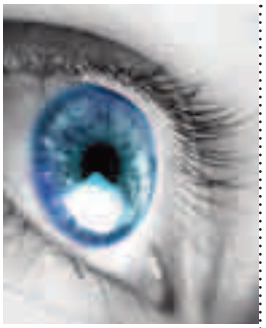

Don't Blink: 90% Fat-Free and Framing Effects

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

This article, the seventh in a series on effective decision making, looks at how outcomes are framed.

We devoted the last several columns to highlighting insights offered by prospect theory, a model that describes how individuals actually make decisions—contrasted with how individuals *should* make decisions.

To illustrate another insight, consider a classic decision-making problem developed by Tversky and Kahneman (1981), which we modified slightly to frame it in an educational context.

Imagine your district is confronting the outbreak of an insidious disease, which health officials predict will kill 600 students. As a district leader, you must choose between two programs to fight the disease. The following are robust estimates of each program's consequences:

A. If program A is adopted, 200 students will be saved for certain.

B. If program B is adopted, there is a one-in-three probability that all 600 students will be saved and a two-in-three probability that no students will be saved.

Which program would you choose?

Now consider the same scenario, but you must choose between two different programs.

C. If program C is adopted, 400 students will die for certain.

D. If program D is adopted, there is a one-in-three probability that no students will die, and a two-in-three probability that all 600 students will die.

Which program would you choose?

We readily acknowledge the bleak and unlikely nature of the scenario, but it has served as the basis for many studies, and the results are consistent: most respondents choose programs A and D.

Now compare program A with C and program B with D. Adopting either program A or C would result in the certainty of 200 lives saved and 400 deaths. And although programs B and D don't guarantee an outcome with certainty, both have expected values of 200 lives saved and 400 deaths (i.e., B = 1/3 × 600 lives saved + 2/3 × 0 lives saved; D = 1/3 × 0 deaths + 2/3 × 600 deaths). Why then do people consistently prefer program A to program B and then reverse their preferences and favor program D to program C?

Prospect theory offers an explanation. Individuals are *risk seeking* when confronting the possibility of highly probable or certain losses. Thus, program D, which holds out the very slim possibility of no deaths, seems preferable to program C and the certainty of 400 deaths. If this sounds odd, consider how many times you have heard someone who is facing a near-certain loss take a chance and state, "Well, I don't have much else to lose." Also, recall the *sunk cost fallacy* we discussed in the September issue of *School Business Affairs*. Decision makers are often averse to accepting certain losses of money, time, or effort, choosing instead to "stay the course," however great the risk and the improbability of attaining a desirable outcome (Brent, DeAngelis, and Harris 2016).

Prospect theory also holds that individuals are *risk averse* when confronting the possibility of forgoing certain gains. Thus, program A, which guarantees that 200 students will be saved, is preferable to the small possibility that all 600 will be saved. In this case, our desire to avoid regret affects our choice.

For our purposes, what is noteworthy about Tversky and Kahneman's (1981) disease problem is that it illustrates that (a)

identical outcomes can be described in different ways, and (b) descriptions can affect our choices. Though the net outcomes of programs A and C are identical, as are those of programs B and D, we described them differently (i.e., lives saved and deaths), and our preferences reversed when considering each set of choices.

Individuals who exhibit this kind a behavior violate a fundamental decision-making rule called the *principle of invariance*: your choice should not depend on how outcomes are "framed" (Baron 2000).

Framing Effects and the School Business Official

Violations of the principle of invariance are commonly referred to as *framing effects*, and the evidence that individuals are highly susceptible to this decision-making error is "pervasive and robust" (Kahneman and Tversky 1984, 343). Indeed, one can easily imagine how framing effects can influence our choices. Would you implement an intervention that yields a 90% pass rate or one that yields a 10% failure rate? Would you stock the cafeteria with snacks that are 90% fat free or snacks that contain 10% fat?

Framing effects can also confound the root of a decision-making process: problem identification. For example, a report highlighting a 90% graduation rate might be viewed quite favorably by our stakeholders, but if framed as a 10% dropout rate, it would raise concern. Would you consider it a problem if your buses were, on average, late 1 out of 10 runs, but not a problem if the rate were 10 out of 100 runs? If you intuitively viewed one ratio as more problematic than the other, you demonstrated your susceptibility to a framing effect known as *ratio bias*: judging identical ratios differently (Bonner and Newell 2008).

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Overcoming Framing Effects

As with our earlier columns, our initial advice for countering this decision-making error is "to be forewarned is to be forearmed." Yet one needs to be particularly attentive to framing effects because there are those who purposively manipulate elements of our decision-making environment so that we are likely to fall prey to the error.

Why, for example, do gas stations frame your decision to pay cash as a discount rather than framing your decision to use a credit card as a penalty (e.g., 10 cents per gallon)? After all, the economic results are identical. The reason is actually quite simple. Filling stations and credit card companies realize it is psychologically preferable to forgo a discount than to incur a surcharge (Stanovich 2010).

Take a look at your vendor contracts. If any offer a discount for early payment or prepayment, you are being "framed." As a regular reporter of district information, you also have to be mindful of framing others. Are your expenditure projections accurate 90% of the time, or are they inaccurate 10% of the time?

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