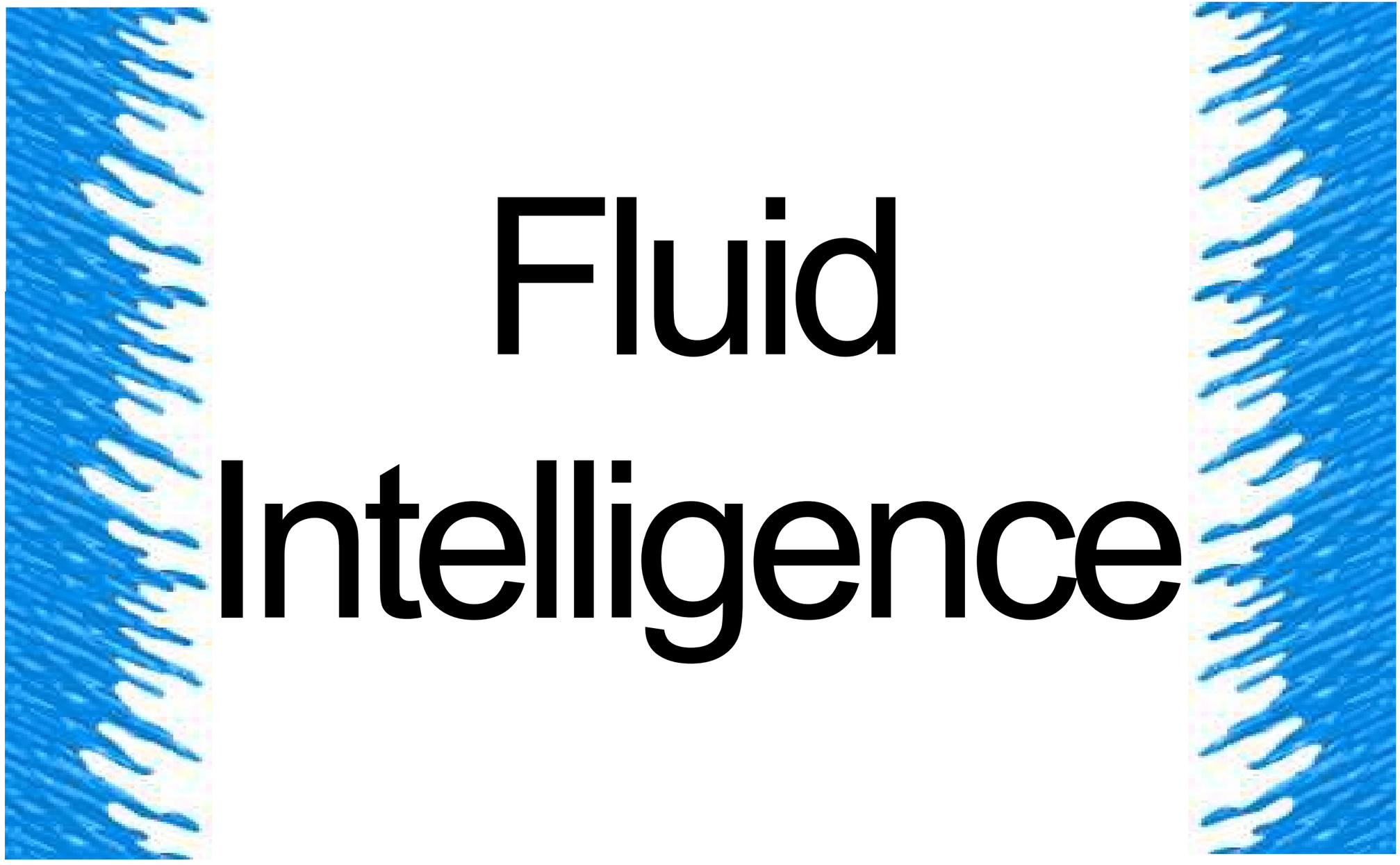
Cognitive Functioning in Adulthood



Fluid Intelligence

allows best works at age 20s and 30s

for mathematicians, scientists, and poets

Crystallized Intelligence

Crystallized Intelligence

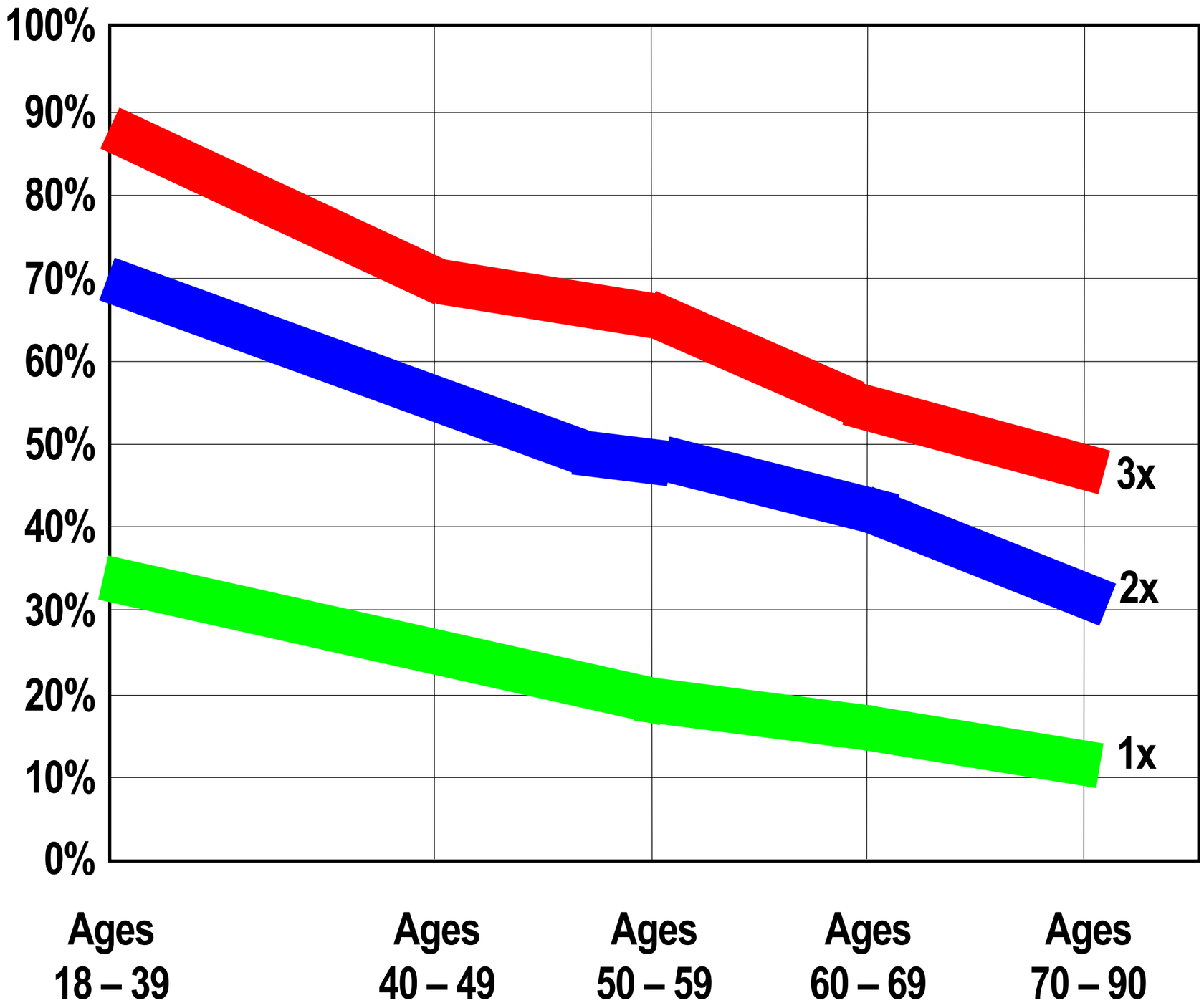
allows best works at age 40s, 50s, and older

for historians, philosophers, prose writers

Recalling Names

Percentage of names recalled after three, two, or one introduction

Crook & West 1990



Crook, T. H., & West, R. L. (1990). Name recall performance across the adult life-span. *British Journal of Psychology, 81,* 335-340.

Thomas Crook and Robin West
1205 subjects
Videotape of 14 people saying their name.
"Hi, I'm Mary."
Then, same actor reappeared and said,
"I'm from Philadelphia."
(cues: visual + voice)
Subjects asked to recall name.
Performance went up with number of times the subject saw the introduction with name.
Young people consistently out-performed older people.

Word Recall:

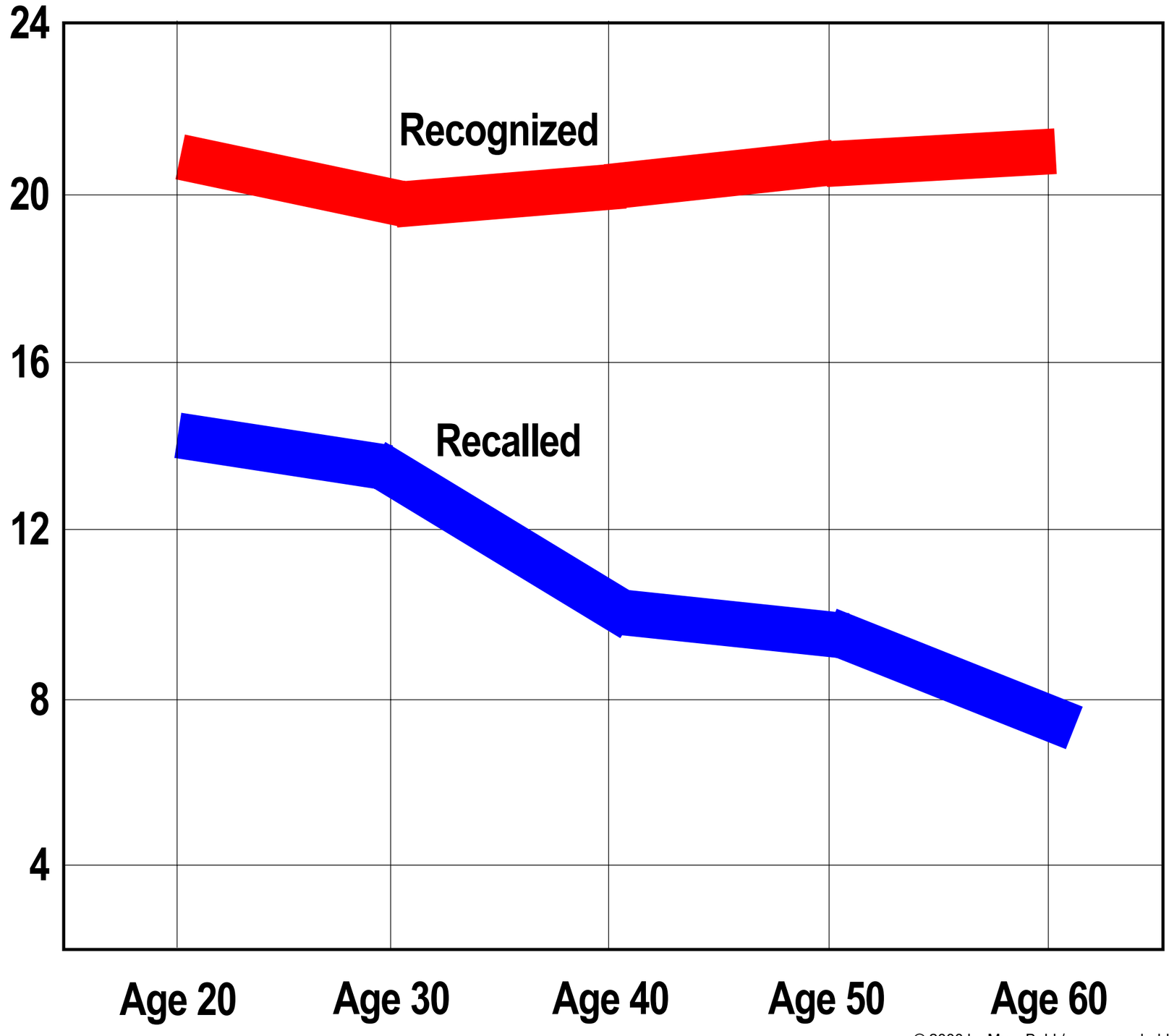
recognized

vs

recalled

Schonfield & Robertson

1966



Schonfield, D., & Robertson, B. A. (1966). Memory storage and aging. *Canadian Journal of Psychology, 20,* 228-236.

David Schonfield
and Betty-Anne Robertson
list of 24 words
Recall = pulling from memory
with no cues
Recognition = spot the words in
multiple-choice questions
Young people out-performed
older people only on recall.
Older people's recognition memory
is especially good when tested
early (rather than late) in the day.

Another study showed one group of older people to maintain ability to recall: college professors.

Shimamura, A. P., Berry, J. M., Mangels, J. A., Rusting, C. L., & Jurica, P. J. (1995). Memory and cognitive abilities in university professors: Evidence for successful aging. *Psychological Science, 6,* 271-277.

Inductive Reasoning

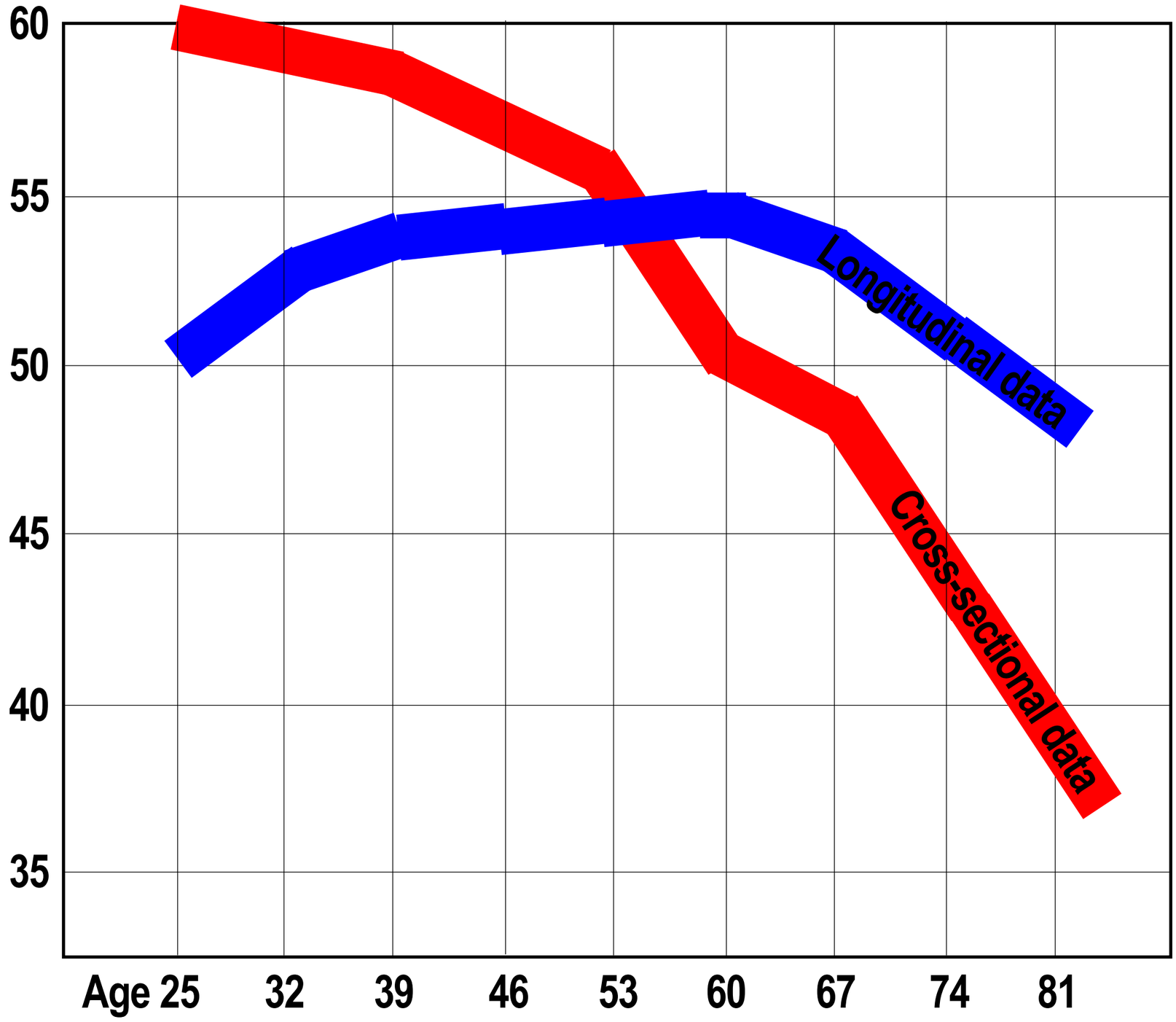
cross-sectional

vs

longitudinal

research

Schaie, 1994



Schaie, K. W. (1994). The life course of adult intellectual abilities. *American Psychologist, 49,* 304-313.

One type of verbal intelligence—inductive reasoning—has been tested differently in past decades, and with different results.

Cross-sectional methodology produced declining scores; longitudinal methodology produced a rise in scores up through middle adulthood.

Cross-sectional results, of course, reflect different age groups taking the the test at the same time. That means people from different eras (differing widely in SES, for example) were being compared as if they had the same experiences, same education. In the 1970s, David Wechsler interpreted the results as an age decline. (Carried a lot of weight since Wechsler was the creater of the WAIS, the most widely used adult inteliigence test.)

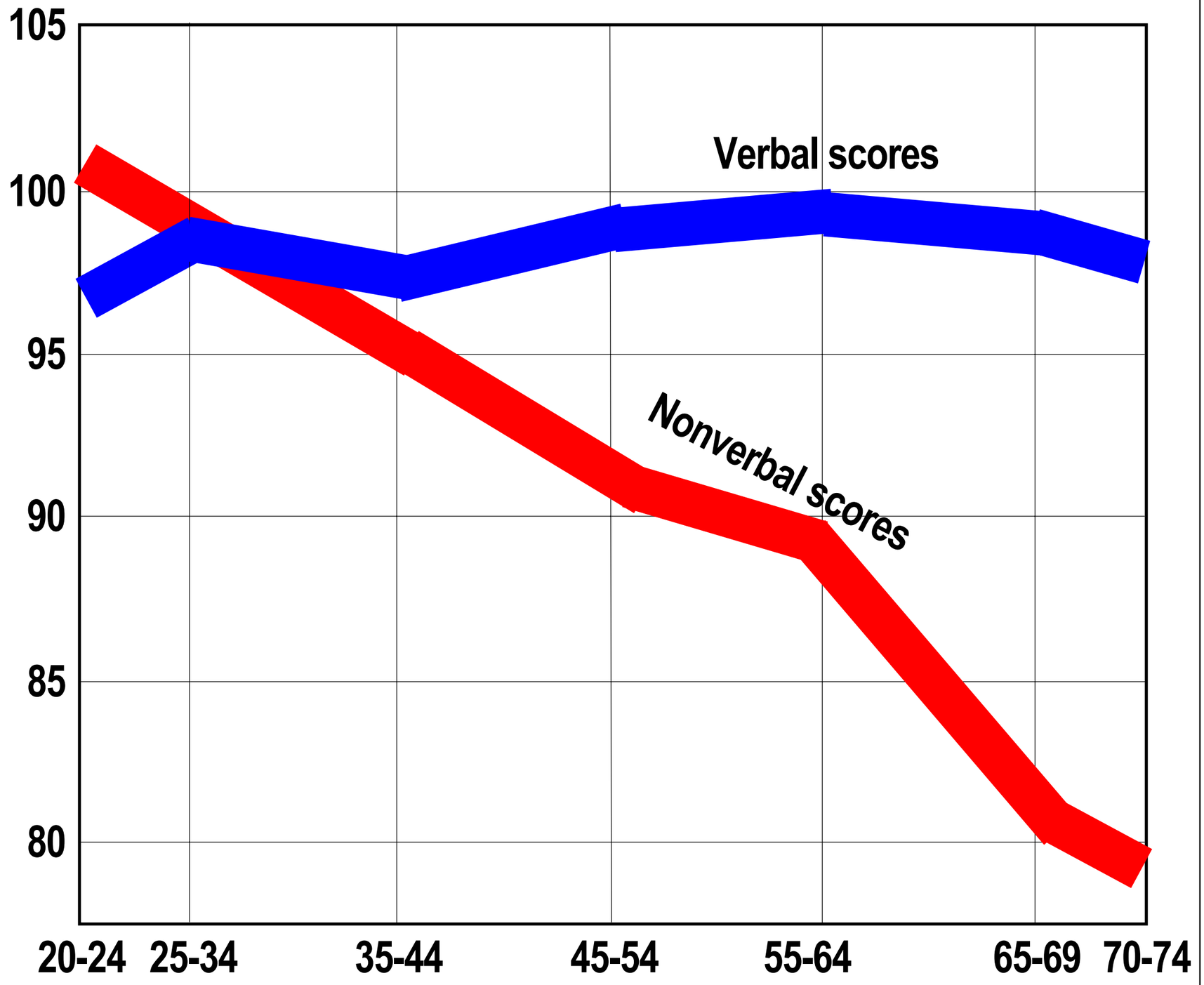
The longitudinal data are relatively recent.

IQ scores

by age group

Comparing verbal (crystallized) and nonverbal (fluid) reasoning

Kaufman, et al., 1989



Kaufman, A. S., Reynolds, C. R., & McLean, J. E. (1989). Age and WAIS-R intelligence in a national sample of adults in the 20- to 70-year age range: A cross-sectional analysis with educational level controlled. *Intelligence, 13,* 235-253.

Kaufman's study of IQ is cross-sectional, but with adjustments made for the different education levels of the different age groups.

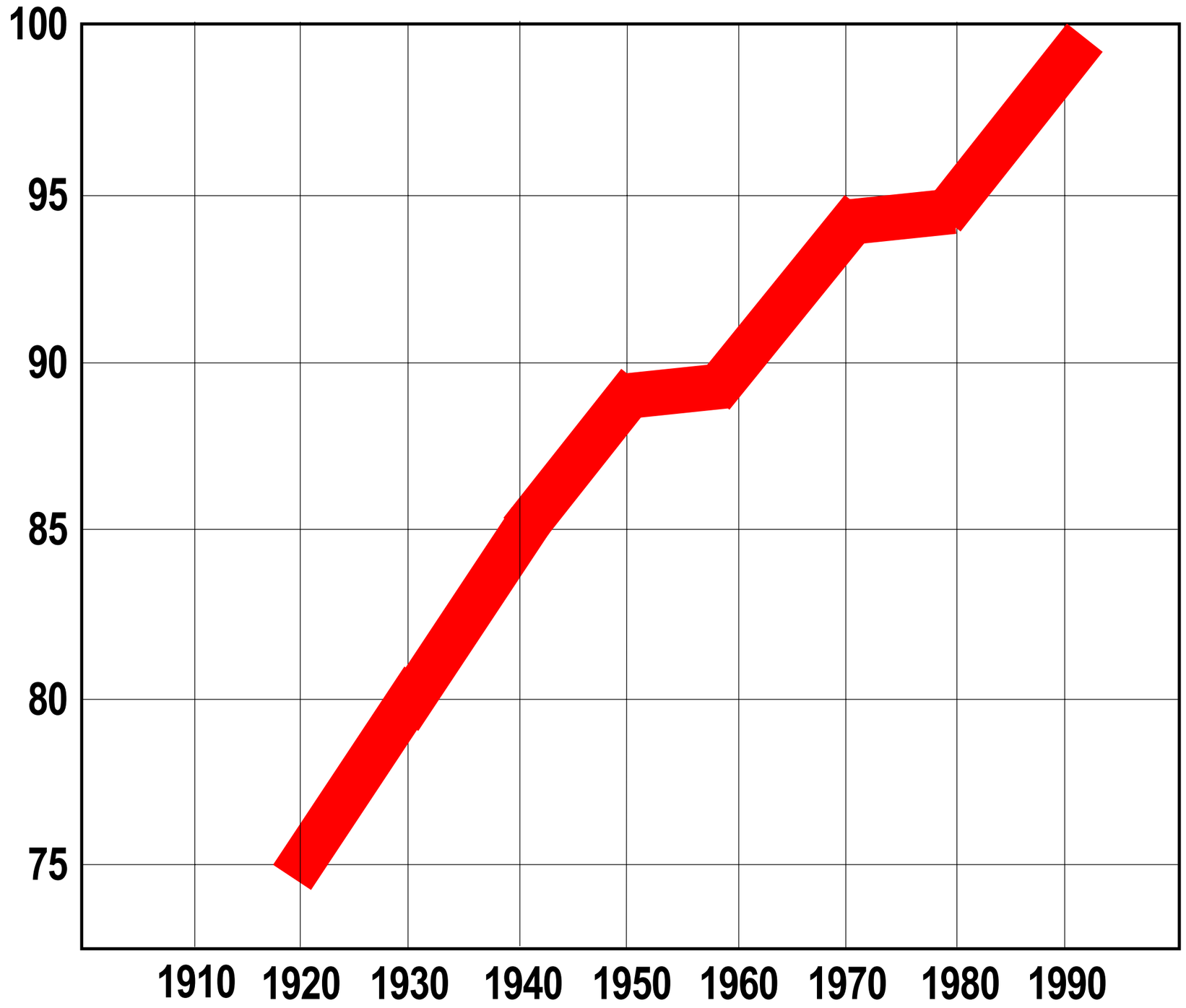
The types of intelligence broken out are verbal, nonverbal.

Verbal	Nonverbal
vocabulary	abstract reasoning
analogies	speedy reasoning
[accumulated knowledge]	novel logic problems
	nonverbal puzzle solving
▼	▼
▼	▼
▼	▼
reflects crystallized intelligence	reflects fluid intelligence

Flynn Effect

Americans' performance on intelligence tests between 1918 and 1989

Hogan, 1995



Hogan, J. (1995, November). Get smart, take a test. *Scientific American,* 12-14.

Flynn = James Flynn, New Zealand
researcher who first documented the phenomenon of rising intelligence scores -- seen across 20 countries

Chart represents rise in scores in the U.S.; UK rise is even higher: 27 points just since 1942.

How to interpret: if scores from a previous decade were compared to today's scores, then, on the same scale, the average performance in an earlier decade would be lower than the average performance today of 100.

Rise is accepted as real.

Causes?
1 - we have a problem with our tests
2 - intelligence is changeable
3 - improved nutrition worldwide
4 - more experience with being tested
5 - some unknown factor

More schooling? BUT greatest gains are on nonverbal tests, which would not be affected by changes in education (or would they?)

BOLD: more change in envirs? chg in cereberal cortex? tie to natural selection -- NOT ENOUGH TIME TO AFFECT....