

The IQ Question

Blithering Genius

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1 Nassim Taleb's Propaganda On IQ

Recently there has been a bit of a debate in the heretical discourse space about IQ. Debates over IQ have been going on in the background for years, since the invention of IQ testing. So, this recent debate isn't a new thing — it's just a new iteration of a perennial debate. The latest iteration was started by Nassim Taleb, who declared that IQ is bullshit. He also declared that psychology is bullshit.

See [IQ Is Largely A Pseudoscientific Swindle](#).

Is Taleb right? Is IQ bullshit? Is psychology bullshit?

I will briefly answer the question about psychology, and then talk about IQ in more detail.

Psychology is not bullshit, but there is plenty of bullshit in psychology. However, there is also plenty of bullshit in every scientific field, including the "hard" sciences such as physics and biology. To dismiss psychology as a field because of bullshit psychology would be like dismissing chemistry because of alchemy. We can and should develop theories of how the brain works and how human behavior is determined. We are making progress in that direction, in spite of bullshit psychology.

2 IQ And Muscle Strength

Now for the IQ question. IQ is not bullshit, but there are many misconceptions about it.

What is IQ? People often say things like "My IQ is X" or "You obviously have a low IQ". (I sometimes say things like this.) Such statements presume that intelligence can be measured by an IQ test in the same way that height is measured by a ruler.

When talking about traits, we need to distinguish between three things:

- A phenotypic trait, such as height or strength.
- A metric that is used to “measure” the trait.
- The genetic potential for the trait.

Some traits, such as height, are simple and one dimensional. We can measure height by putting a ruler next to a person, and there is almost no ambiguity or arbitrariness about how to measure it. For height, the distinction between the measurement and the trait itself is not very important. But what about a complex multi-dimensional trait, such as strength?

We could measure strength with a single exercise test, such as bench press. But that would only test the strength of certain muscles, and the choice of a test is arbitrary. Instead, we could design a test that involves multiple exercises, such as squats, bench press, pull-ups, deadlifts, etc. But that would also be arbitrary to some extent. We could design many such tests and they would produce different results. It is likely that the results of different tests would be correlated, and we might call that correlation the “g factor” for strength. But the tests would still be somewhat arbitrary.

That raises the question of what we are trying to measure. A strength test measures some set of effects: performance on different exercises. Those effects have multiple causes, such as:

- The strength of the muscles involved in the exercise.
- Whether the muscles are fatigued from recent activity.
- Whether the person had a good breakfast.
- The motivation to excel at the test.
- Experience doing the exercises on the test.

The causes combine to produce an effect. Only one of the causes is what we view as “strength”, and it is specific to the muscles involved in the exercise. We can’t measure a generic notion of “strength”, even if we could define it. A test only measures performance on the test.

There is also the difference between the innate potential for a trait and the trait itself. We might be interested in the innate potential for a trait, but we only have access to the trait itself, or to some effect that is partially caused by it, such as performance on a test. For example, a person might have the innate potential to be very strong, but do poorly on a strength test because he never goes to the gym.

For a complex trait such as strength, we need to distinguish between the genetic potential, the phenotypic trait and a metric. They are related as follows:

- The phenotypic trait is caused by genetic potential and other factors.
- The metric is caused by the phenotypic trait and other factors.

This applies to IQ:

- Mental abilities are caused by genetic potential and other factors.
- IQ test performance is caused by mental abilities and other factors.

Why does this matter? Because people have a tendency to collapse those three things into one thing. People think of IQ as a simple measure of intelligence, not as a somewhat arbitrary test score. They equate IQ with the genetic potential for intelligence. That is a bit misleading, because

an IQ score is just a test result that occurred on a specific test under specific conditions. It is just a measurement of a metric. IQ depends on intelligence to some extent, but it is not equivalent to intelligence.

3 Limitations of IQ

If you practice taking IQ tests, you will almost certainly increase your IQ score on similar tests. Would such practice make you more intelligent? Or would it just reallocate some of your intelligence to the types of problems that are found on IQ tests? Probably the latter.

IQ tests don't measure all the mental abilities that contribute to our intuitive concept of intelligence. IQ does not depend on long-term memory, creativity, curiosity, or the ability to learn from experience. It does not depend on the mental processing involved in physical abilities, such as throwing a ball or running around obstacles, which might be considered a type of intelligence or an expression of intelligence.

IQ doesn't measure intelligence, and we don't even have a clear definition of intelligence. IQ measures performance on certain tests. Performance on those tests is partly determined by mental abilities. Those mental abilities are partly determined by inherited genetic potential. Not all mental abilities are tested by IQ tests. "IQ" is not a synonym for intelligence, although it might sometimes be convenient to pretend that it is.

4 Why IQ Is A Useful Metric

Having said all that, IQ is a very useful metric. Why? Because it has predictive power. IQ is correlated (positively or negatively) with many other things, such as educational attainment, income and criminality. At the level of countries, average IQ correlates with per capita GDP. I haven't done the analysis, but I would bet that it also negatively correlates with homicide rates. IQ is a useful metric because we can measure it with standardized tests and use those data to generate explanations and predictions.

Some people view IQ testing as immoral or unfair, typically for one of two reasons:

- It selects people based on a test, rather than their ability to do a job.
- IQ statistics could be used to justify "evil" policies or attitudes, such as eugenics or racial prejudice.

Regarding the first, there are good reasons for using tests to select people for certain jobs. For example, we don't select heart surgeons by letting them try heart surgery and seeing how well they perform. We test them in various ways before we allow them to do heart surgery. Standardized testing is a very useful tool. We can use specific tests of domain knowledge and problem-solving to select people for jobs, but those are still tests, and they will be highly correlated with IQ.

Regarding the second, it is an appeal to consequences fallacy. It is not only irrational, it is dangerous. Ignoring the truth is more likely to have negative consequences than accepting the truth and dealing with it.

To summarize, IQ is a useful metric as long as you understand what it is and what it isn't.

Someday I might write a post on the more difficult question: what is intelligence?