

Don't be so confident (math month!!!)

First, a correction: Last week, I discussed the priming effect, including one study that suggested priming people to think about the elderly caused them to walk more slowly. Unfortunately, that study has failed to be replicated, and it appears the affects of priming have been overblown (at least how I presented it in the email). My apologies for sharing unsubstantiated research.

With that unfortunate business out of the way, let us now turn to an exciting thing: THE RETURN OF MATH MONTH!

Math teachers everywhere celebrate March 14th as Pi Day (3.14 ... get it?!?!). In recognition, I like to use March to spot how mathematics and decision-making intersect. Fear not math-adverse friends, no tough calculations required!

To kick off, I'd like to talk about *certainty*. Specifically, I'd encourage you to have fewer instances of being certain. That might seem obvious, but closer examination will reveal that we tend to be overly certain in a surprisingly large number of instances.

To understand certainty, let's examine the concept of a Black Swan. Lots of folks have talked about black swans in a variety of different contexts. For the purposes of understanding certainty, here's how I like to think about them.

Imagine you have a theory: All swans are white. You walk around town, and you encounter dozens of swans, all white. How certain can you be that your theory is correct? Well you've never seen anything other than a white swan, so perhaps your confidence is very high. That said, you're humble enough to realize you don't know all the swans around the world. So, you're not completely certain. Maybe 90%? Every single time you see a white swan, your confidence that all the swans are white increases, and every day that you *don't* see a black swan, it increases even more. Still, your confidence will never equal 100%. You can never be entirely sure about *all* the swans in the world. So you never go higher than 99.99999999% certain. The difference between 99.99999999% and 100% might seem trivial, and for all intents and purposes it is. But the mindset that leads you to 99.99999999% is key. You at least recognize there's a possibility you might be wrong, or information you might not know.

Of course, if you see a single black swan, your entire theory could collapse. You could spend *years* increasing your confidence in your theory that all swans are white only to have it shattered to 0% when you see a single black swan. (of course, it's also possible that you see a black swan and think "my eyes are just playing tricks on me," so you might only lower your confidence a few percentage points, not all the way to 0). Nonetheless, your confidence goes up as you acquire more confirming evidence and decreases (or plummets) when you acquire disconfirming evidence.

In college I was an RA. We were taught that whenever we needed to document an incident, we were to write as objectively as possible. We started our jobs writing things like "The student was obviously

drunk" and eventually learned to instead write things as, "The student stumbled, slurred his speech, and presented a noxious order." It taught me to be humble, and to speak only of what I knew to be true.

Growing up, I'd tell my mom things like, "We're out of ketchup. I checked the fridge and there wasn't any in there." My mom would walk to the fridge, open the door, and immediately find the ketchup. I felt foolish. Now, I might tell my wife, "I think we may be out of ketchup. I checked the fridge and didn't see any in there, though I may have missed it." She might walk to the fridge, open the door, and immediately find the ketchup. But if she does, I usually don't feel as foolish. The stakes aren't as high because I didn't speak with as much certainty.

Rarely in my life am I proven objectively and completely wrong anymore. Let me be clear: This isn't because I'm so much smarter than I was previously. Rather, I'm just wise enough to know not to make such certain statements in the first place. Be mindful of your language and demonstrate less 100% certainty in your life. There could always be a black swan that collapses your theory.

Make good choices, -Kevin

Bad decision of the week: Teacher kept leaving class unattended to take phone calls and conduct personal business