

Technical Aptitude: Do Women Score Lower Because They Just Aren't Interested?

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Boys do better on tests of technical aptitude (for example, mechanical aptitude tests) than girls. The same is true for adults. A new study published in [*Perspectives on Psychological Science*](#), a journal of the [*Association for Psychological Science*](#), describes a theory explaining how the difference comes about: the root cause is that boys are just more interested in technical things, like taking apart a bike, than girls are.

Aptitude tests are used to predict how well people will do in school and on jobs. These tests focus on particular skills or kinds of specific aptitude, like verbal or technical aptitude. But the last few decades of research have found that what really matters is general intelligence, not specific aptitudes, says Frank Schmidt of the University of Iowa, author of the new paper. “The factors that are measured by the specific aptitude tests independent of the general intelligence component in these tests don’t make any contribution to job performance.” Smart people, researchers have found, are able to learn the requirements of any job if they are motivated to. And research shows that men and women do not differ, on average, in general intelligence.

Technical aptitude measures are often used as a component of general intelligence measures, so Schmidt wanted to know why women and men score differently on technical aptitude in particular. He analyzed data from the 10 subtest Armed Services Vocational Aptitude Battery, or ASVAB, to look at how men and women differed on the tests, including those on technical aptitude. He found that at all intelligence levels women score lower on technical aptitude than men at that intelligence level. Also, at all levels of technical aptitude women had higher levels of general intelligence. So if technical aptitude tests are used as part of a measure of general intelligence, women could receive intelligence scores that are too low. That is, technical aptitude tests may be biased indicators of general intelligence for girls and women.

Schmidt presented a theory that posits that this difference stems from sex differences in interest in technical pursuits, which leads people to acquire technical experience, which in turn increases technical aptitude scores. He presented evidence that among men technical experience does lead to better scores on technical aptitude tests. To find out for sure, someone would have to do a long-term study looking at whether early interests develop into later aptitudes, as opposed to the opposite theory that aptitudes cause interests. If his theory is right, it might be possible to narrow the gap in technical aptitude by getting girls more interested in technical areas. Interest should lead to aptitude. But that may not work, Schmidt says. “The research shows it’s very hard to change people’s interests,” he says. “They’re pretty stable and they form pretty early in life.”

It’s more important, he says, to make sure that the tests used to measure general intelligence aren’t using biased indicators. “That is quite possible today. You can either not use technical aptitude tests or you can use them and counterbalance them,” he says, with tests that women tend to do better on, like perceptual speed or some verbal tests.