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Research Dialogue

A dual-system framework to understand preference construction processes in choice☆

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Abstract

Building on the dual-system theory of judgment, we propose an intuitive and deliberate framework for understanding the effects of preference construction in choice. We argue that while certain choice effects can be attributed primarily to rapid, unintentional, and intuitive processing, others arise from intentional and deliberate processing. We use this distinction to group choice effects previously identified in the literature, discuss evidence in support of the dual-system framework of preference construction, and propose new research directions. Since the defining property of intuitive versus deliberate mental processes is the degree to which they engage working memory, the proposed framework sheds light on how these previously identified effects will change with conditions such as the availability of cognitive resources. We conclude by calling for additional research to explore the interplay between intuitive and deliberate processing to determine which processes are implicated in generating a preference, as well as research on new moderators of choice effects based on the difference in the amount of willful information processing that underlies decision making.

Keywords: Preference construction; Dual-process; Dual system; Context effects; Choice

Introduction

Although normative theories of choice in classical economics often treat preferences as invariant across different elicitation techniques and contexts, a major finding in empirical choice research is that preferences are constructed and not just revealed in the process of choice (Bettman, Frances Luce, & Payne, 1998), meaning that preferences are often not consistent across different choice environments (Dhar & Novemsky, 2008). Preferences have been shown to vary systematically due both to differences in elicitation techniques (called "task effects;" e.g., choice versus ratings) and differences in the "choice context," or the set of alternatives under consideration (Simonson & Tversky, 1992).[1] Research on how context and preference elicitation techniques affect choices became popular with BDT researchers to illustrate *preference construction*: the notion that preferences are often generated on the fly while making a decision, rather than being pulled from a master list in memory (Bettman et al., 1998). In this article, we propose a dual-system framework for understanding processes that underlie choice effects[2] previously identified in the literature.

We extend the dual-system framework used to understand human judgment (Kahneman & Frederick, 2002) to explain choice effects that were previously believed in the literature to arise as a result of deliberate, effortful processing. We begin with a brief review of the theoretical frameworks previously proposed in the literature to understand preference construction

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[1] The term "task effect" refers to a shift in the relative choice share of the target option resulting from a change in preference elication, whereas the term "context effect" refers to a shift in the relative choice share of the target option resulting from a change in the set of available options.

[2] Throughout this article we use the term "choice effect" to refer to both task and context effects.

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in choice. Next, we introduce the dual-system framework and show how it can account for previously identified choice effects. We classify context and task effects into two groups, proposing that certain choice effects arise mainly from intuitive processing and require little deliberation, whereas others can be attributed primarily to deliberate thought and effortful comparisons among options. We then explore conditions under which more intuitive versus deliberate choice effects are more likely to emerge. Choice effects that arise as a result of deliberate processing should attenuate when working memory is taxed or willful information processing is inhibited, as under manipulations such as depletion, load and time pressure. On the other hand, choice effects that arise primarily as a result of intuitive processing should increase under these conditions. Finally, we consider open questions in the literature that the dual-system framework may help to resolve, propose new areas for inquiry, and offer predictions based on the proposed framework.

A theoretical framework for understanding preference construction in choice

Intuitive versus deliberate processing in judgment and choice

In their review of the BDT literature, Payne, Bettman, and Johnson (1992) pointed to preference construction as one of the most important ideas to emerge from the literature over the past two decades because it challenged the economic assumption that preferences are stable and follow axiomatic principles such as consistency and regularity. Slovic (1995) similarly noted that studies of task effects were useful to demonstrate that preferences are highly sensitive to the way in which a choice problem is presented. According to Slovic, not only do documented "preference reversals" violate procedure invariance, the economic tenet that preferences should be stable across different elicitations, but they also raise questions about whether preferences can be defined or even said to exist. More than a decade later, Simonson (2008) noted a growing consensus among researchers that preferences are inherently constructive and largely determined by the choice context, the task characteristics, and the description of options.

In the past two decades, a number of different frameworks have been proposed to explain why preferences vary with the context of the decision or task at hand. Two of the best known frameworks, the accuracy–effort and the Choice Goals framework, both explain preference construction in choice by appealing to people's tendency to use different decision strategies based on the context or the task at hand. Payne (1982) and Johnson and Payne (1985) originally proposed the accuracy–effort framework for understanding how decision makers choose among strategies. The framework features a cost–benefit approach in which each decision strategy can be characterized by its accuracy and the amount of effort required to make a given decision. Decision makers consciously select a strategy to balance between their desires to make a more accurate decision and to minimize cognitive effort. This framework accounts for choice effects by proposing that different contexts and elicitation techniques change the amount of effort required for a given decision strategy, as well as the accuracy of that strategy. Different contexts and elicitation techniques thus lead to different choice outcomes by pushing people to use different strategies, which correspond to their goals of both minimizing effort and increasing accuracy.

Bettman et al. (1998) extended the original effort–accuracy framework in two important ways. Their Choice Goals framework proposed that the accuracy and effort goals in the effort–accuracy framework should be supplemented with two additional goals people hold: the goal to minimize the experience of negative emotion during decision-making and the goal to maximize the ease of justification of a decision outcome. The authors describe how these additional goals can explain the phenomenon of preference construction in a way that the effort and accuracy framework alone cannot.

Consistent with the notion that justification is an important goal in choice, Shafir, Simonson, and Tversky (1993) proposed another theoretical framework for understanding preference construction in choice, centered on the notion of providing reasons for one's choices. They argued that decision makers are concerned with justifying their choices to themselves and to others. In order to do so, they shift their attention from choosing options to choosing reasons. The authors explained certain context effects, such as the compromise effect and the attraction effect, by appealing to reason-based choice. However, they focused on a subset of findings in the literature that could be considered through the lens of justification and did not seek to explain other context and task effects.

Since most researchers in the BDT field assumed that making a choice necessitates deliberate comparisons among available options (Simonson & Tversky, 1992) and effortful processing (Bettman, 1993), the proposed frameworks generally assume that the process of choosing is entirely deliberate, even when decision makers only partially process information. As a result, choice researchers generally studied conscious choice strategies that decision makers intentionally use to simplify choice: heuristics such as elimination by aspects (EBA) or lexicographic choice (Bettman et al., 1998; Frederick, 2002).

On the other hand, research in social psychology in the last few decades has revealed that intuitive processes—such as nonconscious, automatic processes—play an important role in people's judgments. For example, priming certain concepts nonconsciously can motivate behavior outside of awareness (Aarts & Custers, 2008), in part by activating stereotypes and self-concepts, which in turn affect behavior (Wheeler, DeMarree, & Petty, 2007; Wheeler & Petty, 2001). Situational cues can also activate goals that operate out of awareness (Bargh, 2002; Chartrand & Bargh, 2002), guiding behavior toward the same outcomes as consciously set goals, but operating without conscious awareness or effort (Chartrand & Bargh, 2002; Chartrand, Huber, Shiv, & Tanner, 2008). In addition, research on "thin slicing" behavior has revealed that observers can make judgments with above-chance accuracy about an individual's traits such as intelligence, aspects of their personality, or teaching ability from observations of expressive behaviors as short at thirty seconds. Observers pick up on non-verbal cues that are so subtle that they are transmitted and decoded unintentionally and below conscious awareness (Ambady & Rosenthal, 1992). The wealth