

ABSTRACT THINKING

Young children understand the relation between objects and events in a functional manner, such that the first object is seen to go with or to operate on the second object. Complementarity (complementarity criteria) is an integral component of their thinking. By contrast, older children and young adults tend to use similarity criteria. In old age, however, the use of complementarity criteria has been found to increase once again (Reese & Rodeheaver, 1985). The reversal to complementarity in old age is thought to be caused by environmental factors rather than being attributable to changes in competence. Young children as well as the elderly are rarely required to state their thoughts in a specifically prescribed way, and complimentary categorization may therefore seem more natural, since such categorization are grouped naturally in time and space. Older adults do not necessarily lose the ability to use more abstract criteria, but are often willing to indulge in an alternative mode that offers greater imaginary scope (Kogan, 1974). Complementarity as an aspect of thinking has been found to be more prevalent in nonprofessional than in professional men or women over the age range from 25 to 69, with neither age nor gender differences being significant (Denney, 1974). Luria (1976) observed the same phenomena in a study in Central Asia where uneducated peasants were more likely to engage in concrete and educated collective farm members were more prone to use abstract thought.

Abstract thinking and aging has also been investigated in the context of the crystallized-fluid ability model. Convergent fluid abilities that involve abstract thinking have shown average decline somewhat earlier than was found for the more concrete information-based crystallized abilities. Paradoxically, abstract thinking may become more important as old age is reached because many lifelong experiences must be reappraised, and even overlearned everyday behaviors that previously could be performed in a routine and concrete manner may now require a modicum of abstract thought to provide a novel response given changed circumstances (cf. Willis & Schaie, 1986; 1993).

The contention that the increased incidence of concrete thought in the elderly may be due to experiential rather than neurological factors is further supported by positive results of training studies that involve persons who had not earlier used abstract classification principles (Denney, 1974), or who had declined in their performance on abstract ability measures (Schaie & Willis, 1986; Willis & Schaie, in press).

References

- Denney, N. W. (1974), Classification ability in the elderly. *Journal of Gerontology, 29*, 309-314.
- Kogan, N. (1974) Categorizing and conceptualizing styles in younger and older adults. *Human Development, 17*, 218-230.
- Luria, A. R. (1976) *Cognitive development: Its cultural and social foundations*. Cambridge, MA: Harvard University Press.
- Reese, H. W., & Rodeheaver, D. (1985) Problem solving and complex decision making. In J. E. Birren & K. W. Schaie (Eds.), *Handbook of the psychology of aging* (2nd ed., pp, 474-499). New York Van Nostrand Reinhold.
- Schaie, K. W., & Willis, S. L. (1986). Can intellectual decline in the elderly be reversed? *Developmental Psychology, 22*, 223-232.
- Willis, S. L., & Schaie, K. W. (1986). Practical intelligence in later adulthood. In R. J. Sternberg & R. K. Wagner (Eds.), *Practical Intelligence: Origins of competence in the everyday world* (pp. 236-26). New York: Cambridge University Press
- Willis, S. L., & Schaie, K. W. (1993). Everyday cognition: Taxonomic and methodological considerations. In J. M. Puckett & H. W. Reese (Eds.), *Mechanisms of everyday cognition* (pp. 33-54). Hillsdale, NJ: Erlbaum.
- Willis, S. L., & Schaie, K. W. (In press). *Cognitive training in the normal elderly*. In F. Boller (Eds.), *Cerebral plasticity and cognitive stimulation* New York: Springer-Verlag.

