

Pick a card, any card: Researchers show how magicians sway decision-making

February 9 2015



Magicians have astonished audiences for centuries by subtly, yet powerfully, influencing their decisions. But there has been little systematic study of the psychological factors that make magic tricks work.

Now, a team of Canadian researchers has combined the art of conjuring and the science of psychology to demonstrate how certain contextual factors can sway the decisions people make, even though they may feel that they are choosing freely - a finding with potential implications even for daily decision-making.

"We began with a principle of magic that we didn't fully understand:

how magicians influence audiences to choose a particular card without their awareness," explains Jay Olson, lead author of a new study published in *Consciousness and Cognition*. "We found that people tend to choose options that are more salient or attention-grabbing, but they don't know why they chose them," says Olson, a graduate student in psychiatry in McGill University's Raz Lab, which investigates [psychological phenomena](#) such as attention and consciousness.

The research was conducted in two stages. In the first, Olson (who is also a professional magician) approached 118 people on streets and university campuses and asked them to choose a card by glancing at one as he flipped through a deck of playing cards. The entire riffle took around half a second, but Olson used a technique to make one of the cards—the "target card"—more prominent than the rest. Some 98% of participants chose the target card; but nine in 10 reported feeling they had a free choice. Many concocted explanations for their decisions: one, for example, claimed she chose the target card (the 10 of Hearts) because "hearts are a common symbol and the red stood out."

In the second stage, the researchers created a simple computer-based version of the riffle by presenting a series of 26 images of cards sequentially on a screen. Researchers asked participants to silently choose a card, then enter it after each of 28 different trials. Overall, participants chose the target card on 30% of the trials. Although "reasonably high" this rate was much lower than in the first study, "possibly because many of the social and situational factors central to [magic tricks](#) were absent" from the conventional laboratory conditions in which this stage was carried out, says co-author Ronald Rensink, a professor of psychology and computer science at the University of British Columbia. In a magic performance, for instance, spectators may be influenced by the personality of the magician, expectations created by the setup, and pressure to choose a card quickly, he notes.

"Magic provides an unusual lens to examine and unravel behaviour and the processing of higher brain functions," says co-author Amir Raz, who is a former professional magician and holds the Canada Research Chair in the Cognitive Neuroscience of Attention in McGill's Faculty of Medicine. "This study joins a nascent wave of experiments that binds the magical arts to the principles of psychological and neural sciences. Such a marriage has the potential to elucidate fundamental aspects of behavioural science as well as advance the art of conjuring."

More information: "Influencing Choice Without Awareness," Jay A. Olson et al, *Consciousness and Cognition*, available online Feb. 7, 2015. [DOI: 10.1016/j.concog.2015.01.004](https://doi.org/10.1016/j.concog.2015.01.004)

Provided by McGill University

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