

Partners in Recall

Elderly spouses build better memories through collaboration

By BRUCE BOWER

It's not easy being old. Vitality and verve give way to creaky bones, hearing loss, and physical infirmity. Perhaps even more disturbing, intellectual vigor tumbles from its peak. Memories, like ungrateful children, visit infrequently and lie when they show up. Retention of familiar names and faces hits the skids, sparking anxious thoughts about Alzheimer's disease.

This is one popular image of old age in Western cultures. What's more, scientific research generally supports the notion that mental aging does not occur gracefully. After about age 65, people score lower on all sorts of tests that tap into thinking skills. Healthy aging, devoid of any brain illnesses, takes a toll on memory for stories, pictures, faces, activities, locations, telephone numbers, travel routes, and grocery lists, according to studies published in the past 5 years. Reasoning, spatial skills, and the ability to direct and focus attention, at least as measured for individuals performing experimental tasks, also suffer.

That's not the case in psychologist Roger A. Dixon's laboratory at the University of Victoria in British Columbia. There, men and women in their late 60s—or even in their late 80s—remember as much as or more than young adults when asked to recall a passage that they had just read. These old people, some of whom were preschoolers during World War I, typically give more entertaining, richer accounts of the material than fresh-faced folks who were born in the era of Watergate hearings and disco music.

Dixon offers elderly volunteers no brain-boosting drugs or clever strategies for pumping up memory. He greases recall with a common social lubricant—collaboration.

When allowed to work together, couples married for 40 years or more retrieve as much information from memory as young married couples or young individuals. Elderly partners, whom Dixon regards as experts in the art of collaboration, offer the most insights and commentary about passages, while making the fewest errors in recall.

Unlike young spouses, old couples rapidly formulate strategies for remembering information. Pairs of elderly strangers begin to lay the groundwork for mutual strategies by establishing a friendly, supportive atmosphere, he adds.

In essence, older people try to compensate for declining individual memory by extracting more memory out of social interactions, Dixon proposes. Those with the most collaborative experience and skill make up the most ground.

"Individual performance on laboratory tasks may greatly underestimate the memory abilities of older people in their everyday lives," Dixon contends.

Dixon's findings appear amid growing scientific skepticism that memory inevitably fades with the passing years. Only about one in three healthy elderly persons experiences difficulty in remembering directions, telephone numbers, and other information that comes to mind through a conscious effort, according to neuropsychologist Marilyn S. Albert of Massachusetts General Hospital in Charlestown.

As people age, it generally takes them longer to learn new information and to recall it later on. Yet elderly individuals do not forget information any faster than young adults and, when granted enough time, frequently generate memories of comparable accuracy, Albert notes.

On average, 70-year-olds who listen to someone read a short story remember less about it immediately afterward than 25-year-olds do. After a 20-minute delay, both groups remember just as much as they did before.

A number of researchers have noted that disadvantages in recall do not keep healthy older

adults from excelling at all sorts of complex mental tasks in their professional and leisure pursuits. In some cases, intensive practice of a complex skill, such as professional-level piano playing, keeps performance sharp well into old age (SN: 12/21&28/96, p. 388).

Dixon assumes that pragmatic know-how increases throughout life, whereas glitches increasingly occur in what he regards as mechanical abilities, such as the swiftness with which one can marshal mental responses to a problem.

"Even as physical powers decline, the accumulated experiences of a lifetime, the pragmatic aspects of cognition, provide adults with resources for dealing with life that are completely beyond the reach of the young," asserts psychologist Michael Cole of the University of California, San Diego in La Jolla.

Collaborative memory represents one such resource. Daily life contains many instances of collaboration by people of all ages. These often feature conversations in which two or more individuals reconstruct stories about past news events or shared experiences.

Studies of story memory have focused almost exclusively on individuals. In that context, youth triumphs resoundingly over experience.

Dixon and his colleagues describe their findings on collaborative memory in chapters of two recent books, *Interactive Minds* (1996, New York: Cambridge University Press) and *Basic and Applied Memory: Theory in Context* (1996, Mahwah, N.J.: Erlbaum).

They first observed the power of collaborative memory in a study of 84 young adults, with an average age of 24, and 84 older people, with an average age of 68. None of the volunteers knew each other.

Participants were assigned at random to operate on their own or in same-age groups of two or four people. They then listened to two short stories (a recorded narrator describing his new career and then recounting how he dealt with his family's money problems) and tried to retell them in as much detail as possible.

The young adults generally remembered more correct story information than the old adults, individually and in groups. Memory improved in both age groups as the number of collaborators increased, but the disparity between young and old recall stayed about the same.

The older group displayed some advantages over the younger crowd, though. Whether alone or in a group, the old people made more correct statements about underlying themes in the passages and committed fewer memory errors. They also elaborated more on the content of stories, often by referring to related personal experiences.

The superior story recall by groups of strangers, in contrast to the recall of individuals in each group, sparked Dixon's interest in married couples as possible collaborative experts. Happily married pairs regularly pool their memories and hash out accounts of what they have done and seen.

In two successive experiments, he and his coworkers studied story memory in younger and older married couples, as well as in pairs of unacquainted younger and older adults. Young partners had been married for about 5 years, whereas marriages in the older group had lasted between 30 and 50 years.

Individual tests of story recall were also administered to each volunteer.

Overall, older and younger couples remembered the same amount of story information. Their recall exceeded that of unacquainted pairs and individuals in both age groups. Elderly couples showed a much larger memory boost over their individual efforts than did younger couples.

Elaborations and personal references frequently tacked onto stories by elderly couples may provide each member with memory cues and enliven the tale in order to keep attention from flagging, Dixon suggests.

In another sign of collaborative expertise, older husbands and wives generally shared equally in the proportion of story information they remembered; younger wives tended to produce a greater amount of pertinent information than did their husbands.

Only the older couples gave an accurate estimate of how much of what they had recalled about a story was correct.

A closer analysis of videotapes of story recall sessions revealed that all married couples and unacquainted pairs began with a spurt of remembered information contributed by each person. As the conversation continued and individual memory waned, older couples started to discuss strategies for improving their performance, whereas older strangers congratulated each other on their efforts and made other friendly gestures.

Upon reaching a memory impasse, young couples sometimes considered strategies for memory improvement, but they did so far less often than longtime spouses. Young strangers made few efforts to encourage each other or to work together.

In interviews, participants indicated that they believe two heads are better than one only under certain conditions.

Both younger and older adults contend that collaborating with a spouse boosts memory the most. Next best, they hold, is consultation with a same-sex friend, followed by an opposite-sex friend, working alone, a same-sex stranger, and finally an opposite-sex stranger.

In some situations, such as finding one's way in an unfamiliar city, people do consult strangers and so must assign them more status as collaborative partners, Dixon notes.

The recent findings challenge current scientific assumptions about the mind, contends psychologist Laura L. Carstensen of Stanford University. Instead of treating mental activity solely as the product of individual brains, she remarks, investigators should explore whether the mind exists first in social interactions that then influence what individuals think and do.

The social realm represents an area of particular expertise for elderly spouses, asserts psychologist Robert W. Levenson of the University of California, Berkeley. Older married couples navigate adroitly within an "emotional comfort zone," even while discussing sore points in their relationship, he says.

"According to our data, elderly married couples are virtuosos at regulating their emotional exchanges and keeping negative expressions from escalating out of control," Levenson says.

In an initial study, which he described at the annual meeting of the American Psychological Association in Chicago last month, Levenson found comparable emotional responsiveness in 70- to 85-year-olds and 20- to 30-year-olds. Both groups displayed the same physiological reactions and facial expressions, as well as similar amounts of crying, while watching an extremely sad movie.

Yet in a second investigation, elderly spouses who helped each other recall a disturbing event from their lives experienced less pronounced changes in heart rate and other physiological measures linked to emotion than did young married couples.

Lower levels of biological arousal also characterized couples between 60 and 70 years old, compared to those between 40 and 50, during short discussions of marital trouble spots or disagreements, Levenson says. Older spouses—even those reporting relatively unhappy unions despite many years of marriage—exhibited more affection and less belligerence during these talks and felt better afterward.

Beyond their emotional acumen, pairs of older folks may generate particularly "wise" analyses of vexing issues if they are allowed to interact in certain ways, assert Ursula M. Staudinger and Paul B. Baltes, psychologists at the Max Planck Institute for Human Development and Education in Berlin.

Given the opportunity to consult with a spouse, relative, or friend for 10 minutes and then think on their own for another 5 minutes, volunteers between the ages of 45 and 70 offered more helpful and insightful responses to tricky social dilemmas than did people 20 to 44 years old, the German researchers report in the October 1996 *JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY*. Problems addressed by participants included providing guidance to a young girl planning to move out of her parents' home and coming up with advice on the meaning of life.

Such research addresses important features of real-world thinking, but it is difficult to design and interpret, comments psychologist Neil Charness of Florida State University in Tallahassee. Charness studies how practice helps to preserve chess-playing skills in younger and older adults.

For instance, Charness notes, collaborative memory investigators cannot randomly assign people to 40-year marriages. This makes it difficult to rule out other possible influences on story recall, such as a tendency for long-running marriages to contain an unusually large number of people who have a flair for collaboration and strong individual memories.

Researchers who hope to track memory and other species of thought through the social jungle indeed face obstacles, Dixon says. But a retreat to the manicured grounds on which isolated individuals carry out laboratory tasks would lessen the relevance of their work.

"Much of our everyday remembering occurs in collaboration with family members, friends, peers, business associates, and others," Dixon remarks. "It will be important if we can establish that older adults benefit from such collaboration, develop collaborative expertise with long-term partners, and thereby compensate for aging-related individual memory losses." □