Drivers of Sequential Shortlist Decisions

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In a choice involving many options, people often make a shortlist. Further, options are often added to the shortlist sequentially. We investigate the drivers of sequential shortlist decisions. We find support for the theoretical model proposed by Hauser and Wernerfelt (1990), but also novel psychological insights to refine the model.

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It’s Not What You Say, It’s How You Say It: New Effects of Choice Elicitation Modes on Decision Outcomes

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Paper #1: Choosing vs. Ranking: Elicitation Modes and Their Impact on Consumers’ Subjective Experience of Difficulty
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Paper #2: When Simplified Choices Backfire: The Role of a Maximizing Mindset
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Paper #3: The Effect of Stated Preference on Subsequent Revealed Preference
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Paper #4: Drivers of Sequential Shortlist Decisions
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SESSION OVERVIEW
A key conclusion from four decades of research on choice and preference construction is that preferences are highly susceptible to the manner in which they are elicited (Hsee and Leclerc 1998; Nowlis and Simonson 1997; Park, Jun, and Macinnis 2000; Simonson and Tversky 1992; Tversky, Sattath, and Slovic 1988). The current session provides novel insights into the consequences of several important preference elicitation methods, such as ranking, step-by-step choices, and shortlist creation. How do these different elicitation modes influence experienced and anticipated decision difficulty, and what are some surprising consequences of difficulty in such cases? What is the role accuracy, maximizing, and consistency motivations under different preference elicitation modes? Four papers address these and related questions as they deepen our understanding of how elicitation modes affect preferences and decision outcomes.

The first two papers investigate the effects of elicitation modes on subjective experiences of difficulty. Contrary to expectations, Zwebner and Schrift demonstrate that ranking options leads to lower subjective experiences of difficulty than does choice, despite choosing being embedded within the ranking process. This happens because choice is associated with a sense of loss whereas ranking is not. The paper by Nardini and Sela reexamines the relationship between decision difficulty and choice deferral. It suggests that although simplifying multi-attribute decisions increases decision ease, which is associated with lower deferral, it also simultaneously activates a maximizing mindset, which decreases satisfaction with the available options and, surprisingly, increases deferral.

The next two papers focus on elicitation effects beyond difficulty. Morvinski, Saccardo, and Amir demonstrate that seemingly equivalent methods for eliciting willingness-to-accept have markedly different effects on preferences. Consumers who indicate their desired level of earnings up front make more money than consumers who take compensation spontaneously, without initially indicating their desired earnings. The paper by Liu and Simonson investigates how the anticipation of difficulty shapes consideration-set formation in the context of one particular decision method (shortlist). It shows that as the shortlist grows larger, decision-makers become increasingly concerned about future deliberation costs.

Taken together, the four papers in this session provide novel insights into the mechanisms through which different elicitation methods influence decision experiences and outcomes, including difficulty (paper 1), choice deferral (paper 2), willingness-to-accept (paper 3), and shortlist formation (paper 4). This session will appeal to a broad range of researchers, including those interested in consumer decision making and choice, elicitation methods, context effects, and choice deferral.

Choosing vs. Ranking: Elicitation Modes and Their Impact on Consumers’ Subjective Experience of Difficulty

EXTENDED ABSTRACT
The degree to which consumers experience decision difficulty is an important and fundamental aspect of the decision making process. For example, previous research demonstrated that experienced difficulty may elicit negative emotional states (e.g., Luce, Payne and Bettman 1999), cause consumers to end up choosing nothing (e.g., Iyengar and Lepper 2000), delay their choice (Dhar 1997, Tversky and Shafir 1992), increase the need to justify the decision (Shafir, Simonson, and Tversky 1993), and increase the likelihood to compromise (e.g., Novemsky et al. 2007). Additionally, the subjective experience of decision difficulty has been shown to also impact consumers’ tendency to engage in simplifying and complicating behaviors (e.g., Schrift, Netzer and Kivetz 2011, Schrift, Kivetz, Netzer 2016) and could even play an important role when observing others making decisions (Schrift and Amar 2015).

Indeed, as the subjective experience of difficulty impacts variety of different behaviors, understanding what factors increase or decrease it, is important from both theoretical and applied perspectives. The current work focuses on how the preference elicitation mode impacts consumers’ subjective experience of difficulty. In particular, we focus on two prominent modes, namely, choice and rank-ordering.

When comparing a choice task to a ranking task, it is quite intuitive to expect that a ranking task will elicit greater experience of difficulty. That is, while choosing includes the selection of one option that offers the greatest utility, rank-ordering includes the same selection (i.e. ranked first), as well as the ordering of all the other inferior options. Thus, the operations required to make a choice are embedded in those required to complete the ranking procedure. However, in the current research we repeatedly find that consumers’ subjective experience of difficulty is actually higher when asked to choose as opposed to rank-order the options. That is, even though the outcome of the ranking procedure is identical to that of the choice (i.e., consumers are fully aware that the option they rank first is the one they will eventually receive), framing the process as ranking as opposed to choosing decreases the difficulty that consumers experience. Consistent with research on option attachment (Carmon, Wertenbroch, and Zeelenberg, 2003) we find that the mere framing of the selection process as ranking as opposed to choosing (although the outcomes are kept constant) reduces the sense of loss that consumers experience towards the forgone alternatives. This, eventually reduces consumers’ subjective experience of decision difficulty. Below, due to space constraints we briefly describe a subset of 4 studies out of the 8 that were ran.
In Study 1 participants viewed five products and either chose their most preferred product, or rank-ordered the products according to their preferences. Across both conditions we informed participants that their most preferred product (chosen or top-ranked) is the one they will receive should they win a lottery that was conducted. After choosing or rank-ordering, participants rated the difficulty they experienced using five items (Cronbach a=.88). Results confirmed that consumers experienced greater difficulty in the choice compared to ranking condition (t(215)=4.59; p<.001). Interestingly, this difference was despite the fact that participants spent more time ranking the options (p<.001).

In Study 2 participants received only two options and were asked to either choose or rank-order the two options (between-subjects). Because the set consisted of only 2 options, the actual task in both conditions, is virtually identical. Results confirmed that even when only two options were available, participants still felt greater degree of difficulty in the choice compared to the rank condition (t(197)=2.35; p=.022). Thus, these finding suggest that the effect is driven by how people construe the task and not by the actual cognitive operations required to performing it.

If the effect is driven by the elevated sense of loss toward the forgone options in the choice condition, then the effect should persist only when participants feel that their chosen/top-ranked option is the one they will receive. However, if the same operations are meant to identify the least desirable option, that is, the option that participants prefer to avoid, then the effect should attenuate. That is, choosing which option one likes to avoid should not trigger any sense of loss toward the non-selected options. Accordingly, Study 3 employed a 2x2 between subject design in which we manipulated the target selection goal (receive vs. avoid). In particular, in the receive condition participants were told that their chosen/top-ranked option will be the one that they will receive. However, in the avoid condition, participants were told that their chosen/bottom-ranked option is the one that they will surely not receive. Results revealed the expected interaction (p=.007). For those in the receive condition, again, choice was significantly more difficult than ranking (p=.003). However, for those assigned to the avoid condition, there was no difference in perceived difficulty between the choice and rank conditions.

Study 4 tested the mediation role of option attachment by following Carmon, Wertensbroch and Zeelenberg, 2003 and using the item they employed to measure sense of loss for the forgone options. Participants viewed two products and were asked to either choose their most preferred product or rank-order the products such that their most preferred is ranked first (in a between subject design). Participants then indicated how they felt about not choosing (rank-ordering first) the non-chosen (ranked second) option on a 1 to 10 scale (1=I feel good to 10= I feel bad). In addition to replicating the effect observed in Studies 1-3, a mediation analysis (using the macro PROCESS, model 4, Hayes, 2013) confirmed that the sense of loss mediated the effect of elicitation mode (choose vs. rank) on participants’ subjective experience of difficulty (B=.25; CI95% = .007 to .51).

To summarize, we find that merely framing the selection process as ranking reduces the subjective experience of difficulty. Consumers find choice to be more difficult than ranking, even though the latter typically took them longer. The results suggest that choice highlights the sense of loss related to the non-selected options and therefore, framing the selection process as a ranking process could benefit consumers as well as marketers.

When Simplified Choices Backfire: The Role of a Maximizing Mindset

EXTENDED ABSTRACT

People commonly experience difficulty when making choices among multi-attribute options, which can result in frustration (Sela and Berger 2012), weaker preferences (Chernev 2003), and choice deferral (Dhar and Nowlis 1999). One common solution is to simplify the decision in some way. For example, choices can be broken down into a series of smaller sequential steps (Tversky and Sattath 1979). Step-by-step decision formats are ubiquitous (Haskell 2004), and often reduce choice difficulty and increase satisfaction with the decision process (Dhar 1996; Valenzuela, Dhar, and Zettelmeyer 2009).

However, contrary to the notion that easier choices generally benefit decision-makers and decrease deferral (Novemsky et al. 2007; Valenzuela et al. 2009), we propose that simplified choices impact deferral through two simultaneous processes which operate in opposite directions. Although simplifying multi-attribute decisions indeed increases decision ease, which by itself decreases deferral, it also simultaneously activates a maximizing mindset (Ma and Roese 2014), which decreases satisfaction with the available options (Bettman, Luce, and Payne 1998; Levav, Reinholdz, and Lin 2012) and consequently increases deferral. Thus, simplified decision formats may sometimes paradoxically increase deferral due to the activation of a maximizing mindset. We find that the net effect of decision simplification on decision deferral, through ease (positive) and maximizing (negative), depends on consumers’ chronic maximizing tendencies.

Study 1 demonstrates the dual effect of decision simplification on choice deferral. Participants chose among eighteen grill options varying on three attributes (i.e. fuel type, grilling space, and maximum heat capacity). In the complex choice format condition, all eighteen options were presented simultaneously and participants chose their preferred option. In the simple choice format condition, participants saw one attribute at a time and chose whether to stay at the base level for that attribute (e.g., charcoal) or pick a different level (e.g., propane for an additional $30). We used a standard measure of decision deferral (Novemsky et al. 2007) and also measured decision ease and maximizing tendencies (see Levav et al. 2012). We measured option visualization (i.e., how easy it was for participants to visualize the options) to rule out a possible alternative account. Consistent with our hypotheses, decision deferral was lower in the complex condition than in simplified condition. Further, both decision ease and maximizing were lower in the complex condition than in the simplified condition. No significant differences in option visualization emerged, suggesting that the effect of format on choice deferral is not due to differences in the ability to visualize the available options. Mediation analysis suggests that the effect of condition on deferral was simultaneously mediated by maximizing, which increased deferral, and by decision ease, which decreased deferral. Thus, decision simplification may affect deferral through two independent and opposing processes, ease and maximizing.

Study 2 uses two different step-by-step designs for generalizability. Participants chose among twenty-four laptop options, varying on memory, weight, and speed. They were randomly assigned to one of three conditions. In the complex condition, all twenty-four options were presented simultaneously and participants chose their preferred option. In the sequential simplified condition, participants chose their desired level of each attribute one step at a time, where each attribute decision was displayed on a separate page. In the simultaneous simplified condition, participants chose attribute levels
one at a time, but these three simple decisions were presented on the same page instead of sequentially. We used the same measures of decision deferral, decision ease, and maximizing from Study 1. Consistent with our hypotheses, decision deferral was lower in the complex condition than in each of the two simplified conditions, which were not different from each other. Further, both decision ease and maximizing were lower in the complex condition than in the two simplified conditions, which were not different from each other. Mediation analysis suggests that the effect of condition on deferral was simultaneously mediated by maximizing, which increased deferral, and by decision ease, which decreased deferral. Thus, it is not the sequential nature of the simplified decision process that is driving the effect, but rather simplification itself—breaking down the decision into a series of easier decisions—increases maximizing and decreases purchase likelihood.

In Study 3, we measured participants’ chronic maximizing tendencies, which we predicted would moderate our effect. Specifically, we predicted that decision simplification would activate maximizing among people not already prone to maximizing at baseline (i.e., satisficers), but would have an attenuated effect among people who already maximize at baseline (i.e., maximizers). We also examined whether the maximizing mindset evoked in the focal decision task would carry over to an unrelated subsequent decision. Participants chose among 30 cameras varying on megapixels, optical zoom, and waterproofing in a complex or simplified sequential decision format as in Study 1. We again measured decision deferral, ease, and maximizing. Results revealed the predicted decision x chronic maximizing tendency interaction. Whereas chronic maximizers showed high levels of deferral regardless of decision condition, chronic satisficers showed high deferral in the simplified decision condition but not in the complex condition. Decision process ease and state maximizing mediated the effect of choice format on purchase likelihood for chronic satisficers, but not chronic maximizers. Finally, the maximizing mindset appeared to have carried over to a subsequent choice task: participants in the simplified camera decision condition were later more likely to defer an apartment purchase decision in an unrelated choice task, compared with participants in the complex camera decision condition.

Three experiments, utilizing different product categories support our theoretical perspective. Our findings suggest that easier decisions do not necessarily decrease deferral, and that the net effect of simplification depends on the relative weights of two opposing mechanisms: decision ease and maximizing mindset. We extend recent findings suggesting that maximizing, in addition to being an individual disposition, can also be triggered by the decision context (Ma and Roese 2014). Our results also contribute to the ongoing attempt to understand when and why simplified decision procedures increase versus decrease deferral, purchase likelihood, and consumer satisfaction (Chernev et al. 2015; Schrift, Kivetz, and Netzer 2011; Valenzuela et al. 2009).

The Effect of Stated Preference on Subsequent Revealed Preference

EXTENDED ABSTRACT

Measuring individual’s preferences is central to consumer research, although measurement instability remains a challenge for researchers and practitioners. We focus on situations characterized by full information (post-experience evaluation), and investigate the relation between an individual’s stated WTA after exerting effort on a task, and the subsequent behavior that reveals said individual’s preference. In four experiments involving consequential decisions, individuals are given the choice to collect their own wage for a task they had performed from a bowl of money. As expected, subjects do not behave in accordance with standard economic theories and only take a fraction of the money from the bowl. Most importantly, we find that under some conditions, the mere act of stating one’s preference may significantly influence subsequent behavior and the preference that behavior reveals.

On the one hand, money has been shown to evoke greed and cause coldhearted behavior (Vohs, Mead, and Goode 2006), which predicts those who go directly to take the money without stating their preference first, to be less mindful of their decision, and take a higher compensation than those who first stated their WTA. On the other hand, hypothetical bias (preference overstatement; Murphy et al. 2005) together with consistency theory (Cialdini 1987) predict that people may rely too heavily on preference overstatement and consequently take a higher compensation after stating their preference. Our main findings suggest that consistency with previous judgments, and not greed, plays a central role in biasing observed preference. Individuals who stated their desired compensation for a task they had just performed, took a much higher compensation than those who had not done so.

Participants in Experiment 1 (N = 82) listened to a noisy sound for one minute, and received $.25. This task was followed by a similar 5-minute task. Upon completing the second task, participants could take any amount of money they believed they deserved for completing the longer task from a bowl containing $10 in quarters. Taking money from the bowl was done in private. In a between-subject design, half of the participants stated how much they believed they should be paid before moving to the experiment room to collect their payment (Write condition), while the other half did not (Baseline condition). On average, participants in the Write condition took twice the money than those who did not initially state their deserved payment ($M_{write} = 2.59, MBaseline = 1.28). Additionally, participants stated they deserve a lower amount than what they eventually took ($MedWrite = 1.75, Medtake = 1.25, p < .001).

Experiment 2 (N = 245) explores the proposed mechanism that people are consistent with previous actions and therefore taking more money in the Write condition is a result of consistent behavior with a previously overstated wage. We speculate that writing an expected wage lacks realism, attenuating the psychological cost of writing a higher wage. Hence, once a (higher) wage is stated, it becomes a reference, which justifies taking a higher wage. Research suggests that visual aids help reduce stated preference biases (Bateman et al. 2009). In addition to the original conditions, Experiment 2 included a third condition (visual realization-VR) in which participants indicated their desire wage by selecting quarters on the screen, one by one, until reaching the desired amount. We measured a list of emotions before participants completed the listening tasks as well as immediately after they collected the money. Experiment 2 replicated the previous results ($M_{write} = 2.29, MBaseline = 1.43, p < .001). Importantly, those in the VR condition indicated they deserved less than those in the Write condition ($M_{VR} = 1.75, MWrite = 2.20, p < .01) and consequently took less money ($M_{VR} = 1.92, MWrite = 2.29, p < .01) such that no effect was observed in the VR condition. Lastly, taking more money increased negative emotions in general, though there was no difference in emotions between conditions suggesting that once the reference wage is set (e.g. by writing), it is less costly to adhere to.

In Experiment 3 (N = 293) we adjusted the previous design by utilizing a slider task (Gill and Prowse 2011) and introducing four additional conditions. The main effect remains robust ($MedWrite = 3.00, MedBaseline = 1.00, p = .028). Experiment 3 also explored
boundary conditions and alternative accounts. The effect remains even when participants stated their deserved amount from a bounded list of numbers (up to $10) suggesting the nature of an open-ended stated preference task (contrary to the restricted amount of money in the bowl) cannot explain the effect. However, we did not observe an effect when participants were asked to think about, but not report their WTA, suggesting cognitive construction of individuals’ (unreported) preferences might not be strong enough to affect consequential behavior. Finally, manipulating temporal proximity between task performance and payment did not explain the effect and using other medium (e.g. Dollar bills) offered inconclusive results.

Finally, we explore whether people anticipate the observed behavior. Participants in Experiment 4 (N = 90) completed similar listening tasks but instead of earning money, they read descriptions of the two conditions (Write and Baseline, counterbalanced), and indicated the situation they would rather be in and why. Only 44 participants chose the Write situation, suggesting that subjects do not anticipate writing their deserved wage to have any differential effect. The majority rationalized their decision to be in the Write condition by saying that it would help them to be moral, honest, ethical, fair, less greedy and less tempted to take more money. Experiment 4 demonstrates that peoples’ intuition is not aligned with the highest payoff condition. Further, those who prefer to state their deserved wage, do so for reasons other than merely payoff-maximization.

Given the critical role that preference estimation plays in many domains of behavioral science, our findings help consumer researchers to better understand the effect of the selected elicitation procedures on the estimation outcome, and stress that individual’s preference estimation should be interpreted in the context in which it was elicited. These findings also have direct implications for theory, markets, and policy making.

Drivers of Sequential Shortlist Decisions

EXTENDED ABSTRACT

Consider a consumer shopping on Amazon for a fleece jacket. There are 200 options left after filtering for price and size. The person now needs to look at each option and decide whether to put the option into a shortlist she is keeping. Importantly, the person is not waiting until she has evaluated all 200 options to then simultaneously decide which of them go into a shortlist; instead, like in most real life shopping situations, the shortlist is kept on a running basis, where options are added (or not) sequentially as they are looked at. When looking at a particular option, how does the person decide whether or not it will go into the shortlist?

This research investigates this decision. In their seminal paper on sequential consideration set formation, Hauser and Wernerfelt (1990) proposed a theoretical model positing that when facing a particular option in the sequence and deciding whether to add it to the shortlist, the decision is driven by a cost-benefit consideration. This research tests the psychological processes proposed by H&W, and their prediction of a latecomer disadvantage.

On the benefit side, the person examines whether adding the option to the existing shortlist will increase the expected utility at final choice. This translates to a comparison between the current option and options already in the shortlist, and whether the current option offers incremental benefit to the final choice. Given this process, the serial position of the option influences this decision in two ways: first, in a manner that is not unique to shortlist decisions, serial position may influence the perceived attractiveness of the option (per a large body of previous literature on serial position effects on option ratings and choice). Second, and importantly, position may also affect the shortlist decision in a way unique to sequential shortlist assembly, namely through the comparison with options already in the shortlist. Specifically, because a new option is added to the shortlist only when it can offer non-zero incremental expected benefit over existing shortlist options, then it follows that each time an option is added, the bar for incremental expected benefit raises. Consequently, the later in the sequence, the higher the bar for incremental benefit, thereby creating a disadvantage for latecomers. However, an alternative behavioral possibility is that, when deciding whether to add a particular option to the shortlist, the person only compares the option’s attractiveness to some independent attractiveness threshold, but show disregard for what is already in the shortlist. We test whether the attractiveness of what are already in the shortlist is a factor driving a current decision (H1).

On the cost consideration side, H&W proposed that for each option added to the shortlist, the person recognizes that a deliberation cost will be added to the final decision. This deliberation cost consideration must be true, because if not, there will be zero cost to expanding the shortlist, and the person can maximize utility by simply choosing from the ultimate large shortlist, namely, the whole choice set. Thus for the person to engage in shortlisting behavior to begin with, this means the person perceives a cost to choosing from a larger choice set, and therefore prefers to have a shortlist that balances benefit (product utility) against deliberation cost at final choice. However, in the H&W model, the perceived incremental deliberation cost of adding the current option is constant to the option, and not influenced by the serial position of the option. However, we argue that behaviorally, it is possible that the perceived incremental deliberation cost to adding an option to the shortlist may not be constant to the option, but instead, may depend on the existing shortlist size. Specifically, people become increasingly (rather than constantly) concerned about deliberation cost as the shortlist grows larger (H2); that is, people are not too concerned about deliberation cost when adding a 3rd member to a shortlist of 2, but feel very concerned adding a 6th after there are already 5). This would be an amendment to the H&W model.

Study 1 (N = 244) allowed participants to keep a running shortlist when going through 20 DVD’s sequentially towards the goal of selecting one DVD as a bonus prize for the study. The serial order of the DVD’s was randomly generated for each participant. When we ran a logistic regression on each decision of whether to add the current option with existing shortlist size as the predictor (and other relevant covariates; and different models for robustness), we found a significant negative effect of existing shortlist size (p<.001). This evidence is consistent with H1 and H2 in that the existing shortlist does matter; however, it does not separate benefit vs. cost considerations. We also found a significant latecomer disadvantage, consistent with H1 and H2 and H&W.

Study 2 (N = 295) asked participants to rate the attractiveness of each DVD on each product screen. Thus we are able to dissociate the perceived attractiveness of sequentially presented options, the incremental benefit in attractiveness of adding an option, and the perceived incremental cost. Results showed that all three factors contributed to the shortlist decision (p’s < .001), and contributed to a latecomer disadvantage, supporting H1 and H2.

Study 3 (N = 489) directly manipulated the goal to have a small shortlist by telling participants that “most people had a shortlist of 2 [10] DVD’s”. We found that larger existing shortlist was even more punishing to the current option when people held a goal of a very small shortlist (interaction p < .001). Correspondingly, latecomer disadvantage was even greater under stringent versus relaxed shortlist size goal (p = .01). This study shows that indeed the perceived
incremental cost of adding is not constant to the option, but rather is a function of how “full” the shortlist already is, supporting H2.

Our research provides the first empirical evidence of the psychological processes underlying sequential shortlist decisions, and validates and modifies the H&W model.

REFERENCES


