Numeracy: The Educational Gift That Keeps on Giving

Curious Cat Science and Engineering Blog

I like numbers. I always have. This is just luck, I think. I see, how helpful it is to have a good understanding of numbers. And the costs of not developing a facility with numbers [1] leads to many bad decisions, it seems to me.

A new article published in closed anti-science way, sadly (so no link), examines how people who are numerate (like literate but for number-understand) process information differently so that they ultimately make more informed decisions. Cancer risks. Investment alternatives. Calories. Numbers are everywhere in daily life, and they figure into all sorts of decisions.

People who are numerate are more comfortable thinking about numbers and are less influenced by other information, says Ellen Peters [2] of Ohio State University (sadly Ohio State allows research by staff paid by them to be unavailable to the public – sad), the author of the new paper. For example, in one of Peterss studies, students were asked to rate undergraduates who received what looked like different test scores. Numerate people were more likely to see a person who got 74% correct and a person who got 26% incorrect as equivalent, while people who were less numerate thought people were doing better if their score was given in terms of a percent correct.

People make decisions based on this sort of information all the time. For example, "A lot of people take medications," Peters says. Every drug has benefits and potential risks, and those can be presented in different ways. "You can talk about the 10 percent of the population that gets the side effect or the 90 percent that does not." How you talk about it will influence how dangerous the drug seems to be, particularly among people who are less numerate.

Other research has shown that only less numerate people respond differently to something that has a 1 in 100 chance of happening than something that has a 1 percent chance of happening. The less numerate see more risk in the 1 in 100 chance-even though these numbers are exactly the same.

"In general, people who are numerate are better able to bring consistent meaning to numbers and to make better decisions," Peters says. "It suggests that courses in math and statistics may be the educational gift that keeps on giving."

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