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[comment]

Cognitive Biases May Exaggerate the Perceived Negative Consequences of Exposure: Commentary on Toward a Theory of Exposure

Adam L. Putnam Furman University, adam.putnam@furman.edu

Rappert and Kuhn (2024) provide a theoretical framework for considering exposure in the context of performance magic. I argue that two cognitive biases– how expertise affects memory and the difficulty of transferring knowledge -- may cause magicians to overestimate the negative effects of exposure.

KEYWORDS: exposure, cognitive bias

COGNITIVE BIASES MAY EXAGGERATE THE NEGATIVE CONSEQUENCES OF EXPOSURE: COMMENTARY ON TOWARD A THEORY OF EXPOSURE

Rappert and Kuhn (2024) provide a wonderful introduction to the issue of exposure in the context of performance magic. As they suggest, exposure in magic is complicated; the appropriateness of exposure depends on a variety of factors including who is doing the exposing, who the exposure is aimed at, the intention behind the exposure, artistic merit, whether a financial transaction is included, and even who is evaluating whether exposure has occurred. Rappert and Kuhn wisely steer away from concretely defining exposure but rather identify characteristics to consider when thinking about exposure and provide several interesting directions for future research (Another one: how should we evaluate exposure done by a non-living entity, namely, an Artificial Intelligence such as Chat GPT that will happily reveal the secrets to many classic tricks?).

One notable point from Rappert and Kuhn (2024) is that the magicians in their focus groups were happy to judge instances of exposure and did so largely without drawing on established guidelines related to exposure developed by magic societies. Cognitive science has a long history of demonstrating that people often make irrational or illogical judgments (e.g., Kahneman, 2011), which suggests that magicians may be making biased decisions when considering the appropriateness of exposure in magic. As a cognitive psychologist and magician, I argue that magicians may worry about exposure more than is warranted due to two quirks of the human mind: that expertise affects how we remember and that transferring knowledge from one situation to another is incredibly difficult.

Let's first examine memory. We all know that forgetting occurs over time, so seeing a trick exposed at one time by no means guarantees that someone will remember the mechanisms of that trick in the future (Ebbinghaus, 1913). More importantly, we also know that expertise drastically aids memory. For example, a chess grandmaster can effortlessly remember the locations of chess pieces on a chessboard, whereas a novice will struggle to remember more than six or seven (Chase & Simon, 1973). Applying this framework to the context of performance magic simply means that while magicians will likely remember the details of a trick's inner workings for some time, they can do so because they are experts; non-magicians who lack deep background knowledge may not fully understand a trick's method nor remember it for long.

The second quirk of the mind is the difficulty of transfer of learning –how can one take an idea and apply it to a new situation? Psychology studies have shown that people can see a solution to a novel problem and then encounter the same problem with different window dressing yet fail to solve that new problem (Gick & Holyoak, 1983). Such transfer is particularly difficult for novices, and easier for people who are experts in the relevant domains (Hinds et al., 2001). For magic this means that even if people see a magic method exposed, their understanding will likely be limited to that specific instance, and they will be unable to apply the knowledge to other situations. As an anecdote, on more than one occasion I've been shown a key card trick by a student and then promptly fooled them by using a different handling of the key card trick. The students simply do not recognize that the same principle was in used in a different way.

Finally, it is incredibly hard for people to evaluate what someone else knows (Newton, 1990). Thus, when magicians evaluate exposure, they are likely leaning heavily on their own internal experience, rather than considering what the experience is like for a non-magician. The implication is that magicians will overestimate how much a lay audience understands about a magic method, how long they will remember it, and their ability to apply it to new situations.

If magicians have biases in evaluating exposure (as all humans do when making any sort of judgment), how should exposure be evaluated? It seems important to look to empirical investigations of how exposure in magic actually affects people's experience of magic. The default assumption is that exposure harms people's experience of magic, yet current research suggests the intriguing possibly that exposure to some magic methodology is correlated with increased appreciation for magic as an art form (Medeiros et al., 2022).

Finally, in closing, it is important to note that by no means am I arguing for widespread exposure. Magicians should continue to keep secrets. But if a few secrets get out, magicians can sleep soundly knowing that most lay people may not remember those secrets for long.

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