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Guilt-Free Indulgence At the Cost of Certainty

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Extant research suggests that consumers are uncertainty-averse. In contrast, we show that instead of avoiding uncertainty, consumers choose a probabilistic mixture of multiple options over a single certain option despite not being indifferent between the options. We further show that consumers choose uncertain options as a guilt reduction mechanism.

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The Ups and Downs of Uncertainty: Novel Antecedents and Consequences of Uncertainty in Consumer Judgment and Choice

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Paper #1: Guilt-Free Indulgence at the Cost of Certainty

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Paper #2: Know Thyself Financially: How Financial Self-Awareness Benefits Consumers

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Paper #3: The Persuasive Advantage of Change

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Paper #4: How does risk sound? The Fit Between Harsh (Soft) Names and Uncertainty (Certainty)

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SESSION OVERVIEW

Consumers deal with uncertainty on a regular basis: They have to navigate uncertainty in their preferences, process uncertain marketing information, make decisions that could have uncertain outcomes, and even make choices under the influence of incidental feelings of uncertainty. Given the ubiquitousness of uncertainty in consumer environments it is imperative to understand how individuals deal with uncertainty and how their decisions are affected by it in order to gain a comprehensive understanding of consumer behavior.

The papers in this session showcase a variety of novel antecedents and consequences of uncertainty in consumer contexts. Furthermore, the session sheds light on how consumers and marketers may use uncertainty strategically to their benefit. Covering a wide range of important implications such as increasing persuasiveness of marketing communications, improving consumer welfare through better financial decision making, reducing consumer guilt, and improving product names, the research presented here provides rich and multifaceted contributions.

In paper 1, Acikalin, Khan, and Shiv illustrate that consumers can strategically choose uncertain options over certain options. The finding is contrary to prior research arguing that consumers are uncertainty averse. Authors show that choosing uncertain options over certain ones make consumers feel less guilty about the outcome.

In paper 2, Chowdhry and Dholakia demonstrate how uncertainty about one's own financial situation negatively impacts financial decisions. They show that increased self-awareness reduces uncertainty, which increases self-efficacy, allowing improved performance on financial management with increasing levels of financial literacy.

In paper 3, Kupor, Jia, and Tormala establish that the mention of changes about a product induces uncertainty in the form of a perceived knowledge gap. They illustrate that this uncertainty sparks curiosity, which boosts processing of information about the changed product when consumers receive a message containing compelling information.

In paper 4, Botner, Mishra, and Mishra find that amidst decisions associated with higher uncertainty or volatility, consumers elicit a preference for (brand or product) names with lower phonetic

comfort. Grounded in linguistics and decision theory, their results illuminate how the seemingly uninformative yet inescapable factor of the sound of a word influences consumer decisions.

Taken together, these papers showcase how uncertainty can be studied in many different consumer contexts to answer both theoretically and managerially important questions. In doing so, the session offers novel insights into how uncertainty influences consumer judgement and choice, raising fundamental questions such as "How can we improve consumer welfare by intervening in how consumers deal with uncertainty?", "When do consumers benefit from the presence of uncertainty?", "How can marketers strategically increase and reduce uncertainty to their benefit?", and "How can marketers capitalize on uncertainty when they have no control over it?". The session not only advances the theoretical understanding of how uncertainty drives judgment and behavior, but also generates novel hypotheses for further research. The session is likely to appeal to a broad audience, as the papers investigate the role of uncertainty in a variety of popular consumer behavior contexts such as persuasion, brand and product choice, and financial decision making.

Guilt-Free Indulgence at the Cost of Certainty

EXTENDED ABSTRACT

Past research has documented that consumers are averse to uncertainty (Gneezy, List, and Wu 2006; Simonsohn 2009). In this research, we propose that consumers may counterintuitively choose uncertain options over certain options. We build on the notion that consumers often find themselves in situations where they would like to choose a particular option, but they do not want the responsibility associated with the choice. For instance, choosing an indulgent, hedonic, vice, or even more expensive alternative can induce guilt (Dahl, Honea, and Manchanda 2003; Dhar and Wertenbroch 2000; Khan and Dhar 2006; Kivetz and Simonson 2002). In such contexts, where consumers anticipate feeling guilty as a result of a choice, we posit that they may demonstrate a preference for uncertain options.

We postulate that choosing an uncertain (or stochastic) option (e.g., 90% chance to get the unhealthy option and 10% chance to get the healthy option) reduces responsibility and thus the guilt arising from the choice. We further predict that individuals are relatively insensitive to the amount of uncertainty, where even a small amount of uncertainty can reduce guilt. Thus, compared to a fair coin flip, consumers may prefer stochastic options that make receiving the preferred outcome more likely. In other words, these options may not only relieve the guilt associated with the decision, but also maximize the chances of receiving the preferred, otherwise guilt-inducing outcome. We test these predictions and provide process evidence across three studies (S1-S3).

In S1 participants (N=101) were asked to make a choice between two \$20 gift cards (GC): a GC to a hedonic ice-cream store and a GC to a utilitarian juicery (Options in all studies were pretested to be relatively hedonic or utilitarian. Hedonic options were perceived as less healthy and more guilt inducing for all stimulus sets, $p < 0.001$). Participants received the following options and were entered into a lottery for a chance to receive a GC based on their choice.

Receive a...

A) \$20 GC to Rick's Ice Cream with 100% probability.

- B) \$20 GC to Rick's Ice Cream with 70% probability and a \$20 GC to Pressed Juicery with 30% probability.
- C) \$20 GC to Pressed Juicery with 70% probability and a \$20GC to Rick's Ice Cream with 30% probability.
- D) \$20 GC to Pressed Juicery with 100% probability.
- E) \$20 GC to Pressed Juicery with 50% probability and a \$20GC to Rick's Ice Cream with 50% probability.

Results revealed that a significant proportion of participants chose stochastic options (B and C) over both certainty (A and D) and indifference (E; $p < 0.0001$), showing a preference for uncertain options over certain ones. Participants choosing stochastic options (B and C) while an indifference option (E) is present indicates that the observed preference for uncertain options is not simply due to indifference. Moreover, the difference in guilt ratings between the two options significantly increased the likelihood of choosing a stochastic option ($\beta_{\Delta\text{Guilt}} = 0.40$, $z = 2.13$, $p = 0.033$). In other words, anticipating more guilt as a result of the choice increased the preference for an uncertain option.

In S2 ($N=500$), participants chose between a set of more hedonic or utilitarian snack bars. The design was similar to S1. After the choice, participants reported how guilty they felt about their choice. They also completed the Test of Self-Conscious Affect (Tangney 1990). This allowed us to uncover individual differences in how people deal with guilt. If individuals choose uncertain options to attribute a guilt-inducing outcome on "chance" and hence feel less guilty, then those with a stronger tendency to blame negative self-conscious emotions on external factors should prefer stochastic options more. Results were consistent with this logic: A significant proportion of participants chose a stochastic option, and this choice was associated with the perceived guilt difference between options. Moreover, individuals with higher tendencies to blame external factors for negative self-conscious feelings were in fact more likely to choose a stochastic option (but not indifference; $\beta_{\text{Blame-Guilt}} = 0.46$, $z = 3.55$, $p = 0.00039$). This provides further evidence for uncertainty serving as a guilt reduction mechanism. Moreover, those choosing a stochastic option reported less guilt associated with the decision ($\beta_{\text{DecisionGuilt}} = -0.75$, $t = -2.89$, $p = 0.0041$), suggesting that choice of an uncertain option is an effective guilt-reduction mechanism.

S3 ($N=132$) further tests the suggested guilt-reduction process. The choice was similar to S1, with the exception that this time we manipulated whether participants choose among mixed (healthy and unhealthy) or homogeneous (healthy- or unhealthy-only) choice-sets consisting of 25\$ GCs. If the preferences for uncertain options are driven by a motive to reduce guilt, then people should be more likely to choose uncertain options in mixed choice-sets as compared to homogenous choice-sets, because the anticipated guilt is larger when choosing an unhealthy option over a healthy one, compared to choosing among various unhealthy options (Dhar and Wertenbroch 2012). As predicted, participants were more likely to choose stochastic options (and not indifference) from mixed as opposed to homogeneous choice-sets, ($\beta_{\text{MixedvsHomogeneous}} = 1.02$, $z = 2.05$, $p = 0.04$) supporting the hypothesized guilt-reduction role of uncertainty in this choice context.

Despite the ubiquitousness of uncertainty aversion in consumer choice, we demonstrate a context where consumers elicit a preference for uncertainty. Our work contributes to several streams of literature: We contribute to self-control and guilt literatures by showing that consumers can strategically use uncertainty as a guilt-reduction mechanism. Our results also contribute to research on self-signaling by showing that individuals take diagnostic costs of their choices into account while making a decision. Finally, we find that by choosing stochastic options that reveal one of the options to be

preferred, consumers systematically violate stochastic dominance, a fundamental axiom of choice.

Know Thyself Financially: How Financial Self-Awareness Benefits Consumers

EXTENDED ABSTRACT

To combat financial challenges faced by Americans such as low savings rates, high rates of impulsive spending and debt levels, one approach that has been pursued vigorously is greater financial education. Current methods focus on teaching consumers basic economic and financial concepts such as interest rates, inflation, and differences between individual stocks, bonds, and mutual funds. However, despite years of spending princely sums on financial education programs (\$670 million was spent in 2012 alone), evidence regarding its beneficial effects on financial behaviors is shaky. For example, a recent meta-analysis of 201 studies examining the relationship between financial knowledge and financial behaviors found virtually null effects, leading the study's authors to conclude that "financial education as studied to date has serious limitations" (Fernandes, Lynch, and Netemeyer 2014, p.1861). Further, despite an abundance of financial tips and recommendations on broadcasts and in books, consumers are confused and frustrated about how to handle the many different aspects of their personal finances (Neiser 2016).

In this research, we propose a different approach. Specifically, instead of general knowledge about financial concepts, we propose that a more effective way to encourage prudent financial behaviors is by reducing uncertainty and raising consumers' self-awareness regarding their own current financial situation. We refer this to this type of certainty and self-knowledge as "Financial Self-Awareness" (FSA), defining it as certainty about one's current financial assets, liabilities, and spending patterns. Our central thesis is that a higher level of FSA will be associated with more positive downstream financial behaviors for the consumer. Our research thus makes the important conceptual distinction between two types of consumer knowledge regarding personal finances: a general understanding of economic and financial principles (i.e., financial literacy), and the specific understanding of one's own current financial condition (i.e., FSA).

We expect that the positive effects of FSA on downstream financial behaviors will be mediated by perceptions of efficacy about handling personal finances, which we call financial self-efficacy (FSE). This prediction is based on existing research showing that self-efficacy, defined as beliefs regarding one's capabilities for a particular task, is positively related to performance only when uncertainty is low (Schmidt and DeShon 2010). In the context of our research, FSA reduces uncertainty by improving consumers' clarity regarding their personal financial situation. The basis of this hypothesis is that higher levels of self-awareness, which also correspond with lower uncertainty, will increase the individual's confidence in one's abilities to handle personal finances (Bandura and Cervone 1983).

We also distinguish between three categories of financial outcomes: financial satisfaction, spending decisions, and saving and investing decisions. We hypothesize that the consumer's financial literacy will moderate the direct effect of FSA only on saving and investing decisions via response efficacy. Long-term financial decisions are inherently complex; consequently, we expect that having factual understanding of economic and financial principles will contribute to making better choices (e.g., Lusardi and Mitchell 2011) and channeling one's self-control into more effective actions (Gibson, Wardle, and Watts 1998) when the consumer is aware of his or her current financial condition. Financial literacy is not needed to evaluate financial satis-

faction or make spending decisions – FSA is enough to evaluate both financial satisfaction and spending decisions.

We test these hypotheses in a series of seven studies. Studies 1A-1C create and validate our measure of FSA and test the hypothesized mediating role of financial self-efficacy. Study 2 tests the main effect of FSA and moderating effect of financial literacy on saving and investment. Study 3 extends the findings of study 2 to financial satisfaction and spending, while also establishing test-retest validity of our FSA measure. In study 4, we manipulate the effects of FSA and investigate the differential effects of low (vs. high) FSA on saving, investment, and spending decisions. In study 5, we test our full conceptual model with financial satisfaction and patterns of spending and saving. In our sixth and final study, we use data from the 2015 National Financial Capability Study, a largescale national survey (of over 27,000 people) to test our hypotheses and provide external validity. The findings of these studies provide consistent support for our hypotheses and help to generate new insights into the role played by consumers' financial knowledge in affecting their downstream behaviors.

The findings of these studies provide consistent support for our hypotheses and help to generate new insights into the role played by consumers' financial knowledge in affecting their downstream behaviors. In conclusion, by demonstrating the importance of greater certainty and awareness about one's current financial condition and by providing a practical approach to measure consumers' financial self-awareness, this research offers a straightforward and effective way of promoting prudent financial behaviors among consumers. Its results also clarify the role of consumers' financial literacy in affecting downstream financial behaviors, specifically by showing that financial literacy amplifies the positive effect of FSA on saving and investment decisions. However, financial literacy has no effect on financial satisfaction or spending decisions. We thus take a step forward in reconciling the mixed results regarding the effectiveness of financial literacy found in earlier research and identify a new construct that may complement financial education programs.

The Persuasive Advantage of Change

EXTENDED ABSTRACT

Which would prompt more purchases: An advertisement highlighting a product's long-standing health benefits, or an advertisement for an equivalent product that frames these health benefits as the result of an ingredient change? Which would generate greater support: An advertisement highlighting the long-standing advantages of a policy, or an advertisement for the equivalent policy noting that the advantages arose from a change? Across these contexts, both messages describe equivalent alternatives with the same attributes; however, one message frames them as the result of a change while the other message does not. Does merely mentioning that something has changed affect the persuasiveness of a message promoting it?

Previous research suggests that consumers often prefer the status quo over change, and suggests that consumers' preference for familiarity contributes to this preference. In fact, consumers prefer the exact same object when they perceive it to be familiar or the current state of affairs compared to when they perceive it to be less familiar or a deviation from the current state (Bornstein 1989; Zajonc 2001; Kahneman, Knetsch, and Thaler 1991). Despite consumers' frequent aversion to change from the status quo, we theorize that references to change can promote preference in the context of persuasion. In particular, we theorize that a reference to change prompts a meta-cognitive awareness of a knowledge gap regarding the etiology and likely consequences of that change, which in turn sparks curiosity.

We further predict that this heightened curiosity leads people to more deeply process information regarding the changed product, which can increase the information's persuasive impact (e.g., consumers' real purchase decisions) under specifiable conditions. We test these predictions in five studies.

In Study 1, participants from a community college read strong arguments promoting a chocolate, and were randomly assigned to read that it had either changed or not; all other information was kept constant. Participants who read that the chocolate changed purchased more chocolates ($M = 2.83$) than participants who did not ($M = 1.73$; $t(97) = 2.76, p = .007$).

If this effect occurs because change increases processing, then it should be largest among consumers low in Need for Cognition (NFC). This is because interventions which operate by increasing processing have their largest effect among low-NFC (vs. high-NFC) consumers (Cacioppo et al. 1984). We tested this prediction in Study 2. Participants read information containing strong arguments promoting granola that was framed as having (vs. not having) changed. An interaction emerged between change condition and consumers' NFC ($b = 1.02, t = 2.20, p = .03$): The change effect emerged among low-NFC individuals ($p = .001$) but not high-NFC individuals ($p = .927$).

Increased processing increases sensitivity to information quality (Petty and Cacioppo 1979). Therefore, if messages referencing change prompt greater processing, then strong (vs. weak) arguments should (vs. should not) boost persuasion in response to those arguments. Study 3 tested this possibility. Participants were randomly assigned to read either that granola had changed or not, and to read either strong or weak information promoting the granola. Analysis revealed the predicted 2 (Argument Strength: Strong vs. Weak) \times (Granola: Changed vs. Unchanged) interaction on participants' attitudes towards the granola, and their desire to purchase it, $F_s(1, 347) > 6.33, p_s > .010$: Among participants who read strong arguments promoting the granola, participants who did (vs. did not) read that the granola changed had more favorable attitudes towards it, and were more likely to purchase it, $F_s(1, 347) > 6.03, p_s < .010$. In contrast, change had no impact among participants who read weak arguments, $F_s(1, 347) < 1.35, p_s > .247$.

Study 4 examined our prediction that change increases processing by sparking curiosity. Participants read strong arguments regarding the health benefits of minerals in Alaska's tap water. The current level of minerals was the same across conditions, but participants read that this level had either changed or not, with no mention of previous levels. Change resulted in more favorable attitudes, $t(200) = 2.53, p = .012$, greater processing, $t(200) = 2.06, p = .040$, and greater curiosity, $t(200) = 3.60, p < .001$. A serial mediation model with bootstrapping showed that referencing change increased the strong information's persuasive impact because it fostered curiosity, which increased processing, which fostered more favorable attitudes (95% CI: .0247, .1587).

Because references to change increase processing, Study 5 finds that change references promote greater attitude certainty. Attitudes held with greater certainty are more persistent over time and are more resistant to persuasive attack (Rucker, Tormala, Petty, and Briñol 2014). Participants read about a sports team that either extended Player A's contract (in the no change condition) or added Player A to its roster (in the change condition). All participants read strong arguments regarding Player A's skills. Participants in the change condition had more favorable attitudes towards Player A, processed the information more deeply, and were more curious about it, $t_s(198) > 2.32, p_s < .021$. The same serial mediation documented in Study 4 replicated in Study 5 (95% CI: .0199, .1346). In addition, change also boosted attitude certainty ($t(198) = 2.87, p = .005$), and this ef-

fect persisted when controlling for attitude extremity ($F(1, 197) = 4.23, p = .041$). A serial mediation showed that change increased certainty because it fostered curiosity, which increased processing and then boosted certainty (95% CI: .1010, .3106).

Together, we find that referencing a change can increase the persuasive impact of information. Mediation and moderation designs provide converging evidence that this occurs because mention of change sparks curiosity, which boosts information processing. These results are the first to demonstrate that references to change in persuasive messages can play an important and generalizable role in shaping consumers' attitudes, preferences, and real purchase decisions. Besides having numerous applications for marketing promotion, our findings contribute to the curiosity literature by uncovering a previously undocumented antecedent to curiosity—the awareness of change. Our findings also contribute to the literature examining people's preference for familiarity and the status quo by uncovering systematic conditions in which the reverse preference emerges.

How Does Risk Sound? The Fit Between Harsh (Soft) Names and Uncertainty (Certainty)

EXTENDED ABSTRACT

The words we use, while simply a composition of sounds, profoundly influence decisions and experiences. The linkage between sound and meaning—known as sound symbolism (Hinton, Nichols, and Ohala 1994)—has been shown to influence such perceptions as shape (Köhler 1947), density (Koriat and Levy 1977), brightness (Newman 1933), and size (Sapir 1929). Moreover, the perceived fit between a product's attributes and its name is believed to influence preference (Klink 2000; Lowrey and Shrum 2007).

In this research, we propose that the sound of a word—an unavoidable but uninformative factor inherent in decision-making—affects the level of investment when a decision is made under uncertainty. For instance, imagine two investment stocks equivalent on all objective criteria, differing only by name; e.g., *Kiki* and *Bouba* (borrowing from Köhler's (1947) example). While normative theory would predict indifference between these two options, we predict that *Kiki* (*Bouba*)—a name shown to result in a more volatile (well-rounded) perception—would be preferred in more uncertain (certain) decision scenarios. Specifically, we develop a coding schema that places names on a comfortable–uncomfortable continuum, adapted from extant research (Smith 1998) and referred to as *phonetic comfort score* (PCS). We suggest that softer-sounding (i.e., high-PCS) names are likely to be preferred in more certain scenarios, whereas harsher-sounding (i.e., low-PCS) names will be preferred amidst greater uncertainty. Importantly, we differ from past work that focuses on just one aspect of a name; rather, we consider it in totality, increasing applicability of our findings.

We propose such a pattern is attributed to the perceived fit (Slooman 1996; Tversky and Kahneman 1974) between a harsher-sounding (softer-sounding) name and a more uncertain (certain) situation. We posit that such a fit is derived from differences in the perceived variance of possible outcomes when the same decision (e.g., a horse race wager) appears with a harsh versus soft name. We find that a harsh-sounding name makes the entity appear more volatile, such that the possible outcomes are perceived as having greater variance (i.e., a wider range). Conversely, a soft-sounding name makes the entity appear less volatile, with the possible outcomes perceived as having less variance (i.e., a narrower range). Based on one's tendency to seek risk (avoid failure) when the probability of winning is low (high), we propose that one is likely to use the upper (lower) bound of possible perceived outcomes as a cue when making a decision.

Therefore, amid greater uncertainty (certainty), we expect to find greater preference for harsher-sounding (softer-sounding) names.

We first use data from thoroughbred racing (Kentucky Derby) to examine wagering as a function of PCS (of the horse's name) and odds of winning (set by odds-makers). Our analysis finds that high (low) PCS is preferred in the context of high (low) chances of success. Second, we find that in times of uncertainty (we use public debt as a proxy for volatility), people have elected presidential candidates with names lower (rather than higher) on PCS. Third, after testing our propositions with real world data, we validated them in a controlled lab setting. We presented participants with names and certainty (odds of winning) in a double-randomized fashion, and measured the amount wagered over five simulated races. Fourth, in order to examine the theoretical proposition that low-PCS names signal greater variance of outcomes, participants provided projected finish position for horses with low-PCS or high-PCS names as one of twelve (equiprobable) entrants in a series of ten horse races. We find greater volatility (in the form of mean absolute deviation) in the estimated finish for names low (vs high) on PCS.

Fifth, we procure process evidence using physical response data from a simulated horse race using a hand grip dynamometer. We measure static force applied to “power” a horse, and examine how this force might differ based on PCS (high or low) and odds (favorite/more certain or long shot/uncertain). With extant research on optimism linking increased confidence to effort (Carver and Scheier, 1998, 2014), we would expect to find greater force for low (high) PCS for long shots (favorites). Results indicate greater force applied when PCS is low (high), suggesting greater optimism for low (high) PCS amidst greater uncertainty (certainty). Finally, we propose that if our theorizing is correct—i.e., if this effect occurs because of the fit between harsh (soft) names and uncertainty (more certainty)—then we should find that this pattern reverses when the scenario changes from the gain (e.g. winning) to the loss (e.g., preventing a loss) domain. We utilize hurricane data made available through Jung et al. (2014) that measures select variables relating to fatalities from past US hurricanes. We calculate the PCS of the hurricane name and predict storm fatalities as a function of PCS, storm severity, and their interaction. Consistent with our theorizing, we find evidence that low-PCS (high-PCS) names are perceived as more of a reality—and thus see greater compliance—amidst higher (lower) risk scenarios.

In sum, the seemingly uninformative yet inescapable factor of the sound of a name influences decisions under uncertainty. Our findings have significant implications. Marketers can seek to align brand names with product usage perceptions; e.g., a more certain (uncertain) product may be better suited for a high-PCS (low-PCS) name. Moreover, consumers can use these findings as an aid in decision making, ensuring greater reliance on informative, objective criteria relating to certainty of a product's success, and less reliance on the uninformative, subjective factor of name. Finally, policy makers can use this information to better predict adoption, raise awareness, or maximize compliance of a given public initiative based on its name and expected chance of success.

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