Don't Blink: Loss Aversion

By Brian O. Brent, Ph.D., Karen J. DeAngelis, Ph.D., and Nathan F. Harris, Ed.M.

This article, the fifth in a series on effective decision making, looks at prospect theory.

In 1979, Daniel Kahneman and Amos Tversky published "Prospect Theory: An Analysis of Decision under Risk," which now ranks among the most widely cited articles in the social sciences. That article challenged centuries of conventional wisdom about how individuals make decisions.

In the article, the authors revealed several shortcomings of expected utility theory, a model of individual decision making that had served as the foundation of economics since the early 18th century (See Brent, DeAngelis, and Harris 2016). Kahneman and Tversky, however, were not economists, but psychologists.

In this and next month's column, we highlight how prospect theory forever changed our understanding of how individuals actually make decisions.

To begin, indicate whether you would be willing to take the following bets.

1. We flip a fair coin. If it comes up heads, you win $1,000; if it comes up tails you lose $1,000. Yes/No
2. We flip a fair coin. If it comes up heads, you win $1,750; if it comes up tails you lose $1,000. Yes/No

Did you consider your total wealth when deciding whether to take the bets as predicted by expected utility theory? We suspect that you didn't, and that you focused instead on how you would feel about winning or losing, say, $1,000.

Prospect Theory Insights

Prospect theory's first insight is that when making decisions, individuals do not evaluate the prospect of gains and losses relative to their total endowments (e.g., total wealth) but relative to a reference point, typically the status quo or current expectations.

For example, when administrators negotiate a new contract with teachers, the teachers' reference point is likely to be the existing contract's annual percentage increase, base pay, and health care contribution rate, not their overall financial position (Bazerman and Neale 1992).

How individuals regard real (e.g., money) or perceived (e.g., reputation) losses and gains when making decisions is prospect theory's second insight. Put simply, possible "losses loom larger than gains" when individuals make decisions—a phenomenon termed "loss aversion" (Kahneman 2011, p. 282).

Look back at your responses. If you are like most people, you wouldn't take either bet: the emotional pleasure you would derive from winning $1,000 or $1,750 is less than the emotional pain you would experience from losing $1,000. To better understand your propensity for loss aversion, specify the dollar amount you would need to win to take the bet. Is it $2,000, $5,000, $10,000, or greater? The higher the amount of winnings needed for you to take the bet, the greater your loss aversion.

For many of us, our loss aversion ratio is about 2:1 for moderate gains and losses (Tversky and Kahneman 1991). We represent this phenomenon for an equal chance to win or lose $1,000 using the standard graphical representation of prospect theory in Figure 1 (adapted from Kahneman and Tversky 1979). Notice that the slope of the line below the reference point (i.e., losses) is about twice the slope of the line above (i.e., gains).

Loss Aversion

Over the past several decades, studies have documented loss aversion in numerous ways and settings. Fryer et al. (2012) conducted an experiment in nine Chicago-area schools that we find particularly interesting.

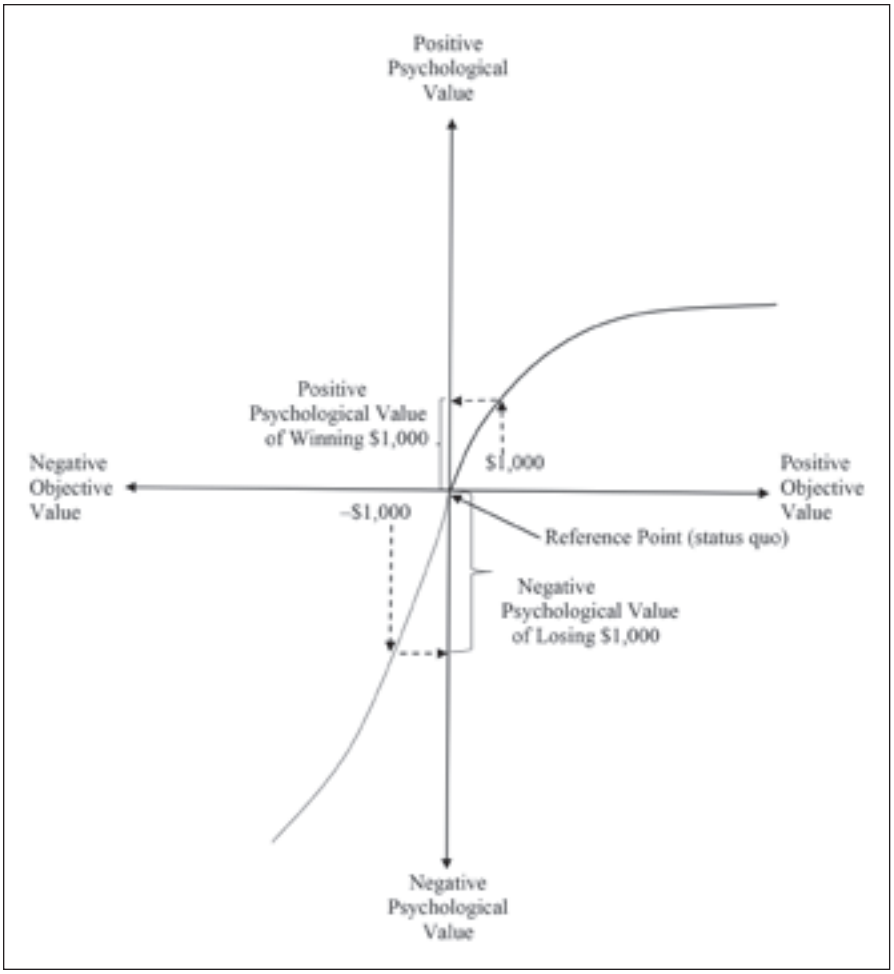

Figure 1. Prospect theory value function.

In the study, teachers who participated in an incentive program would be rewarded financially if their students attained performance targets. One group of teachers would receive cash bonuses at the end of the school year if their students met the targets. Another group would receive a lump-sum cash payment at the beginning of the year but would be required to pay it back if their students did not attain the targets.

At the close of the year, the researchers reported that the students of teachers who initially received their bonuses and would have had to pay them back performed much better than the other group. The authors attributed the result to loss aversion—the possibility of having to pay back a bonus (a financial loss) was more motivating to teachers than the possibility of getting an equal bonus (a financial gain) later.

Our point here is not to champion pay-for-performance plans but to offer a curious example of how loss aversion may alter individuals' decisions.

As another illustration, we recently observed a district that tried to increase the length of its school day by a mere eight minutes. The staff resisted strongly. Why? The teachers' reference point was the status quo, and to increase the school day by even eight minutes was viewed as a loss. It didn't matter that the length of the school day would still be shorter than in all the neighboring districts.

In fact, loss aversion likely plays a role in many negotiations. Both parties may place a greater premium on the concessions they are making because they regard them as losses than on the concession they receive because they view them as gains (Quattrone and Tversky 1988).

In our next column, we will highlight one of the implications of loss aversion for leaders: the strong tendency to stick with the status quo (Kahneman, Knetsch, and Thaler 1991). We will also explore how prospect theory explains why we are risk averse when making some decisions but risk seeking when making others.

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