5 Key Questions: Evaluating Research and evidence from "research"

Question 1: Who's doing the study?
Question 2: Who are the participants?
Question 3: What causes what?
Question 4: What instruments are used?
Question 5: Can I reason from a single story?

FIVE KEY QUESTIONS TO HELPSTUDENTS EVALUATE STUDIES

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There are two aspects to this question.

1. Do writers or speakers identify the study or studies on which they are drawing? We want our students to be suspicious of arguments that begin with "Research shows." Sometimes such pronouncements are hot-linked. And sometimes those links go to the source study itself while others go to other popular press reports or even to previous articles the author has written. We want to cultivate the understanding that clarity about the source of evidence allows readers to make assessments about whether or the tobacco industry's manipulation of research. (See, for example, Bero, 2005.) The importance of understanding the impact of *a priori* ideological commitments is made clear simply by flipping between news channels that appeal to different ends of the political spectrum as our discussion of cognitive bias in Chapter 2 makes clear.

Question 2: Who are the participants?

We want our students to take a critical look at who the participants are in any study they read. Here are some examples that demonstrate the importance of this consideration:

People of color are underrepresented in biomedical research (Konkel, 2015), which makes us skeptical of many generalizations drawn from that research.

Women in general are underrepresented in research on virtual reality (Peck et al., 2020), so we approach that research skeptically as well.

In contrast, the Pew Study of technology use takes great pains to report that its sample is consistent with the gender, age, education, and race from the U.S. Census Bureau's 2019 American Community, which makes us more open to believing its findings are widely applicable.

Question 3: What causes what?

If students are to be critical consumers of online texts, they have to be aware of one of the foundational concepts of statistics: *correlation does not equal causation*. If Event A and Event B co-occur, A may cause B, B may cause A, C may cause either or both A and B, or the co-occurrence may be coincidental. There are funny examples you can use to illustrate the point. Both crime and ice cream consumption rise during the summer, so obviously eating ice cream causes crime, right?

But confusing correlation with causality can distort public policy debates, too. *USA Today* (Rouan, 2020) recently reported on an Ohio doctor who jokingly posted on Facebook that "My mind is slowly being taken over by the hive mind" after he was vaccinated. He died months later and his Facebook post was published along with his memorial notice by Earthley, a wellness site (https://bit.ly/3TAKsCC), leading readers (read the comments) to conclude that his death was caused by the vaccine, when, as *USA Today* reports, it was caused by an undiagnosed aortic dissection. It may seem rudimentary, but it seems important to us to help our students from leaping too quickly to accept causal claims.

Question 4: What instruments are used?

Many public policy debates are fueled by the results of survey research or polling, and the wording of those questions has a big impact on the results a survey or poll obtains. Bernstein (2020) provides a compelling example, noting that the Trump campaign asked this question during the 2020 campaign: "'Who do you trust more to protect America from foreign and domestic threats?' and offers choices of (a) President Trump or (b) a corrupt Democrat." Not to be outdone, the Democratic National Committee, Bernstein points out, asked voters to enumerate the aspects of the Trump presidency that were most disturbing, in so doing assuming the stance a respondent might take.

Question 5: Can I reason from a single story?

Chimamanda Adichie's (2009) TED Talk "The Danger of a Single Story" makes the compelling point that any single story is inherently incomplete and so robs people of their dignity and humanity. But single stories are regularly used to inform people's understanding of public policy. Ronald Reagan made political hay through his attack on welfare programs made through stories of a "welfare queen." (In 2019, Josh Levin wrote a book exploring the exceedingly complex life of Linda Taylor, the woman on whom Reagan based his characterization.)


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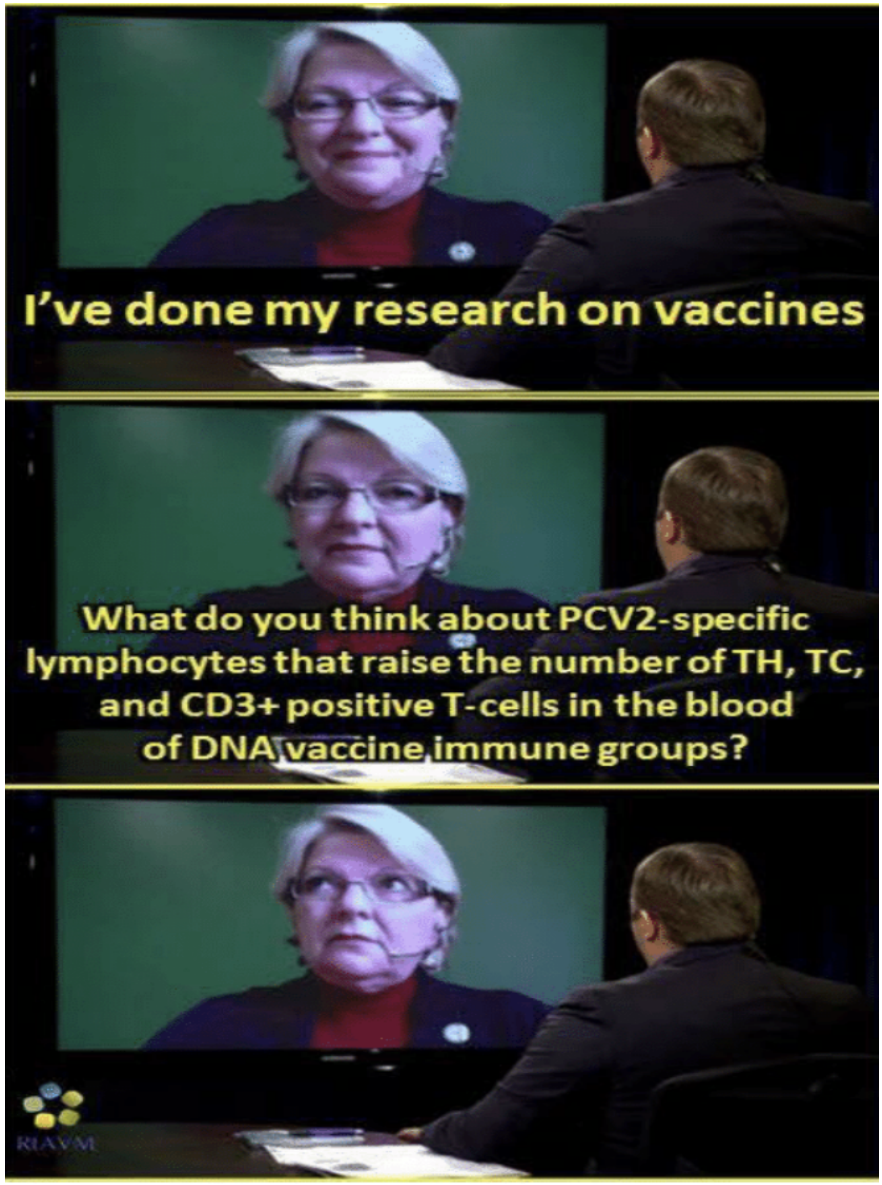
I've done my research on vaccines
What do you think about PCV2-specific lymphocytes that raise the number of TH, TC, and CD3+ positive T-cells in the blood of DNA vaccine immune groups?
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