

EFFECTS OF EXPERIENCE ON DECISIONS FROM DESCRIPTION: EMPIRICAL RESULTS

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ABSTRACT

We investigate how repeated trials with experienced outcome feedback affect risk preferences in description-based decisions under risk, and if the observed effects generalize across gain and loss domains. In Study 1, no significant trend in risk-seeking was observed for Gain problems. However, effects of experienced outcome feedback on decisions from description were observed in the Loss domain: participants initially showed intensified risk-seeking, but became less risk-seeking across 100 repeated trials. Participants then experienced a second set of 100 trials with the “reflected” gain or loss problem. In these Set 2 trials, again participants experiencing Loss problems showed a decrease in risk seeking across the 100 trials, while the proportion of risky choices was essentially flat for Gain problems. Initial Set 2 choice proportions showed an “intercept effect” in the direction of increased EV-maximization, suggesting cross-domain generalization of EV-learning. Study 2 sought to test an alternative explanation for this intercept effect: that framing effects can account for the apparent generalization effects observed in Study 1. Results differed for gains and losses: endowment with a large starting gain mimicked the Study 1 observed “intercept effect” of prior Gain trials on initial risk preferences for Loss trials, suggesting that this intercept effect was due to decision framing of Set 2 trials that incorporates prior gains. But endowment with a large starting loss did not have a significant effect.

Keywords: repeated decisions; decisions from experience; risky choice; risk-seeking; EV-learning

1. INTRODUCTION

Behavioral decision research over the past 20 years has revealed that people make decisions differently when they are provided with an explicit description of a decision problem that lists the possible outcomes and the probability of each, versus when they learn about these outcomes and their probabilities from experience by making choices and receiving outcome feedback from those decisions (see Hertwig & Erev, 2009; Rakow & Newell, 2010; Hertwig, 2015 for reviews).

For example, in decisions from description people make choices as if they overweight small probabilities, while in decisions from experience they behave as if they underweight small probabilities (Barron & Erev, 2003; Hertwig, Barron, Weber, & Erev, 2004). This phenomenon can result in a reversed reflection effect (Barron & Erev, 2003). Also, decisions from experience exhibit a payoff variability effect (Busemeyer & Townsend, 1993; Erev, Ert, Plonsky, Cohen & Cohen, 2017) and a correlation effect (Diederich & Busemeyer, 1999).

Although it is now generally accepted that decisions from experience and decisions from description show divergent patterns of choice, there is less agreement as to the mechanisms that explain the gap. In part this may be because comparing studies of single-trial description-based choice to typical studies of experience-based choice simultaneously contrasts not only single-trial decisions to repeated decisions with outcome feedback, but also decisions under risk, with known payoffs and probabilities, to decisions under uncertainty, with consequences that are initially unknown (Hadar & Fox, 2009; Camilleri & Newell, 2013; Hertwig, 2015).

Thus, in studies where no initial information is provided on the distribution of outcomes for the choice alternatives, the experience of feedback provides information. This information is generally incomplete, due to limited samples of outcomes and possible biases in the decision maker's memory for feedback. But outcome feedback in the form of payoffs from selected decision alternatives also has hedonic and