Memory, Science, and a Supreme Court Nomination

September 28, 2018

The Congressional hearings over sexual assault allegations that threatened Brett Kavanaugh's confirmation to the US Supreme Court revolved around a core area of psychological science: memory. In the wake of the hearing, journalists turned to our field to understand the testimony of accuser Christine Blasey Ford as well as Kavanaugh's denials of the allegations.

Ford, described in *The Atlantic* as "her own expert witness," is a psychological researcher affiliated with Palo Alto and Stanford universities. She teaches classes on research methodology in clinical trials and has authored or coauthored more than 80 empirical articles and books over the course of her career. In testimony on September 27, 2018 before the Senate Judiciary Committee, she detailed her memories of Kavanaugh assaulting her in 1982 when they were teenagers.

Kavanaugh denied the allegations during his testimony later in the day, presenting old calendars he kept during high school that he said showed he was out of town during the summer that the assault allegedly took place.

At one point, when asked how she could be so sure of her recollections, Ford described how an increase in certain neurotransmitters during alarming experiences can influence memory encoding and

consolidation.

This process, scientists suggested in media reports, may account for Ford's certainty that Kavanaugh was the individual who assaulted her, even if she cannot remember some other details of the event.

"People tend to think of memory as all-or-none — as if you either remember everything, or your entire memory is flawed," cognitive psychologist Charan Ranganath of University of California, Davis, told *TIME*. "Neuromodulators like norepinephrine can change what will and will not be prioritized, so it's very possible that some aspects of an event can be retained and recalled fairly accurately for long periods of time, while other, less significant details may be lost." Ranganath talked about his research on how memories are prioritized as part of the Presidential Symposium at the 2018 APS Annual Convention.

In an interview with *The Los Angeles Times*, APS Fellow Tracey J. Shors, who studies behavioral neuroscience at Rutgers University, said she found interesting Ford's detailed memories of the "context and layout of the bedroom, the bathroom where she hid, and the stairwell to the room." Shors and her colleagues recently published a study showing how experiencing sexual violence can affect sensory and contextual memories.

Using a clinical interview tool called the Autobiographical Memory Questionnaire, Shors and colleagues asked 183 college-age women–already assessed for trauma history, including nonsexual trauma—about the most stressful event of their lives. Specifically, the women were asked to recall temporal and spatial details of the event, as well as its emotional intensity and overall significance.

The researchers also assessed the participants for short-term memory, anxiety, posttraumatic cognition, and mood. They found that women who had experienced sexual violence in the past were significantly more likely to remember powerful temporal and spatial memories about their most stressful life event compared with women who reported no history of sexual victimization.

Other psychological researchers have lent their scientific expertise to discussions about traumatic memories in the wake of the allegations against Kavanaugh. In an opinion piece for the Washington, DC-based newspaper *The Hill*, APS James McKeen Cattell Fellow Gail S. Goodman cited research that used social service and court records to track down people who had been victimized as minors. Researchers compared the adults' recollections of the events with medical records and other data and found that victims accurately recalled the central aspects of the assaults even 2 decades later.

The scientific underpinnings of alcohol use and its influence on memory has also become a topic of interest, since Ford has described Kavanaugh as "stumbling drunk" at the time of the assault. In his testimony, Kavanaugh maintained that he was not involved with the events that Ford described and has never blacked out from being intoxicated.

The hippocampus is "the part of the brain that is doing most of the heavy lifting to encode new memory," said Duke University Professor Scott Swartzwelder in a story on the PBS News Hour website. "It's a structure that happens to be very, very sensitive to alcohol."

Kate Carey, a Brown University psychological scientist who studies drinking behavior, explained how

alcohol can interfere with memory encoding in an interview with *The Washington Post*: “In the moment, the person can be functioning normally, with no sign there’s going to be memory impairment. But because those memories never get consolidated and stored, it’s like they never occurred, so you can’t recall them later on. Which doesn’t mean it didn’t happen.”

Researchers say that although Ford’s story conflicts drastically from Kavanaugh’s, science suggests that it is possible that both firmly believe what they’re saying.

“Confidence is not a good guide to whether or not someone is telling the truth,” APS William James Fellow Nora Newcombe of Temple University told the Associated Press. “If they think they’re telling the truth, they could plausibly both be confident about it.”

For more perspectives on memory as it applies to the Kavanaugh story, read these posts from APS Fellow David G. Myers on the blog The Psychology Community.

- Christine Blasey Ford’s Testimony: Is the Devil in the Details, or Not?
- Might Brett Kavanaugh and Christine Blasey Ford Both Be Telling the Truth They Remember?