

Making Sense of the Math I Read: Teens and Social Media

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BEFORE YOU READ:

1. See the article by Maximina Pérez on pp. 12-13. Note the statements she makes about statistics.
2. Study the chart on p. 11. What surprises you about it? Make several true statements about the data you see in the chart.

Social Media Is Causing a Mental Health Crisis?

I recently read an opinion piece in the *New York Times* that was written by Dr. Vivek H. Murthy, the surgeon general of the United States.¹ In it, Dr. Murthy argues that there should be a warning label on social media to alert parents and young people that social media can be dangerous for the mental health of teens and children. Here's a paragraph from the article:

"The mental health crisis among young people is an emergency – and social media has emerged as an important contributor. Adolescents who spend more than three hours a day on social media face double the risk of anxiety and depression symptoms, and the average daily use in this age group, as of the summer of 2023, was 4.8 hours. Additionally, nearly half of adolescents say social media makes them feel worse about their bodies."

Wow... there's a lot of math in this paragraph. What happens in your brain when you read this? For a lot of people, we just let our eyes slide over numbers and mathematical ideas and we don't really think about them. But it looks like the point of this paragraph is to convince me that there is an emergency. To decide whether I am convinced, I'll have to make sense of the math.



Ask Questions to Get Perspective

Here's one mathematical statement I see in the first part of the second sentence: "Adolescents who spend more than three hours a day on social media face double the risk of anxiety and depression symptoms..." I have questions:

1. Why does it say "more than" three hours a day? Does that mean four hours? Or even more? Or does it mean just a little more than three hours?
2. How much is three hours a day? What do I spend three hours a day on? Does that seem to me like a lot of time to be spending on social media? Some ideas I have about how much three hours a day is:
 - That's almost half of an eight-hour work day.
 - That's quite a bit longer than most movies.
 - That's 21 hours each week.
3. Are a lot of adolescents spending more than three hours a day on social media? How many? Are the teenagers in my life spending more than three hours a day on social media? Am I?

4. What does “double the risk” mean? Does that mean teens who spend more than three hours a day on social media are very likely to have anxiety and depression symptoms? Does it mean they definitely will? What is the risk to teenagers who spend less than three hours a day on social media?

Here is the rest of the second sentence: “... and the average daily use in this age group, as of the summer of 2023, was 4.8 hours.” I have more thoughts and questions:

5. What does average daily use mean? Does that mean every teenager in the country is spending 4.8 hours each day on social media?

6. Who is included in “this age group”?

7. It is now the winter of 2024, so this information is more than a year old. Are teens now spending more or less time on social media? Or is it about the same?

8. 4.8 hours is more than 3 hours. Does that mean most teenagers are at double the risk of anxiety and depression symptoms? 4.8 hours is most of a school day, or more than a fourth of the time I spend awake each day.

There’s even more math in the last sentence: “Additionally, nearly half of adolescents say social media makes them feel worse about their bodies.”

9. What does nearly half mean? Does that mean 40%? 45%? What kind of number would I describe as “nearly half”?

10. Do I think that is a lot? How does that make me feel about teens using social media?

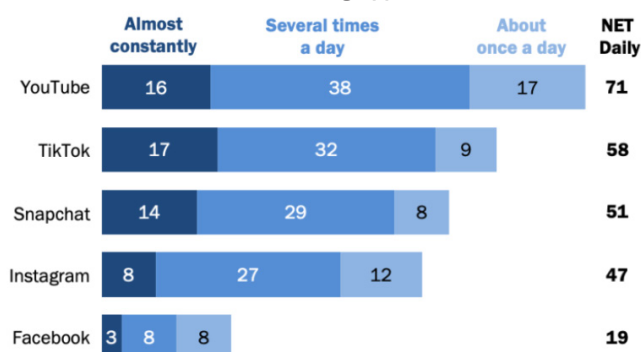
Another big question I have whenever I read statistics in the news is, *where did those numbers come from?* In this article, there are some links in the paragraph and I may find answers to that question and some of my others by clicking on those links.

What Do You Think?

After thinking deeply about the math in this paragraph, do you agree with Dr. Murthy that

A majority of teens visit YouTube, TikTok daily

% of U.S. teens ages 13 to 17 who say they visit or use the following apps or sites



Note: Those who did not give an answer or gave other responses are not shown.
Source: Survey conducted Sept. 26-Oct. 23, 2023.
“Teens, Social Media and Technology 2023”

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there is an emergency? Why or why not?

When we read mathematical information in news stories, it’s often there to convince us of something or to support a point the author is trying to make. It’s important that we think deeply about the mathematical information and ask questions so we can decide whether we are convinced.

Do you have more questions about teens and social media? You might be interested in making sense of the math in this story from the [Pew Research Center](https://www.pewresearch.org/internet/2023/12/11/teens-social-media-and-technology-2023/) that was published in December of 2023.²

Sources: 1. <https://www.nytimes.com/2024/06/17/health/surgeon-general-social-media-warning-label.html>; 2. <https://www.pewresearch.org/internet/2023/12/11/teens-social-media-and-technology-2023/>

AFTER YOU READ:

1. What do you think of the author’s strategy of posing questions to herself to get more perspective on what the numbers mean? Do you find the strategy helpful?
2. Look back at the nine questions she poses and discuss them.

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