A LINE ON LIFE

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Job Performance and Aging *

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At 78, Supreme Court Justice John Paul Stevens is still very effective in his position. This contradicts the common belief that older people become slow and confused. In turn, this suggests that they cannot function effectively on the job. Stevens' example contradicts research that some factors related to adequate job performance – memory, attention and reasoning – deteriorate with age. Is the judge merely an exception to the rule?

This is unlikely. More recent studies find little relationship between aging and job performance. Psychologist Timothy Salthouse (Georgia Tech) is exploring the relation between job performance and the cognitive and perceptual losses of aging.

One explanation proposed by Salthouse is that older people compensate for their slower thinking with their **accumulated experience and knowledge**. A novice in any area has a hard time distinguishing between important and unimportant information. With experience, people can analyze information more quickly. They can more easily separate the "*wheat from the chaff*." Presiding over hundreds of cases allows the older judge to use his accumulated information. In contrast, less experienced, younger judges need to rely more on the specific information from each case.

Even so, the experience may only help the older person do that *specific* job. In other words, architects maintain spatial skills, while musicians keep their memory for melodies.

Unfortunately, it is difficult to design experiments for real-life, on-the-job situations. Once they are designed, both workers and employers resist being research subjects.

However, some laboratory studies have been done. Salthouse tested musicians' ability to remember melodies. The subjects were 128 people, 18-83 years old. Their musical experience ranged from zero to 60 years. Regardless of age, those with more musical experience were able to remember complex melodies better than novices. However, there was still some age-related decline in memory.

Similar results were found with pilots. There was no general age-related decline in their overall job performance. However, older pilots did show a drop in perceptual-motor and memory skills used on the job.

Many jobs depend on knowledge and experience more than the ability to think and react quickly. For example, doing crossword puzzles is knowledge dependent. In one psychological study, older, more experienced crossword puzzlers completed puzzles as well as or better than younger, experienced puzzlers. Even so, the older people still indicated the typical age-related declines in reasoning. Their proficiency with their task was due almost completely to their greater knowledge base.

Other studies indicate the importance for experts of ***"deliberate practice"*** – practice aimed at improving performance. When musicians maintained high levels of deliberate practice, aging did not cause declines in performance. Declines became evident when they retired, because they practiced less.

The same was found in a study of chess players in Canada and Germany. The more time professional chess players spent playing (deliberate practice), the better the prediction was for success. In *timed* chess tournaments, their abilities declined. However, if they were not forced to perform quickly, they did just as well as younger players.

Another study dealt with several *computer-based* tasks designed to simulate real-life jobs. One involved entering data about a large shipping company. Another involved inquiries into database information similar to customer service positions for health insurance companies. The third was a problem-solving task related to balancing bank accounts.

With each task, 120 people were trained and tested. Their ages ranged from 20 to 70. They were all given one day of training. Then they spent three hours a day for three days "*working*" at their tasks.

The best predictor for success at all ages was previous experience in using computers. However, older subjects were significantly slower at the tasks than younger people with the same computer experience. Essentially, the major reasons for the age-related differences were slower psychomotor speed and poorer short-term memory.

If jobs do not emphasize speed or perceptual abilities, elderly workers can be just as productive.

This computer-based study indicated some age-related decline in performance. However, the older subjects were still able to learn the new tasks. Even though their productivity was not as great as the younger workers, they were highly accurate in the work they finished.

Older people can still do well in creative jobs like those found in the arts and scientific research. They are not as quick, but the ratio of successful ideas to total attempts stays about the same. One psychologist summarizes this well.

"They're shooting fewer times at the target, but their aim is just as good as it ever was."

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* Adapted from Beth Azar's "Little evidence that old age causes work deterioration," *APA Monitor*, July, 1988, page 23.