

Do we all understand coronavirus news coverage?

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Since COVID-19 emerged as a global crisis, the news has been dominated by graphs and terms like "R numbers" and "exponential growth," referring to the rate of spread of the disease. To what extent

does the average adult understand the quantitative information appearing in the news? The results of a new study paint a gloomy picture: When asked about "math in the news" items presented to them, even people who had taken advanced mathematics classes in high school did not typically figure everything out, but obtained only an average "grade" of 72/100.

But these advanced learners make up a small minority of high [school](#) graduates. Those who took only the mandatory level of high school math—as over 50% of [high school graduates](#) with official Israeli matriculation certificates tend to do—correctly interpreted much fewer items on average (54/100).

Results were even more troubling for participants who had not passed all the examinations required for the official state certificate. Participants in this group obtained an average "grade" of 44/100—suggesting they didn't understand over half of the items in the questionnaire. This latter group represents about 45% of the total cohort of 17-year-olds in Israel in recent years.

These findings raise concern about the relevance of school mathematics to the real-life needs of most learners and call attention to the importance of providing all learners with mathematics literacy.

The findings emerged from a new study on mathematical media literacy among a representative sample of 439 Israeli adults. The study was conducted by a team of researchers at the Faculty of Education in Science and Technology at the Technion—Israel Institute of Technology during the first wave of COVID-19 cases in Israel (March-April 2020). The researchers were surprised to find a factor that appears to be even more strongly associated with the participants' understanding of mathematical information in the news than the level of math they had taken at school: the participants' self-perceptions as being "good at

math" and the extent they find mathematics useful and interesting. This finding suggests that being afraid of math prevents people from engaging with it when they need it—even if they had learned it at school.

"These results seem to show that school mathematics, especially in its high levels, may prepare adults to understand critical information important for their well-being, such as at a time of global pandemic. However, they also indicate that negative attitudes towards math may significantly hinder adults' engagement with such information," said the study's lead author, Prof. Einat Heyd-Metzuyanin.

"Our findings should trigger some soul-searching in the mathematics education field," she added. "After all, the goal of learning [mathematics](#), for most of the public, is to be able to deal with mathematical information in their daily lives. We should therefore make sure that [high-school](#) graduates leave school with both the cognitive tools for processing mathematical [information](#) around them, and the attitudes and dispositions that would allow them to do so.

Provided by Technion - Israel Institute of Technology

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