

Quiz #5

Name: _____

1. Name two heuristics we studied, and describe a hypothetical example of someone making an error in judgment when using each of those heuristics. [2 pt; DM Day 2]

1. Events that are more easily remembered as judged as more probable
2. Strong correlation between two events appears to exist, but doesn't.
3. Probability that A is a member of class B is determined by how well properties of A resemble properties usually associated with B.
4. Relative proportions of different classes in the population.
5. Probability of conjunction of two events (A and B) cannot be higher than the probability of single constituents.
6. The larger the number of individuals drawn from a population, the more representative the group will be of the entire population.
7. Tendency for people to generate and evaluate evidence and test their hypotheses in a way that is biased towards their own opinions & attitudes
8. Selectively looking for information that conforms to a hypothesis and overlooking information that argues against it.

9. Availability heuristic - Easily remembered event is less probable
10. Illusory correlation - There is no correlation, or it is weaker than it appears to be.
11. Representativeness heuristic - Presence of similar properties doesn't predict membership in class B.
12. Base rate - Base rate information is not taken into account.
13. Conjunction rule - Higher probability is assigned to the conjunction.
14. Law of large numbers - It is assumed that a small number of individuals accurately represents the entire population.
15. Myside bias (type of confirmation bias) - People let their own opinions and attitudes influence how they evaluate evidence needed to make decisions.
16. Confirmation bias - There is a narrow focus only on confirming information.

There are more we went over, like peak-end effect, loss aversion, and anchoring heuristic. And I could write more here, but we went over this in the review session as well.

2. "If it is the last day of class (LDOC), all Duke students are drunk." Based on the above statement, please evaluate the *deductive inferences* below, by labeling each one as either valid or invalid. [2 pts; DM Day 3]

If p (LDOC), then q (drunk).

valid "It is LDOC; therefore all Duke students are drunk" *p, therefore q (Syllogism 1)*

valid "Not all Duke students are drunk; therefore, it is not LDOC" *not q, therefore not p (Syllogism 2).*

invalid "All Duke students are drunk; therefore, it is LDOC" *q, therefore p.*

invalid "It is not LDOC; therefore, not all Duke students are drunk" *not p, not q.*

3. One of our section themes was about how we can change people's minds. Draw on your readings, podcasts/other SciComm articles, and class discussions to describe two distinct findings about what psychology suggests is the answer to this question [2 pts; DM Day 2]

Stanley et al. (2019): present people with opposing reasons if issue is not too polarizing

Podcast: → STORY-TELLING (Uri Hasson story), synchronization of brains, synchronization was important for INFLUENCE (connecting back to our third day of class on shared attention!!), getting us to *feel* what the story-teller wanted us to feel; → story of positive feedback in the hospital (to get the medical staff to wash hands before/after); → change people's behavior with fear? She mentions when people are stressed out (tapping into their mindset) and when you're trying to get someone to not do something (inaction)

Pennycook and Rand (2018): make sure people are thinking analytically

Can't change people's minds when the issue is something polarizing (like vaccination)

4. One of our class activities focused on applying the decision-making research that we discussed over the course of three days to Science Communication. Describe one concrete application of the research to how you approach Science Communication [1 pt; DM Day 3]

Students can talk about the motivated reasoning paper, making sure to incorporate opposing reasons (i.e., how we've discussed thinking about the long-term validity or limitations behind any research covered).

Students can talk about the anchoring heuristic, and how if you are going to provide people with a number, know that they are going to use that number as a reference point for judging what's in the piece.

Students can talk about the law of large numbers – it could even be their critique of the paper, that the paper is not actually representative of the population.

Students can talk about how people usually read papers and articles with a confirmation bias in mind, so they'll have to take into account when communicating controversial science that some people will already have made up their minds and they'll have to tread carefully to convince others.

They could talk about the peak-end effect and the way stories are organized around peaks and ends anyway (giving the bottom line and so what early and then cycling back at the end to give people a sense of the thematic conclusion). Really, most of the heuristics and decision-making research we discussed can be used or thought of in relation to story-telling.

5. We can reduce errors in eyewitness testimony by doing all of the following EXCEPT [1 pt; False Memory]

- A. Using a sequential line-up instead of a simultaneous line-up, since a simultaneous line-up encourages eyewitness to make relative judgments
- B. Ensuring that the individual administering the line-up does not know if the suspect is in the line-up, preventing the likelihood of confirmation feedback bolstering eyewitness confidence
- C. **Pointing out that someone who looks familiar is likely familiar for a reason, irrespective of whether you actually know why they look familiar**
 - a. **This would be an error in eyewitness testimony due to familiarity, and that would mean that you're encouraging them to rely on a familiarity bias even if you're experiencing a source monitoring error.**
- D. Informing the witness that the suspect may or may not be in the line-up and including people who look similar to the suspect so that there will be fewer misidentification errors of innocent people

6. Which of the following statements on studying false memory is NOT true? [1 pt; False Memory]

- A. Researchers can study false memory by presenting participants with a list of words that are semantically related and then look for whether participants added in non-studied words that are thematically consistent with the others
- B. Researchers can study false memory by testing whether participants notice details inconsistent with an older memory (e.g., childhood) and suggestively questioning participants about what they witnessed
- C. Researchers can study false memory by investigating the conditions under which participants might witness a crime or be subjected to as suspects, such as sleep deprivation and highly arousing scenarios
- D. Researchers can study false memory by taking participants to the scene of a new memory they hope to implant and asking them whether they've been there before**
 - a. All the discussions about implanting false memories have had to do with procedures aimed at implanting realistic details. But none have involved taking participants to the actual scene. They had photographs of people in a hot air balloon, journals about when they got lost in a shopping mall, long interviews with psychologists about memories of their childhood, but not once was it in the same context as the implanted memory.**

7. Compare and contrast what the Pennycook and Rand (2018) (lazy, not motivated reasoning), Fazio et al. (2015) (illusory truth), Grinberg et al. (2019) (fake news on twitter) and Vosoughi et al. (2018) (spread of true and false news) papers suggest to us about misinformation. What makes misinformation spread or makes people believe in misinformation? Give at least two examples. [2 pt; Misinformation]

- Novelty (cc: Vosoughi) – people want to be the ones to share something new
- Age (cc: Grinberg) – older folks were more exposed to fake news in the 2016 election
- Political identity (cc: Grinberg) – conservatives were more exposed to fake news in the 2016 election
- Pennycook and Rand: people who have more analytic thinking end up being able to differentiate between fake and true news more easily
- Illusory truth: people tend to think that things that are more familiar to them are true. They rely on a fluency heuristic.

8. We've read about some suggestions for how to combat misinformation, via Lazer et al. (2018) (scientists summarizing psychology of fake news) and Lombrozo (2018) (interview with one of those scientists). What is one concrete suggestion made for how to combat misinformation? [1 pt; Misinformation]

- Finland: creating a critical thinking program
- Lombrozo: creating a lab culture where people will challenge others in a comfortable way
- Lazer et al. (2018): making lawsuits possible, government interventions, industry-academia partnerships, & more research on fact-checking; individual-level doesn't seem like it'll work as well
- Grinberg recommended watching the folks who spread so much fake news and pairing them with fact checkers, preventing a certain number of posts each day, etc.