ASSOCIATION FOR CONSUMER RESEARCH

Elicitation Dependent Preference Reversals Over Consumer Goods

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We demonstrate preference reversals over consumer goods in hypothetical and incentive compatible settings. Participants prefer a utilitarian good when indicating willingness-to-pay more than when choosing. This is due to participants relying more on their affective responses when making a choice. The effect is attenuated when participants are told to deliberate.

Depends on Your Frame of Mind:
The Wide-Ranging Effects of Framing on Judgments, Decisions, and Behaviors

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Paper #1: Elicitation Dependent Preference Reversals Over Consumer Goods

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Paper #2: Attribute Matching Increases Confidence

Hannah Perfecto, Washington University in St. Louis, USA
Jeff Galak, Carnegie Mellon University, USA
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Paper #3: Psychological Framing as an Effective Approach to Real-life Persuasive Communication

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Michal Kosinski, Stanford University, USA
David Stillwell, University of Cambridge, USA
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Paper #4: Choosing or Creating? Framing Choices as Design Processes Increases Perceived Customization of Products

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SESSION OVERVIEW

Our session looks at novel framing effects in consumer decision-making. The first paper demonstrates that depending on how questions about consumer preference are framed, consumers seem to express contradictory preferences for hedonic and utilitarian goods. The second paper provides evidence that framing decision types to match decision domains allows consumers to feel more confident in their decisions. The latter two papers apply framing effects to marketplace settings. In the third paper, the authors illustrate that framing Facebook advertisements to match a consumer's personality profile increases advertisement effectiveness. Finally, the fourth paper demonstrates that framing decisions over pre-assembled choice sets as design processes can increase consumer utility.

In both hypothetical and incentive-compatible settings, O'Donnell and Evers demonstrate that consumers indicate different preferences for hedonic and utilitarian goods depending on the elicitation method (i.e., how they are asked). Specifically, consumers choose hedonic goods, but pay more for utilitarian goods. These findings indicate that varying elicitation methods can induce consumers to maximize on distinct product dimensions, yielding fundamentally different expressed preferences.

Perfecto, Galak, Simmons, & Nelson demonstrate that consumer confidence can be affected by whether a decision is framed in an attribute-consistent (e.g., choose positive or reject negative) or -inconsistent (e.g., choose negative or reject positive) way. That is, consumers who choose from positive or reject from negative options feel more confident about their decisions. On the other hand, consumers who are asked to make an attribute-inconsistent decision express less confidence about their decisions. Critically, these findings demonstrate that by merely framing a decision in an attribute consistent way, consumer can feel significantly more confident about their decisions.

Matz, Bos, Stillwell, and Kosinski show that framing based on personality predictions from digital footprints can increase the ef-

fectiveness of Facebook advertising campaigns. When marketing messages were framed to match the audience's personality, conversion rates (number of purchases) were up to 100% higher. Beyond personality-matched messages, Matz and colleagues also show that one can predict the appeal of images for individuals with different personalities using automated feature extraction and machine learning algorithms. These estimates of personality appeal can then predict liking of new images as well as brand attitudes and purchase intentions.

Moon and Bos demonstrate that choice framing can also influence consumer judgments. Consumers enjoy customization. The authors investigated whether product decisions can be framed to make consumers feel as though their product is customized, even when it is not. Across several studies, presenting decisions as a design process (versus a simple choice) leads to greater perceived customization. The authors distinguish between several explanations and find that multi-stage processes increase the feeling that the consumer designed the product themselves, thereby increasing perceived customization.

Taken together, this session demonstrates the powerful effects of framing in the consumer decision-making process at multiple critical junctures. From the development and elicitation of preferences (O'Donnell & Evers) to evaluating decision outcomes (Perfecto et al.) and within digital (Matz et al.) and physical marketplaces (Moon & Bos), differential decision frames can be used to elicit more desirable outcomes.

Elicitation Dependent Preference Reversals Over Consumer Goods

EXTENDED ABSTRACT

If a person is willing to pay more for trash bags than for ice cream, the axiom of procedure invariance in preference elicitation holds that, if given a choice between the two, she should also choose the trash bags. These procedures should yield the same result – they are thought to be tapping an intrinsic preference, with differences in procedure representing different frames of the same decision. To choose otherwise implies a preference reversal, and a violation of procedure invariance (Tversky, Slovic, & Kahneman, 1990).

Despite this violation of rational choice theory, we find that participants show preference reversals in numerous studies, seven of which we detail here. Specifically, we find that when a decision is framed as a choice between two goods, participants appear to mostly rely on their affective responses to the choice options (Slovic et al., 2007), while they engage in a more deliberative weighting strategy when a decision is framed as one requiring them to indicate WTP. These reversals cannot be explained by scale compatibility, which has been cited as the mechanism for other instances of preference reversals (Tversky, Slovic, & Kahneman, 1990).

In Study 1a-c, we randomly assigned participants to indicate WTP or choose between different pairs of consumer goods (in 1a, trash bags and ice cream; 1b, a pen and chocolate; 1c, toilet paper and ice cream). In Study 1a, 82.6% of participants in the WTP condition preferred the trash bags, while only 27.7% did so in the choice condition. This difference is significant, X^2 (1, 289) = 87.13, $p < .001$. In Study 1b, 25.6% of participants in the WTP condition prefer the pen, whereas 12.5% in the choice condition prefer the pen. This differ-

ence is significant, X^2 (1, 186) = 5.18, p = .02. In Study 1c, 89.59% of participants in the WTP condition prefer the toilet paper, whereas 49.48% in the choice condition prefer the toilet paper. This difference is significant, X^2 (1, 193) = 36.55, p < .001. Together, through Studies 1a-1c, we consistently demonstrate that participants show preference reversals, with expressed preferences depending on whether preference elicitation is framed as choice or willingness to pay.

Next, we carried out an experiment in an incentive compatible setting, using real money and real products. In Study 2, we recruited 612 participants; half of the participants were given $2 cash, and we used the BDM method to elicit WTP for a tube of toothpaste and a chocolate bar. The other half of the participants chose between toothpaste and chocolate. In this incentivized study we still find evidence for preference reversals – whereas 52.4% of participants preferred toothpaste in the WTP condition, only 40.6% did in the choice condition, X^2 (1, 564) = 7.86, p = .005.

We then sought to test whether differences in expressed preference are due to expressing preference a binary decision in the choice condition versus indicating a continuous measure of price in the WTP condition. To rule out this explanation, and bolster support for our affect driven hypothesis, we added two new conditions. In addition to choice and WTP, we added an attractiveness condition and a WTP-dichotomous condition. In the attractiveness condition, participants rate each product on a 20-point continuous measure of attractiveness; while in the WTP-dichotomous condition participants selected the good they would be willing to pay more for. We expected results in the attractiveness condition to resemble the choice condition, and, results in the WTP-dichotomous condition to resemble the WTP condition. Participants in the choice and attractiveness conditions preferred trash bags the least, 26.72% and 16.55%, respectively. However, participants in the WTP and WTP-dichotomous conditions preferred trash bags at a greater rate than either of the affect-driven conditions, 84.35% and 50% respectively. Replicating the basic preference reversal effect, the comparison between the choice and WTP conditions is significant, X^2 (1, N = 278) = 93.99 p < .001). Moreover, the WTP-dichotomous condition differs significantly from the WTP X^2 (1, N = 283) = 38.22 p < .001, choice X^2 (1, N = 267) = 15.27 p < .001, and attractiveness conditions, X^2 (1, N = 281) = 35.65 p < .001. The attractiveness condition differs from the WTP X^2 (1, N = 292) = 134.25 p < .001, pay more X^2 (1, N = 281) = 35.65 p < .001, and choice conditions X^2 (1, N = 276) = 4.23 p = .04. Taken together, we see that preference elicitation methods that are framed as affective responses yield stronger preferences for hedonic goods, whereas elicitation methods that are less affective tend not to see as strong a preference for hedonic products.

Finally, we tested our hypothesis that participants utilize a more elaborative process when indicating WTP (as compared to making choices) by asking participants to deliberate. We expected this to attenuate the difference between the WTP and choice conditions. In Study 3, we recruited 402 participants from MTurk and assigned them to one of four conditions in this 2 (WTP vs. choice) X 2 (control vs. deliberation) between subjects design. Using a logistic regression, we found a main effect of elicitation method, z = 7.76, p < .001. Consistent with our prediction, we found an interaction between elicitation method and deliberation, z = 1.89, p = .059. Probing this, we find that in the WTP conditions, participants did not differ based on whether they deliberated, 81% of participants in the non-deliberation condition and 82.9% in the deliberation condition preferred the trash-bags, X^2 (1) = .13 p = .72. However, in the choice conditions, participants who deliberated were more likely to choose the trash bags (44.2%) compared to participants who did not deliberate (27.3%), X^2 (1) = 11.39 p = .001.

These studies question the idea that consumers have stable preferences that are insensitive to elicitation method. At a minimum, the results indicate that WTP and choice are not equivalent measures of preference, despite their usage in research. More significantly, they indicate that when consumers indicate preferences over goods; differential framing of a decision-making task yields fundamentally different preferences.

Attribute Matching Increases Confidence

EXTENDED ABSTRACT

A wide variety of factors affect consumers' confidence in their decisions. Some of these are more objective—such as the quality and quantity of information available—whereas others are more subjective, involving feelings coming from how the decision was made. This latter category has spawned a number of literatures investigating these psychological determinants of confidence. Work on fluency, for example, has shown that making a decision feel easier increases confidence (e.g., Kelley & Lindsay 1993). Similarly, work on regulatory fit, suggests that using a decision strategy that "fits" with one's current mode of thinking increases motivation and certainty regarding one's choice (e.g., Higgins 2000).

In the present paper, we expand upon these two literatures and propose that attribute matching can also elicit these psychological effects on confidence. Rather than focusing primarily on how people approach the stimuli (as does regulatory fit) or on the stimuli themselves (as does fluency), we suggest this "feeling of rightness" that increases confidence can be more general, coming from either source, or both. Across five studies, we manipulate salient attributes of the decision frame and options so that participants do or do not experience attribute matching, and find higher reported confidence when they do. In addition, we show this increase in confidence has downstream consequences for consensus estimates, and is mediated by metacognitive ease.

Study 1 (N=306) demonstrates this basic effect. Participants were shown 16 pairs of women's faces—8 were pretested to be attractive (positive valence), 8 were pretested to be unattractive (negative valence)—and asked to select a face from each pair for a hypothetical advertising campaign. To make this choice, half of participants were asked which face of the pair they would choose (positive valence) and half were asked which face of the pair they would reject (negative valence; Shafir 1993). After each choice, participants reported how confident they were in their preference on a 9-point scale and what percentage of other respondents would also make that choice. The predicted interaction obtained: when the valence of the stimuli matched the valence of the decision frame (i.e., for both attractive/choose and unattractive/ reject), confidence was significantly higher than in mismatched conditions (ts>12.11, ps<.001), with confidence mediating consensus.

Study 2 (N=302) extends this phenomenon to multiple levels of attribute intensity, again with valence. Participants evaluated 20 pairs of words that were pretested to be very positive (e.g., love), slightly positive, slightly negative, or very negative (e.g., vomit). As in Study 1, half were asked which word they would choose and half were asked which they would reject. Again, after each choice, participants reported their confidence and consensus estimates. Replicating Study 1 and in line with our predictions, we found a strong linear relationship between the intensity of the attribute match and confidence and consensus (ts>16.67, ps<.001), as well as confidence mediating consensus.

Study 3 (N=406) moves beyond valence and preferences to a more objective domain. Participants evaluated 6 pairs of foods, pre-

tested to be perceived as very high or very low in calories. Half of participants were asked which food has more calories and half were asked which food has fewer calories. As in Studies 1-2, participants reported their confidence and consensus estimates after each trial. In line with previous results, on matched trials (i.e., reporting which high-calorie food has more calories or which low-calorie food has fewer), participants reported higher confidence and consensus estimates than on mismatched trials ($ts > 4.70$, $ps < .001$), with confidence mediating consensus.

Having established the basic effect and one downstream consequence, in Studies 4 and 5, we move to confirm our "feeling right" mediator. Study 4 (N=300) replicates Study 2, but with only the 10 very positive and very negative word pairs. Additionally, participants reported how easy the choice seemed on a 7-point scale before reporting confidence and consensus ratings. In addition to replicating our matching effect on confidence and consensus ($ts > 9.77$, $ps < .001$), we found these feelings of ease fully mediating both effects.

Study 5 (N=500) employs an alternative approach to test our proposed mediator: debiasing. If participants are alerted to this irrelevant source of decision ease, then they should correctly attribute it to the manipulation, rather than their own confidence. Using the 10 positive and negative word pairs and choose/reject manipulation from Study 1, half of participants were told that the valence of the question and choices may impact how easy choosing felt, after choosing but before providing confidence and consensus estimates. Control participants did not receive this additional text and replicated our standard matching effect in confidence and consensus. Critically, debiased participants did not, and, in fact, showed an unpredicted reversal (3-way interaction: $ts > 9.0$, $ps < .001$).

Together, these five studies show a highly consistent pattern: attribute matching increases confidence ratings (which, in turn, increase consensus estimates) because matched-attribute decisions foster metacognitive ease, a sense of "feeling right." We find this pattern emerges not only for questions of preference, where intuition would be leaned on the most, but also for questions that have a correct answer. We look forward to future research investigating other types of matching effects in judgment.

Psychological Framing as an Effective Approach to Real-life Persuasive Communication

EXTENDED ABSTRACT

Past research suggests that persuasive communication is more effective when messages are tailored to a consumer's psychological profile (e.g. Hirsh, Kang, and Bodenhausen 2012). For example, matching computer-generated advice to consumers' dominance level elicited higher ratings of source credibility, and increased the likelihood of consumers changing their initial opinions in response to the advice (Moon 2002). While the effectiveness of using psychological matching in persuasive communication is well-established in controlled laboratory studies, the questionnaire-based nature of psychological assessment has hindered the application and evaluation of such technologies in the real world. Consequently, the effectiveness and practical feasibility of psychographic persuasion outside the lab is questionable.

Recent research, however, suggests that consumers' psychological traits can be predicted from digital records such personal websites, Twitter messages or Facebook profiles (e.g. Kosinski, Stillwell, and Graepel 2013; Park et al. 2014). Hence, our digital records might disclose information that goes beyond merely *what we do*, and provide insights into *who we are*, making questionnaire measures obsolete.

Capitalizing on this new form of *digital psychometrics*, we conducted two large-scale field experiments showing that matching marketing messages to consumers' dominant personality trait increases clicks and conversions. Our experiments were conducted using the Facebook advertising platform. As of now, the Facebook advertising platform does not allow marketers to directly access Facebook users' digital footprints or to target them based on their psychological traits. However, it does so indirectly by offering the possibility to target users based on their Facebook Likes. Suppose, for example, that liking "Lady Gaga" on Facebook correlates with the personality trait of extroversion, and liking "Philosophy" goes hand-in-hand with introversion. By targeting consumers associated with each of these Likes, one can, in fact, target extroverted and introverted consumer segments.

We used the outlined approach to target individuals based on their psychological traits of Extroversion in Study 1 and Openness-to-experience in Study 2 (McCrae and John 1992). Using the mypersonality.org database (Kosinski et al. 2015), which contains the Facebook Likes of millions of users alongside their scores on the 100-item IPIP personality questionnaire, we selected 10 Likes characterized by the highest and 10 Likes characterized by the lowest aggregate extroversion and openness scores. These Like-sets were then used in the "Interest" section of the Facebook advertising platform to define our consumer segments (we validated the feasibility of this approach).

We used psychographic targeting to promote the online shop of a large UK-based beauty retailer in Study 1 and two apps available on the Google play store in Study 2. Professional content creators developed ads that were specifically tailored to the psychological characteristics and needs of our target audiences. Using a 2 (Ad personality: low vs. high trait) × 2 (Audience personality: low vs. high trait) between-subjects, full-factorial design, we promoted the products in real Facebook advertising campaigns

Together, the campaigns reached 3,214,169 users and attracted 11,476 clicks, and 890 conversions (either purchases on the beauty retailer's website or downloads from the Google Play store). For both studies, we conducted hierarchical logistic regression analyses for clicks (click = 1, no click = 0) and conversions (conversion = 1, no conversion = 0), using the Audience personality, the Ad personality and their two-way interaction as predictors. Confirming our hypothesis, the interaction between Audience personality and Ad personality was highly significant for conversions in both studies (Study 1: $z = 4.30$, $p < 0.001$; Study 2: $z = 3.35$, $p < 0.001$). These effects were robust after controlling for age and its interactions with ad personality, indicating that psychographic targeting adds value above and beyond demographic targeting. Averaged across the two studies, users in the congruent conditions were 1.43 times more likely to convert (purchase from the online store or download the app) than users in the incongruent conditions. While there was a significant interaction effect on CTR in Study 2 ($z = 3.35$, $p < 0.001$), there was no significant interaction effect in Study 1 ($z = 0.07$, $p = 0.943$).

The results of the two studies provide converging evidence for the practical feasibility and effectiveness of psychographic targeting in the real world. By tailoring the marketing messages for the exact same product to the psychological characteristics and needs of user groups, we were able to significantly increase the number of conversions and clicks (in the Openness campaign only) of two marketing campaigns on Facebook. Although we focused on only two psychological traits, namely extroversion and openness, previous laboratory studies suggest that similar results could be achieved with other psychological characteristics such as regulatory focus (Cesario, Grant, and Higgins 2004) or need for cognition (Wheeler, Petty, and Bizer 2005).

The capacity to carry out psychographic targeting in the real world highlights several opportunities as well as ethical challenges. On one hand, personalized communication in the form of psychographic targeting offers a way to alleviate the problem of choice overload (Schwartz and Ward 2004) by prioritizing content that is likely to be of interest to individual users. In addition, there is plenty of evidence that psychologically-customized health messages are effective in changing behaviors among patients and groups that are at risk (Noar, Benac, and Harris 2007)it is currently not known if or to what extent tailoring works. The current study provides a meta-analytic review of this literature, with a primary focus on the effects of tailoring. A comprehensive search strategy yielded 57 studies that met inclusion criteria. Those studies-which contained a cumulative N = 58,454-were subsequently meta-analyzed. The sample size-weighted mean effect size of the effects of tailoring on health behavior change was found to be r = .074. Variables that were found to significantly moderate the effect included (a. On the other hand, psychographic targeting could be used to exploit "weaknesses" in a person's character. For example, the same technique that we used could be applied to identify and target individuals who are prone to compulsive or addictive behavior, e.g. targeting online casino advertisements at individuals who have psychological traits associated with pathological gambling.

Choosing or Creating? Framing Choices as Design Processes Increases Perceived Customization of Products

EXTENDED ABSTRACT

Consumers enjoy customization (e.g., Valenzuela, Dhar, & Zetelmeyer, 2009; Huffman & Kahn, 1998). However, producing customized products can be costly for companies. As a solution, many companies have opted for mass customization (mass producing different versions of a product to suit individual wants and needs), which allows consumers to choose a personal product while still keeping the number of options - and therefore production costs - low. Is mass customization a successful strategy? That is, can mass produced products *feel* customized?

Past research has shown that physically building products (e.g., IKEA furniture) allows consumers to feel as though their product is uniquely theirs, thus increasing valuation of their built products (Norton, Mochon, & Ariely, 2012). Extending this research, we hypothesized that merely framing decisions in certain ways could lead consumers to feel as though their product is uniquely made for them. Specifically, we examined whether framing a product decision as a multi-stage selection process (choosing one attribute then another) versus a simple choice would lead to increases in perceived customization. We conducted a series of studies in a context in which customization is particularly valued: the realm of gift-giving (e.g., Moreau, Bonney, & Herd, 2011).

Study 1

One hundred ninety-nine participants were asked to imagine that they were purchasing a gift for a friend. In the Choice condition, participants were asked to choose between 6 mugs that varied by 3 colors and by 2 designs. In the Create condition, participants were first shown a blank mug. They were then asked to choose one of the 3 colors for the mug, followed by one of the 2 designs for the mug. The available options were the exact same options as in the Choice condition. The dependent variable was how customized the mug seemed on an 11-point scale (0=Not at all customized; 10=Extremely customized).

Results

Supporting our hypothesis that a multi-stage selection process would increase perceived customization, participants in the Create condition felt that their mug was more customized (M=5.88; SD=2.58) than participants in the Choice condition (M=3.95; SD=2.79), t(197)=5.06, p<.001.

Study 2

One difference between the Choice and Create conditions in Study 1 is that the Create condition required making more than one choice (color then design). Although we believed that the increased perceived customization was due to feeling like they were creating the mug, we tested this alternative hypothesis in Study 2 (N=301) by including a third condition (Filter condition) in which participants filtered the options (i.e., *rejected* by color, then by design) they did not want. The Filter condition thus included the action of making multiple choices, but rather than engendering the feeling of creating a product, the Filter condition was intended to engender the feeling of discarding products. We used the same stimuli as in Study 1, and in the Filter condition, participants were asked to reject 2 of the 3 colors for the mug, then reject one of the 2 designs of the mug. Again, the available options were the exact same options as in the other two conditions, and the dependent variable was how customized the mug seemed on an 11-point scale.

Results

Replicating Study 1, participants in the Create condition felt that their mug was more customized (M=6.09; SD=2.44) than participants in the Choice condition (M=3.06; SD=2.69), t(200)=8.39, p<.001. Participants in the Filter condition (M=5.12; SD=2.78) fell in between the Create condition, t(198)=2.62, p<.01, and the Choice condition, t(198)=5.33, p<.001. This suggests that although making multiple choices increases perceived customization, the multi-stage selection process increased perceived customization beyond simply making multiple choices.

Study 3

Why does this creation process increase perceived customization? Past research on customization has pointed to one particular mechanism: the "I designed it myself" feeling (e.g., Franke, Schreier, & Kaiser, 2010). Study 3 (N=199) aimed to replicate our effect and investigate our proposed mechanism: how much participants felt they had designed the product themselves on a 7-point scale (1=Not at all; 7=Very much).

Results

Replicating Studies 1 and 2, participants in the Create condition felt that their mug was more customized (M=5.52; SD=2.69) than participants in the Choice condition did (M=2.83; SD=2.71), t(197)=7.06, p<.001.

Consistent with our hypotheses, participants in the Create condition felt more like they designed the mug themselves (M=4.41; SD=1.62) compared to participants in the Choice condition (M=2.82; SD=1.90), t(197)=6.36, p<.001. Importantly, feeling as though they designed the product themselves partially mediated the influence of the condition on perceived customization – that is, the indirect effect was significant (95% CI: [1.12, 2.37]).

When shopping for products, consumers are increasingly valuing not only a wealth of options but also options that feel customized to their wants and needs. We find that merely changing the way choice options are presented influences consumers' perceived customization. Across three studies, we found that framing a product decision as a multi-stage selection process (versus a simple choice)

increased how much people felt they designed the product themselves, which in turn, increased their perceived customization of the product. Discussion will focus on consequences of perceived customization for consumers and marketers.

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Your Money or Your *Time*: How Consumers Perceive and Respond to Constraints and Tradeoffs in Money and Time

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Paper #1: Consumers Overestimate Others' Willingness to Pay AND Wait for Goods: New Findings and Insights Concerning the "X-Effect" Bias

Christopher Y. Olivola, Carnegie Mellon University, USA
John J. Han, Carnegie Mellon University, USA

Paper #2: Subjective Resource Deprivation: Consumers Feel More Constrained For Spare Resources Than Similar Others

Jonathan Z. Berman, London Business School, UK
Nazli Gurdamar, London Business School, UK

Paper #3: The Resource Focus Effect Nudging Consumer Preferences in Time-Money Tradeoffs

Yana Litovsky, Carnegie Mellon University, USA
Christopher Y. Olivola, Carnegie Mellon University, USA

Paper #4: How Do Wealth and Time Horizon Affect Investors' Risk Tolerance? Evidence from the Field

Ethan Pew, Stony Brook University, USA

SESSION OVERVIEW

Time and money are two of the most important, yet frustratingly scarce, resources that consumers have at their disposal. In fact, most of the tradeoffs we face involve expenditures or savings of time and/or money. For example, we spend money purchasing desired goods and time enjoying those purchases. Conversely, we save money by switching to cheaper products and time by paying others to do time-consuming things for us (e.g., food delivery services). We therefore need to understand how consumers perceive their (relative) access to these two resources. An equally important goal, given their scarcity, is understanding how consumers approach trade-offs involving money and time.

The four papers in this session present a variety of new findings and novel insights into consumers' beliefs, attitudes, and preferences regarding time and money as scarce resources. At the same time, they all address the same broad, yet important, questions: Do consumers treat time and money similarly or differently? How do they perceive and navigate fundamental tradeoffs and constraints in these two resources?

The first two papers compare perceptions and preferences concerning access to time and money resources, for self versus other. First, Olivola and Han examine the 'X-effect' –the tendency for people to assume others are willing to pay more for goods than they are– and show that it extends to time: they find that people also believe others are willing to wait longer (in line) to obtain free products. They further show that the X-effect is not due to self-other discrepancies in time/money opportunity cost considerations. Next, Berman and Gurdamar show that consumers tend to believe similar others have more money and time resources than they do. Yet, consumers also believe (paradoxically) that similar others *spend* more money and time than they do. However, these self-other differences disappear when consumers are asked to compare themselves to a specific, known other (as opposed to a generic, unknown other).

The next two papers examine people's preferences for trading-off money and time, and how access to time and money affect preferences. First, Litovsky and Olivola show that subtly focusing consum-

ers on time versus money leads to preference reversals for identical tradeoffs between these two important resources. In particular, focusing on time (versus money) decreases willingness to spend time in order to save money (e.g., waiting in line to receive a discount on a purchase). Similarly, focusing on time (versus money) increases willingness to spend money in order to save time (e.g., paying extra to obtain an express train ticket). Next, Pew uses a large dataset of real investors to examine how access to money and access to time influence risk preferences. He finds that consumers become less risk averse the greater their access to money (relative wealth) or time (age and years-to-retirement).

Attendees will leave this session with greater understanding of the way consumers perceive and respond to tradeoffs involving time and money.

Consumers Overestimate Others' Willingness to Pay AND Wait for Goods: New Findings and Insights Concerning the "X-Effect" Bias

EXTENDED ABSTRACT

Frederick (2012) documented a puzzling, but highly robust, bias: people systematically overestimate others' willingness to pay (WTP) for a broad array of goods. This bias, which Frederick coined the "X-effect", reveals a fundamental error in consumer judgment that has important marketing implications. For example, it could lead producers and retailers to overestimate the profit-maximizing prices of new products and these products' likelihoods of successfully selling at a given price. The net result would be overpricing and/or excessive market entry for many new products, followed by disappointing sales (relative to expectations).

Interestingly, Frederick found that the X-effect did not extend to several other types of valuation measures: there were no significant self-other discrepancies in selling prices, judgments of liking, or "working prices" (the maximum number of pencils someone would be willing to sharpen to obtain the good). These latter results suggested the X-effect might be limited to WTP judgments, and thus seemed to rule out several possible accounts of the X-effect.

Here, we show that the X-effect is not limited to monetary payments: the same pattern emerges for willingness to wait (WTW) judgments (the maximum amount of time a person is willing to wait in line to obtain the good). In doing so, we reveal parallel biases in self-other valuation discrepancies along the money *and* time dimensions. Our studies also examine a possible account of the X-effect: that people are less likely to consider others' opportunity costs of spending money (or time) on goods than they are to consider their own opportunity costs. Such a tendency to underappreciate the fact that others also have "better things to do" with their money (or time), could plausibly explain why consumers typically overestimate others' WTP (or WTW). Although consumers already tend to neglect their own opportunity costs (e.g., Frederick et al., 2009; Read, Olivola, & Hardisty, 2016; Shafir & Thaler 2006; Spiller, 2011), there are good theoretical reasons to expect that they might do so to an even larger extent for others (e.g., Pronin, Olivola, & Kennedy, 2008).