Preference Exploration and Learning: the Role of Intensiveness and Extensiveness of Experience

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In this research, the authors partition the construct of experience and examine the impact of two specific types of experience on preference learning. Findings from the first study demonstrate that experience affects preference learning. In the next two studies, the authors’ theory that experience can be partitioned into intensiveness (i.e., amount) and extensiveness (i.e., breadth) of experience is supported; they suggest that the latter exerts a larger influence on preference learning. In the final three studies, the authors investigate three factors that lead to the selection of novel alternatives.

[to cite]:


[url]:

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SESSION OVERVIEW

By now it is accepted in consumer research that preferences are not innate, but instead are constructed in specific contexts (Bettman, Luce and Payne 1998). This view is amply evidenced in research demonstrating the instantaneous processes of preference construction, such as how people use information contained in a decision context to make choices. What is less understood, however, are preference construction processes that take place over time. That is, instead of making instant choices, people often develop preferences over time. How are preferences developed over time, and what are the characteristics of such processes? This session presents four papers that consider the dynamic course of preferences. Two of the papers—Amir and Levav, and Hoeffler et al.—focus on preference learning and change during the process of making multiple, successive choices and evaluations. The other two papers—Dijksterhuis, and Liu—discuss preference development during extended decision-making occasions.

Amir and Levav study how people develop preferences from making choices. They distinguish between learning of tradeoffs between conflicting attributes and learning a preference within a given context. They find that when people are forced to tradeoff attributes, they are more likely to develop preferences that are stable across contexts. In contrast, when people choose within contexts that avoid tradeoffs, they form a preference for that context only and show less preference stability across different contexts. The latter point suggests that sometimes repeated choices of the same option do not mean that a subjective attribute value has been learned, but that the decision-maker has simply learned that he or she prefers an option within a certain context. Hoeffler et al. investigate the impact of experience with options on preference learning by juxtaposing intensiveness (number of repetitions) and extensiveness (variety of options) in experience with options, and show that intensiveness leads to greater learning and better developed preferences for the products.

The next two projects turn to preference development in extended decision-making episodes. Liu examines the changes in preferences that occur when the consideration of the options is interrupted. Specifically, an interrupting interval causes changes in the processing of the options such that greater attention is given to less feasible options such as high-risk high-return, and high-quality high-price options. Dijksterhuis on the other hand notes that over time, people may have the opportunity to process options offline, i.e., through non-conscious processes. The author contrasts conscious contemplation and non-conscious processing, and demonstrate periods of non-conscious processing can result in preferences for objectively superior options, and greater satisfaction over time.

The four projects together seek to present new perspectives on consumer preferences by focusing on the dynamic dimension of preference formation and change.

EXTENDED ABSTRACTS

“Choice Construction versus Preference Construction: The Instability of Preferences Learned in Context”
On Amir, University of California San Diego
Jonathan Levav, Columbia University

A relatively common interpretation of preference stability is that it reflects a condition in which the decision-maker has learned the value he or she places on each attribute. A consumer with stable preferences is, by this view, less likely to fall “prey” to the influence of contextual variables on choice. In this paper we argue that preference stability does not necessarily reflect a process of learning tradeoffs or some understanding of one’s subjective value for attributes. Instead, we suggest that when preferences are learned in context, e.g., when repeated choices are made from a set that includes an asymmetrically dominated (decoy) option, people simply learn their preference for generic properties of a choice set, rather than their preferences about the attributes themselves. We call this choice construction. In contrast, if a person is asked to make repeated choices between two options, he or she will be forced to make a tradeoff between one attribute and the other. This process will induce preference construction, and should yield preferences that are stable across contexts.

Our experiments included two phases for all participants. In the first phase, the “tradeoff learning task,” participants made six successive choices between equally priced options that varied only on two attributes; every choice required a tradeoff between these attributes. Each successive set of options became increasingly stronger along one attribute rather than the other, thus requiring increasingly difficult tradeoffs.

Experiment 1’s tradeoff learning task was structured in one of three ways. In the control (Binary Choice) condition participants made repeated choices between two options. In the Attraction condition participants made repeated choices between the same two options plus a third, asymmetrically dominated decoy option. In the Compromise condition the third option included an attribute level combination that placed it exactly between the attribute level combinations of the binary set. The objective of the Attraction and Compromise conditions was to create a choice situation in which participants would be more likely to use contextual cues to make their decision, rather than having to learn their subjective attribute importance weights.

The learning task was followed by a filler task and then a “target choice phase.” The target choice in all experiments presented participants with three options in an attraction effect setup. The choice set included options representing a trade-off more extreme than the last decision of the learning phase. In order to test for preference stability, the decoy was set to be asymmetrically dominated by the option at the opposite extreme from the participant’s last selection in the learning phase (i.e., their sixth decision). We assumed that this last selection reflected a strong preference for one attribute over the other. Our key dependent variable was whether participants were “tempted” by the decoy, and thus “switched” away from their previously preferred attribute combination. We expected that participants in the Attraction and Compromise conditions would switch more than their control condition counterparts.
because the trinary choice sets would enable them to develop a preference for contextual cues rather than engage in the difficult act of trading-off one attribute for another. We also asked participants to indicate how strongly they preferred their chosen (target) option on a one to nine scale. We expected strength of preference to be greater for participants in the control condition because their preferences should be relatively more stable than experimental condition participants.

Our predicted data pattern emerged as expected. The proportion of participants who were “lured” by the decoy in the final, target choice was significantly lower in the control condition (31.2% switched) than either the Attraction (47.3%) or Compromise (59.3%) conditions. Additionally, mean preference strength was greater for non-switchers than switchers. This pattern becomes more extreme when we differentiate those participants who fell prey to the context from those who did not.

In our second experiment we confirm our interpretation that participants in our binary conditions learned trade-off values but that trinary condition participants did not. In this experiment we replicate the Binary Choice and Attraction condition procedures from Experiment 1, but also add a pair of similar conditions where we manipulate the difficult of learning trade-offs in the experiment’s learning phase by presenting participants ranges of attribute values, rather than a precise number (e.g., “restaurant food quality: 3-3.5 stars”). We find that in both range conditions—Binary and Attraction—participants are more likely to be tempted by the decoy in the target choice. That is, when attributes are described in ranges, the Binary condition participants behave like those in the trinary condition. We argue that this is because the range manipulation made attribute trade-off learning more difficult, which ultimately led to less stable preferences.

In our third experiment we demonstrate that when participants are prodded to pay special attention to the tradeoffs inherent in their choices, they produce more stable preferences even when the choices are made in (a trinary choice) context. We replicate our procedure and basic result from the Binary and Attraction conditions of experiments 1 and 2, but find relatively high and equal preference stability irrespective of the presence of a contextual cue in the choice set when we give the simple instruction to pay special attention to the tradeoffs among the attributes. Thus, in study 1 we present the finding that preferences are less stable when learning in context. In study 2 we are able to exacerbate this difference, and in study 3 we are able to attenuate the difference. Throughout we replicate the basic difference between choice and preference construction that we find initially in study 1.

In summary, we present evidence distinguishing preference construction from choice construction. This perspective offers a new approach to understanding the persistence of context effects. Finally, we propose a more nuanced way to think about what choices imply about underlying preferences.

“Preference Exploration and Learning: The Role of Intensiveness and Extensiveness of Experience”
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“Not alone age matures one, but breadth of experience and depth of reflection.” —Ross (1948, p. 214)

People’s preferences change dramatically over time. In most cases, the changes are too slow to draw attention, but when people look back at their past preferences, they sometimes find it shocking to realize how much they have changed. These changes occur in most consumption domains. In addition, they include aspects for which people both increased and decreased their liking over time. A few examples of such changes are realizing that grilled cheese sandwiches are no longer the culinary ideal, developing a taste for beer, and looking forward to visiting a modern art museum. Yet knowing that preferences change is different from understanding how and why they change.

Prior research has focused on two broad classes of factors that exert influence on preference learning. One class of factors (e.g., biology and exposure) has a direct influence, whereby preferences respond to lower-order forces such as biological adaptation and sensory feedback. The second class of factors (e.g., informational goals and social learning) has an indirect influence, whereby preferences are subject to higher-order forces such as cognitive representations of (un)desirable end states. Both classes are important because they relate to the way a person learns about and constructs preferences. Despite the wide range of literature covered, however, we found a dearth of research on the role of breadth of experience in the preference formation process. Thus, we attempt to remedy this shortcoming by refining/partitioning the “experience” construct by introducing two new subconstructs: intensiveness and extensiveness of experience.

We succinctly define intensiveness of experience as the amount or frequency with which a person has been exposed to a product category. Alternatively, we define extensiveness of experience as the breadth or the variety of exposure a person has accumulated in a product environment throughout his or her consumption history. Intensiveness and extensiveness of experience are likely to be positively correlated in the real world, yet they need not accrue simultaneously. As suggested previously, it is possible to develop one aspect of experience (e.g., intensiveness) without necessarily enriching the other (e.g., extensiveness).

In light of this argument, we contend that a person’s preference formation will be influenced by the nature of prior experience. More specifically, the primary goal of this research (studies 1-2) is to examine whether preference learning (as indicated by the ability to identify, predict, and appreciate higher-quality products) is afforded more readily by intensiveness or extensiveness of experience. Our secondary goal is to identify some of the factors and mechanisms impacting extensiveness of experience and preference formation (studies 3-5).

In study 1, to examine the relationship between experience and preference learning, we surveyed the intensiveness (e.g., number of years drinking beer, and number of beers consumed in a typical week) and extensiveness (e.g., number of brands regularly consumed, number of beer types experienced, and number of brands experienced) of experience of our research participants. Following this initial questionnaire, we tested participants’ knowledge of the category in a series of semantic tasks. From the performance exhibited on these tasks, we inferred the amount of preference learning accrued over time. We find that, while intensiveness of experience could not predict preference learning, extensiveness of experience did. Participants with higher breadth were better able to discriminate quality, knew a greater number of countries legitimately famous for producing high-quality beer, and were better able to estimate the alcohol content of beers.

In study 2, we used similar questions to estimate intensiveness and extensiveness of experience, but adopted a new set of dependent variables. In addition to the semantic measures of preference learning, we used sensory measures (e.g., blind test tastes). Again, we find that high-extensiveness participants were better able to identify and appreciate high-quality products and accurately predict their preferences than low-extensiveness participants. Inten-
siveness of experience, on the other hand, did not confer any benefit. To the extent that preferences are the product of both sensory and semantic knowledge, we infer that extensiveness of experience enhances both understanding of the product category and preference learning.

After identifying the advantages associated with extensiveness of experience, we next examine three mechanisms impacting the decision to experiment with novel alternatives in the real world. We use the term “preference exploration” to describe the very selection of novel options and the corresponding increase in people’s extensiveness of experience. So what are the factors that affect preference exploration?

The first factor we identify is the availability of a quality signal favoring novel options. In study 3, participants who were led to believe that novel juices (e.g., tamarind, guanabana, maracuja, and guava) were more popular in a foreign country were more likely to select those juices for trial. The second factor is the similarity of an advocate of a novel option. In study 4, when a similar model (i.e., a person of same age and gender) promoted the selection of a novel option, participants were more likely to demonstrate a willingness to try the item. The third factor is the favorability of a novel experience. In study 5, participants who had a negative initial experience with a novel juice were more likely to stay with familiar options in subsequent trials.

Far from constraining intensiveness and extensiveness of experience as ends of one continuum, we present these constructs as two correlated, but potentially separable, dimensions along which individual experiences vary. Furthermore, we believe that both constructs can sometimes interact to influence the preference formation process. Finally, inspired by recent research in neuroscience (Munakata and O’Reilly 2003), we conjecture that, to the extent that preferences are the product of both semantic and sensory knowledge, intensiveness can play a preference-solidifying role by strengthening the linkages between the knowledge acquired through sensory exploration and that acquired through semantic exploration.

“The Effect of Decision Interruption and Suspension on Preferences”

Wendy Liu, University of California Los Angeles

Previous research in judgment and decision making has mainly focused on decisions made in one continuous manner—the person is presented with a choice, thinks through it, and selects the course of action. However, in real life, decisions are often interrupted or suspended. For example, a multitasking manager may be juggling several issues on the same workday. Thus when he/she faces a decision problem, he/she may need to attend to other businesses before returning to make the decision. Similarly, a consumer may be considering a purchase, but may sit on the decision for some time before returning to make the decision. In particular, I propose that compared to compulsory processing in which an option’s desirability (benefits, rewards) and feasibility (costs, constraints) are equally relevant, people voluntarily give greater attention to the desirability of options, and less attention to the feasibility of options, resulting in systematic shifts in preferences. I examine this possibility in two decision contexts, namely, risky choice, and price-quality tradeoffs, and show that an interruption or suspension makes people more risk-seeking, and more likely to choose high-price high-quality options.

Study 1 examines the effect of decision suspension on risky choice. Participants were given 6 decisions involving one option with a larger but less probable gain and another with a smaller but more probable (sometimes sure) gain. Consistent with prior research, winning is desirable, while the probability of winning indicates its feasibility (Sagristano, Trope and Liberman 2002). For each decision, half the participants were told that they should first learn about the choice, but not make a decision; instead they would turn to a different task. The interrupting filler task asked the participants to count backwards (e.g., “count backwards by 4 from 92 to 8”), typing down each step to make sure they followed instructions. Upon completion of the filler task, they were shown the risky choice again and asked to make a decision. The other half completed the filler task prior to the risky choice (thus equating any potential “priming” effect of fillers), and then made the choice at once without suspending it. In all 6 decisions, those who suspended their decisions were more likely to choose the risky option; the increases range from 7% to 14%, pooled average=10%, p<.005. Further analysis shows that the total amount of time spent on the decisions did not differ between conditions, and did not account for the effect.

Study 2 extends the result of study 1 on risky choice to unexpected interruptions. Specifically, this computerized study controls the process of reading about the options and deciding, by introducing information about the options gradually. After the last option’s information was presented, the no-interruption subjects spent an average of 8 seconds to come up with a decision. The interruption subjects were interrupted unexpectedly 3 seconds after the last information was presented (and hence have not made up their mind) and were asked to perform a filler task. Again, when they resumed, they were more likely to choose the riskier option (increase=23%, p<.005).

Study 3 conceptually extends the effect of interruption to another domain, namely, price-quality tradeoff. Because high quality is desirable while price serves as a feasibility constraint, interruption shifted preferences towards the high-quality high-price option over the low-quality low-price option (increase=8%, p<.05). Further analysis suggests consistent with the underlying mechanism of voluntary attention to desirability, the effect is stronger for hedonic products (11% increase) than for utilitarian products (4% increase), the later being instrumental to other goals but lack desirability in and of themselves.

In summary, this research examines the effect of decision interruption and suspension on preferences, and demonstrates a shift towards desirable but less feasible options due to a switch from compulsory to voluntary mode of information processing. This research has significant implications for marketers and consumers.

“New Insights on the Benefits of Unconscious Thought”

Ap Dijksterhuis, University of Amsterdam

Common knowledge dictates that conscious deliberation is the best strategy for making choices. Thorough contemplation, it is usually argued, leads to choices that are objectively better. We show that choosers can also engage in unconscious thought: After people have gathered information about various choice alternatives, they leave the development of a preference for one of the alternatives to the unconscious. In lay terms, people can “sleep on it”. We present
research showing that unconscious thought is often superior to conscious thought. In addition, we present research that sheds more light on how unconscious thought works, and we present some preliminary evidence about the moderating role of expertise in the fruitfulness of unconscious thought.

We base our recent research on the recently posited Unconscious Thought Theory (UTT; Dijksterhuis & Nordgren, in press). This theory postulates various characteristics about conscious thought and about unconscious thought. We argued that conscious thought is essentially very precise, but also suffers from low capacity. Unconscious thought, on the other hand, is less precise but also has no (or at least less) capacity issues. This led us to formulate and test the “deliberation-without-attention” hypothesis about the relation between mode of thought (conscious versus unconscious thought), complexity of choice and quality of choice. We hypothesize that simple decisions are made better after conscious thought, whereas complex decisions are made better after unconscious thought. We indeed found evidence for this, both in the laboratory as well as among actual shoppers (Dijksterhuis, Bos, Nordgren, & van Baaren, 2006).

In our laboratory studies, we presented our participants with information about four choice alternatives (e.g., four different cars) differing in overall attractiveness. These cars were either described by few aspects (4) or by a lot of aspects (12). After participants had read the information, they were either given time to consciously think about the four cars, or they were distracted so they could only engage in unconscious thought. We repeatedly showed that conscious thinkers more often chose the best car than unconscious thinkers when the choice context was simple (i.e., 4 aspects per car), but that unconscious thinkers made a better choice than conscious thinkers under conditions of complex decisions (12 aspects per car). We also have evidence that unconscious thought leads to more post-choice satisfaction among actual shoppers who bought complex products (e.g., furniture) but that conscious thought leads to more satisfaction for simple products (e.g., small appliances).

Recent research also shows that unconscious thought is goal-directed. We only engage in it when we are motivated to do so. In various experiments, we gave people information about various alternatives, before dividing people into two conditions. In one condition, we distracted people for a few minutes but told them beforehand that they later had to choose between the alternatives. In another condition, we merely distracted people and told them they could forget about the choice alternatives. Only in the first condition we found effects of unconscious thought. That is, only people who knew they would have to make a choice later on made good decisions.

In all experiments that we had done until recently, participants were given all information relevant for making a choice. But what if people do not have this information? Is unconscious thought still helpful? In order to examine this, we looked at the role of expertise. In an 8-week period, participants were asked to predict scores in the Dutch soccer league every week (games are played each weekend). Participants either predicted without hardly any thought at all, or after conscious thought, or after unconscious thought. Participants were furthermore divided into two groups on the basis of their knowledge of soccer: Experts and non-experts. Again, unconscious thinkers made the most accurate predictions, but this was only true for experts. They could recruit relevant knowledge during unconscious thought to arrive at sound predictions. However, as the non-experts showed, unconscious thought is not helpful without having relevant information.

REFERENCES