Trajectories of Psychological Pain

EXTENDED ABSTRACT

Although research has supported the claim that consumers are averse to taking on debt (Prelec and Loewenstein 1998), little attention has been given to understanding the reasons why they might do so. When considering taking on debt, people must consider the ways their financial well-being will change (or not) as a result, and these considerations can ultimately influence the choice to take out or avoid debt. The aim of the current investigation is to understand what consumers think about when making this decision. In particular, we explore how projecting psychological pain from taking out a loan or holding on to a loan impacts the tendency to take on debt. Theoretically, if consumers anticipate an especially high level of pain in the near term (i.e., at the time a loan is taken out), they may be deterred from taking out the loan. However, we find that expecting a higher level of pain in the long term (i.e., after holding on to a loan for some time) generates a greater aversion to debt. In some cases, this pattern of projecting future pain could cause consumers to make decisions that fail to serve their long-term financial interests.

Consumers might predict that the pain from a loan is worst at the beginning. Many prefer to delay pain for as long as possible (e.g., Frederick, Loewenstein, & O’Donoghue, 2002), and thus might avoid experiences that they expect will cause them pain sooner rather than later, even if they will adapt it over time (Frederick & Loewenstein, 1999). People might perceive taking out a loan as a painful action since it typically involves immediately realizing a large debt. Findings on future anhedonia suggest that when considering a loan, consumers might expect the pain they will experience will be more salient when taking out the loan (Kassam et al., 2008).

Alternatively, consumers might project that psychological pain grows over a loan’s lifecycle. An affective-forecasting account suggests that when projecting the psychological pain a loan will cause, consumers might overweight future negative emotions they will experience (Wilson & Gilbert, 2003, 2005). In addition, if consumers are pessimistic, they might set low expectations to cope with inherent anxiety about the future (Norem & Cantor, 1986), causing them to believe they will have more negative feelings as time goes on so that the pain does not become debilitating.

As an initial examination (Study 1), we asked a sample of adults to graphically plot “pain” levels over different parts of the lifecycle of a multi-year loan. The two main points in time participants identified as most painful were the latest point in time—one year after the loan was taken out—and the exact time the loan was taken out. Importantly, participants in the former group projected a rising trajectory of pain while those in the latter group projected a declining trajectory.

Study 2 documented that these perceived trajectories of pain have important implications for the decision to take on debt. In Study 2a, participants were shown two graphs depicting the perceived trajectories of pain found in Study 1—one in which pain peaked at the

time the loan was taken out (immediate pain trajectory) and another in which pain reached its peak a year in to the loan (growing pain trajectory). After indicating which graph represented their own perceived trajectory of pain, they were asked to indicate how likely they would be to take out the loan. Participants who chose the growing pain trajectory were more loan averse than those who chose the immediate pain trajectory. Study 2b replicated these findings using a different scale. Study 3 showed that the growing pain trajectory does, in fact, cause loan aversion.

In Study 4, using a task in which participants had to list the first five thoughts that came to mind after focusing on either the immediate pain trajectory or the growing pain trajectory, we found that participants who focused on the immediate pain trajectory had more thoughts related to consumption than those who focused on one year in to a loan and fewer thoughts related to repayment than those who focused on the growing pain trajectory.

Study 5 demonstrated that these thoughts have important relevance to consequential behavior. Compared to those who had not considered a personal loan in the past, those who had thought less about the pain of repayment and more about the consumption the loans could afford them. These findings suggest that perceiving a growing pain trajectory heightens the anticipated pain of repaying the loan (Prelec & Loewenstein, 1998; Rick, Cryder, & Loewenstein, 2008; Soman, 2001).

Across six studies, we showed that consumers view the psychological pain resulting from a loan as following an immediate pain trajectory or a growing pain trajectory. Importantly, the view that the pain follows a growing pain trajectory causes loan aversion, in part because thinking about such a trajectory causes people to focus on the pain of repayment as opposed to the pleasures of consumption. These results provide an account for one way that debt aversion might arise, and suggest that perceived pain trajectories are important determinants of financial decision-making.

How Does Future Income Affect Present Discretionary Spending? The Role of Future Self-Continuity

EXTENDED ABSTRACT

How does future income affect present consumption? Economic theory (Friedman, 1957) posits that consumers maximize utility by anticipating lifetime earnings and spreading them evenly across the lifespan. Consequently, a person who expects her income to increase in the future should increase present consumption and someone who expects income to decrease in the future should reduce it, relative to no income change. However, empirical evidence of such consumption smoothing is inconsistent (e.g. Wilcox, 1989). Explanations for observed lack of consumption smoothing have focused on economic factors, such as liquidity constraints (Wilcox, 1989).

Taking a psychological approach, we propose that future income is more likely to influence present spending on discretionary purchases, such as specialty coffee or a better laptop model, when consumers perceive high future self-continuity – i.e., when they feel that their future self is at core the same person as their present self (Bartels and Urminsky, 2011; Hershfield, 2011; James, 1890). We argue that people tend to perceive higher future self-continuity when expecting an income decrease (vs. increase). This is based on the argument that future self-continuity is enhanced by mental future simulation (Prebble et al., 2013; Tierney et al., 2014), and people are more likely to simulate negative than positive changes (Bilgin, 2012; Dhar and Wertenbroch, 2000). Thus, consumers should reduce spending when expecting an income decrease, but be less likely to boost spending when expecting an income increase. Enhancing the

sense of future self-continuity should attenuate this asymmetry by boosting discretionary spending among consumers expecting an income increase.

Study 1a tested the prediction that discretionary spending is more likely to be affected by future income decreases than by increases. We varied current and future income in a scenario and examined the effect of future income on desire to make discretionary purchases at present. Specifically, participants imagined being a student who either lives on a low income, or receives generous financial support and lives on a high income. Participants further imagined that graduates from their course of study typically earned a high or low income. We found that among participants with high present income, the expectation of a decrease reduced the desire to buy, compared to no change. However, among participants with low present income, desire to buy did not differ between those expecting no change and those expecting an increase.

Study 1b tested the impact of real income increases and decreases in the lab. Ostensibly before the actual study, participants were informed that payment for study participation would be increased, decreased, or remain unchanged in the new budgeting period. Participants then had the option to spend some of their present payment on specialty chocolates. Results show that they were less likely to buy chocolates after learning that payment would decrease in the future than when expecting no change, but were not more likely to buy when expecting payment to increase.

Study 2 tested the proposed process. Starting from their actual current income, participants imagined an increase or decrease in three years, or unchanged income. Participants either read a brief description of their future financial situation (control) or were additionally encouraged to mentally simulate their future with the help of images (simulation). Simulation was intended to increase future self-continuity. Participants then rated their likelihood of making discretionary purchases at present. The control condition replicated the results from Study 1: Compared to no change, consumers were less likely to buy when expecting an income decrease but equally likely to buy when expecting an increase. In the simulation condition, however, expectation of an income decrease lowered, and importantly, expectation of an increase heightened the likelihood of buying.

Study 3 used an identity continuity prime to manipulate self-continuity. Participants completed a task requiring them to focus on either stability or change in identities of brands. This was intended to prime high vs. low self-continuity, as brands are commonly perceived to have human qualities (Aaker, 1997; Van Rekom et al., 2006). In an ostensibly unrelated survey, subjects were then presented with income scenarios and buying opportunities as in Study 1. The low-continuity condition replicated the results from Study 1: among participants with high current income, those expecting a decrease reported lower likelihood of buying than those expecting no change; among participants with low current income, those expecting an increase were equally likely to buy as those expecting no change. In the high-continuity condition, participants with high current income who expected a decrease were again less likely to buy than those expecting no change. Importantly, in support of our predictions, here a future income increase (compared to no change) raised the likelihood of buying when current income was low.

Study 4 manipulated self-continuity directly, and examined natural variation in future income and real choice. Student participants read a passage stating either that individuals' core identity changes (low self-continuity condition) or that it is stable (high self-continuity condition) around university graduation (adapted from Bartels and Urminsky, 2011). Next, participants completed measures of current income and expected income after graduation. Participants then

made hypothetical choices between basic and pricier purchasing options (e.g. basic vs. gourmet meal). In addition, participants were informed that they would be entered into a lottery for a voucher and indicated their preference for a massage (discretionary item) or groceries voucher (necessity). On the hypothetical and the behavioral measure, future income was positively related to the likelihood of choosing the discretionary options in the high, but not in the low self-continuity condition.

Previous research has linked increased future self-continuity to reduced present spending. This research examined direct trade-offs between the present and future (Bartels and Urminsky, 2011; Hershey, 2011). We provide evidence that future self-continuity moderates the impact of future income on present spending. We show that increased future self-continuity can boost present spending in the case of future income increases.

Excessive restriction of indulgent behaviors can have detrimental effects on consumer wellbeing (Kivetz and Keinan, 2006). Our findings suggest that people expecting significant future income increases may excessively restrict present discretionary spending based on low future self-continuity.

Examination of the Sampling Origin and the Range Hypothesis of Loss Aversion in 50-50 Gamble Settings

EXTENDED ABSTRACT

Walasek and Stewart (2015) showed that people were more sensitive to losses over gains when they made choices with a wider range of gains and a narrow range of losses. In particular, typical loss aversion experiments test preference for gambles formed by combining a wide range of gains (widely spaced apart, \$12, \$16, \$20...\$40) with a narrow range of losses (narrow spaced, \$6, \$8 ,...\$20) to produce lotteries. Consistent with decision-by-sampling, people are sensitive to the rank of the values given a set sampled from their memory. However, there still remains much ambiguity about how and when these values of varying ranges and increments in people's memory operate to influence the sensitivity to losses over gains. In three studies, adopting the original and modified experimental designs used in Walasek and Stewart (2015), we examined how and when decision-by-sampling operated to influence the sensitivity to losses over gains.

It is possible that the asymmetric spacing of losses and gains in the studies in Walasek and Stewart (2015) led people to be more sensitive to shifts in losses, which looks like loss aversion. In Study 1 we replicated the original findings of Walasek and Stewart (2015) and tested whether the increments of values differentially influenced decisions from the range variation. We used a 2(Big Range: gains or losses) X 2(Interval Equivalence: yes or no) factorial design. The Big Range factor indicates whether gains or losses ranged from \$12 to \$40 (big range). The other outcome always has a small range (\$6 to \$20). The Interval Equivalence factor indicates whether we made the interval between adjacent payoffs equivalent (at \$2) or not equivalent (\$4). Only the main effect of Big Range was significant such that the loss aversion coefficient was greater when gains were shown over a big range, suggesting that the range variation moderated loss aversion regardless of the interval equivalence.

In Study 2 we examined whether it is the mere exposure to the range of values that participants make decisions about or it is the context in which they consider the values that are part of their choices influenced their sensitivity to losses over gains. We varied the gain range from \$6 to \$20 or \$6 to \$32 on number lines, but in one condition with the large range, the values over \$20 were selected to be considered to accept or reject, whereas in another condition with the

same large range, the values over \$20 were never selected but merely presented. Participants were significantly more loss averse when they saw a larger range of gain values *and* those values were selected to be considered than when the values were merely presented on the number line, suggesting that loss aversion was not driven purely by the mere presence of high gain values.

In Study 3 we examined how much people have to “engage with” gain values in order to show a greater relative sensitivity to losses over gains. Participants engaged with higher gain values three different ways: 1) they actively thought about the values—more than just seeing them on a number line—by typing in the selected values. 2) they considered the subjective value of the lottery by indicating how attractive each gamble is. 3) they considered the full question of whether one will accept or reject those lotteries. Participants who indicated the attractiveness of the gambles were more loss averse than those who typed the high gain values. Furthermore, participants were more loss averse when they actually considered accepting or rejecting lotteries than engaging with higher gain values by typing the value or by indicating the attractiveness of the gambles.

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