

2027-03-09 · 80 minutes

Wk8 CER: Bioethics: brain data and consent

Your goal: Debate whether brain-scan data should be used to predict behavior, then post a CER.

One product: One-paragraph CER taking a position on whether brain-scan data should be used by courts or schools to predict future behavior.

Question: Should the fictional school use brain data to predict future behavior, and under what consent and fairness conditions?

Start the work

1. Read E1-E3 and S1; complete the three-method prerequisite and both warmups.
2. List two R1 benefits and two R1 dangers; mark each as a possibility.
3. Debate in the available John Carroll group and note an actual counterpoint, or use labeled C1 solo practice.
4. Draft one CER paragraph using E2, E1, consent, one benefit, one danger and a counterpoint/reply.
5. Post the same paragraph to the confirmed board, save your own-post screenshot, and record unfinished official or access items.

If access is unavailable, save the same paragraph and tell the teacher. When access works, post it and save your own-post screenshot. Follow the official introductory task separately.

Words you will use

brain data

Information recorded about brain structure or activity.

MRI (magnetic resonance imaging)

A method that uses magnetic fields and radio waves to make detailed images; structural MRI shows anatomy.

fMRI (functional MRI)

MRI that tracks blood-related changes linked to brain activity; it is an indirect activity measure.

EEG (electroencephalogram)

A recording of brain electrical activity using electrodes, usually on the scalp.

proxy

An indirect measure used to learn about something else.

prediction

An estimate of an outcome that has not yet been observed.

certainty

The absence of doubt; a risk estimate does not supply this.

informed consent

An informed, understood and voluntary agreement for a described activity; rules depend on the setting.

autonomy

A person's ability to make choices about their own life.

privacy

Control over access to personal information and personal life.

civil liberty

A freedom that protects a person against unjustified interference by authority.

public safety

Protection of people from harm.

fairness

Just treatment, including how benefits, burdens and opportunities are shared.

false positive

A flag predicting an outcome that does not occur.

false negative

A missed flag when the predicted outcome does occur.

accuracy

A measure of how often predictions match outcomes; its definition and test setting must be stated.

base rate

How common the outcome is in the population being considered.

validation

Testing whether a method performs as claimed in the intended use and population.

claim

The position your paragraph defends.

evidence

A source fact or labeled scenario detail used to support a claim.

reasoning

The explanation linking evidence to a claim.

counterpoint

A serious reason that challenges your position.

CER

A paragraph connecting a claim, evidence and reasoning.

stigma

A negative label that can change how others treat someone.

E1: three ways to measure the brain

NIH describes MRI as a way to make detailed images of body structures. Structural MRI can show brain anatomy. Functional MRI tracks blood-related changes linked to activity. It does not record a future action.

RadiologyInfo explains that fMRI detects changes in blood flow associated with brain activity. MedlinePlus describes EEG as a recording of the brain's electrical activity using electrodes. EEG is a signal recording, not an anatomical scan.

An fMRI can be recorded from an individual. It is not itself a group average. Finding a pattern across a research group and predicting one person's future are different tasks. The supplied sources do not validate the school use in S1.

E2: required Brain Diseases fact

MedlinePlus Brain Diseases explains that the brain controls thought, memory, speech and movement. It is part of the nervous system, together with the spinal cord and peripheral nerves.

Use at least one of these facts in your CER and name MedlinePlus Brain Diseases. Explain the limit: the brain's role in behavior does not show that a scan predicts a future choice. This overview supplies no prediction test for S1.

E3: consent and shared burdens

The Belmont Report describes informed consent in human research through information, understanding and voluntary choice. It also asks researchers to consider risks, benefits and fair treatment.

Apply these as ethical questions: What use is explained? Can someone refuse without a penalty? Who gets help, and who bears a wrong flag? This is an ethical comparison with research principles. It is not a ruling about what a school or court may legally order.

S1: fictional school proposal

You advise a fictional school committee. A company proposes using fMRI data to flag students it predicts will leave school before graduation. The committee says it wants to offer extra support before problems grow.

The proposal would require a scan and would let school staff see each flag. It supplies no validation study, error rates, consent process, retention limit or appeal procedure. No scans have occurred. No student records or observed outcomes are supplied.

Choose whether to reject the proposal, permit a clearly changed version under stated conditions, or delay use until named evidence and safeguards exist. These are ethical positions to defend. You may discuss a court instead, but use the same missing-evidence limits and make no claim about actual legal permission.

R1: two possible benefits and two dangers

Benefit B1: if prediction worked for this use, earlier flags might help staff offer support sooner. Benefit B2: the flags might help direct limited support toward people who need it. These are proposed benefits, not demonstrated results.

Danger D1: a false positive could give a student an unfair label or reduce opportunities. A false negative could leave someone without offered help. Danger D2: required collection and broad sharing could weaken choice and privacy. Different error burdens could make the policy unfair.

List both benefits and both dangers in preparation. In your paragraph, weigh at least one benefit against one danger. Explain whether your consent or fairness condition addresses that danger. Consent alone does not make a prediction valid.

C1: serious solo counterpoint

If you oppose S1, consider this challenge: waiting for perfect knowledge may delay useful support; why not allow a voluntary, carefully tested support-only version?

If you support conditional use, consider this challenge: students may feel unable to refuse a school request, and a flag may influence staff even when punishment is banned.

If you favor delay, consider this challenge: what specific evidence or safeguard would end the delay? Reply to the strongest challenge to your own claim. Label C1 as an authored solo counterpart. It is not a peer comment or a recording.

X1: the hypothetical 70-percent claim

Optional harder case: suppose someone says a scan is 70 percent accurate at flagging risk. This is a hypothetical claim, not a study result. Ask what accuracy means, which outcome was tested, in which people and over what time.

Overall accuracy means the share of all classifications that are correct. It does not by itself give the chance that a flagged person will have the outcome. That also depends on how common the outcome is and the kinds of errors.

Defend whether 70 percent would be enough for a specified action, such as offering voluntary support versus restricting an opportunity. State what additional error and fairness information you would need. Do not turn 70 percent into certainty about any individual.

Warmups, discussion and recovery

First list what MRI, fMRI and EEG measure using E1. Then name one measurement and one category of information a fictional person might want kept private. Do not share a personal medical history.

For the second warmup, answer whether the fictional school should request a scan in the name of safer hallways, with one reason. Treat improved safety as a proposed goal, not a proven effect.

If the John Carroll group meets, debate the proposal and record the strongest counterpoint actually heard. If absent or the group is unavailable, use C1 and label the solo route. Do not claim attendance or invent a speaker.

If the debate moves too fast, write two recovery sentences: what one method measures, then why use without consent would or would not be fair. Continue to the full CER when able; two sentences alone do not complete the paragraph product.

No recording is supplied or required today. If the teacher assigns a recorded exchange, ask for access and watch the actual recording before discussing its contents. Written C1 does not count as watching.

Build one paragraph and check its limits

Write a claim naming your policy position. Add an E2 MedlinePlus fact and an E1 measurement fact. Link the facts to S1; weigh one R1 benefit against one R1 danger. Address consent using E3.

Name the strongest real counterpoint or labeled C1 counterpart and answer it. Close with a boundary: what your evidence cannot establish or what must be verified before use. Keep this as one CER paragraph, with preparation notes separate.

Self-check: a fictional prosecutor says an fMRI proves a person is dangerous. The error is treating a measurement or prediction as certain future behavior. No validation for that claim is supplied. The scan need not be fake for the conclusion to be unsupported. This is no claim about an actual court case.

Restart by returning to S1 and writing one claim. Use E1 and E2 to support a limited sentence, then add a benefit, danger and counterpoint.

Submission, official work and weekly holds

Use the confirmed class board to post your own paragraph and save a screenshot of your own post for the evidence packet. The async route requires the same paragraph and a fact from MedlinePlus Brain Diseases. Do not capture other people's posts or private information.

The assignment title is Wk8 CER: Bioethics: brain data and consent. Section 1292 uses assignment 8544576669 and section 6792 uses assignment 8544576690. Confirm your section and route with the teacher. If access is unavailable, save the paragraph and tell the teacher. Capture your own post after the board opens.

Today's official work opens Lesson 2.1 with the Activity 2.1.1 Mind Matters introduction, which asks for a brain-region fact. Ask the teacher to identify the assigned portion, required fact and stopping point. E2 does not replace the fact required by the official task or evidence from doing that task.

The weekly benchmark is online evidence through Activity 2.1.2 Mapping Brain Function by Friday, plus the Brain structure-function check, tracker and weekly evidence. The brain dissection or virtual lab and teacher-posted data/model packet are separate. None is completed by this CER.

Today is Tuesday, March 9. No homework is due before this class. The weekend Submit rehab evidence item in Class Records remains separate, with no duration supplied. Describe only group exchanges that occur. Use the assigned recording and keep evidence from official work and your own board post separate.

M1: different-question model, library access

Original fictional model: a library wants to use a prediction from past borrowing patterns to deny future access to books. No test of that prediction is supplied.

Worked claim: I would delay denial of access until the library can justify the prediction and a fair review process. Earlier notice might help recover books, but a wrong flag could deny someone a useful service. A pattern is not a certain future action. A supporter may argue that losses affect all readers; I would answer that reminders could pursue that goal without immediate denial.

Transfer the structure: policy choice, potential benefit, error harm, serious challenge and bounded response. This model supplies no brain fact. Use E1, E2 and E3 for your own S1 paragraph.

Try the decision

Which statement stays within E1 and the evidence supplied for S1?

- The proposal needs validation for its intended use; a brain measure does not prove a future choice.
- Because the brain controls behavior, this scan proves who will leave school.
- An fMRI is only a group average, so no individual can ever have an fMRI.

Explain your choice using the reading. Discuss it or say it to yourself. This practice does not add another submission.

Your 80-minute flow

0–5 minutes	Use E1 for prerequisite and both brief warmups.
5–20 minutes	Read definitions and cards; list two benefits and two dangers.
20–40 minutes	State claim, compare positions and record strongest counterpoint; use C1 if alone.
40–55 minutes	Plan E2/E1 facts, consent reasoning and reply.
55–75 minutes	Write, revise and post paragraph; save your own screenshot, or tell the teacher if access fails.
75–80 minutes	Answer prosecutor self-check and state the most important evidence limit.

Your response record

Use these labels on paper or in your document. The space below also works when this page is printed.

Three methods and two warmups

Use E1 to list MRI, fMRI and EEG measurements. Answer both warmups with fictional information categories and one reason.

E1 supplies all three methods. Do not disclose a personal health history.

Use this space or the same labeled section in your existing document. Add paper when your table, graph or drawing needs more room.

Two benefits and two dangers

Record B1, B2, D1 and D2 from R1 in your own words. Choose the benefit and danger that matter most to your S1 position.

Use if, could or might for untested outcomes. State whose interests are affected.

Use this space or the same labeled section in your existing document. Add paper when your table, graph or drawing needs more room.

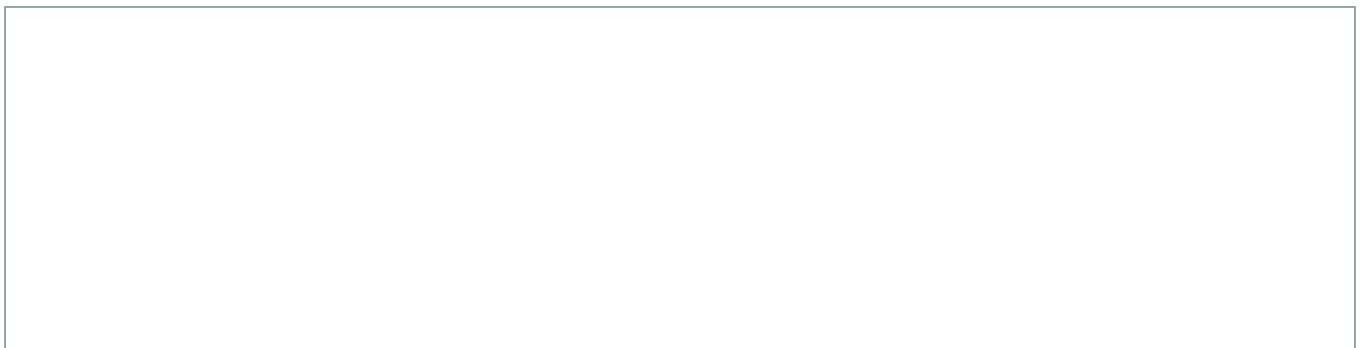


Claim and strongest counterpoint

Write one claim. Record the strongest counterpoint actually heard in the group and your response, or label your selected C1 counterpart as solo practice.

M1 models a serious reply. Do not invent peer speech or a watched recording.

Use this space or the same labeled section in your existing document. Add paper when your table, graph or drawing needs more room.



One-paragraph predictive brain-data CER

Write the exact paragraph product for S1. Include an E2 Brain Diseases fact, E1 measurement fact, consent reasoning from E3, one R1 benefit and danger, and counterpoint/reply.

Use M1's reasoning structure. Reject, conditionally allow or delay with reasons; your ethical preference is not the grading criterion.

Use this space or the same labeled section in your existing document. Add paper when your table, graph or drawing needs more room.

Post, screenshot and evidence limit

Check the prosecutor claim using E1 and S1. Post your paragraph on the confirmed board and save your own-post screenshot. Tell the teacher which page or official-task directions you need.

If the board will not open, save your work and tell the teacher. Capture your own post after access works. Two-sentence recovery remains labeled partial work.

Use this space or the same labeled section in your existing document. Add paper when your table, graph or drawing needs more room.

Check your product

- I distinguish MRI, fMRI and EEG measurements from a future-behavior prediction.
- My preparation contains two possible benefits and two dangers.
- My one-paragraph CER cites E2 and E1, reasons about consent and weighs a benefit against a danger.
- I respond to a real or clearly labeled solo counterpoint without inventing participation.
- I retain the board post, own screenshot and official-work holds.

Keep the limit: S1, C1 and M1 are original fictional teaching inputs. They cannot establish prediction performance, future action, legal authority, group attendance, official completion or clinical outcomes.

Turn in your work

Post one CER paragraph to the teacher-confirmed class board and save your own-post screenshot for the evidence packet under the exact assignment title. Confirm your section.

If access is unavailable, save the same paragraph and tell the teacher. When access works, post it and save your own-post screenshot. Follow the official introductory task separately.

[Section 1292: Wk8 CER: Bioethics: brain data and consent](#)

[Section 6792: Wk8 CER: Bioethics: brain data and consent](#)

Carry forward

A brain measurement needs evidence for its proposed use; a prediction does not settle a person's future.

Use the difference between a measured structure and an inferred function when examining brain regions on Thursday, March 11. Which brain-region claim is supported by the measured structure rather than inferred function?

Sources and resources

[Open today's page](#)

MED-BRAIN · Brain Diseases

MedlinePlus, National Library of Medicine

<https://medlineplus.gov/braindiseases.html>

NIH-MRI · Magnetic Resonance Imaging (MRI)

NIBIB, National Institutes of Health

<https://www.nibib.nih.gov/science-education/science-topics/magnetic-resonance-imaging-mri>

RAD-FMRI · Functional MRI (fMRI) of the brain

RadiologyInfo, American College of Radiology and Radiological Society of North America

<https://www.radiologyinfo.org/en/info/fmribrain>

MED-EEG · EEG

MedlinePlus Medical Encyclopedia

<https://medlineplus.gov/ency/article/003931.htm>

BELMONT · Read the Belmont Report

HHS Office for Human Research Protections; report April 18, 1979

<https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/read-the-belmont-report/index.html>