

## Chapter 8 – Generalization, analogy, and causation

### Getting familiar with . . . errors in statistics and probability

For each of the following, explain which probability error has been committed.

1. “Every time I take this new VitaMix cold medicine, my cold goes away. Therefore, I know it works.”
2. Jim has played and lost at craps seven times in a row. He concludes that he must win soon, so he increases his next bet to cover his former losses.
3. “Every time I leave the house without an umbrella, it rains. Why me!?”
4. John just found out that most car accidents happen within two miles of where a person lives. Because of this, he has decided to move at least two miles away from his current apartment.
5. After watching Kareem win three tennis sets in a row, the recruiter is sure that Kareem will be a good fit for his all-star team.
6. “I touch my front door ten times every morning, and nothing too bad ever happens to me. Therefore, if you want your life to go well, you should start touching your front door ten times before you leave.”
7. After acing her first exam, Simone was shocked to discover that she only got an 85 on the second. She concludes that she must be getting dumber.
8. “I am bracing for bad luck. My life has been going much too well lately to keep this up. Something bad will have to even it out at some point.”
9. “Ever since I bought this mosquito repellent, I haven’t been bitten by one mosquito. It must really work.”
10. Almost every athlete who has appeared on the cover of *Sports Illustrated* experienced a significant decline in performance just after the issue is released. Fariq decides to turn down an offer to appear on the magazine’s cover, fearing that his stats will fall. (Example adapted from Thomas Gilovich, *How We Know What Isn’t So* (New York: The Free Press, 1991), pp. 26–7.)