Ask A Genius (or Two) 68 - Conversation on Genius (5)
Scott Douglas Jacobsen, Rick Rosner, and Marco Ripà
January 24, 2017

Scott: What about the far future of intelligence testing? Not simply the verbal, mathematical, and spatial ones, or the culture fair/non-verbal ones, but things using advanced technology such as brain scans, and then you can give a rough estimate, the person takes the test and they get a rough estimate akin to those taken from pencil-and-paper tests.

Marco: I prefer non-verbal tests rather than verbal because the verbal tests are not so G_f (Fluid Intelligence), using Spearman's definition.

Scott: Right, right.

Marco: However, you can mix the items on the test for a more accurate score. In my opinion, the best test, for verbal, is the WAIS-IV. It is the most complete test. It is the best test, even though it is not G_f loaded. You are not measuring pure IQ. You are measuring IQ as a potential and concrete skills. It is the best test to predict scholastic achievements, good work, and so on. Different tools for different measures.

Scott: Rick, you had something to say.

Rick: One problem with tests now is they are time consuming. IQ tests were initially designed to be fairly blunt instruments to see if kids need extra help in school. The first IQ scale went from 1-5. 1 and 2, you need help because you're not mentally gifted. 3, you're fine. 4 and 5, you need extra help because you might be mentally gifted. Then the Americans took over and put it on a 100-point mean scale. There is a question if you need to make a difference between an IQ of 138 and 162. According to the 1-5 scale, there's not an effective difference between those IQs because those kids, the 138 IQ kid and the 162 IQ kid, are going to be bored in class and will need extra stuff.

But if you want to differentiate between 148 and 178. Somebody is going to have to sit down and take a long test or a tough test. That means, you miss people because a lot of people are like "That's not my thing. I'm just going to do my stuff. I don't care whether to know my IQ. I seem to have done okay in school. I haven't had trouble in any of the classes I ever took. So, I am okay knowing I have this level of effective smartness. I don't need to take an IQ test, and spend many hours practicing and taking IQ tests."

Another problem with the history of IQ tests is they are external. You measure somebody's thinking product. That's not how we measure how good computers are. We look at their guts, their circuitry, and how they're arranged. We come up with, more or less, exact numbers on the number of computations per second. In the future, as we figure out how to look inside brains better, and in the medium and far future, our brains will become more linked to external measures of computation. The measures of thinking will be these power numbers based on what's actually going on in the brain-machine combination.

IQ tests are behavioristic. In the 1930s, there was behaviorism. Scientists looked at brains. They thought, "It is too hard right now. Let's measure or analyze the output." It's like IQ tests. In the future, we'll have a better understanding of the mechanics of brains and computing. We'll have power numbers.

Marco: We have focused on only the development of the dynamic IQ test. It is the same thing as Raven's Matrices. Each time, you have a different test using different parameters with a different set of solutions related to the matrices. However, the norm is stable. It is stable from test-to-test. We can develop a very large number of tests. It is about 100 billion different tests using a set of ~2,500 different figures for every cell of the matrices. You can get a very large number of different tests.

Rick: What Marco is doing important, for a number of reasons, it is hard for people to cheat because everybody gets a different test.

Marco: You can cheat on this test because every time you will see a different test, and the order of the items will be partially mixed, but it is not so easy to explain.

(Laugh)

Rick: It means people can't share answers. You will get different problems the person before you. Like the tests in the past, like the Mega Test, it only had 48 answers. As the Internet came along, those answers became available to people who could search them.

Marco: Every test has a matrix. Every cell of the matrix can be ~2,500. If you combine the basic shapes, square, equilateral triangle, and circle, combining two of these figures, you can create about ~2,500.

Rick: That's nice, and elegant. Another reason the technology you're developing is important is because you can tailor the tests to people's abilities. In America, for example, the SAT is somewhat tailored to the test-taker's previous performance on the test. If you get some right, the SAT gives you harder problems. If you get some right, some wrong, you get some harder and some easier problems. If you get some wrong, you get easier problems. Somebody bright doesn't have to work through 80 problems and get 78 of them right to get a result. Instead, that person might get to work through a representative sample of the easy problems, then move on to harder problems, so that in a test window you can get a more personally tailored test and a more accurate representation of that person's abilities – and not make them do a bunch of busywork. You can tailor to somebody who is not so good, too.

Marco: My problem is the norm. It would be harder to norm the test that way. It would be interesting to create a test that made the difficulty in the middle part of the test based on your result in the first part of the test.

Rick: The purpose of IQ tests should be to give you results that can be used in things you can do in the rest of life, as with every tests. "You're good here. You're not so good here. You might

think of doing this or this. You might think of exploring these areas of endeavour that seem to mesh well with your skill and interest set."

Marco: I can't spoil our goal...Our main goal is to use our test to create a test that you can use to see if your IQ or abilities in that field are increasing or not, or if they are dropping below a certain standard. So, it can be used to help you. It can be used to see if a young boy, for example, has abilities and so on. Also, the test is cheat-free. You cannot cheat in a dynamic test, especially if you take a dynamic test and are supervised.

If there is somebody watching you taking the test without your computer with you, you can't cheat on this test. I can imagine in the future somebody can develop a program that will solve and recognize the figures. It will solve the matrices. A computer could help in this way. It would be hard to create this program. It is possible. If you take the test, and if it is supervised, it is possible to cheat. But this is online, you could take the test using a computer. But if somebody watching you take the test on this computer, it is fine.

Rick: There is a growing industry of practice games and drugs that claim to help people become smarter. There's a lot of, I think, competence anxiety in the world today because, among other things, automation is removing work areas that don't require much in the way of thinking skills. The world itself keeps becoming faster, more complicated, and people want to be able to keep up. It used to be said that things like the SAT, IQ, and intelligence were a lone number. Also, it stayed the same throughout life and couldn't change it.

Now, the philosophy is that with practice, good nutrition, and supplementation could help people become smarter. Your test, Marco, by providing a baseline where people can take the test over, and over, and it has the same set of norms. People can see if there is any sort of improvement going on. Now, it is improvement on the test, but is it improvement in general or on general intelligence? For every test or task on the test, there's probably some analysis to be done: Is this an improvement in specific skills or is this an improvement in general skills?

Marco: For improvement, in the specific abilities, it will be high, by definition, if we put it in comparison with the improvement in general cognitive abilities of the person, but this improvement wouldn't be so high. So, if the test is different every time, you can take about 10, or a standard deviation, of improvement from the initial standard. Another issue, I think, is we need to adopt tests to be sure somebody isn't cheating, taking drugs, for the test. It is strange. If you're talking about IQ tests, I arrange the test, then okay. If you're using the test in school to monitor the drop in abilities under a given standard, time-by-time. Also, you can use the same test. For example, every 6 months, you can use the same test to see if a male of about 80-years-old is losing their ability to solve a given item. If so, they might have Alzheimer's.

Rick: Also, it can be used for fun. People might use it over and over again to see if they can improve.

Marco: It is an addicting game. Some people have written about 10 tests. Somebody bought 10 tests at a time. I don't know if he ever expressed a big improvement.

Authors

Scott Douglas Jacobsen
Editor-in-Chief, In-Sight Publishing
Scott.D.Jacobsen@Gmail.Com
In-Sight Publishing

Rick Rosner
American Television Writer
RickRosner@Hotmail.Com
Rick Rosner

Mr. Marco Ripà
marcokrt1984@yahoo.it
sPIqr Society
DynamIQ - Dynamic IQ Tests Online
Marco Ripà