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Debiasing or rebiasing? Moderating the illusion of delayed incentives

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ABSTRACT

This paper studies corrective strategies for the illusion of delayed incentives (Soman, 1998), the phenomena that money-for-effort transactions that are unattractive in the present appear attractive when they are in the future. This illusion occurs because future effort is discounted more heavily than future monetary outcomes. In this research, we show that this bias of differential discounting can be corrected by asking consumers to perform effort at the time of decision-making. We further outline three explanations for why this intervention attenuates the illusion of delayed incentives, and discuss whether these explanations constitute a debiasing effect or a rebiasing effect (Larrick, 2004). We report the results of two laboratory experiments and discuss theoretical and practical implications of our findings.

1. Introduction

Consumers often need to choose between options that trade-off money with effort. For instance, a shopper could buy a do-it-yourself piece of furniture and assemble it at home, or purchase a more expensive but fully assembled piece. A student could choose from two summer jobs, one which pays more but involves a lot of effort, and another which pays less but is relatively easy. Choices like these can be modeled in a multi-attribute context as a simple trade-off between the extra effort required for one option and the additional cost of the other option (Payne, 1982). This trade-off approach not only applies to situations in which the choice and subsequent purchase are relatively concurrent, but also those in which purchase occurs with a temporal delay after choice.

Past research shows that the evaluation of an effort–money transactions (e.g., working in exchange for money) depends on whether the transaction is immediate or delayed (Soman, 1998, 2004; Zauberman & Lynch, 2005). Soman (2004) shows that receiving monetary reward conditioning on performing efforts might appear attractive when both the effort and money are in the future, but unattractive when both are imminent. Soman (1998) refers to the perceived attractiveness of the

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delayed transaction as the "illusion of delayed incentives;" the use of the term "illusion" suggesting that it is a bias. He proposes that when the transaction is in the future, effort gets discounted to a greater degree than the monetary reward. Consequently, transactions that appear attractive from a temporal distance start appearing increasingly unattractive as the temporal distance decreases. Soman (2004) studies the problem in a multi-attribute product context and further suggests that the degree of discounting is higher for the effort attribute compared to both the quality and price attributes. He finds preference reversals between such pairs of products as a function of the temporal perspective of the decision-maker.

Given the illusion of delayed rewards, what can consumers do to minimize this bias? In this research, we ask two questions: (1) How can the illusion of delayed incentives be corrected? We show that when consumers expend effort just prior to making a choice between options that differ in effort and price, the illusion of delayed incentive weakens and their choices are more in line with their actual future preferences. (2) What is the specific underlying mechanism with which this corrective action works? In particular, we follow Larrick (2004) in making a distinction between rebiasing and debiasing strategies, and show that the corrective strategy is more in the nature of a rebiasing strategy.

The rest of this paper is organized into three sections. First, we review relevant literature and propose our hypotheses and correcting strategy. Second, we describe two experiments designed to test the hypotheses and identify underlying process of the correcting strategy. Finally, we conclude with a general discussion and propose directions for future research.

2. The illusion of delayed incentives and a corrective intervention

Studies on intertemporal choice shows that the present evaluation of future outcomes is discounted (Akerlof, 1991; Mischel & Staub, 1965) such that the value of the future outcome (money, time, or effort) appears smaller when viewed in the present. A hyperbolic discounting function, first proposed by Mazur (1987) captures the discounted (present) value v_t of a future outcome V.

$$v_t = V/(1 + kt)$$

Here, t is the temporal distance between the present and the future outcome, and k is a discounting parameter representing the degree of discounting. In a multi-attribute choice setting, if the degree of discounting (k) remains the same for all attributes, this discounting would not substantively change the relative preference between two options as a function of when they occur. Soman (2004) proposes that some attributes are discounted more heavily than others, resulting in a preference shift (reversal) as a function of whether the choice is made for an immediate purchase or a delayed purchase. Effort is more heavily discounted than money, therefore options involving effort appear more attractive when in the future, but are preferred less when the transaction is immediate.

The illusion of delayed incentives is also consistent with construal level theory (hereafter CLT; Trope & Liberman, 2003), which suggests that time distorts the mental representation (i.e., construal) of future events. According to CLT, the more temporally distant an event is, the more likely it is to be represented by abstract features while the closer the event is in time, the more likely it is to be represented by concrete features. More importantly, the value attached to abstract features is more influential in choice for the distant future, while the value attached to concrete features is more influential in choice in the immediate future (Leiser, Azar, & Hadar, 2008; Trope & Liberman, 2003). Effort is a prime example of such an outcome – when it is afar, it can be represented quite easily in terms of tasks needed to accomplish a higher goal, but when it is proximal, each of those tasks may take on additional detail that had not been obvious from afar.

In this paper we suggest that effort itself can be represented as either high-level or low-level value (construal). When afar, it is easier to represent effort as high-level value, but when proximal effort is represented as much more detailed and concrete. Following Trope and Liberman (2003), temporal distance should increase weight of high-level value of effort, hence making the attractiveness of a future effort option higher than a current effort option.

Money is less likely to have representations that widely differ as a function of time than effort. Money itself can also be represented as either high-level or low-level value. However, compare to effort, the representation of money (or price) is less likely to vary as a function of distance. Compare to effort, the evaluability of money (price) is relatively higher (Hsee, 1996), and hence its valuation is less influenced by factors like overconfidence, ignorance of what the future outcome entails, and the biased anticipation of the emotional state associated with the future outcome. Therefore with a temporal delay, effort is more likely to be represented differently than monetary outcomes are. In sum, the illusion of delayed incentive suggests that consumers commit to choosing options that they might later not prefer.

In the present research, we demonstrate that experiencing effort at the time of choice will attenuate this bias, especially when the experienced effort is congruent (in form) with the future effort. For example, getting a consumer to expend manual labour at the time of choosing between an do-it-yourself desk and a ready-to-use desk (both to be delivered in 1 month) might give them a wake-up call and shift choice to the ready-to-use option.

It is important to note that there are different varieties of effort. In particular, previous studies have made a distinction between mental effort and physical effort (Dodge, 1917; Huey & Wickens, 1993). Although every mental task requires responses entailing a physical component and every physical exercise concerns a mental element (Gandevia, 2001), mental and physical effort have distinct effects on both psychological variables such as vigilance and physiological factors such as hormonal excretions (Huey & Wickens, 1993; Smit, Eling, Hopman, & Coenen, 2005). A sustained mental task demands relatively little muscular movement, but will primary require a vast amount of central energy expenditure. Conversely, a