FOCUS ON
PSYCHOLOGY

Are We Smarter than Our Parents?

Most kids tend to think that they're smarter than their parents, but is it possible that they're right? If you believe the results of IQ tests, not only are we smarter than our parents, on average, but our parents are smarter than our grandparents. In fact, almost all of us would have ranked as geniuses if we'd lived a hundred years ago. Of course, before any of us start touting our Einstein-like abilities, it would be good to investigate what lies behind this startling claim.

The idea of an IQ, which stands for *intelligence quotient*, was invented by French psychologist Alfred Binet (1857–1911). Binet created a test that he hoped would identify children in need of special help in school.* He gave his test to many children and then calculated each child's IQ by dividing the child's "mental age" by his or her physical age (and multiplying by 100). For example, a 5-year-old child who scored as well as an average 6-year-old was said to have a mental age of 6, and therefore an IQ of $(6 \div 5) \times 100$, or 120. Note that, by this definition, IQ tests make sense only for children. However, later researchers, especially psychologists for the U.S. Army, extended the idea of IQ so that it could be applied to adults as well.

Today, IQ is defined by a normal distribution with a mean of 100 and a standard deviation of 16. Traditionally, psychologists have classified people with an IQ below 70 (about 2 standard deviations below the mean of 100) as "intellectually deficient," and people who score above 130 (about 2 standard deviations above the mean) as "intellectually superior."

You're probably aware of the controversy that surrounds IQ tests, which boils down to two key issues:

- Do IQ tests measure intelligence or something else?
- If they do measure intelligence, is it something that is innate and determined by heredity or something that can be molded by environment and education?

A full discussion of these issues is too involved to cover here, but a surprising trend in IQ scores sheds light on these issues. As we'll see shortly, the trend is quite pronounced, but it was long hidden because of the way IQ tests are scored. There are several different, competing versions of IQ tests, and most of them are regularly changed and updated. But in all cases, the scores are adjusted to fit a normal distribution with a mean of 100 and standard deviation of 16. In other words, the scoring of an IQ test is essentially done in the same way that an instructor might grade an exam "on a curve." Because of this adjustment, the mean on IQ tests is *always* 100, which makes it impossible for measured IQ scores to rise and fall with time.

Nevertheless, a few IQ tests have not been changed and updated substantially over time, and even tests that have changed considerably often still repeat some old questions. In the early 1980s, a political science professor named Dr. James Flynn began to look at the raw, unadjusted scores on unchanged tests and questions. The results were astounding.

Dr. Flynn found that raw scores have been steadily rising, although the precise amount of the rise varies somewhat with the type of IQ test. The highest rates of increase are found on tests that purport to measure abstract reasoning abilities (such as the "Raven's" tests). For these tests, Dr. Flynn found that the unadjusted IQ scores of people in industrialized countries have been rising at a rate of about 6 points per decade. In other words, a person who scored 100 on a test given in 2010 would have scored about 106 on a test in 2000, 112 on a test in 1990, and so on. Over a hundred years, this would imply a rise of some 60 points, suggesting that someone who scores an "intellectually deficient" IQ of 70 today would have rated an "intellectually superior" IQ of 130 a century ago.

This long-term trend toward rising scores on IQ tests is now called the *Flynn effect*. It is present for all types of IQ tests, though not always to the same degree as with abstract reasoning tests. For example, Figure 5.27 shows how results changed on one of the most widely used IQ tests (the Stanford-Binet test) between 1932 and 1997. Note that, in terms of unadjusted scores, the mean rose by 20 points during that time period. In other words, if people who scored an IQ of 100 on a 1997 test were instead scored on a 1932 test, they would rate an IQ of 120. As the figure shows, about one-fourth of the 1997 test-takers would have rated "intellectually superior" on the 1932 test. There is some evidence that the rise in scores may have begun to slow or halt in more recent years, though the data are still subject to debate.

*Binet himself assumed that intelligence could be molded and warned against taking his tests as a measure of any innate or inherited abilities. However, many later psychologists concluded that IQ tests could measure innate intelligence, which led to their being used for separating school children, military recruits, and many other groups of people according to supposed intellectual ability.