The Psychological Science Behind an Oops Moment

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Over the last week or so, the phrase “brain freeze” has taken on a new meaning and caused a bit of media frenzy – first over Rick Perry’s debate flub on television, followed immediately by Herman Cain’s floundering on a question. A moment like this can happen to the best of us, whether it is captured live on national television or in private. The media has focused extensively on these two politicians and their momentary lapses in memory, but perhaps it is time to examine the psychological science of these kinds of brain-freeze moments and why they occur.

“The human memory system is characterized by a virtually unlimited storage capacity that is coupled with retrieval processes that are fallible and probabilistic; in fact, most of what is stored in our memories is not retrievable at any given time in any given situation,” says Robert A. Bjork, Distinguished Professor of Psychology at the University of California, Los Angeles. This is usually a good thing, he notes, because we need to be able to keep our memories current. “There is an adaptive side to our retrieval limitations, but retrieval failures can nonetheless be very embarrassing,” Bjork explains.

Though these brain freeze moments might have evoked much laughter and ridicule, Bjork says that some sort of sympathy might be in order as memory retrieval failures occur on an increasingly frequent basis as people age – not only because there are cognitive deficits that accompany aging, but also because people constantly accumulate information as they age, thus making the task of recalling information more difficult as they become older. However, Bjork agrees that Perry’s and Cain’s memory failures are somewhat embarrassing, though for somewhat different reasons.

“In Perry’s case, it is embarrassing because eliminating those three departments is part of his platform, so his retrieving the names of those three departments and what they are responsible for should have been highly practiced. It would not have been surprising, perhaps, had he recalled an inexact—but semantically correct—name of one of those departments, but his drawing a complete blank was surprising. In Cain’s case, his memory failure was less surprising, but perhaps more embarrassing, because it appeared to reflect a lack of encoding the information in the first place,” says Bjork.

Alan S. Brown, Professor of Psychology at Southern Methodist University likens the brain freeze moment as a classic example of a tip of the tongue experience. “Brain freeze is a cute characterization – a colorful description of the inability to have the brain work on demand. The alternative characterization – tip of the tongue – is meant to colorfully describe how close the word is to coming out of the mouth. These two terms are catchy descriptions that put in concrete, physical terms what we feel is going on. Perry knew the federal department, but just could not pull it up at that moment. He showed the classical symptoms of angst on stage – intense frustration over being unable to get a word that he is positive that he knows,” says Brown.

Brown continues by saying that he has a hunch that Perry’s problem could be tied to retrieving two words beginning with the same first letter, from the same category. “He said “commerce, education,

and…..” but couldn’t get “energy.” The first “e” word may have overshadowed, or bullied, the second one – blocking its access. It did not help that someone threw out “EPA” as a possibility — this only made matters worse.”

Temporary retrieval glitches can happen to any of us, whether it is during a meeting with high-powered executives in the office, a class presentation, at the supermarket or during a spirited conversation with a close friend – everyone has these moments, but not every brain freeze moment happens in front of bright lights, cameras and a thousand expectant faces.