



ACTIVITY 4

Looking at Evidence

CARD-BASED INVESTIGATION

People depend on their phones to
access social media.



4 : LOOKING AT EVIDENCE

GUIDING QUESTION

How do existing beliefs affect the way people seek information?

INTRODUCTION

The growth of social media has strongly influenced the speed at which ideas can be spread. The first social media platform to reach 1 million users was MySpace in 2004. Since then, social media usage has exploded, with approximately 5.7 billion user identities in 2025. While a common source for news and health information, social media's impact on society is widely questioned. Researchers are studying whether its effect on people's mental health and well-being is beneficial or harmful. In this activity, you will practice skills for evaluating information as you consider whether or not social media is harmful to teens' mental health.

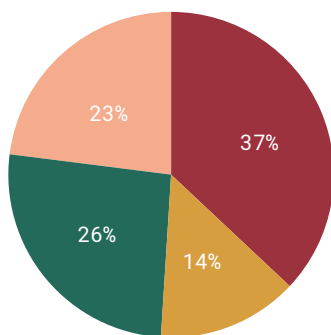


FIGURE 4.1

Time Spent on Social Media

Results of a 2024 survey of almost 1,600 teenagers in the United States.

- 5 or more hours
- 4 to 5 hours
- 2 to 4 hours
- Less than 2 hours

CONCEPTUAL
TOOLS



MATERIALS LIST

FOR EACH PAIR
OF STUDENTS

— SET OF 4 EVIDENCE
FOR CLAIM YES CARDS
(in envelope)

— SET OF 4 EVIDENCE
FOR CLAIM NO CARDS
(in envelope)

FOR EACH STUDENT

— STUDENT SHEET 4.1
“Evidence About
Social Media”

PROCEDURE

PART A: SELECTING SOME EVIDENCE

- 1 Read the following fictional scenario.

Trevor has started to feel sick with symptoms of Southsand fever. Even though he tried green juice to cure his illness, he's not getting better. While he is home sick from school, he spends a lot of time scrolling social media. He keeps seeing more frequent and eye-catching posts from people who are voicing information and opinions about the disease. The more he looks at his feeds, the more anxious he starts to feel about the spread of Southsand fever in his community. He wonders if it would be a good idea to take a break from social media for a little while.

- 2 Consider the following health question: *Is social media harmful to teens' mental health?* Decide which of the following two claims you agree with more.

Claim YES

Yes, social media is harmful to teens' mental health.

Claim NO

No, social media is not harmful to teens' mental health.

At the top of Student Sheet 4.1, “Evidence About Social Media,” circle the claim you selected.

- 3 Follow your teacher's instructions to find a partner who chose the same claim.
- 4 You will be given two envelopes: one labeled “Evidence for Claim YES,” and one labeled “Evidence for Claim NO.” The information on the cards in the envelopes are drawn from actual studies. Pull one Evidence card from *either* envelope and do not look at the other cards.
- 5 Discuss with your partner what the evidence on the card shows and how it relates to your claim. Decide if the evidence supports your claim or helps refute it. Record your ideas on Student Sheet 4.1. Remember to identify the claim you are investigating by circling it at the top of the student sheet.

- 6 Repeat Steps 4 and 5 until you have considered at least three pieces of evidence.
- 7 Discuss how confident you are about your claim, using a scale from 0% to 100%, where:

0% = there is no chance your claim is correct
50% = your claim is just as likely to be wrong as it is to be correct
100% = you are absolutely sure that your claim is correct

Record your responses in your science notebook and then share your ideas with the class.

- 8 Consider if you and your partner engaged in confirmation bias when you selected the Evidence cards. **Confirmation bias** is the tendency for a person to seek out and interpret information in a way that supports their existing ideas. Confirmation bias also leads a person to ignore or undervalue information that does not support their existing ideas and is usually unintentional.

PART B: ANALYZING THE EVIDENCE

- 9 Follow your teacher's instructions to form a group of four with another pair of students who chose the opposite claim. Share your evidence and record the other pair's evidence on Student Sheet 4.1.
- 10 Pull the remaining Evidence cards and record them on Student Sheet 4.1. Read each card and compare how each piece of evidence relates to each claim.
- 11 An effective way to reduce confirmation bias is to engage with an actively open mindset. An **actively open mindset** is a metacognitive thinking approach in which one evaluates source credibility, seeks evidence, and considers alternative explanations.
- 12 In your group, use an actively open mindset to consider all the evidence and alternative ideas. Be open to evidence against your claim. Discuss how your thinking about teen mental health and social media may have shifted by talking with the other pair and evaluating all the evidence.
- 13 Discuss and record in your science notebook how confident you are now about your claim, using a scale from 0% to 100%, where:

0% = there is no chance your claim is correct
50% = your claim is just as likely to be wrong as it is to be correct
100% = you are absolutely sure that your claim is correct

Share your ideas with the class, including how your confidence has increased or decreased during the activity.

- 14 As a class, discuss ways that you could have reduced your confirmation bias when selecting evidence.

BUILD UNDERSTANDING

- ① Recall that in the scenario in Procedure Step 1, Trevor asked himself whether he should take a break from social media. Based on what you learned in this activity, how would you advise him? Support your answer with evidence from this activity and identify the trade-offs of your decision. A **trade-off** is a desirable outcome given up to gain another desirable outcome.
- ② Sometimes confirmation bias results in selectively choosing information that supports a claim. This is called *cherry-picking* because the focus is on the pieces of evidence that support our existing ideas and ignoring those that don't—such as picking the most appealing cherries from a tree. Consider the following story:

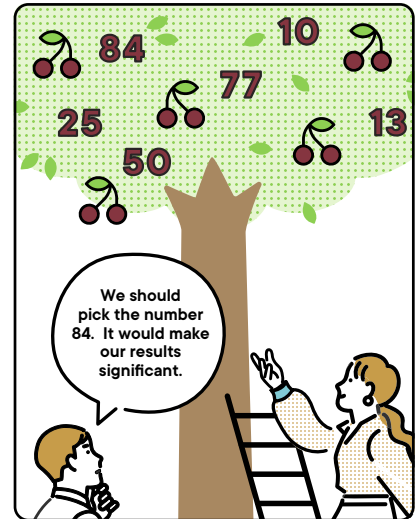
A research team did an experiment to prove that the corn grown locally in Southsand City was making people sick. After conducting the experiment, they found that 20% of their tests supported the idea that the corn could cause disease, while the other 80% did not support it. One researcher on the team decided to present only the 20% of their results that supported their claim.

- a What was the data that the researcher cherry-picked?
- b What are the possible consequences of this cherry-picking?

- ③ Sometimes confirmation bias comes from the tendency to seek out and interpret information in a way that supports an existing idea. This leads to dismissing other interpretations that do not support the existing ideas. Consider the following story:

A local poultry farmer reported symptoms of the Southsand fever. The week before he became ill, he was pecked in the leg by a chicken while working. Later that day, he went to a party where one of his friends was coughing. What could be a biased interpretation of this evidence if you believed that the Southsand fever was transmitted.

- a from person-to-person?
- b from animal-to-person?



This cartoon example shows how selecting only the data points that support your idea is a form of cherry-picking.

CONNECTIONS TO EVERYDAY LIFE

- ④ If a social media app is designed to keep you scrolling by showing you things similar to what you already like, how could this amplify confirmation bias? Explain the possible consequences of this amplification.

EXTENSION

Amanda Yarnell, at the Harvard University Center for Health Communication, leads a research team who aims to improve the quality of mental health information on social media. One promising project encourages influential creators to share evidence-backed insights and solutions. Find out more about Yarnell's research, why it works, and other similar projects. Share your insights with your friends and family.



Social media creators and researchers attend a conference on mental health in 2023.

KEY SCIENTIFIC TERMS

actively open mindset

confirmation bias

trade-off