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Intellectual Decline

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Many adults believe that their thinking and memory skills are getting poorer, or will become so, as they grow older. Older adults frequently report that their memory is “not as good as it used to be,” and some may avoid participating in adult education or workplace training because they believe that “you can't teach an old dog new tricks.” While scientific evidence shows that some intellectual skills may decline in old age, these declines are neither inevitable or universal and not as profound as popular beliefs suggest.

For many years, cognitive psychologists studying intellectual functioning believed that cognitive skills begin to deteriorate by middle adulthood and decline markedly in old age. During World War I, the U.S. Army began testing inductees' intellectual abilities to determine the kinds of military work for which they would be suited. Intellectual abilities were shown to peak in early adulthood and then decline systematically with age and type of skill measured. Verbal abilities showed the least decline, and numerical and reasoning skills suffered the greatest losses.

Results from early intellectual aging studies were based on cross-sectional samples of individuals of different ages, such as 20-versus 40-versus 60-year-old adults. Such studies do not show how intelligence changes *within* individuals over time: Age changes are confounded with age differences, giving a misleading picture of intellectual decline. Because older adults typically have had less education, and are not well practiced in test-taking compared to younger adults, they tend to look less intelligent.

When longitudinal data became available, a different picture of intellectual changes began to emerge. Longitudinal studies follow individuals over a lengthy period of time—several years or decades—and measure their intellectual abilities every few years. For example, one study retested 50-year-old men who had taken the Army Alpha Test during WWI. These men were found to have higher IQ scores, on average, than when they were 19 years old. A second follow-up showed that they had maintained these abilities into their 60s. But, like cross-sectional designs, longitudinal studies have limitations. The primary problem is that individual changes are confounded with time of measurement differences. Time passes from one measurement to the next, and events that occur during the interim could have an impact on individuals' performances.

To confront the problems with these two approaches to studying intellectual aging, K. Warner Schaie, at Penn State University, has conducted an ambitious study. His *Seattle Longitudinal Study* has taken place over five decades. He obtains intelligence test scores, using the Primary Mental Abilities Test, on a cross-section of adults in a given year (beginning in 1956), and these persons are retested every 7 years. At each time of testing, a new sample of participants is selected, tested, and followed over time. Thus, Schaie's research combines cross-sectional and longitudinal methods. Schaie has found that most intellectual abilities remain stable or even grow well into the 50s and 60s. Declines in some abilities begin in the 60s, and by the 70s significant losses are evident for most intellectual skills. Even so, there is little impact on everyday cognitive functioning.

Thus, intellectual aging is more complex than originally believed. Some gender differences in intelligence test performance have been observed. Women's test scores decline earlier for biologically determined intellectual domains, while men's scores decline earlier for culturally determined domains. Also, persons with cardiovascular

disease and other health problems are most likely to suffer cognitive losses. Studies have shown that older adults can benefit from training designed to improve intellectual functioning. Remaining active and healthy is the key to intellectual vitality in old age, according to many experts.

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See also

- [Older Adulthood](#)

Further Readings and References

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