There Is Such a Thing As a Stupid Question: Question Disclosure in Strategic Communication

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We introduce and test the Question Disclosure Model – a new framework that organizes prior findings and makes predictions regarding how questions reveal information. In line with the model, experimental participants made inferences about a negotiation counterpart based on the questions they received, and these inferences affected their subsequent behavior.

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The Egocentrist and the Stranger: Conditional Inference When Making Sense of Others

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Paper #1: Conditional Projection: How Own Evaluations Impact Beliefs about Others Whose Choices Are Known
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Paper #2: ‘Tis Better to Give Than to Receive: Preference Estimates Conditioned on Own and Other’s Preferences
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Paper #3: Estimating Central Tendencies: Dead Reckoning vs. Decomposition
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Paper #4: There is Such a Thing as a Stupid Question: Question Disclosure in Strategic Communication
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SESSION OVERVIEW
Beliefs about others’ preferences, attitudes, and valuations are an important element in consumer decision-making (West 1996). We rely on these beliefs in a variety of strategic situations, from gift giving to pricing, from product adoption to voting, from word of mouth bidding and negotiations. A large literature on social projection finds that people egocentrically estimate positions they themselves endorse as more common than positions they don’t endorse (Lord, Lepper & House, 1979; Marks & Miller, 1987; Mullen, et al., 1985).

However, beyond this basic effect, little research has attempted to illuminate the interplay between one’s own preferences versus what is known, hypothesized or inferred about others, when estimating others’ preferences and making strategic choices. This represents a critical gap in our understanding, as our choices and decisions are rarely formed in a vacuum but instead usually involve incorporating our (incomplete) knowledge of others. The papers in this session investigate this important emerging topic and find that prior research on beliefs about others does not account for the ways that reasoning about others changes when taking into account what is known or assumed about others.

In the first paper, Orhun and Urminsky investigate estimates of others’ evaluations of the choice options, when others’ choices are known (e.g., for others making the same or opposite choice relative to the self). They find evidence of conditional projection, such that a person’s evaluation of the option she chose influences her beliefs about how others evaluated either the same or opposite options that they, respectively, chose. This projection of corresponding evaluations to opposite choosers, in particular, suggests a process of analogical reasoning about others that is incompatible with prior accounts of social projection and false consensus.

In the second paper, Gershoff and Broniarczyk look at conditional inferences in advice giving. They find that the influence of what is known about others on one’s own preferences and the influence of one’s own preferences on estimates of others can be confounded in people’s minds. As a result, consumers are prone to systematic errors in conditional probability estimates involving their own preferences consistent with differences in the accessibility and diagnosticity of the relevant sample space for the task. Consumers are more accurate when making probability judgments associated with giving recommendations (compared to receiving them), particularly when the conditioning information was not attribute based.

In the third paper, Frederick investigates the effect of aggregating hypothetical conditional estimates about different types of others, when making judgments regarding aggregate quantities or group means – such as the number of pieces of sushi needed for a party. Imputed quantities were calculated by eliciting subsidiary judgments: how many people would enjoy the focal good (“not much”, “somewhat”, “a lot”, or “I’d love it!”) and the average willingness to pay among people in each category. These imputed quantities were more accurate than direct “dead reckoning” estimates.

In the fourth paper, Minson, Ruedy and Schweitzer demonstrate a novel way in which others may unwittingly reveal the kind of information that informs conditional inferences in strategic settings: the questions they ask. They compared three types of questions. General questions lack a specific line of investigation and convey the impression that the asker is not knowledgeable. Positive Assumption questions ask about a specific issue, but communicate the assumption while problems are possible, no concerns currently exist. Negative Assumption questions ask about a specific issue with an implicit assumption that a problem exists. The inferences participants made about their negotiation counterparts based on their questions dramatically affected their level of honesty during the negotiation.

These papers go beyond the existing literature on general social projection, to investigate the pervasive but understudied phenomenon of conditional inferences about others across different inference contexts, including product valuation, voting, advice giving and word of mouth, and negotiation. These papers present a new and more sophisticated understanding of the manner in which what we know or infer about others, how we relate those others to ourselves, and even how we hypothetically segregate others all systematically influence our beliefs, and inform strategic decisions. We anticipate that this session will generate interest among a diverse group of ACR attendees, including those who are interested in interpersonal interactions, inference and belief formation and strategic decision-making. We believe that this session will suggest important new directions for future research into social inference and influence.

Conditional Projection: How Own Evaluations Impact Beliefs About Others Whose Choices Are Known

EXTENDED ABSTRACT
In this paper, we investigate how people’s ratings of their choice options impact their beliefs about others’ ratings, both for others making the same as well as the opposite choice. Consider, for example, a consumer who has chosen a Sony camera over a Panasonic camera. How will her own evaluations of both cameras influence her beliefs about how those who also chose Sony (same-choosers) or those who instead chose Panasonic (opposite choosers) evaluated each camera? Contrary to existing theories of false consensus, we find conditional preference projection: beliefs about others are based on the assumption that their choices arise from corresponding preferences to one’s own. Thus, for example, the higher the Sony-chooser rated Sony, the more she would believe that opposite choosers (e.g.,
Panasonic choosers) would rate their own preferred camera (Panasonic) highly. Conversely, the less negatively the Sony-chooser rated the one she did not choose (Panasonic), the more she would believe that opposite-choosers would likely not be as negative about their rejected camera (Sony).

Our conditional projection account is distinct from three alternative accounts that arise by extending existing models of social projection to estimating the evaluations of opposite chooser.

I. Direct negative projection of one’s own evaluation of an option. In this case (suggested by the differentiation account, Mullen, Davidio, Johnson and Copper 1992), a person with high evaluations of her chosen option is expected to believe opposite-choosers have lower evaluations of that same option (compared to another person with lukewarm evaluations). Evaluations of Sony among Panasonic choosers would be lower for Sony choosers with higher evaluations of Sony.

II. Direct positive projection of one’s own evaluation of an option. In this case (suggested by the induction account; Dawes 1989, Hoch 1987), a person with higher evaluations of her chosen option would be more likely to believe that opposite-choosers have more positive evaluations of this option (albeit lower than their evaluations of the other option, which they chose). Evaluations of Sony among Panasonic choosers would be higher for Sony choosers with higher evaluations of Sony.

III. Lack of projection to opposite-choosers, since opposite choosers are an out-group. In this case, (suggested by the selective anchoring account, Clement and Krueger 2002), everyone would on average have the same beliefs about opposite-choosers’ evaluations. Sony choosers’ estimated evaluations of Sony among Panasonic choosers would not depend on the Sony choosers’ own evaluations.

Across five studies, we examine people’s beliefs about the evaluations of same-choosers and opposite-choosers. In particular, the proposed pattern of projection to opposite-choosers distinguishes our account of conditional projection from the extensions of existing choice projection theories to evaluations discussed above. We provide evidence for our predictions using across-people differences in ratings of choice options, within-person changes in ratings, as well as manipulated differences in participants’ ratings. In Study 1, we focus on political decision making as a particularly appropriate context to study the formation and implications of one’s beliefs about others. In data collected right before the 2008 Presidential election, we explored if and how a person’s own evaluations about Obama and McCain shaped her beliefs about others’ evaluations, conditional on knowing which candidate they support. For both general voters (N=351) and a sample of lab participants incentivized for accuracy (N=72), we confirm our conditional projection account. Obama voters’ evaluations of their chosen candidate, Obama, primarily influenced their estimates of McCain voters’ evaluations of McCain. Likewise, Obama voters’ evaluations of their rejected candidate, McCain, primarily influenced their estimates of McCain voters’ evaluations of Obama. Moreover, in a recontact study conducted before and after the first presidential debate, we confirm the same pattern of results for how changes in one’s own candidate evaluations corresponded to changes in beliefs about opposite-choosers’ candidate evaluations.

In Study 2 (N=159), we replicated our results in the context of technology adoption (evaluations of the Nintendo Wii and Sony PS3 videogame consoles), another context in which people’s beliefs about others can be important for understanding their own choices. In Study 3 (N=151), we use the context of art posters to replicate the findings and rule out the possibility of reverse causation as an explanation. We show that learning about opposite-choosers’ evaluations of two posters does not influence one’s own evaluations. However, participants’ own evaluations did affect their estimates of the corresponding evaluations of opposite-choosers.

In Study 4 (N=65), we further address causality concerns by experimentally manipulating evaluations of digital cameras (Sony and Panasonic), by either making participants aware of additional unavailable information about the cameras, or not. We find that those in the unaware condition rate their chosen camera higher, and the differences in own evaluations is conditionally projected to both same- and opposite-choosers. In Study 5 (N=274), we investigate the effect of spontaneous changes in post-choice evaluations of digital cameras over time (absent new information) on beliefs about others. We found that ratings for the rejected camera were lower in the second wave (one week later) when participants no longer had detailed information in front of them. Correspondingly, they estimated that evaluations of both same and opposite choosers’ respective rejected cameras would be lower as well.

Across the studies, we identify belief in similar decision processes as moderators, confirm that people endorse our account of “analogical projection” as a descriptor of their own decision process and rule out reverse causation (e.g. preferences influenced by beliefs) and belief in negative correlations as explanations.

‘Tis Better to Give Than to Receive: Preference Estimates Conditioned on Own and Other’s Preferences

EXTENDED ABSTRACT

Consumers are both givers and receivers of advice. Sometimes they recommend products to others. Sometimes they seek out recommendations from others (Gershoff, Broniarczyk, West 2001). Since information is neither perfect nor costless, and the future is uncertain, the recommendations that they give and receive are not always accurate. Therefore, both when giving and receiving advice, consumers often must make estimates about own and others’ preferences (Loewenstein and Schkade 1999; West 1996).

Frequently these estimates are conditional probabilities involving both one’s own and another’s preferences or evaluations (Gershoff et al. 2001). For example, for the task of giving a recommendation to a friend, you might consider the conditional probability that your friend will like an alternative given that you liked it; P(others +|self +). For the task of receiving a recommendation, you might consider the conditional probability that you will like what your friend liked; P(self +|other +). Although both tasks require consideration of both one’s own and other’s preferences, the conditional probabilities to be estimated differ in that one is the inverse of the other.

This research presents three studies that explore accuracy in estimates of probability of liking conditioned on one’s own another’s preferences. Prior work has shown that people’s ability to assess conditional probabilities depends on the task (Gershoff et al. 2001) and information presentation (Gigerenzer and Hoffrage 1995). One error that has been observed is the occasional mistaking of P(A|B), with its inverse, P(B|A) (Bar-Hillel 1983). An explanation for this finding is that a category that is more accessible or perceived to be more diagnostic tends to be adopted as the denominator, or sample space, for the conditional probability estimate (Sherman, McMullen, Gavanski 1992; Brase Cosmides, and Tooby 1999). Depending on whether a consumer is giving or receiving a recommendation, the appropriate sample space for assessing the conditional probability differs. When giving a recommendation it is the set of alternatives that the consumer has given a positive rating. When receiving a recommendation, it is the set of alternatives that the other individual has given a positive rating.
Where a categorization schema for the relevant sample space is difficult to access, people may rely on a more accessible schema that may appear diagnostic because it is related to the task at hand and or is relevant for similar tasks (Hilton and Fein 1989). Compared to information about another’s preferences, information about one’s own preferences is likely to be more accessible, and generally more relevant. Indeed, information that is self-relevant has been shown to be easier to recall and to be perceived as more important than information that is not self-relevant (Bower and Gilligian 1979). Categorizing a set of alternatives in terms of one’s own likes and dislikes is likely to be a more natural way to categorize the alternative space than in terms of another’s likes and dislikes. Thus, it is predicted that people will be less accurate when assessing \( P(\text{self+|other+}) \) (assessing a received recommendation), compared to assessing \( P(\text{other+|self+}) \) (assessing a given recommendation), but task characteristics that influence categorization in terms of one’s own versus others’ preferences will moderate this effect.

Study one asked 146 participants to examine and rate 50 posters while simultaneously learning the ratings of another participant. Next participants estimated \( P(\text{self+|other+}) \) and \( P(\text{other+|self+}) \). The order was counterbalanced. As predicted, the correlation between estimates of \( P(\text{self+|other+}) \) and actual (\( r = .271; z = 1.96, p = .05 \)) was significantly less than the correlation between estimates of \( P(\text{other+|self+}) \) (\( r = .467 \)). There was also more absolute error estimates of \( P(\text{self+|other+}) \) (\( M = .2215 \)) than \( P(\text{other+|self+}) \) (\( M = .1825; F(1,145) = 7.002, p < .01 \)).

Study 2 manipulated organization of information. Eighty participants sorted posters into those they liked and disliked or into those a partner liked and disliked. In the self-sort condition, accuracy echoed that of study 1. There was greater correlation for estimated and actual \( P(\text{partner+|self+}) \) (\( r = .81 \)) than \( P(\text{self+|partner+}) \) (\( r = .08; Z = 5.42; p < .001 \)). Sorting by partners’ preferences attenuated this. The correlation between estimated and actual \( P(\text{partner+|self+}) \) (\( r = .41 \)) was not significantly different from \( P(\text{self+|partner+}) \) (\( r = .44; Z = .135, p > .1 \)). The same pattern of results held for measures of absolute values of accuracy.

Study 3 explored boundaries on accuracy in conditional probability estimates involving one’s own preferences. One hundred and twenty four participants made estimates of the probability that they would like an alternative conditioned on an attribute of the alternative (either the subject of the poster, or the catalog where it is sold) rather than conditioned on another’s preference. Because thinking about a shared alternative in terms of commonly used descriptive attributes is likely to be a natural way to categorize the alternative space, in study 3 it was predicted that estimates of \( P(\text{self+|attribute}) \) would show less error than estimates of \( P(\text{attribute|self+}) \). As predicted, correlation of estimates and actual for \( P(\text{self+|attribute}) \) (\( r = .632, p < .001 \)) were greater than for \( P(\text{attribute|self+}) \) (\( r = .104, p = .250; z = 4.981, p < .001 \)). Likewise there was less absolute error for \( P(\text{self+|attribute}) \) (\( M = .1338 \)) compared to \( P(\text{attribute|self+}) \) (\( M = .1617 \)) (\( F(1,122) = 3.870, p = .051 \)).

In three studies we found that consumers are prone to systematic errors in conditional probability estimates involving their own preferences consistent with differences in the accessibility and diagnosticity of the relevant sample space for the task. Probability estimation errors were consistent with better accuracy associated with the task of giving compared to receiving recommendations (Study 1 and 2). However the errors could be attenuated by categorization of information at the time of exposure (Study 2) and the presence of other more salient natural level categories (Study 3).

**Estimating Central Tendencies: Dead Reckoning vs. Decomposition**

**EXTENDED ABSTRACT**

Predicting aggregate quantities, such as the number of pieces of sushi needed for a party can be done either by “dead reckoning” or by decomposing the global judgment into subsidiary elements (How many people will come?; How many pieces will the typical person eat?) I find that the large systematic biases found by Frederick (2012) in judgments of average valuation for products and services can be attenuated, or even eliminated by decomposing the task of dead reckoning a central tendency of some focal group into subsidiary judgments about the distribution of some other trait (such as liking) followed by the conditional judgments of valuation based on levels of liking.

In the focal study, 663 picnickers in Boston were shown two “goods” – DVDs of the first four seasons of The Sopranos and a two hour cheese tasting event held at a local cheese store. All respondents first indicated the most that they would be willing to pay for the presented good. Thereafter, respondents were randomly assigned to one of two prediction groups. The direct prediction group then simply predicted the mean valuation among all others taking the survey. By contrast, the “decomposed” prediction group first indicated how much they, themselves, would enjoy the focal good (“not much”, “somewhat”, “a lot”, or “I’d love it!”), then estimated the percentage of other respondents in each of these four response categories, and then estimated the average willingness to pay among people in each categories (which, of course, includes the category in which they placed themselves). Although respondents in the decomposed prediction group were never directly asked to estimate the mean willingness to pay of the population, their subsidiary estimates entail such a prediction, and a predicted mean can be imputed.

As shown in Tables 1 and 2, among the direct prediction group, estimates of the mean valuations significantly exceeded the actual mean for both the Sopranos DVDs ($85.80 vs. $46.05; paired t(336) = 11.72; p<0.0001) and the cheese tasting event ($64.30 vs. $46.13; t(339) = 3.89; p<0.001). For the decomposed group, the bias was diminished for the Sopranos DVDs ($70.35 vs. $46.13; t(258) = 11.72; p<0.0001) and eliminated for the cheese tasting event (Estimates = $35.11 vs. Actual = $33.19; t(260) = 1.17; p<0.24).

The judgments rendered by the decomposed prediction group help distinguish two potential sources of the overestimation bias reported by Frederick (2012): an exaggerated sense of how much the target population likes the focal product, and an exaggerated sense of how much others would be willing to pay on their stated level of liking. For the Sopranos DVDs, both quantities were exaggerated, such that the bias remained substantial, even in the decomposed prediction group. However, for the cheese tasting event, respondents underestimated how much people would like it, but overestimated how much people of a given liking level would be willing to pay. These errors roughly cancelled such that imputed estimates were very close to the true mean.

The bottom four rows of each table report estimates for respondents with different levels of liking for the good. Consistent with other work on projection, the imputed estimates of “fans” (those who loved the good or liked it a lot) exceeded the imputed estimates of “non fans” (those in the lower two liking groups). Note, though, that aside from helping to disentangle various elements of the “X effect” (Frederick, 2012), this study also helps distinguish different kinds or levels or “depths” of projection. For example, a Sopranos fan may project their enthusiasm for the show onto either their estimate of the frequency of fellow fans or onto the monetary valuations of those
who are lesser fans, or both. These results suggest that projection is predominantly of the first type. If one looks down any of the columns, the bottommost four rows are often strikingly similar. When asked to make predictions conditioned on another feature known to vary (in this case liking), participants were not anchored on their own valuations. For instance, though cheese lovers would pay an average of $54 for a ticket to the cheese tasting event, compared to just $7 among those with the lowest level of expressed liking, those two different groups made identical predictions of the valuation of the low interest group ($8).

**There is Such a Thing as a Stupid Question: Question Disclosure in Strategic Communication**

**EXTENDED ABSTRACT**

Consumers require information from others to guide decisions. Situations ranging from home purchases, to medical decisions, to investment choices are characterized by information dependence (see Adair & Brett, 2005; Galinsky, Maddux, Gilin & White, 2008; Gino & Moore, 2008). For example, in evaluating a used car buyers are dependent, at least in part, on the seller providing accurate information about the vehicle’s condition. In these settings, individuals seek information from counterparts who often have incentives to conceal unfavorable facts. We term interactions characterized by asymmetric information and motivated disclosure strategic information exchanges.

In strategic information exchanges scholars advise individuals to ask questions (e.g. Malhotra and Bazerman, 2007; Nierenberg, 1986; Shell, 1999; Thompson, 2005). This advice, however, is predicated on an incomplete conceptualization of questions. Specifically, prior work has overlooked the critical role questions play in revealing information. In this paper, we develop the following thesis: the questions individuals ask not only solicit information, but also disclose information. We define the previously unexplored phenomenon of questions revealing information as question disclosure. We develop a new theory, the Question Disclosure Model, for organizing related findings and report experimental results that demonstrate question disclosure and its consequences.

We characterize responses to questions with respect to (a) the attributes respondents mention, and (b) the overall valence (positive/negative) of the information. For example, in replying to a question about an apartment, a landlord could describe attributes such as the neighborhood, the amenities, or the building. The valence of those features might be positive (e.g. lively restaurant scene) or negative (e.g. noisy neighbors), affecting the overall valence of the description. According to our model, the inferences that individuals make based on questions they receive influence the valence of the response and the features mentioned.

In our experiment, we tested the predictions of the QDM by introducing three types of questions that lead to different inferences about the asker’s knowledge structures and intentions. We expect these different types of questions to influence the content, valence,
and consequently the veracity of responses. We term these questions types: General questions, Positive Assumption questions, and Negative Assumption questions.

General questions pose a broad inquiry about a situation, a good or a service (e.g. “How is the project going?”). General questions lack a specific line of investigation and convey the impression that the asker might not be knowledgeable about the topic of discussion. Positive Assumption questions ask about a specific issue, but communicate the assumption that no problems exist (e.g. “The project is not likely to run over budget, is it?”). These questions reveal an awareness of a possible issue, but either a lack of concern or interpersonal discomfort with pursuing an assertive line of questioning. Negative Assumption questions ask about a specific issue, and communicate an implicit assumption that a problem exists (e.g. “How much over budget is this project likely to run?”). Negative Assumption questions communicate knowledge of potential problems and comfort with pursuing an assertive line of questioning.

In our study, participants negotiated with a confederate regarding the sale of a used iPod. We assigned every participant to the role of “Seller” and randomized them into one of three conditions. Across conditions, the confederate asked a General, a Positive Assumption, or a Negative Assumption question. The participants were provided several pieces of information about the iPod including color, age, memory capacity, and working condition. In particular, we were interested in whether participants would reveal to their counterpart that the iPod has a history of undiagnosed crashes, which in the past have resulted in the loss of all stored music.

In line with the predictions of the Question Disclosure Model, participants judged negotiation counterparts who asked a Positive Assumption or Negative Assumption question to be more knowledgeable than counterparts who asked a General question. They also judged counterparts who asked a Negative Assumption question to be more determined to gather accurate information than those who asked either a General or a Positive Assumption question. Consequently, the content of the responses and the valence of the responses differed across conditions, and these differences were mediated by the inferences participants made.

Most importantly, the information revealed in the question dramatically affected the likelihood that participants revealed the truth about the working condition of the iPod. Participants were much more likely to inform the buyer that the iPod had a history of crashing when they were asked a Negative Assumption question (89.0%) than when they were asked a Positive Assumption question (61.1%), chi squared(1) = 15.2, p < .001, or a General question (8.1%), chi squared(1) = 95.2, p < .001, (comparing Positive Assumption and General question conditions, chi squared(1) = 45.5, p < .001). Supporting the QDM, participants changed both the content and valence of the response as a function of questions they received.

Our work suggests that consumers readily draw inferences about others based on the questions they ask. Furthermore, such inferences lead to changes in important behaviors, such as revealing unfavorable information in the course of a transaction. Prior research has considered questions strictly as a tool for gathering information. The Question Disclosure Model provides a framework for investigating the manner in which questions reveal information and the effects of this phenomenon on consumer behavior.