Lesson 9: How can we use what we know to critique misinformation about racial disparities?

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Robin and Taylor Apply What They've Learned

Robin: We learned a lot in this unit, but I'm pretty sure lots of people still have misunderstandings about what causes the inequalities we see between racial categories. I should know since I originally thought some of these things were true. And I realize now that just because someone knows some science or refers to a study, it doesn't mean the conclusion they draw is necessarily accurate! It's still really common for them to have reasoning errors in how they use that science to support their claims.

Taylor: Now that we know the science, and know how to avoid these common reasoning errors, we can use that knowledge to argue against these kinds of racist claims.

Robin: I didn't realize it at the time, but those misunderstandings can too easily be used to support racist policies.

Taylor: Yeah, that worries me, because people use their understanding – or misunderstanding – of science to make a lot of decisions. If people believe the incorrect idea that "genes explain inequalities between racial groups," they will think there's nothing we can do to change these disparities to make the world a fairer place.

Robin: I found this post online last night that said pretty much exactly that. It's from a person who is talking about race and genetics, but they're saying a lot of things that we've just learned are false and given what we just learned, I was immediately skeptical. Take a look.

Taylor: Oh yeah this post is definitely incorrect. If someone I knew said this, I think I'd want to address it. I bet we could refute the claims in this post pretty well at this point too. We could use what we've learned to argue against these incorrect ideas. Let's keep our checklist handy so we can point out these errors wherever we see them.

Countering inaccurate claims about race and genetics

Robin and Taylor found a post on social media. The post makes claims about differences within and between groups and how this should affect policy decisions. While it is an opinion about policy, this post draws evidence from a popular science article that cites real scientific studies to support its claim. Based on everything we know from this unit, the claims made by this person are inaccurate. How would you critique the claims made by this person?

Instructions:

1. **On your own:** Read "Intelligence and DNA," which is an excerpt adapted from a popular science article.
    a. **On your own:** Underline the 3 key findings discussed in the article.
    b. **With a partner:** Turn and talk to take turns explaining what each means in your own words.
    c. **With your class**: Be prepared to share yours and your partner's ideas about the 3 main findings to help your class make sure they understand the article.

2. **On your own:** Read the social media post that Robin and Taylor found by "AnonymousUser1."
    a. **With your partner:**
        i. Identify any inaccurate claims that AnonymousUser1 made that are about the ***amount of between-group difference*** **between racial groups** and highlight or underline those in orange.
        ii. Identify any inaccurate claims about ***between group differences being mostly caused by genes*** and highlight or underline those in blue.
        iii. Identify any inaccurate claims about ***intelligence being fixed*** (that it doesn't change over time) and highlight or underline those in green.

3. **With your partner**: copy any claims you highlighted into the relevant boxes found below the post.

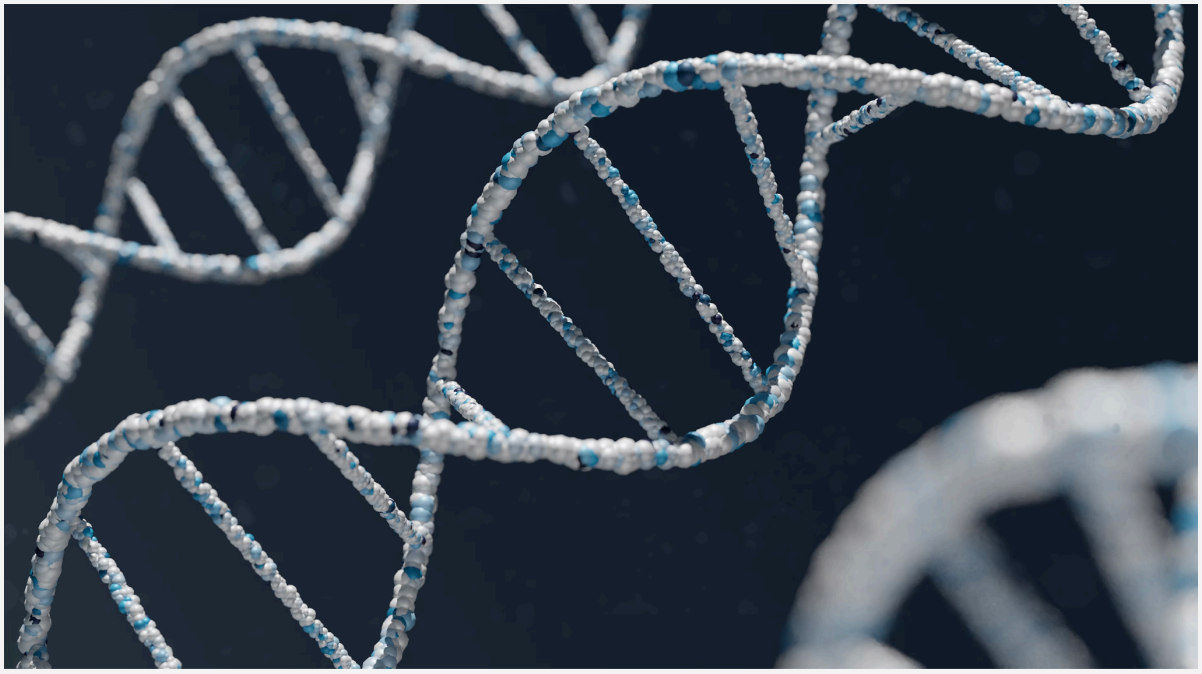
4. **With your partner**: look through the evidence cards to identify any Evidence Card(s) from this unit that contradict the incorrect claims you identified.

5. **With your partner:** Complete the table in "*Critiquing an Argument with Our Reasoning with Evidence Checklist.*"

6. **On your own:** write an argument that critiques the incorrect claims from the online post.
    a. Use evidence from the unit in your response and list the evidence card you got it from (format: L_: Card _).
    b. Mark critiques based on the Checklist with the name of the error(s) in ( ) at the end of your statement. (e.g. "misinterpretation," "cherry-picking," "overextension.")

Intelligence and DNA

In a study published in the scientific journal *Nature Genetics*, a team of scientists from around the world analyzed the DNA sequences of a large sample of people for correlations with general intelligence, as measured by IQ tests. The researchers investigated DNA sequences looking at any variations. Of the millions of variants investigated, they found 336 variants correlated with intelligence which were located in 22 different genes. The authors concluded that the results "provide starting points for understanding the molecular neurobiological mechanisms underlying intelligence, one of the most investigated traits in humans." However, the researchers noted that these variants explained only 4.8% of the variation in IQ scores in the study, and the rest was the result of unknown causes.



Other studies have found links between genes and intelligence as well. In one of these studies, researchers looked for genetic differences specifically between people with average IQs (with scores around 100) and people with very high IQs (with scores around 170). They found genetic variations between these groups that explained 33% of the reason a person was in the high IQ group. While there is still more to learn, knowledge gained from these kinds of genetic studies may one day be used to identify children at risk for developing cognitive deficits and early interventions that could potentially reduce that risk.

Adapted from:

- Intelligence and the DNA revolution by Alexander P. Burgoyne and David Z. Hambrick, *Scientific American*, 2017.

- Plomin, R., & Deary, I. J. (2015). Genetics and intelligence differences: five special findings. *Molecular psychiatry*, *20*(1), 98-108.

AnonymousUser1

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Many people have proposed policy changes that they hope will help reduce racial “achievement gaps” between White and Black people in things like test scores and representation in STEM careers. I recently read the article “Intelligence and DNA” in a popular science magazine, and I think the science of genetics shows why these policies won’t work. In the article, they report on scientific research that shows strong links between intelligence and DNA, which I think explains racial achievement gaps. The article mentioned a study that found 22 different genes connected to intelligence. Human races clearly differ dramatically in physical traits such as skin color, which have a clear genetic basis. Therefore we must also differ in the genes that affect our cognitive traits. Therefore, it makes sense that White people would have more of these genes and Black people would have fewer of these genes. These genes must explain racial differences in academic achievement.

Of course, some people suggest that differences in environments across groups is what causes these discrepancies in intelligence. However, another study from the “Intelligence and DNA” article found that people with certain genetic variants have 33% higher IQs than people without those variants. This means multiple studies are showing that genes can explain intelligence differences between people, and therefore between races as well. 33% being genetic means that the environment could also certainly play a role in the differences between races. But historical societal impacts like segregation have ended, so racial bias is non-existent now. That means that since we still see disparities in IQ, these must be due mainly to genetics, not environment. It seems that IQ is relatively fixed, and can’t change.

Traits like intelligence have the ability to affect important aspects of our lives such as our income and educational attainment. But I think it doesn’t make sense to waste time on any policy that aims to close these intellectual “achievement gaps” because changing the social environment cannot possibly overcome or undo the underlying biology.

With a partner: Did AnonymousUser1 make any claims about the ***amount of between-group difference*** **between racial groups**?

- If so, write those orange highlighted or underlined claims here.
- Then, note any evidence from evidence cards that you could use to help critique these claims.
- Use the format (L_: Card _) to refer to specific evidence cards.

Claim(s)	**Evidence card(s) that contradict this claim**

With a partner: Did AnonymousUser1 make any claims about ***between group differences being mostly caused by genes***?

- If so, write those blue highlighted or underlined claims here.
- Then, note any evidence from evidence cards that you could use to help critique these claims.
- Use the format (L_: Card _) to refer to specific evidence cards.

Claim(s)	**Evidence card(s) that contradict this claim**

With a partner: Did AnonymousUser1 make any claims about ***intelligence being fixed***?

- If so, write those green highlighted or underlined claims here.
- Then, note any evidence from evidence cards that you could use to help critique these claims.
- Use the format (L_: Card _) to refer to specific evidence cards.

Claim(s)	**Evidence card(s) that contradict this claim**

With a partner**:** Complete the table.
Discuss each item then write your own response.

Critiquing an Argument with Our Reasoning with Evidence Checklist	
Error from Checklist	**Critiques**
Misinterpretation	

Cherry-picking	
Overextending	

Individually: Write an argument that critiques the incorrect claims from the online post.

- Use evidence from the unit in your response and list the evidence card you got it from. Use the format (L_: Card _) at the end of the sentence where it is referenced.
- Mark critiques based on the Checklist with the name of the error(s) in ( ) at the end of your statement. (e.g. “misinterpretation,” “cherry-picking,” “overextension.”)