

Too Constrained to Converse:
The Effect of Financial Constraints on Word-of-Mouth

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Abstract

Existing research demonstrates that financial constraints are widespread and influence consumer attention, preference, choice, and consumption in a variety of ways. Despite the growing knowledge of how financial constraints affect the consumer decision making process, less is known about its impact on post-purchase behavior. This work examines whether financial constraints impact an important post-purchase behavior—word-of-mouth—and in what direction. Seven studies show that financial constraints reduce purchase-related word-of-mouth. This effect emerges across consumers' reported frequencies of discussing their purchases with friends and family, as well as their intentions, desires, and real decisions to engage in online word-of-mouth. This effect is explained by reduced anticipated pleasure of engaging in purchase-related word-of-mouth, which results from financially constrained consumers' belief that rehearsing their monetary expenditures will reinforce negative feelings about their limited financial situation. This effect cannot be similarly explained by other accounts such as impression management or the desire to hoard informational resources. Further, the authors show that the reduction in anticipated pleasure from word-of-mouth is specific to sharing about one's monetary expenditures. Thus, financial constraints reduce purchase-related word-of-mouth, but they do not universally decrease one's propensity to share.

Keywords: Financial constraints, financial deprivation, financial decision making, economic psychology, word-of-mouth, social sharing

Financial constraints are prevalent and span multiple socioeconomic levels (Lusardi, Schneider, and Tufano 2011; Moore 2013). A recent survey of 7,000 Americans showed that over two-thirds of consumers have less than \$1,000 in their savings account and over one-third have no savings whatsoever (Huddleston 2016). Further, many millionaires feel financially constrained, with almost 70% of millionaires stating that they do not feel wealthy (UBS Investor Watch 2013). Given the common experience of feeling financially constrained, researchers have proposed and demonstrated how such constraints affect consumer attention, preference, choice, and consumption (e.g., Nelson and Morrison 2005; Shah, Mullainathan, and Shafir 2012; Sharma and Alter 2012; Sharma and Keller 2017; Sharma et al. 2014; Tully et al. 2015). However, less research has examined whether financial constraints influence post-purchase behavior. In this work, we examine one form of post-purchase behavior that has been shown to significantly impact both consumers' future behavior and company performance: word-of-mouth.

Word-of-mouth is the highest ranked source for trustworthy recommendations of products and services (Nielsen 2015). Indeed, this research showed that word-of-mouth is the most likely form of promotion to influence consumers' purchasing decisions; across 60 countries, 83% of consumers say they trust product and service recommendations from family, colleagues, and friends. In light of the pervasiveness of financial constraints, as well as the importance of word-of-mouth among consumers, understanding the impact of financial constraints on word-of-mouth behavior is important for managers and consumers alike.

Currently, there has been no systematic investigation into whether financial constraints influence word-of-mouth engagement, and if so, whether that effect would be positive or negative. Drawing upon the growing body of research on consumer financial constraints, the current research argues that financial constraints reduce consumers' propensity to engage in

purchase-related word-of-mouth. We test this proposition in seven studies that investigate the relationship between financial constraints and purchase-related word-of-mouth. We consider consumers' real purchases across a range of purchase categories and use a variety of word-of-mouth measures, including how often people report engaging in word-of-mouth, activity in a real online chat room, likelihood of talking to close friends, and willingness to share on social media.

In support of our predictions, we find that more financially constrained consumers engage in less word-of-mouth relative to less financially constrained consumers, and that this effect is independent of any possible reduction in word-of-mouth resulting from potentially lower spending among financially constrained consumers. Further, this effect cannot be explained by differences in the types of purchases financially constrained consumers buy, impression management concerns, or the desire to hoard informational resources. Instead, we find that the effect occurs because financial constraints decrease the anticipated pleasure of engaging in purchase-related word-of-mouth due to financially constrained consumers' beliefs that rehearsing monetary expenditures will reinforce their negative feelings about their limited financial situation. As such, the effect is moderated by the extent to which consumers conceptualize the subject of word-of-mouth as an expenditure of their money. For example, when purchases do not cost money (e.g., free events, gifts) or when consumers are encouraged to think about the time rather than the money spent on a purchase, financially constrained consumers are similarly likely to engage in word-of-mouth.

THEORETICAL FRAMEWORK

Financial Constraints

Feeling financially constrained results from the belief that one's financial situation restricts his or her desired consumption (Tully, Hershfield, and Meyvis 2015). Thus, feelings of financial constraint stem from a psychological state that does not necessarily imply poverty or a literal absence of money. Rather, they emerge from the perception that one does not have sufficient monetary resources to satisfy his or her consumption-related desires. Accordingly, while one's objective income may influence their financial constraints, perceptions of one's financial constraints do not solely depend on such objective metrics.

In general, financial constraints prompt individuals to respond in ways that either directly or indirectly address the perceived deficit in their financial situation (Sharma and Alter 2012). A common theme across prior research findings is that financially constrained consumers seek ways to alleviate the unpleasantness of their state. Consumer researchers have explored such effects at various stages of the consumer decision making process. For example, financial constraints have been shown to direct people's attention to resources perceived as capable of redressing feelings of financial scarcity (e.g., Mullainathan and Shafir 2012; Sharma and Alter 2012; Sharma and Keller 2017). Financial constraints also lead consumers to shift their preference for and choice of stimuli in an effort to compensate for their financial means (e.g., Nelson and Morrison 2005; Shah, Mullainathan, and Shafir 2012; Sharma and Alter 2012; Sharma and Keller 2017; Sharma et al. 2014; Tully et al. 2015), and change their consumption of such items to alleviate perceived constraints (e.g., Briers et al. 2006; Laran and Salerno 2013; Morewedge, Holtzman, and Epley 2007; Sharma and Alter 2012).

While much of this research has explored how financial constraints influence consumer

attention, preferences, and purchase behaviors, less work has examined how they might impact post-purchase behaviors. Thus, the current work investigates one post-purchase behavior that has important consequences for consumer behavior and managerial decision making: consumer word-of-mouth. Specifically, we examine whether and why perceived financial constraints influence consumers' likelihood and desire to discuss their purchases with others.

Word-of-Mouth

Word-of-mouth refers to all non-commercially motivated interpersonal communication about brands or products (Arndt 1967; Chevalier and Mayzlin 2006; Westbrook 1987). Thus, word-of-mouth captures both in-person, interpersonal, and online communications. Marketing managers and academics alike have had a longstanding interest in word-of-mouth based on its substantial impact on consumer purchasing behavior. Indeed, word-of-mouth influences almost 70% of purchases (Balter 2008), and consumers consistently evaluate it as the most credible source of marketing material (Bickart and Schindler 2001; Brooks 1957; Nielsen 2015).

Given the integral nature of word-of-mouth to consumer and managerial decision making, many studies have investigated the consequences and antecedents of consumer sharing (see Berger 2014; De Matos and Rossi 2008; Godes et al. 2005 for reviews). In the current research, we draw upon work that has investigated the various inputs into whether people engage in word-of-mouth. One factor known to influence word-of-mouth is the individual's role in transmission. While some work has focused on the individual's place within the social network (e.g., Brown and Reingen 1987; Goldenberg, Libai, and Muller 2001), other work that is more related to the current research has examined psychological differences across consumers in terms

of their personality traits or active motives. For example, research has demonstrated that being a market maven or having a high need for uniqueness can impact word-of-mouth (e.g., Cheema and Kaikati 2010; Feick and Price, 1987).

Aside from influences stemming from the individual, word-of-mouth is also affected by the conversation topic. For instance, research in this area has examined word-of-mouth as a function of brand characteristics and product attributes (e.g., Chen and Berger 2013; Lovett, Peres, and Shachar 2013). Some of this work has demonstrated that the feelings that conversation topics inspire can impact word-of-mouth (e.g., surprise, awe, discomfort; Berger and Milkman 2012; Chen and Berger 2013; Finkenauer and Rimé 1998).

In the current work, we build upon the prior research that has examined the feelings that conversation topics inspire, proposing that those feelings may vary as a function of an individual's psychological state. That is, we explore the potential interaction between consumers' psychological states and their purchases as a conversation topic. Specifically, we investigate how financial constraints may change the pleasure consumers anticipate getting from discussing their purchases, and in turn, influence their word-of-mouth engagement. By focusing on whether and why financial constraints increase or decrease the anticipated pleasure associated with purchase-related word-of-mouth, we can offer insight into how financially constrained consumers strategically manage their conversation topics.

The Current Research: Financial Constraints and Word-of-Mouth

By definition, financially constrained consumers are in an unfavorable position in which their financial standing limits their desired level of consumption. This state is generally

unpleasant and can arouse negative feelings (e.g., Sharma 2012). In light of this, how might financially constrained consumers react to the prospect of discussing their purchases with others? Existing research has shown that a primary driver of consumer word-of-mouth is the associated pleasure or displeasure, demonstrating that greater anticipated discomfort decreases word-of-mouth (e.g., Berger 2014; Chen and Berger 2013). Although this work has primarily examined differences in anticipated pleasure as a function of subject matter, this anticipated pleasure may depend on consumers' perceived financial state.

We suggest two competing possibilities for how financial constraints influence the anticipated pleasure of discussing purchases and, in turn, engagement in purchase-related word-of-mouth. One possibility is that financial constraints increase the anticipated pleasure of sharing and the desire to discuss one's purchases. This would occur if financially constrained consumers believe that rehearsing their monetary expenditures will improve how they feel about their financial situation. For example, sharing about one's expenditures could signal financial spending ability or provide a sense of validation. If so, then financial constraints would increase purchase-related word-of-mouth. However, a second possibility is that financial constraints decrease the anticipated pleasure of sharing and the desire to discuss one's purchases. This would occur if financially constrained consumers believe that rehearsing their monetary expenditures will reinforce negative feelings about their limited financial state. If so, then financial constraints would decrease purchase-related word-of-mouth.

In the current work, we make an argument for the latter possibility. First, we suggest that financially constrained consumers expect that rehearsing their purchases is likely to reinforce rather than alleviate negative feelings associated with financial constraint. Indeed, prior research alludes to this possibility. In particular, Spiller (2010) demonstrates that financially constrained

consumers are more likely to think about opportunity costs. We build on this research to argue that financially constrained consumers expect that rehearsing their monetary expenditures will reinforce the negative feelings associated with having financial constraints, as doing so may evoke thoughts about other expenses, budgetary limitations, or their generally limited pool of money.

Second, to the extent that financially constrained consumers expect that rehearsing their monetary expenditures will reinforce negative feelings about their financial situation, we suggest that they will anticipate less pleasure from discussing their purchases and, in turn, be less likely to engage in purchase-related word-of-mouth. Indeed, prior work has shown that the threat of one's own inadequacy in a particular domain has been shown to be so unpleasant that people intentionally avoid engaging with that particular domain (e.g., Gross 1998; Howell and Sheppard 2012; Sweeny et al. 2010). In the financial domain, research shows that consumers avoid exposing themselves to financially threatening information by avoiding information about their financial account balances when the stock market is not performing as well (e.g., Karlsson, Loewenstein, and Seppu 2009; Sicherman et al. 2015). Relatedly, in the context of word-of-mouth, research has shown that consumers are less likely to share about topics that elicit discomfort (Chen and Berger 2013). In sum, we suggest that financially constrained consumers will avoid sharing about their expenditures because they expect that rehearsing them will reinforce negative feelings about their financial situation, thus reducing the anticipated pleasure of engaging in purchase-related word-of-mouth. More formally:

H1: Financial constraints reduce purchase-related word-of-mouth.

H2: The effect in H1 occurs because financially constrained consumers believe that rehearsing their monetary expenditures will reinforce negative feelings about their limited financial position, which decreases the anticipated pleasure of discussing their monetary expenditures.

Importantly, our conceptualization suggests that the feelings described in H2 are directed towards financially constrained consumers' perceptions about their financial situation rather than towards the specific purchase. Thus, we expect this effect to occur across a range of purchases, and that it should not depend on purchase characteristics such as frivolity or cost. However, our process account suggests that the effect of financial constraints on reduced word-of-mouth is not universal. It is the idea of rehearsing an expenditure of one's money that triggers financially constrained consumers' anticipated negative feelings about their financial situation. Hence, the effect should only occur in situations where consumers conceptualize the topic of word-of-mouth as their own monetary expenditure. When the expenditure of their money is not focal, or is framed in terms of another concept, financially constrained consumers should not anticipate feeling negatively about their financial situation. In sum, we expect the effect to be attenuated when people do not conceptualize the subject of word-of-mouth as an expenditure of their money.

H3: The effect in H1 will be attenuated when word-of-mouth topics are not conceptualized as one's own monetary expenditures (e.g., expenditures of time, free items, gifts).

We distinguish our proposed process account from other plausible alternative explanations. The first is that financially constrained consumers make fewer purchases or fundamentally different purchases. A second possibility is that financially constrained consumers feel worse about purchases because those purchases are a poor use of money. We address these possibilities in three ways: (a) by eliciting purchases before experimentally manipulating financial constraints (studies 3a,b, 4, and 6), (b) by holding constant the focal purchase across conditions (study 5), and (c) by manipulating (web appendix study 2) and measuring (study 5 and web appendix study 1) a wide variety of purchase characteristics including frivolity. A third alternative possibility is that financially constrained consumers' reduced pleasure results from an increased concern about how they will be judged by others (vs. how rehearsing their expenditures makes them feel about their financial situation). To address this account, we examine our effect across a range of audience types, including anonymous participants in a chat room (study 2) as well as close friends (study 3b). We also directly measure concerns about impression management in study 2 of the web appendix. A final possibility is that financial constraints increase selfishness, leading to a desire to hoard rather than share informational resources. We address this account by demonstrating that decreased word-of-mouth among financially constrained consumers is attenuated when they do not conceptualize the topic as their own monetary expenditure (studies 4-6). Although discussing these alternative topics can provide similar information to others, financially constrained consumers are no less likely to share information about them.

Existing word-of-mouth trends provide preliminary evidence for the prediction that heightened financial constraints are associated with decreased word-of-mouth. In particular, a reputable market research firm, Colloquy, examined how the Great Recession of 2008 affected

word-of-mouth behavior. Their survey of over 3,000 consumers found that word-of-mouth fell by 21% during the two years following the start of the Great Recession. In 2008, 73% of consumers said they often have conversations with family, friends, and coworkers about products and services they have used, whereas in 2010, only 58% of consumers indicated doing so (Hlavinka and Sullivan 2011). Since the U.S. unemployment rate spiked from 5.8% in 2008 to nearly 10% in 2010, these word-of-mouth patterns are consistent with our proposition that financial constraints decrease consumers' propensity to discuss their purchases (United States Department of Labor 2017). This decrease in word-of-mouth over time suggests a relationship between people's finances and word-of-mouth at an aggregate level. Next, we examine the relationship between subjective feelings of financial constraints and word-of-mouth behavior at an individual level.

STUDY 1: FINANCIAL CONSTRAINTS AND WORD-OF-MOUTH FREQUENCY

In study 1, we aimed to provide evidence that word-of-mouth is less frequent among financially constrained consumers. To do so, we measured consumers' financial constraints and examined how they related to their reported frequency of engaging in purchase-related word-of-mouth. We expected participants who felt more financially constrained to report discussing their purchases less often.

Method

We recruited 400 adults ($M_{\text{age}} = 47.22$, $SD = 15.29$; 65.3% females) located in the US

through IPSOS, a leading market research panel provider, to complete this survey. We did not exclude any participants who completed any study reported herein, and all measures collected are reported in each study or the web appendix. Upon entering the survey, participants answered two sets of questions in counterbalanced order: measures of financial constraint and measures of word-of-mouth frequency.

Participants answered four financial constraint questions: (a) “To what extent do you feel financially constrained?” (1 = not at all financially constrained, 7 = very financially constrained); (b) “To what extent do you feel like you can spend as much as you like?” (1 = not at all, 7 = very much); (c) “Compared to the financial situation of your peers, your financial situation is...” (1 = much better, 7 = much worse); and (d) “To what extent do you feel satisfied with your financial situation?” (1 = not at all satisfied, 7 = very satisfied).

Participants also answered two questions about their word-of-mouth frequency: (a) “How often do you talk about products you've bought with your family members, friends and colleagues?” and (b) “How often do you have discussions with family members, friends and colleagues about the brands you buy?” (1 = not often at all, 7 = very often). Lastly, participants indicated their age, gender, primary language, and annual household income.

Results and Discussion

The four questions assessing participants' financial constraints were recoded such that higher numbers indicated greater perceived financial constraints. These questions were reliable and averaged to form a single financial constraint measure (Cronbach's $\alpha = .72$).

As predicted, there was a significant negative relationship between financial constraints

and the frequency with which people reported engaging in purchase-related word-of-mouth. Participants who felt more financially constrained indicated talking less frequently about products they purchase, $B = -.248$, $SE = .065$, $t(398) = -3.81$, $p < .001$. They also reported having less frequent discussions about brands they buy, $B = -.330$, $SE = .067$, $t(398) = -4.89$, $p < .001$. This relationship held both when participants rated their financial constraints before reporting their word-of-mouth behavior (about products: $B = -.276$, $SE = .092$, $t(224) = -3.01$, $p = .003$; about brands: $B = -.378$, $SE = .094$, $t(224) = -4.03$, $p < .001$) and after reporting their word-of-mouth behavior (about products: $B = -.200$, $SE = .089$, $t(172) = -2.25$, $p = .026$; about brands: $B = -.257$, $SE = .093$, $t(172) = -2.75$, $p = .007$).

Income was correlated with financial constraints, $r(400) = -.388$, $p < .001$. However, financial constraints continued to predict word-of-mouth behavior when adjusting for income, suggesting that our results cannot be explained by differences in objective wealth.

In study 1, we found evidence for the predicted negative relationship between financial constraints and purchase-related word-of-mouth. This relationship emerged controlling for income, and irrespective of whether participants indicated their financial constraints before or after reporting their frequency of purchase-related word-of-mouth.

STUDY 2: FINANCIAL CONSTRAINTS AND REAL CHAT ROOM POSTS

We designed study 2 to replicate and extend the findings from study 1. Similar to study 1, study 2 was designed to explore the natural variation in consumers' financial constraints and its relationship to their purchase-related word-of-mouth. Unlike study 1, which assessed consumers' word-of-mouth frequency, the key dependent measure in study 2 was participants' decision to

discuss a recent purchase in real time in an anonymous online context. Using a private chat room service, we created two real online chat rooms and invited our anonymized participants to engage with each other about their purchases (vs. an alternative topic). The objective was to examine whether participants' financial constraints predicted their choice of what to discuss, and we expected consumers who felt more financially constrained to be less likely to decide to chat with others about their purchases.

Stimuli Pretest

We first conducted a pretest among 43 individuals ($M_{\text{age}} = 33.33$, $SD = 10.07$; 51.2% females) on Amazon.com's Mechanical Turk (MTurk) to determine which alternative chat room topic to provide to participants. We examined 10 potential conversation topics (e.g., favorite hobbies, desserts, fitness/exercise, my bad habits, local/state parks, etc.). We compared each potential theme to "recent purchases" on two dimensions: interest and ease/difficulty of discussion. Local/state parks were marginally less interesting to talk about than recent purchases ($M_{\text{purchases}} = 4.07$, $SD = 1.94$ vs. $M_{\text{parks}} = 3.47$, $SD = 2.05$), $t(42) = 1.90$, $p = .064$, and significantly more difficult to discuss than recent purchases ($M_{\text{purchases}} = 5.00$, $SD = 1.51$ vs. $M_{\text{parks}} = 3.86$, $SD = 1.73$), $t(42) = 4.40$, $p < .001$. Because previous research has shown that financial constraints are cognitively consuming (Shah et. al 2012), we considered the possibility that financially constrained consumers might defer to "easier" discussion topics; hence, the greater perceived difficulty of discussing parks (vs. purchases) provided a conservative test of our hypothesis.

Method

As in study 1, we aimed to collect 400 participants. Four hundred and five adults ($M_{\text{age}} = 34.57$, $SD = 11.20$; 43.2% females) on MTurk completed the study for nominal payment.

First, we measured financial constraints using the same four questions used in study 1. Next, we observed participants' word-of-mouth behavior. Using a private chat room service, we created two online chat rooms in which participants could anonymously post messages and interact with other participants in real time. We informed participants that we were interested in what people talk about, and we presented them with the two pretested chat room themes: recent purchases and local/state parks. The "recent purchases" chat room was the target chat room, and participants' choice of posting in that chat room served as the dependent measure (dependent measure coding: parks = 0, purchases = 1). After selecting which chat room they preferred to enter, participants received a link to their chosen chat room and were instructed to post about the topic they selected. Participants were given a random four-digit code to input as their username so that we could track their responses.

After posting in their respective chat room, participants returned to the main survey. They first completed the following question: "Did you enter the chat room and post at least one relevant comment?" (Yes/No). Finally, they indicated their age, gender, primary language, and combined annual household income.

Results and Discussion

Before conducting our main analyses, we investigated whether participants followed the

intended instructions and made at least one post in their chosen chat room. According to participants' self-reported compliance, all but one participant indicated entering the chat room and posting at least once, with the one non-compliant participant indicating a technical glitch. We observed the same high compliance rate using our own method of verification, whereby we matched participants' chat room posts to the random four-digit code assigned to them in their survey. This analysis revealed that 94% of the participants posted a relevant message in their chosen chat room. This did not vary by chat room, $B = -.295$, $SE = .242$, Wald $\chi^2(1) = 1.49$, $p = .223$, or by financial constraints, $B = .059$, $SE = .161$, Wald $\chi^2(1) < 1$.

To examine the relationship between financial constraints and purchase-related word-of-mouth, we first coded the four financial constraint questions such that higher numbers reflected greater financial constraints. We then combined the four financial questions into a single financial constraint index (Cronbach's $\alpha = .88$). Next, we examined participants' selection of chat rooms. Overall, the majority of participants (63%) chose to discuss recent purchases rather than parks. Importantly, in support of our predictions, a binary logistic regression showed that participants' financial constraints significantly predicted their chat room choice. The more financially constrained participants felt, the less likely they were to decide to enter the purchase-themed chat room, $B = -.186$, $SE = .082$, Wald $\chi^2(1) = 5.14$, $p = .023$.

Income was correlated with financial constraints, $r(405) = -.402$, $p < .001$. However, in line with the results of study 1, financial constraints significantly predicted participants' chat room choice after controlling for income.

In sum, study 2 examined consumers' real posting behavior in online chat rooms and provided additional evidence that financially constrained consumers are less likely to talk about their purchases with others. It is worth noting that the results in study 2 emerged in an

anonymous environment, where participants did not know or have information about one another and would not have future interactions with one another, casting doubt upon the possibility that impression management concerns contributed to the effect. In the remaining studies, we manipulated rather than measured financial constraints to isolate the causal relationship between financial constraints and purchase-related word-of-mouth.

STUDY 3A: CAUSAL EFFECT OF FINANCIAL CONSTRAINTS ON WORD-OF-MOUTH I

The previous studies demonstrated a naturally occurring relationship between financial constraints and reduced word-of-mouth. Study 3a builds on these findings by manipulating financial constraints and examining their causal effect on purchase-related word-of-mouth to ensure that other extraneous factors (e.g., differences in purchasing frequency or the types of purchases people make when they feel financially constrained) do not account for the results. To ensure that the type of purchases and the accessibility of purchases did not vary systematically between conditions, all participants mentioned a purchase they intended to make before being randomly assigned to either the financial constraint or control condition. This procedure eliminated the possibility that any effect on word-of-mouth would be a function of either the limited accessibility of past purchases, or any inherent differences in purchasing behavior among financially constrained consumers. Consistent with the results found in studies 1-2, we expected participants who were asked to consider their financial constraints (vs. those in a control condition) to be less likely to engage in purchase-related word-of-mouth. In addition, we aimed to gather preliminary process evidence by measuring the anticipated pleasure of engaging in

word-of-mouth. We predicted that this anticipated pleasure would be reduced among financially constrained consumers, which would explain the reduction in purchase-related word-of-mouth.

Method

This study employed a 2 condition (financial constraint vs. control) between-subjects design, and we aimed to collect 100 participants per condition. We decided in advance to collect relatively large sample sizes in this and the remaining studies based on previous research that has found relatively small effect sizes for the financial constraint manipulation we used in our studies. The IPSOS market research panel organization provided us with responses from 253 adults who are active social media users ($M_{\text{age}} = 46.83$, $SD = 17.10$; 55.3% females, see web appendix for screening criteria).

First, we instructed all participants to name one discretionary purchase that they expected to buy in the next few weeks. We aimed to encourage participants to consider a meaningful purchase that they may be more inclined to tell others about and sought to limit variance across purchases, so we asked them to consider a purchase that would cost between \$50 and \$1000.

Next, participants were assigned to either a financial constraint condition or a control condition using the writing tasks from Tully et. al (2015; study 5). Participants in the financial constraint condition were told that we were interested in the factors that contribute to their financial constraints, and they were asked to describe aspects of their financial situation that contribute to their constraints. Participants in the control condition completed a similarly demanding writing task that requested them to list ten facts they know to be true.

We then reminded participants about the purchase they mentioned earlier and asked them to provide responses to two questions: (a) “Assuming you buy this product, how likely are you to tell others about this product by posting about it on social media?” and (b) “Assuming you buy this product, would you like to post about this product on social media?” using seven-point scales (1 = not at all likely, 7 = very likely). These two measures were counterbalanced between participants.

Participants next answered three questions designed to assess the anticipated pleasure of engaging in word-of-mouth: (a) “What would it be like to post about this product?” (-3 = extremely unenjoyable, 3 = extremely enjoyable); (b) “How would it feel to post about this product?” (-3 = extremely unpleasant, 3 = extremely pleasant); and (c) “The experience of sharing about my purchase with others would be primarily:” (-3 = negative, 3 = positive). For consistency, all measures were recoded to be on 1-7 scales. Participants then indicated the cost of the item they mentioned in US dollars.

As a manipulation check, participants were asked to respond to the following measure using a seven-point scale: “To what extent do you feel financially constrained?” (1 = not at all, 7 = very much). Finally, participants indicated their age, gender, primary language, and combined annual household income.

Results and Discussion

Manipulation check. Participants in the financial constraint condition indicated feeling more financially constrained than did participants in the control condition ($M_{\text{constraint}} = 5.30$, $SD = 1.69$ vs. $M_{\text{control}} = 4.36$, $SD = 1.93$), $F(1, 251) = 16.72$, $p < .001$.

Purchase-related word-of-mouth. The two word-of-mouth dependent measures were highly correlated and were averaged to form a single measure, $r(252) = .867, p < .001$. As predicted, participants in the financial constraint condition indicated being less likely to post about their purchase on social media ($M_{\text{constraint}} = 3.25, SD = 2.15$ vs. $M_{\text{control}} = 4.86, SD = 2.09$), $F(1, 251) = 5.23, p = .023$.

Process evidence. The three measures assessing the anticipated pleasure of engaging in word-of-mouth cohered and were collapsed to form a single measure (Cronbach's $\alpha = .88$). Participants in the financial constraint condition anticipated less pleasure from posting about their purchase as compared to those in the control condition ($M_{\text{constraint}} = 5.00, SD = 1.47$ vs. $M_{\text{control}} = 5.45, SD = 1.39$), $F(1, 251) = 6.13, p = .014$. This reduced anticipated pleasure explained the effect of the financial constraint manipulation on differences in likelihood of posting, 95% CI (-.879, -.114; 10,000 resamples; Hayes 2013).

Cost. The cost of the purchases participants wrote about did not differ by condition. Moreover, although word-of-mouth intentions were often higher for more expensive items, cost did not moderate the relationship between financial constraints and word-of-mouth. Further, all results were robust to the inclusion of cost as a covariate. These results are consistent with the effect proposed in H2 and with our suggestion that this effect does not depend on cost. In the remaining studies, we did not find evidence that cost significantly moderates the effect of financial constraints on word-of-mouth; thus, the role of cost is not discussed further.

In sum, study 3a provided causal evidence that financial constraints decrease consumers' likelihood of engaging in purchase-related word-of-mouth. Further, those in the financial constraint (vs. control) condition anticipated less pleasure from discussing their purchases, which explained their decreased intentions to engage in purchase-related word-of-mouth.

STUDY 3B: CAUSAL EFFECT OF FINANCIAL CONSTRAINTS ON WORD-OF-MOUTH II

Study 3b was designed to replicate and extend the findings in study 3a by examining the source of the reduced anticipated pleasure from engaging in purchase-related word-of-mouth. Specifically, our full process model suggests that when consumers feel financially constrained, they believe that rehearsing their monetary expenditures will reinforce negative feelings about their financial situation, which reduces the anticipated pleasure of purchase-related word-of-mouth and, in turn, decreases the likelihood of engaging in purchase-related word-of-mouth. To test this serial process, we measured (a) participants' beliefs that rehearsing their monetary expenditures will reinforce negative feelings about their financial situation, and (b) anticipated pleasure from engaging in purchase-related word-of-mouth.

Method

Study 3b employed a 2 condition (financial constraint vs. control) between-subjects design, and we aimed to collect 250 participants. Participants were 256 individuals from MTurk who completed the survey for nominal payment ($M_{\text{age}} = 36.27$, $SD = 11.91$; 52% females).

Study 3b followed the same procedure as that described in study 3a with the following exceptions. First, the dependent measure focused on face-to-face word-of-mouth among close friends rather than on social media: "Assuming you bought this purchase, how likely are you to tell close friends about it?" (1 = not at all likely, 7 = very likely). Second, we examined the

extent to which participants believe that rehearsing their monetary expenditures will reinforce negative feelings about their financial situation. Rather than measuring negative feelings resulting from telling others about a purchase, which could be subject to impression management concerns, we specifically asked about anticipated negative feelings resulting from one's reflection upon one's own expenditures. We asked: "If I were to think about spending money on discretionary purchases, it would reinforce..." (a) "...my feelings of frustration with my financial situation." (b) "...how upset I am with my financial situation (c) "...my feelings of disappointment with my financial situation." (d) "...how uncomfortable and embarrassed I am with my financial situation." (e) "...how ashamed I am of my financial situation." (order randomized, 1 = strongly disagree, 7 = strongly agree). Third, we adapted the three anticipated pleasure items from study 3a to reference interpersonal (vs. online) word-of-mouth (for exact wording, see web appendix). We counterbalanced the presentation of the mediators and dependent measure. Order did not affect the results and is not discussed further.

Results and Discussion

Manipulation check. Participants in the financial constraint condition indicated feeling more financially constrained than did participants in the control condition ($M_{\text{constraint}} = 5.26$, $SD = 1.41$ vs. $M_{\text{control}} = 4.73$, $SD = 1.69$), $F(1, 254) = 7.34$, $p = .007$.

Purchase-related word-of-mouth. As predicted, participants in the financial constraint condition indicated being less likely to engage in purchase-related word-of-mouth with their close friends ($M_{\text{constraint}} = 4.84$, $SD = 1.79$; $M_{\text{control}} = 5.43$, $SD = 1.61$), $F(1, 254) = 7.59$, $p = .006$.

Reinforcing negative feelings. Confirmatory factor analysis revealed a two factor solution such that the negative feelings measures were distinct from the posting pleasure measures. The five measures designed to assess the extent to which people predict that rehearsing monetary expenditures will reinforce negative feelings were highly related (Cronbach $\alpha = .95$) and combined. Compared to participants in the control condition, participants in the financial constraint condition reported greater beliefs that thinking about their discretionary spending would reinforce negative feelings about their financial situation ($M_{\text{constraint}} = 4.46$, $SD = 1.45$; $M_{\text{control}} = 3.84$, $SD = 1.70$), $F(1, 254) = 10.03$, $p = .002$.

Posting pleasure. The three measures designed to assess posting pleasure were highly related (Cronbach $\alpha = .91$) and combined. As expected, participants in the financial constraint (vs. control) condition anticipated less pleasure from discussing their purchases with close others ($M_{\text{constraint}} = 4.67$, $SD = 1.42$ vs. $M_{\text{control}} = 5.30$, $SD = 1.08$), $F(1, 254) = 16.25$, $p < .001$.

Serial mediation. A serial mediation model (model 6, Hayes 2013) that included beliefs about negative feelings and anticipated pleasure as sequential mediators revealed that the effect of financial constraint on purchase-related word-of-mouth was explained by the proposed serial process, (95% CI: $-.628$, $-.164$; 10,000 resamples).

In sum, study 3b provided further causal evidence that financial constraints decrease consumers' likelihood of engaging in purchase-related word-of-mouth. Further, we found support for our proposed serial process. Financial constraints reduced purchase-related word-of-mouth because participants feeling financially constrained indicated believing that rehearsing monetary expenditures would reinforce negative feelings about their limited financial situation, which decreased the anticipated pleasure of discussing their monetary expenditures.

STUDY 4: VARYING THE EXPENDITURE (MONEY VS. TIME)

Thus far, we have provided evidence that reduced purchase-related word-of-mouth arises from the decreased pleasure that financially constrained consumers anticipate when thinking about discussing their purchases. Further, we have shown that this decreased anticipated pleasure results from financially constrained consumers' belief that rehearsing their monetary expenditures will reinforce negative feelings about their financial situation. If this proposition is correct, then the effect should depend on the extent to which people conceptualize the word-of-mouth topic as an expenditure of their money.

To test this assertion, in study 4, we sought to attenuate our effect by manipulating the extent to which participants considered a purchase to be an expenditure of their money or an expenditure of their time. Some participants considered an item they planned to spend their money on, while others considered an event they planned to spend time doing. We expected financial constraints to decrease word-of-mouth for the expenditure of money but not for the expenditure of time.

Method

Study 4 followed a 2 (financial constraint vs. control) x 2 (expenditure: money vs. time) between-subjects design. We aimed to collect 200 responses per condition, for a total of 800 responses. We sought participants who were likely to post about their purchases on social media in everyday life, so we advertised the study as one for active Facebook members (i.e., people who regularly post on Facebook). Eight-hundred and nine adults on MTurk completed the study

in exchange for a nominal payment. Two participants indicated that they did not have Facebook accounts and were removed from all analyses, leaving a final sample of 807 participants ($M_{\text{age}} = 35.14$, $SD = 11.17$; 61.3% females).

Participants in the expenditure of money condition first described an item they planned to spend their money on in the next week or two, as in studies 3a and 3b. Participants in the expenditure of time condition instead described an event or activity they planned to spend their time doing in the next week or two. To increase the likelihood that participants in the expenditure of time condition would be thinking about an event that they would need to pay money for, we provided examples of events and activities that cost money (e.g., concert, sports event, vacation). The exact prompts are available in appendix A. Participants then indicated how satisfied they expected to be with the expenditure (1 = not at all satisfied, 7 = extremely satisfied). Next, participants responded to either the financial constraint or control manipulation, as described in study 3a.

The dependent measure was participants' likelihood of engaging in word-of-mouth. We assessed this by asking participants to indicate their likelihood of telling others about the purchase/event by posting about it on social media (1 = not at all likely, 7 = very likely). Subsequently, we administered an exploratory behavioral dependent measure. We stated: "If you are willing to post about this [purchase/event] on social media right now, please do so and upload an anonymized (e.g., remove any identifying information) screenshot of your post here." In addition to allowing them to upload a file, we asked participants to indicate whether they indeed posted on social media ("Yes, I posted and uploaded a screenshot", "Yes, I posted, but did not upload a screenshot (type what you posted below)", and "No, I did not post about my [purchase/event]") in case participants were concerned about providing a screenshot or did not

know how to do so. Participants were instructed to be honest and were assured that their responses to this question would not affect their study payment.

Next, participants completed the financial constraint manipulation check measure described in study 3a. Participants indicated how much the purchase [event] they described cost (open-ended). As a manipulation check for the extent to which participants thought about the subject matter (purchase vs. event) as an expenditure of money, participants indicated the extent to which they thought about the money they would be spending on the purchase [event] when they considered posting about it (1 = not at all, 7 = very much).

To ensure that participants were indeed active Facebook users, we asked participants whether they had an active Facebook account and ensured them that their answer would not affect their compensation (per Sharpe Wessling, Huber, and Netzer 2017). In addition, we measured participants' activity on social media by asking them to indicate whether, aside from any post made during the survey, they had posted anything about themselves on Facebook within the last week. This question was designed to serve as a covariate. Again, we assured participants that their answer to this question would not affect their compensation. Finally, participants completed demographic questions that included age, gender, primary language, and combined annual household income.

Results and Discussion

Manipulation checks. As intended, participants in the financial constraint condition indicated feeling more financially constrained than did participants in the control condition ($M_{\text{constraint}} = 5.36, SD = 1.50$ vs. $M_{\text{control}} = 4.68, SD = 1.70$), $F(1, 803) = 33.98, p < .001$. This

result was not affected by the purchase-type manipulation or the interaction of financial constraints and purchase-type, both $F_s < 1$.

Although we did not explicitly ask participants in the time expenditure condition to consider an event that would cost money, we encouraged them to do so by providing examples of experiential purchases in the prompt. Indeed, as expected, the majority of participants in both conditions (91.3%) considered something that would cost money. Moreover, as in the other studies reported, all results were robust to the inclusion of cost as a covariate.

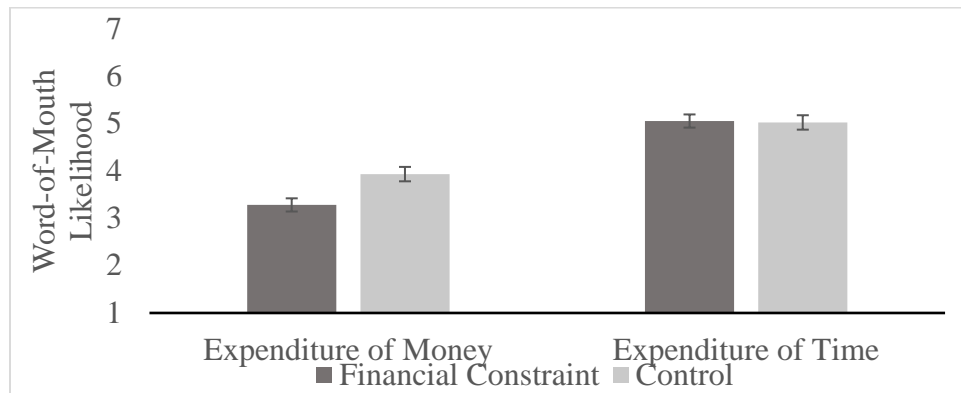
Due to a technical glitch, only 477 participants received the manipulation check assessing their consideration of their purchase/event as a monetary expenditure. However, among those who saw this question, there was a significant effect of the purchase type manipulation. Participants in the monetary expenditure condition thought about the money they would spend while making the posting decision significantly more than did participants in the time expenditure condition ($M_{\text{money}} = 4.60$, $SD = 2.16$ vs. $M_{\text{time}} = 2.91$, $SD = 2.05$), $F(1, 473) = 72.80$, $p < .001$. There was also an unexpected significant main effect of financial constraints, such that financially constrained participants were more likely to consider the topic as a monetary expenditure, $F(1, 473) = 3.96$, $p = .047$. Importantly, however, there was no interaction, $F < 1$.

Purchase-related word-of-mouth. Since the dependent measure assessed the likelihood of posting on social media, we intended to include the measure of whether participants had posted on Facebook within the last week as a covariate. However, a binary logistic regression revealed a significant purchase type by financial constraint interaction on this measure, $B = .188$, $SE = .091$, Wald $\chi^2 = 4.31$, $p = .038$, yielding it inappropriate for use as a covariate. Thus, this measure is not included in any analyses.

Results of a 2 (financial constraint vs. control) X 2 (monetary expenditure vs. time

expenditure) ANOVA revealed a significant main effect of financial constraints, $F(1, 803) = 4.59, p = .032$ and a significant main effect of expenditure type, $F(1, 803) = 99.09, p < .001$. However, as predicted, these main effects were qualified by a significant financial constraints by expenditure type interaction, $F(1, 803) = 5.79, p = .016$. Indeed, planned contrasts examining the effect of financial constraints within each purchase type condition provided the expected results. Participants in the financial constraint (vs. control) condition were significantly less interested in engaging in word-of-mouth for expenditures of money ($M_{\text{constraint}} = 3.28, SD = 2.03, M_{\text{control}} = 3.93, SD = 2.12$), $F(1, 803) = 10.03, p = .002$, but there was no difference for expenditures of time, ($M_{\text{constraint}} = 5.05, SD = 2.03, M_{\text{control}} = 5.02, SD = 1.96$), $F < 1$ (see figure 1).

FIGURE 1: PURCHASE-RELATED WORD-OF-MOUTH IN STUDY 4

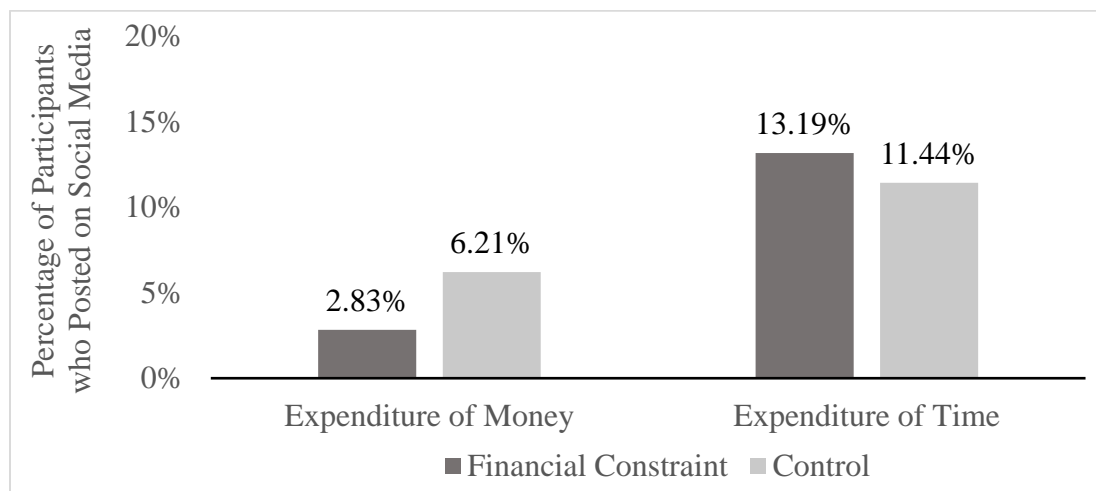


Note: Error bars represent standard errors of the mean.

Next, we examined real Facebook posting behavior. We collapsed across people who either uploaded a screenshot of their actual social media post (32 participants) or who entered the text of their social media post into our survey (36 participants) to form a binary measure of having posted on social media (1 = yes, 0 = no). In total, 8.4% of participants reported voluntarily making a social media post during the study. A binary logistic regression on this measure, which included the financial constraint condition (-1 = control, 1 = financial

constraints), the expenditure condition (-1 = time expenditure, 1 = monetary expenditure), and their interaction revealed a marginally significant interaction, $B = -.246$, $SE = .150$, $Wald \chi^2 = 2.70$, $p = .100$. Though neither of the planned contrasts were significant, perhaps due to low sample size, the pattern of results was in line with the word-of-mouth likelihood measure and consistent with our predictions (see figure 2). See appendix B for samples of the uploaded social media posts.

FIGURE 2: REAL POSTING BEHAVIOR IN STUDY 4



In sum, the results of study 4 provide additional support for our proposed process. Financially constrained participants were less likely to engage in word-of-mouth for their expenditures of money but were equally likely to talk about their expenditures of time. Notably, both expenditure types cost participants money; however, when considering whether to post, participants were significantly less likely to think about the event as an expenditure of money. These findings are in line with the proposition that the reduced word-of-mouth among financially constrained consumers is due to their belief that rehearsing expenditures of money will reinforce negative feelings about their limited financial situation, decreasing the anticipated pleasure of

discussing purchases. However, when a purchase is conceptualized as an expenditure of time rather than money, this belief is less likely to operate and influence word-of-mouth.

STUDY 5: VARYING THE COST (PURCHASED VS. FREE EVENT)

In study 5, we used a different means of manipulating the extent to which the topic of word-of-mouth seems like an expenditure of one's money. We held constant the content of word-of-mouth—a comedy event—and varied whether the event cost money or was free. We expected financially constrained participants to be less likely to engage in word-of-mouth for the comedy show when they paid for the ticket, but not when they acquired it for free.

This experimental design allowed us to contrast our proposed process with several potential alternative explanations. First, we considered the possibility that the effect found in study 4 was a function of differences in conversation worthiness. Participants in the expenditure of time (vs. money) condition were more likely to discuss experiential purchases, and prior research has found that experiential (vs. material) purchases are more conversation worthy (Bastos and Brucks 2017). Thus, in study 5, all participants considered the same experience—a comedy show. If the attenuation in study 4 was driven by the increased conversation worthiness of experiential versus material purchases rather than our proposed process, then we should see no effect of financial constraints, regardless of whether the experience is free or not.

Second, resource scarcity has been shown to increase selfish, self-serving behavior (Roux, Goldsmith, and Bonezzi 2015). If financially constrained consumers view information as a resource, they may want to prevent others from getting the same purchase or participating in the same experience. If this explanation is driving the observed effects, then the effect should not

depend on whether the event is free—or may be stronger when the event is free since barriers to entry for others are lower.

Finally, we considered the possibility that the negative feelings that financially constrained consumers anticipate may depend on whether the expenditure is a prudent use of their money. We measured purchase frivolity to examine this account.

Method

The study followed a 2 (financial constraint vs. control) x 2 (purchase cost: free vs. paid comedy show) between-subjects design. We aimed to collect 200 responses per condition, for a total of 800 participants. As in study 4, we sought participants who self-identified as active Facebook users. We posted the study on MTurk, and 811 participants ($M_{\text{age}} = 36.17$, $SD = 11.55$, 55.2% females) completed the study in exchange for monetary compensation. All participants self-indicated that they had Facebook accounts.

Participants first completed the financial constraint manipulation described in study 3a. After completing this manipulation, we introduced the purchase cost manipulation (free vs. paid). Participants considered one of two scenarios involving an upcoming comedy show. In both conditions, participants were told they found tickets to an upcoming local comedy show featuring a highly-rated comedian. In the paid condition, participants were told that each ticket costs \$100, and in the free condition, they were told that each ticket is free. All participants were told to assume they acquired their respective tickets. Then, they were directed to a page simulating a common social media pop-up, featuring a radio button that would permit them to share about the show on Facebook (see appendix C). Next, participants were asked to think about

the comedy show for which they got the ticket and complete two dependent measures: (a) “How likely are you to click on the “Share on Facebook” link and share about the show with others?” (1 = not at all likely, 7 = very likely); and (b) “How much would you want to tell others about the show on social media?” (1 = not at all, 7 = very much).

Next, we asked participants to indicate whether they would categorize the purchase as frivolous (1 = yes, 0 = no). Then, as in study 4, they indicated whether they had a Facebook account, and whether they posted on Facebook in the previous week (with the posting measure intended as a covariate). Finally, participants answered a financial constraint manipulation check and completed demographic information.

Results and Discussion

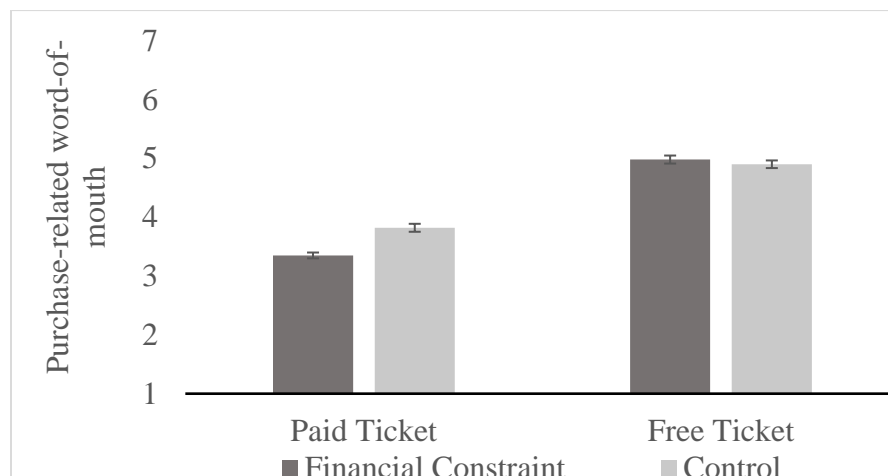
Manipulation check. Participants in the financial constraint condition ($M = 5.10$, $SD = 1.74$) reported feeling more financially constrained than did participants in the control condition ($M = 4.41$, $SD = 1.85$), $F(1, 807) = 33.87$, $p < .001$. We also found an unexpected effect of the purchase cost manipulation, such that those who considered the paid ticket ($M = 5.05$, $SD = 1.63$) indicated feeling more financially constrained than did those who considered the free ticket ($M = 4.38$, $SD = 1.96$), $F(1, 807) = 32.04$, $p < .001$. Importantly, however, there was no interaction between the two independent variables and the financial constraint measure, $F < 1$.

Purchase-related word-of-mouth. The two questions assessing participants’ interest in engaging in word-of-mouth were highly correlated, $r(811) = .781$, $p < .001$, and combined to form a single dependent measure. We conducted a 2 (financial constraint vs. control) x 2 (free vs. paid) between-subjects ANCOVA, using recent Facebook posting behavior (1 = posted in the

last week, 0 = did not post in the last week) as a covariate. Validating the use of this measure as a covariate, this measure was highly predictive of the dependent measure, $F(1, 806) = 13.58, p < .001$, and did not vary by condition, all $\chi^2 < 1.02, p > .375$. Results revealed a significant main effect of cost, $F(1, 806) = 112.11, p < .001$, no main effect of financial constraint, $F(1, 806) = 2.15, p = .143$, and the expected interaction, $F(1, 806) = 5.07, p = .025$. Results remain unchanged when excluding the covariate.

Planned contrasts were in line with expectations, as shown in figure 3. In comparison to participants in the control condition, participants in the financial constraint condition were less likely to share about the experience when it cost money ($M_{\text{constraint}} = 3.35, SD = 1.81$ vs. $M_{\text{control}} = 3.82, SD = 1.90$), $F(1, 806) = 7.00, p = .008$. However, they were no less likely than were control participants to share about the experience when it was free ($M_{\text{constraint}} = 4.98, SD = 1.78$ vs. $M_{\text{control}} = 4.90, SD = 1.84$), $F < 1$. Moreover, these effects were driven by a significant increase in willingness to share among those feeling financially constrained when the experience was free versus paid, $F(1, 806) = 75.86, p < .001$.

FIGURE 3: PURCHASE-RELATED WORD-OF-MOUTH FOR FREE VERSUS PAID TICKETS IN STUDY 5



Note: Error bars represent standard errors of the mean.

Alternative Explanations. We examined whether perceptions of the experience as frivolous could explain the pattern of results. There was a significant effect of the financial constraint manipulation, such that those in the financial constraint condition rated the comedy show as more frivolous than did participants in the control condition, $B = .22$, $SE = .086$, Wald $\chi^2 = 6.59$, $p = .010$. There was also a significant effect of the cost manipulation, such that the paid event was rated as more frivolous than the free event, $B = 1.13$, $SE = .086$, Wald $\chi^2 = 172.76$, $p < .001$. Importantly, however, there was no significant interaction, $B = .14$, $SE = .086$, Wald $\chi^2 = 2.56$, $p = .110$. Moreover, the significance of all results remained unchanged when adjusting for perceptions of frivolity. Furthermore, the relationship between frivolity and the dependent measure was directionally stronger in the control condition, $r(441) = -.282$, $p < .001$, than in the financial constraint condition, $r(370) = -.204$, $p < .001$, $Z = -1.17$, $p = .242$.

In sum, study 5 provides additional support for our proposed effect and process account. In line with hypothesis 3, study 5 shows that word-of-mouth is only reduced for financially constrained consumers when the subject matter is a monetary expenditure rather than when it is something costless—even if the subject matter is otherwise identical. These results suggest that alternative explanations such as topic conversation worthiness and the desire to withhold information from others cannot explain our results. Differences in the perceived frivolity of the purchase also could not explain these findings. In another study (web appendix study 2), we manipulate the usefulness of the purchases that participants consider and demonstrate that this effect does not depend on whether the purchase is hedonic (vs. utilitarian) or frivolous, casting further doubt on this alternative possibility.

STUDY 6: VARYING THE PURCHASER (ONSELF VS. SOMEONE ELSE)

In study 6, we aimed to disentangle whether the proposed effect is a function of the subject matter being a monetary expenditure, in general, or costing financially constrained consumers money, in particular. If our proposition is correct—that the effect is contingent on whether the subject matter is conceptualized as an expenditure of one’s money—then the effect should hold only for purchases made by the financially constrained consumer. Thus, in study 6, we asked participants to imagine purchasing their desired product or receiving it as a gift, and then measured their likelihood of engaging in word-of-mouth. We expected to replicate our predicted effect when the topic of word-of-mouth pertained to a purchase on which consumers spent their own money, but not a purchase that someone else bought for them.

Method

This study employed a 2 (financial constraint vs. control) x 2 (purchase vs. gift) between-subjects design. We aimed to collect 200 responses per condition, for a total of 800 participants. We again sought participants who may be more likely to post about their purchases on social media in their everyday life. In this study, individuals who self-identified as social media users were given the chance to participate in this survey, see web appendix for screening criteria. The IPSOS market research panel organization provided us with 856 participants ($M_{\text{age}} = 40.80$, $SD = 15.95$; 45.6% females) who completed the study in exchange for monetary compensation.

We conducted this study during the holiday season and followed the same procedure first described in study 3a with the following exceptions. After the financial constraint manipulation,

participants were asked to consider the product they previously described in one of two randomly presented scenarios: purchase or gift. Half of the participants were asked to imagine they bought the purchase for themselves in the next few weeks; the other half were asked to imagine that a friend or family member had given it to them as a holiday present. To provide an ostensible reason for why participants were asked to imagine buying or receiving the purchase, we asked a filler question that varied by condition. Those in the purchase condition were asked whether they would be more likely to purchase the product online or from a local store. Those in the gift condition were asked whether they would prefer to receive the gift wrapped or unwrapped. The responses to these questions did not affect any of the results and are not discussed further.

Next, participants answered two dependent measures using seven-point scales: (a) “After getting the item, how likely are you to share about it on social media?” (1 = not at all likely, 7 = very likely); and (b) “After getting the item, would you want to post about it on social media?” (1 = not at all, 7 = very much).

Participants then answered two manipulation check questions using a seven-point scale: (a) “As you completed this study, to what extent were your financial constraints top of mind?” and (b) “As you completed this study, to what extent did you consider your financial constraints?” (1 = not at all, 7 = very much). Participants indicated the cost of the item, and completed demographic information.

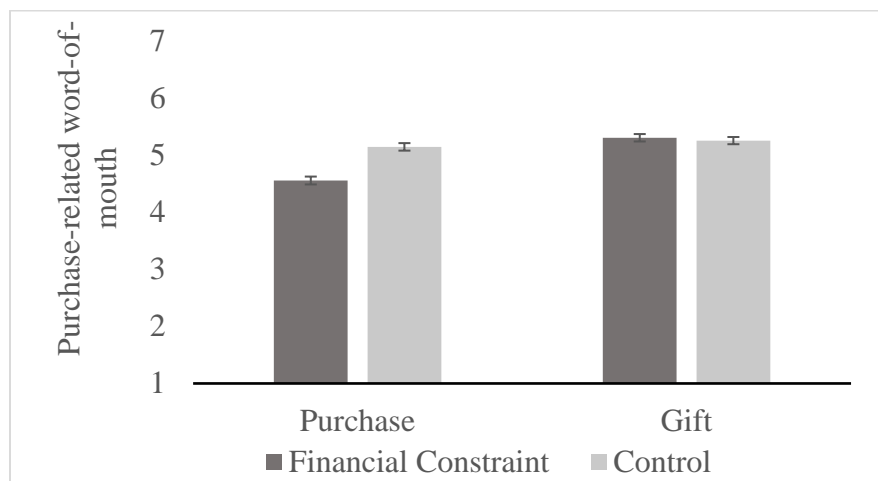
Results and Discussion

Manipulation check. The two manipulation check measures were highly correlated and combined for analysis, $r(856) = .881, p < .001$. Participants in the financial constraint condition

($M = 5.26$, $SD = 1.66$) reported thinking more about their financial constraints during the study than did participants in the control condition ($M = 4.27$, $SD = 1.97$), $F(1, 852) = 63.11$, $p < .001$.

Purchase-related word-of-mouth. The two dependent measures (likelihood and desire) were highly correlated, $r(856) = .922$, $p < .001$, and were averaged together for analysis. An ANOVA on this word-of-mouth measure revealed two main effects. There was a main effect of gift versus purchase, $F(1, 852) = 10.60$, $p = .001$. There was also a main effect of financial constraints, $F(1, 852) = 3.98$, $p = .046$. Importantly, however, these two main effects were qualified by the predicted interaction, $F(1, 852) = 5.85$, $p = .016$. Replicating the results of our previous studies, participants in the financial constraint condition had lower posting intentions than those in the control condition when they imagined buying the purchase themselves ($M_{\text{constraint}} = 4.56$, $SD = 2.02$ vs. $M_{\text{control}} = 5.15$, $SD = 1.93$), $F(1, 852) = 9.85$, $p = .002$. However, they were no less likely to post about the product when imagining receiving it as a gift ($M_{\text{constraint}} = 5.31$, $SD = 1.90$ vs. $M_{\text{control}} = 5.26$, $SD = 1.85$), $F < 1$ (see figure 4).

FIGURE 4: PURCHASE-RELATED WORD-OF-MOUTH IN STUDY 6



Note: Error bars represent standard errors of the mean.

In study 6, we manipulated whether participants thought about a new product as one that they purchased for themselves or one that someone else purchased for them as a gift. We demonstrated that financially constrained consumers were less likely to discuss new products only when those items were personal monetary expenditures. When those items were instead thought of as gifts, participants in the financial constraint condition were equally likely to talk about the purchases. These results further support our hypothesis that the effect of financial constraints on reduced word-of-mouth is specific to subject matters that are conceptualized as consumers' own monetary expenditures.

GENERAL DISCUSSION

There is a growing body of work examining how financial constraints influence consumer attention, preference, and choice. It is reasonable to expect financial constraints to similarly influence post-purchase behavior, although less empirical evidence has demonstrated such effects. Hence, the current work contributes to existing literature in the financial domain by being the first, to our knowledge, to demonstrate how and why financial constraints affect word-of-mouth. We propose and find that feeling financially constrained reduces consumers' propensity to engage in purchase-related word-of-mouth. This effect emerges when examining the frequency of purchase-related word-of-mouth (study 1), real posts in online chat rooms (study 2), and people's likelihood of engaging in word-of-mouth interpersonally (study 3b) and on social media (studies 3a, 4-6). Moreover, we show when and why this effect occurs. Financially constrained consumers expect that rehearsing their monetary expenditures will reinforce negative feelings about their limited financial situation, which decreases the anticipated

pleasure of engaging in word-of-mouth and explains reduced purchase-related word-of-mouth (studies 3a and 3b). When the subject matter is not conceptualized as one's own monetary expenditure, these beliefs are less likely to operate and influence word-of-mouth. Hence, financial constraints do not universally decrease one's propensity to engage in word-of-mouth. Financially constrained consumers are no less likely to engage in word-of-mouth for purchases framed as expenditures of time (study 4), those that do not require monetary outlays (study 5), and those received as gifts (study 6).

At first glance, our findings may seem at odds with research on compensatory processes. Prior research shows that consumers may respond to unfavorable discrepancies between aspects of their actual and ideal selves by becoming increasingly vocal (Gal and Rucker 2010; Packard and Wooten 2013; Peluso et al. 2017). With respect to financially constrained consumers' purchases, engaging in word-of-mouth may signal to themselves and to others that, as a result of their purchases, their financial standing is stable and positive. This outcome would also be predicted by research suggesting that low-wealth individuals are particularly motivated to seek and signal status through conspicuous displays of brands and purchases (Han, Nunes, and Drèze 2010; Nunes, Drèze, and Han 2011; Mazzocco et al. 2012; Rucker and Galinsky 2008). However, there are notable differences between the contexts examined in previous research and the contexts studied here. For one, conspicuous consumption often occurs when people feel powerless in one domain and attempt to compensate for those feelings in another domain (spending). However, people's financial standing and their spending exist within the same financial domain, and it is less likely for spending money to improve one's financial constraints. In fact, consumers expect it will do the opposite. They believe rehearsing the purchases will reinforce negative feelings about their financial deficit. Further, a recent review of the

compensatory consumption literature documents four strategies consumers use to manage the discomfort of personal inadequacy (Mandel et al. 2017). While some strategies involve compensatory actions (e.g., symbolic completion, fluid compensation), others involve avoidant actions (e.g., dissociation, escapism), which is consistent with the current findings.

The theoretical contributions of this work offer a number of directions for future research. For instance, the current research suggests that financially constrained consumers anticipate less pleasure from engaging in word-of-mouth. Future research could examine whether the affective forecasts made by financially constrained consumers are accurate, or if sharing with others provides unexpected pleasure. In our studies, the reduction in word-of-mouth among financially constrained consumers emerged across a range of purchase-related characteristics, including the extent to which purchases were discretionary, meant for use in public, luxury items, and hedonic versus utilitarian (see web appendix studies 1 and 2). Moreover, in our studies, the relationship between financial constraints and word-of-mouth did not vary as a function of cost. However, future research may examine other potential moderating factors. For example, mental accounting research points to certain purchase categories that are less likely to be considered as a cost (e.g., 'pennies a day' purchases, Gourville 1998; exceptional purchases, Sussman and Alter 2012; Sussman, Sharma, and Alter 2015) and thus may not lead to this effect.

Future research could also explore other types of post-purchase behaviors that may be affected by financial constraints. For instance, it might explore whether the effects found here generalize to providing product reviews, where competing motives may exist (e.g., providing helpful information to future consumers, complying with retailer requests for feedback). Finally, it may be worthwhile to examine differences across the content that financially constrained consumers *do* share on social media. For instance, there may be meaningful differences in the

topics, length, or valence of word-of-mouth of financially constrained consumers.

Our research also contributes to the word-of-mouth literature by exploring financial constraints as a novel psychological antecedent of sharing. Moreover, this research is among the first to demonstrate an interaction between the individual and the conversation topic. Future research might explore how other psychological states interact with conversation topics to influence word-of-mouth. One possibility is examining whether and how other constraints affect word-of-mouth engagement. For example, would people who feel time constrained avoid discussing how they spend their discretionary time, or would they be more inclined to discuss how they have spent it?

Beyond the theoretical contributions of this research, the current work offers managerial implications, suggesting that word-of-mouth will be reduced for people who feel financially constrained or in times when perceived financial constraints are generally greater (e.g., higher unemployment). As such, this research may inform managers about how to seed or time their word-of-mouth campaigns to better leverage their investments. Moreover, our research suggests that if companies can dissociate a purchase from the expense incurred to acquire it, they may mitigate reductions in word-of-mouth that stem from feeling financially constrained.

In sum, social media has created more opportunities for consumers to create, disseminate, and access word-of-mouth content, enhancing the centrality of word-of-mouth in consumer decision making. Given the ubiquity of financial constraints, and the increasing importance of word-of-mouth, the implications of this work are especially relevant. Together, the theoretical and managerial contributions of the current research offer new insights into how and why financial constraints influence word-of-mouth behavior.

APPENDIX A: PROMPTS FOR MATERIAL/EXPERIENTIAL MANIPULATION FROM
STUDY 4

Purchase condition: “Please think about one **discretionary purchase** that you plan to spend your money on in the next week or two. This discretionary purchase should not be a necessity but rather something you are buying for your pleasure. That is, it should be an item that you want to spend your money on rather than need to spend on.

This purchase should cost you more than \$50 but less than \$1,000.

Please make sure that the purchase is:

- **purchase you intend to buy in the near future.**
- **a discretionary purchase (i.e., not a necessity)”**

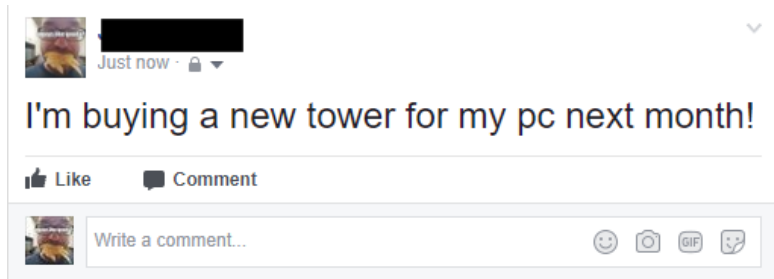
Experience condition: “Please think about one **event or activity** that you plan to spend time doing in the next week or two (e.g., concert, sports event, trip, vacation, dinner). This event or activity should not be an obligation but rather something you are doing for your own pleasure.

That is, it should be an event or activity that you want to spend your time doing rather than need to do.

Please make sure that the event or activity is:

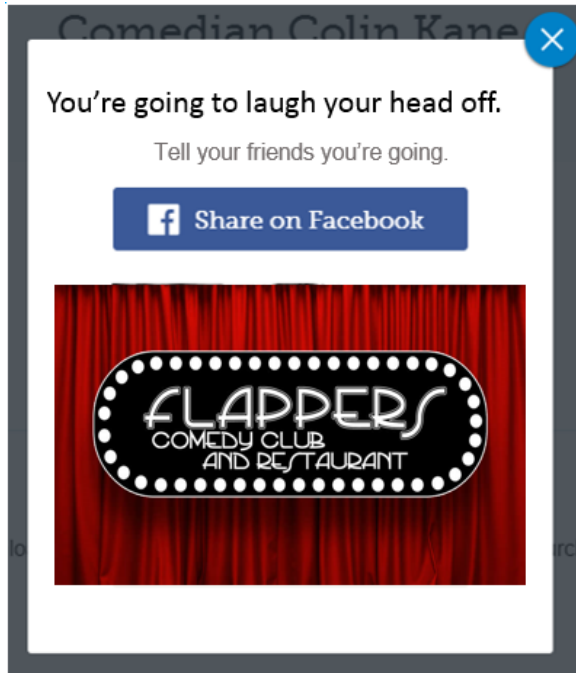
- **an event or activity that you plan to do in the near future.**
- **something you want to spend your time on (i.e., not an obligation)”**

APPENDIX B: REAL BEHAVIOR FROM STUDY 4

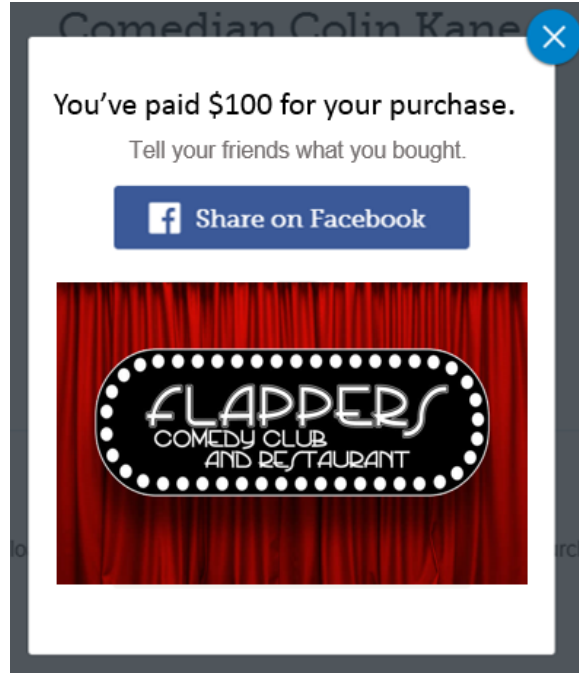


APPENDIX C: STIMULI USED IN STUDY 5

Free Event Attended



Paid Event Attended



REFERENCES

- Arndt, Johan (1967), "Role of Product-Related Conversations in the Diffusion of a New Product," *Journal of Marketing Research*, 4 (3), 291-295.
- Balter, Dave (2008), *The Word of Mouth Manual*, Boston, MA: BZZ Pubs.
- Bastos, Wilson, and Merrie Brucks (2017), "How and Why Conversational Value Leads to Happiness for Experiential and Material Purchases." *Journal of Consumer Research*, 44(3), 598-612.
- Barasch, Alixandra, and Jonah Berger (2014), "Broadcasting and Narrowcasting: How Audience Size Affects What People Share." *Journal of Marketing Research*, 51 (3), 286-299.
- Berger, Jonah (2014), "Word of Mouth and Interpersonal Communication: A Review and Directions for Future Research," *Journal of Consumer Psychology*, 24 (4), 586-607.
- Berger, Jonah, and Katherine L. Milkman (2002), "What Makes Online Content Viral?" *Journal of Marketing Research*, 49 (2), 192-205.
- Bickart, Barbara, and Robert M. Schindler (2001), "Internet Forums as Influential Sources of Consumer Information," *Journal of Interactive Marketing*, 15 (3), 31-40.
- Briers, Barbara, Mario Pandelaere, Siegfried Dewitte, and Luk Warlop (2006), "Hungry for Money: The Desire for Caloric Resources Increases the Desire for Financial Resources and Vice Versa," *Psychological Science*, 17 (11), 939-943.
- Brooks, Robert C. (1957), "'Word-of-Mouth' Advertising in Selling New Products," *Journal of Marketing*, 22 (2), 154-161.
- Brown, Jacqueline Johnson, and Peter H. Reingen (1987), "Social Ties and Word-of-Mouth Referral Behavior," *Journal of Consumer Research* 14 (3), 350-362.

- Cheema, Amar, and Andrew M. Kaikati (2010), "The Effect of Need for Uniqueness on Word of Mouth," *Journal of Marketing Research* 47 (3), 553-563.
- Chen, Zoey, and Jonah Berger (2013), "When, Why, and How Controversy Causes Conversation," *Journal of Consumer Research*, 40 (3), 580-593.
- Chevalier, Judith A. and Dina Mayzlin (2006), "The Effect of Word of Mouth on Sales: Online Book Reviews," *Journal of Marketing Research*, 43 (3), 345-354.
- De Matos, Celso Augusto, and Carlos Alberto Vargas Rossi (2008), "Word-of-Mouth Communications in Marketing: A Meta-Analytic Review of the Antecedents and Moderators," *Journal of the Academy of Marketing Science*, 36 (4), 578-596.
- Engel, James F., Robert J. Kegerreis, and Roger D. Blackwell (1969), "Word-of-mouth Communication by the Innovator," *The Journal of Marketing*, 15-19.
- Feick, Lawrence F., and Linda L. Price (1987), "The market maven: A diffuser of marketplace information," *The Journal of Marketing*, 51 (1), 83-97.
- Finkenauer, Catrin, and Bernard Rimé (1998), "Socially Shared Emotional Experiences vs. Emotional Experiences Kept Secret: Differential Characteristics and Consequences," *Journal of Social and Clinical Psychology*, 17 (3), 295-318.
- Gal, David, and Derek D. Rucker (2010), "When in Doubt, Shout! Paradoxical Influences of Doubt on Proselytizing," *Psychological Science*, 21 (11), 1701-1707.
- Godes, David, Dina Mayzlin, Yubo Chen, Sanjiv Das, Chrysanthos Dellarocas, Bruce Pfeiffer, Barak Libai, Subrata Sen, Mengze Shi, and Peeter Verlegh (2005), "The Firm's Management of Social Interactions," *Marketing Letters*, 16 (3), 415-428.
- Goldenberg, Jacob, Barak Libai, and Eitan Muller (2001), "Talk of the Network: A Complex Systems Look at the Underlying Process of Word-of-Mouth," *Marketing Letters*, 12(3),

211-223.

- Gourville, John T (1998), "Pennies-a-Day: The Effect of Temporal Reframing on Transaction Evaluation." *Journal of Consumer Research* 24 (4), 395-408.
- Gross, James J. (1998), "The Emerging Field of Emotion Regulation: An Integrative Review," *Review of General Psychology*, 2 (3), 271.
- Han, Young Jee, Joseph C. Nunes, and Xavier Drèze (2010), "Signaling Status with Luxury Goods: The Role of Brand Prominence," *Journal of Marketing*, 74 (4), 15-30.
- Hayes, Andrew F. (2013), *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*, New York, NY: Guilford Press.
- Hennig-Thurau, Thorsten, Kevin P. Gwinner, Gianfranco Walsh, and Dwayne D. Gremler (2004), "Electronic Word-of-Mouth via Consumer-Opinion Platforms: What Motivates Consumers to Articulate Themselves on the Internet?" *Journal of Interactive Marketing*, 18 (1), 38-52.
- Higgins, E. Tory (1989), "Self-Discrepancy Theory: What Patterns of Self-Beliefs Cause People to Suffer?" *Advances in Experimental Social Psychology*, 22, 93-136.
- Hlavinka, Kelly, and Jim Sullivan, (2011), "Urban Legends: Word of Mouth Myths, Madvocates and Champions," *Colloquy*, 1-14.
- Howell, Jennifer L., and James A. Shepperd (2012), "Reducing Information Avoidance Through Affirmation," *Psychological Science*, 23 (2), 141-145.
- Huddleston, Cameron (2016), "69% of Americans Have Under \$1,000 in Savings, Survey Finds," GOBankingRates.com, Retrieved from <https://www.gobankingrates.com/personal-finance/data-americans-savings/>
- Karlsson, Niklas, George Loewenstein, and Duane Seppi (2009), "The Ostrich Effect: Selective

- Attention to Information,” *Journal of Risk and Uncertainty*, 38 (2), 95-115.
- Laran, Juliano and Anthony Salerno (2013), “Life-History Strategy, Food Choice, and Caloric Consumption,” *Psychological Science*, 24 (2), 167-173.
- Lovett, Mitchell J., Renana Peres, and Ron Shachar (2013), “On Brands and Word of Mouth,” *Journal of Marketing Research*, 50 (4), 427-444.
- Lusardi, Annamaria, Daniel J. Schneider, and Peter Tufano (2011), “Financially Fragile Households: Evidence and Implications,” *Brookings Papers on Economic Activity*, Spring, 83-134.
- Mandel, Naomi, Derek D. Rucker, Jonathan Levav, and Adam D. Galinsky (2017), “The Compensatory Consumer Behavior Model: How Self-Discrepancies Drive Consumer Behavior.” *Journal of Consumer Psychology*, 27(1), 133-146.
- Mazzocco, Philip J., Derek D. Rucker, Adam D. Galinsky, and Eric T. Anderson (2012), “Direct and Vicarious Conspicuous Consumption: Identification with Low-Status Groups Increases the Desire for High-Status Goods,” *Journal of Consumer Psychology*, 22 (4), 520-528.
- Moore, Heidi (2013), “Debt a Common Theme as Americans Struggle to Feel Benefits of Recovery,” <http://www.guardian.co.uk/commentisfree/2013/mar/29/debt-us-economy-recoveryamericans>
- Morewedge, Carey K., Leif Holtzman, and Nicholas Epley (2007), “Unfixed Resources: Perceived Costs, Consumption, and the Accessible Account Effect,” *Journal of Consumer Research*, 34 (4), 459-467.
- Mullainathan, Sendhil and Eldar Shafir (2013), *Scarcity: Why Having Too Little Means So Much*, New York, NY: Holt, Henry & Company, Inc.

- Nelson, Leif D. and Evan L. Morrison (2005), "The Symptoms of Resource Scarcity: Judgments of Food and Finances Influence Preferences for Potential Partners," *Psychological Science*, 16 (2), 167-173.
- Nielsen (2015), "Global Trust in Advertising," Retrieved from <http://www.nielsen.com/content/dam/nielsen-global/apac/docs/reports/2015/nielsen-global-trust-in-advertising-report-september-2015.pdf>
- Nunes, Joseph C., Drèze, Xavier, and Han, Young Jee (2011), "Conspicuous consumption in a recession: Toning it down or turning it up?" *Journal of Consumer Psychology*, 21 (2), 199-205.
- Packard, Grant, and David B. Wooten (2013), "Compensatory Knowledge Signaling in Consumer Word-of-Mouth," *Journal of Consumer Psychology*, 23 (4), 434-450.
- Peluso, Alessandro M., Andrea Bonezzi, Matteo De Angelis, and Derek D. Rucker (2017), "Compensatory word of mouth: Advice as a device to restore control." *International Journal of Research in Marketing*, 34 (2), 499-515.
- Roux, Caroline, Kelly Goldsmith, and Andrea Bonezzi (2015), "On the Psychology of Scarcity: When Reminders of Resource Scarcity Promote Selfish (and Generous) Behavior," *Journal of Consumer Research*, 42 (4), 615-631.
- Rucker, Derek D. and Adam D. Galinsky (2008), "Desire to Acquire: Powerlessness and Compensatory Consumption," *Journal of Consumer Research*, 35 (2), 257-67.
- Shah, Anuj K., Sendhil Mullainathan, and Eldar Shafir (2012), "Some Consequences of Having Too Little," *Science*, 338 (6107), 682-5.
- Sharma, Eesha and Adam L. Alter (2012), "Financial Deprivation Prompts Consumers to Seek Scarce Goods," *Journal of Consumer Research*, 39 (3), 545-560.

Sharma, Eesha and Punam A. Keller (2017), "A Penny Saved Is Not a Penny Earned: When Decisions to Earn and Save Compete for Consumer Resources," *Journal of the Association for Consumer Research*, 2 (1), 64-77.

Sharma, Eesha, Nina Mazar, Adam L. Alter, and Dan Ariely (2014), "Financial Deprivation Selectively Shifts Moral Standards and Compromises Moral Decisions," *Organizational Behavior and Human Decision Processes*, 123 (2), 90-100.

Sharpe Wessling, K., Huber, J., and Netzer, O. (2017). MTurk Character Misrepresentation: Assessment and Solutions. *Journal of Consumer Research*, 44(1), 211-230.

Sicherman, Nachum, George Loewenstein, Duane J. Seppi, and Stephen P. Utkus (2015), "Financial Attention," *Review of Financial Studies*, 29 (4), 863-897.

Spiller, Stephen A. (2011), "Opportunity Cost Consideration," *Journal of Consumer Research*, 38 (4), 595-610.

Sundaram, Dinesh S., Kaushik Mitra, and Cynthia Webster (1998), "Word-of-Mouth Communications: A Motivational Analysis," in *NA-Advances in Consumer Research*, Vol. 25, eds. Joseph W. Alba and J. Wesley Hutchinson, Provo, UT: Association for Consumer Research, 527-531.

Sussman, Abigail B., and Adam L. Alter (2012), "The Exception is the Rule: Underestimating and Overspending on Exceptional Expenses." *Journal of Consumer Research*, 39(4), 800-814.

Sussman, Abigail B., Eesha Sharma, and Adam L. Alter (2015), "Framing Charitable Donations as Exceptional Expenses Increases Giving." *Journal of Experimental Psychology: Applied*, 21(2), 130.

Sweeny, Kate, Darya Melnyk, Wendi Miller, and James A. Shepperd (2010), "Information

Avoidance: Who, What, When, and Why,” *Review of General Psychology*, 14 (4), 340-353.

Tully, Stephanie M., Hal E. Hershfield, and Tom Meyvis (2015), “Seeking Lasting Enjoyment with Limited Money: Financial Constraints Increase Preference for Material Goods over Experiences,” *Journal of Consumer Research*, 42 (1), 59-75.

UBS Investor Watch (2013), “What is “Wealthy”?” Retrieved from <https://www.ubs.com/content/dam/WealthManagementAmericas/documents/investor-watch-3Q2013-report.pdf>

United States Department of Labor, Bureau of Labor Statistics (2017), *Labor Force Statistics from the Current Population Survey*, Retrieved from <https://data.bls.gov/timeseries/LNS14000000>

Westbrook, Robert A. (1987), “Product/Consumption-Based Affective Responses and Postpurchase Processes,” *Journal of Marketing Research*, 24 (3), 258-270.