Title

I want it now! Why discount rates for losses show reverse frame and reverse magnitude effects

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100-word Abstract

In 4 studies, 580 US residents chose between immediate and future gains and losses. While participants discounted small gains more than large ones and discounted potential delays (default is now) more than potential accelerations (default is later), their responses for losses reversed or eliminated these classic effects. This is explained through a three-factor discounting model including uncertainty, resource slack, and present bias. Critically, present bias (wanting things now, ceteris paribus) translates into higher discounting of gains but lower discounting of losses. Participants' thought listings confirmed the mediating role of present bias and revealed qualitatively different processes for evaluating future losses.

600-word Abstract

Background

When we consider getting $100, several factors typically motivate us to want it now rather than later. One is *uncertainty* (Weber & Chapman, 2005): we might never receive the $100 if we wait too long. A second is anticipated *resource slack* (Zauberman & Lynch, 2005): we believe the $100 will be more useful now than later. A third is *present bias* (Benhabib, Bisin & Schotter, 2007; Laibson, 1997): we are impatient, valuing our immediate welfare more.

While most research has explored the discounting of future gains, discount rates for losses are typically much lower (the "sign effect"; Thaler, 1981). Discount rates are also lower when outcomes are large (the "magnitude effect"; Thaler, 1981) and when the default date of receiving something is later rather than now (the "frame effect"; Loewenstein, 1988). Though sometimes forgotten, two studies (Benzion, Rapoport & Yagil, 1989; Shelley, 1993) found that these effects interact: when considering losses, the magnitude and frame effects are reduced or even reversed. However, as no process data was collected, these interactions are largely unexplained.

The present research first set out test the interaction of sign, magnitude, and frame in a between subjects design (previous studies were within subjects). We then collected and coded thought listings from participants, examining the role of present bias.

Method
In four experiments, 580 US residents from a range of socio-economic backgrounds were recruited and surveyed on the internet. In Study 1, participants in the delay frame read a lottery scenario in which they would receive an immediate $50 but had the option to wait and receive a larger amount in three months, while participants in the acceleration frame would receive $75 in three months but had the option to immediately a smaller amount immediately. Other participants considered delaying or accelerating payment of a fine. In each case, indifference points were assessed through a series of choices. In Study 2, participants listed their thoughts prior to making their choices and later self-coded the contents of these thoughts. Study 3 assessed discount rates for $10 and $10,000 gains and losses, which Study 4 extended by adding thought listings, the CRT (Frederick, 2005) and the RFQ (Higgins et al 2001).

Results & Discussion
In Study 1, participants in the delay frame discounted gains more than did participants in the accelerate frame, while participants considering losses showed the opposite effect, replicating prior research. In Study 2, the content and order of "now" thoughts explained this pattern of results, such that frame influenced the prominence of now thoughts which predicted higher discount rates for gains but lower discount rates for losses. This shows that, contrary to standard behavioral economic theory on pure time preference, present bias plays a different role in the consideration of future gains and losses.
In Study 3, participants discounted small gains more than large gains, but showed the opposite effect for losses, thus showing a stronger interaction than previous studies (that had used a within subjects design). In Study 4, magnitude influenced the prominence of now thoughts and present bias, and these had opposite effects on discount rates for gains and losses, as in Study 2. The CRT predicted discounting of large gains (but not losses), while prevention focus predicted discounting of losses (but not gains).
Thoughts were also coded to show the prominence of uncertainty and resource slack. Typically, uncertainty, resource slack and present bias combine to produce very high discount rates for gains. However, in the case of losses, present bias is balanced against uncertainty and resource slack to produce a low discount rate.