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AGING MEMORY SELF-EFFICACY::

Elders Share Their Thoughts and Experience

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Abstract

Twenty-six elders responded to an open-ended question as part of a study that examined the relationships among depression, health, memory self-efficacy, and metamemory. Participants rated their overall memory function as fair to average ($M = 4.26$, standard deviation $[SD] = 1.29$). The average memory efficacy scores were high ($M = 51.35$, $SD = 23.56$). The final question invited participants to share any additional information they thought might be important to this item. This article represents a content analysis of these comments. The mean age of responders was 68.78; all had high perceived health and no depression. No differences on memory self-efficacy arose among age groups. Themes included memory management, rationalization, reflection, information seeking, and correlation establishment. Therefore, it is important for clinicians to ask elders about memory function during routine health care encounters, as individuals are interested in memory assessment and management. (*Geriatr Nurs* 2003;24:162–8)

Graphical Abstract

As an individual ages, people, events, and other stored knowledge get harder to retrieve from memory. Older adults often complain about memory failures and lapses in day-to-day remembering; however, adults much younger, such as women in their 40s approaching menopause, also have concerns about memory changes.^{1–3} Some studies indicate that hormone replacement therapy may provide a buffer from cognitive decline.⁴ Because memory evaluation is a major component of cognitive assessment, and the general public is bombarded with news about Alzheimer disease (AD) on a daily basis, nurses must listen to

and understand what clients want them to know. By understanding a client's perspective of his or her own memory, nursing care can be designed to best meet the individual's needs.

A client's subjective evaluation of personal health status is an important cue and often a motivating factor in seeking health care from a provider. Older adults often worry about memory, and they notice changes in their performance in everyday activities.⁵ These cognitive changes may cause an erosion of confidence in actual performance.⁶ Current research⁷⁻⁹ indicates that mild cognitive impairment is a precursor to dementia—a compelling argument to continue investigating the subjective and objective aspects of memory function in all adults, regardless of health status. The formal study of the subjective evaluation of memory is important, nevertheless, because it often is related to actual performance deficits.^{10,11}

The purpose of this article is to provide an in-depth snapshot of a group of community-dwelling older adults regarding what they think nurses need to know about memory aging.

METHODS

Sample

A total of 169 participants age 50 or older took part in the larger study. Fifty individuals were between the ages of 50 and 64, 90 between ages 65 and 74, and 29 were at least age 75. The oldest participant was 83. Twenty-three subjects (21 women and two men) provided comments to the researcher. All participants were recruited by convenience methods from adult learning programs in Louisiana and Texas.

Procedure

Data for this study were extrapolated from a larger study conducted by McDougall.¹² The participants signed a consent form and completed questionnaires regarding their memory, health, and demographics. The last demographic questionnaire item was, "Thank you, if there is anything else you would like to say, please do!" Of the 168 participants, 26 opted to say something else.

Qualitative measure

Content analysis of these 26 responses was completed to determine if any overall conclusions could be made. Quotes were organized and grouped according to specific themes that became apparent after reading and reviewing the comments and discussion among authors. Each author read the quotes independently and grouped them according to themes. The few quotes that were not grouped in the same theme were discussed and eventually categorized with agreement among all authors. Of these 26 quotes, 33 phrases were categorized into one of five categories.

Quantitative measure

Data were collected on age, gender, living arrangement, annual income, chronic conditions, and medications. Depression was measured with the Geriatric Depression Scale. Health

status was operationalized by the Health Scale, a subscale of the Multilevel Assessment Instrument.

The Memory Efficacy (ME) questionnaire¹³ is a Guttman scale consisting of four questions (Sidebar). The ME questionnaire, derived from Bandura's self-efficacy theory, is designed to obtain predictions from older adults regarding self-efficacy level and strength. Two memory concerns are emphasized: maintenance skills to prevent decline, and use of strategies to improve memory. Subjects make performance predictions regarding self-efficacy level (yes or no), and strength and confidence in each performance prediction range from 10% to 100%.¹⁴ Alpha reliabilities have been reported as .57 and .68.¹⁵

Memory evaluation was determined with one question, "How good is your memory now?" from the ME scale.¹⁶ The quality of subjects' memory was rated on a 7-point scale (1 = very poor to 7 = excellent).

QUANTITATIVE RESULTS

Demographics

The sample overall was younger ($M = 68.73$, standard deviation [SD] = 5.68). The participants' living arrangements varied from married (7), widowed (7), divorced (4), and never married (5). In addition, the participants were engaged in weekly volunteer activities between 0 and 7 hours per week ($M = 1.27$). The group had high perceived health ($M = 10.48$, $SD = 1.78$), few chronic conditions ($M = 2.04$, $SD = 1.26$), and were taking low numbers of prescription ($M = 2.30$, $SD = 1.33$) and over-the-counter medications ($M = .70$, $SD = 1.33$). The mental health of the groups overall was without depression ($M = 1.57$, $SD = 2.35$). However, on further analyses, the oldest group had significantly higher depression scores than the middle group (3.60 vs 1.00).

Memory self-efficacy

Participants rated their overall memory function as fair to average ($M = 4.26$, $SD = 1.29$). The average ME scores were high ($M = 51.35$, $SD = 23.56$). The memory self-efficacy questionnaire captured the participants' confidence related to everyday memory tasks; however, these responses varied considerably. The mean scores are reported for each response:

Question #1: "I know how to keep my memory from going downhill as I age" had a moderate response of confidence ($M = 41.74$, $SD = 34.07$).

Question #2: "I can discover ways, either by myself or with the help of others, to maintain my memory" had a stronger response ($M = 51.74$, $SD = 30.70$).

Question #3: "If I knew ways to keep my memory up, I would make an effort to use them" had the strongest confidence rating ($M = 75.65$, $SD = 24.46$).

Question #4: "If necessary, I would be able to get someone to remember things for me as I get older" provided the weakest confidence rating ($M = 36.09$, $SD = 37.14$).

The table breaks down each group's response rates; no age group differences arose on memory efficacy scores.

QUALITATIVE RESULTS

Themes

Content analysis of these 26 statements revealed five themes: memory management, rationalization, reflection, information seeking, and correlation establishment. Each of these themes are discussed in detail below.

Memory management.—Memory management involves what individuals do to “manage” their memory. Thirteen statements were categorized under this theme. Some participants shared techniques they use to maintain or facilitate their memory skills. For example, one said, “As one gets older, one must keep busy taking classes on different hobbies. Keeping up daily exercises is a must for me since I had four bypasses a year ago. I’ve been a volunteer since 1947, active in clubs—but not since the bypasses. I have had to give up volunteer work for awhile.” Another mentioned, “Gardening [is] my therapy.” Another noted, “I have never clogged my memory with things I can write down. This has nothing to do with age; I have always been this way.”

Another individual talked about managing memory from another perspective: “If I didn’t do this right away, I might put it aside and forget it.” Another noted, “Memory ability is affected by events and health changes—some are temporary and some are more lasting. Illness, fatigue, medicines affect my memory. Periods of well-being sharpen my memory. I think an important phase of aging is to keep the ability to use the necessary therapy to counteract new problems.” Another said, “[I] feel as though my memory is not what it was 10 years ago, but I have learned to cope with it and hope for the best.” Another participant noted, “I’m sure you noticed I did the form in pencil—is that a pessimistic approach!”

Others seemed to want additional information to manage their memory: “Just let me know if I can improve my memory. I taught school for almost 30 years. I called my students ‘honey,’ ‘cutie,’ ‘love,’ etc. Now when they meet me and address me, I say, ‘Hi cutie, what’s happening to you now?’ They don’t realize I can’t put a name to their face.” Another said, “I have trouble speaking for most people; since retiring, I find an appointment book to be essential—besides all the organizations to keep up with, there are concerts and plays to keep up with, as a season subscriber to the orchestra, theater, [and] playhouse, plus extras like dramas, concerts, etc.” One participant noted a problem area: “Main problem with memory is not input or storage, but recall or delayed recall.”

Three comments seemed to identify situations in which participants are unable to manage their memory. For example, one participant said, “I try not to let it bother me as I feel being anxious only makes things worse.” Another participant stated, “I feel a bit apprehensive about my memory ability as I get older.” A third participant: “I feel that when an older person cannot control their life—too much control of the inner self, to conform to others’ needs—it can immobilize some of the good stuff.”

Rationalization.—Rationalization may be defined as a way to justify or explain by reason. Seven respondents rationalized their memory. One participant seemed to rationalize her memory capability based on living with her daughter: “Because I live with my daughter (single student) and I must fit myself into her life, I must ‘blur the edges’ of my personality to avoid clashes. I believe this also blurs the sharpness of my intellect, responsiveness, and memory.

Another participant wrote of increased difficulty with memory after retirement and seemed to rationalize that retirement has led to memory decline: “As long as I was working, I considered my memory good. Since I retired, my memory has declined. I have difficulty spelling simple words, remembering names of people I worked with, expressing myself clearly, etc.” Another participant seemed to say her memory was affected by lack of fun: “Caring for a retired husband not in good health has been hard for me since I enjoy getting out and having fun.”

In contrast, a different participant said learning new interests had a positive effect on memory: “[I] seemed to have learned a great deal the last 5 years; [I] seem to be more appreciative of other points of view. Somehow assimilating more knowledge and awareness of [the] physical sciences—ie, geology, chemistry, and how very broad and important they are, also philosophy—[I] studied and [now] practice meditation. It’s a great life!”

Patience was expressed by one participant as a prerequisite for memory function: “As you can tell, I do qualify to take this survey. No, I don’t attribute my forgetfulness to Alzheimer’s but rather lack of ‘mind’ material/exercise, outside [of a] little computer activity/stock market follow-up, I have no interest in pursuing [mind exercise]. Age does influence patience—physical and otherwise. Sometimes we are in too much of a hurry to really concentrate on the items you could otherwise remember and just forgot.”

Another participant revealed, “Memory is enhanced by sharing information. People who live alone do not have the opportunity to share and discuss information in an everyday casual way, thus they have no way to build on the information they are processing every day through the media, books, etc. I think this is what most often causes us to lose memory of current data—even single, everyday things. Grocery lists, for example, start with a single discussion over a meal; newspaper items you skim cause more thought when shared than when one person simply glances at a paper, etc.”

Another participant seemed to rationalize her loss of memory: “I feel I am blessed with having had a good, faithful husband, three good sons, one good daughter, and 11 wonderful [grand] children. Believing in God is the real answer to happiness; also having faith in my fellow man.”

The comments grouped into the rationalization category represent explanations for current memory status. Individuals seemed to want to explain the status of their memory. The seven people who demonstrated this rationalization may have reacted to an ageist society. Ageism is the negative attitudes and prejudices that society holds against elders¹⁷ simply based on age.

As evidenced in the above comments, participants revealed both positive and negative aspects that they believe might have influenced the way they performed on the survey. This behavior was identified as rationalization for their memory performance.

Reflection.—Five phrases had an underlying theme of reflection. Participants seemed to need to reflect on their memory. Participants portrayed an upbeat feeling about their memory now, whether it was the same or slightly worse. One participant stated: “Answering was fun! I have always had an excellent memory, but it is now not quite excellent but is quite good, I think, still.” Another stated, “[I] Feel as though my memory is not what it was 10 years ago.”

The third quote in this category: “My memory was great 40 years ago. I remember because I was complimented but don’t remember how good I was 10 years ago.” Again, this elder felt the need to tell the researcher that his/her memory was good at one point in life, although he/she does not remember as well.

One participant said: “My greatest difficulty is in remembering names.” Another participant shared his view about general health status by stating, “I sincerely believe if you stay active and interested in life, you can be as vibrant as your health permits.”

Respondents may have believed this information was important and needed to be considered by the researcher. For this group, reflection may serve as a means of coping with declining memory. These participants chose to provide the researcher with an image of what their memory was like, and thus, they were able to reflect on their present memory capability.

Information seeking.—Another theme that emerged from the data included participants seeking information to improve their memory. Two comments were categorized into this theme. One participant said, “I would like help to retain what I now have, or even better, improve my memory.” Another participant wanted to be better informed about AD: “I definitely would like to be better informed about Alzheimer’s disease. This survey has definitely caused me to be more aware of what I remember and what I forget—*very interesting!*”

The unknown or a fear factor may be the impetus for respondents seeking information about memory loss. It also may be assumed that many participants were also seeking information related to their memory, even if they did not explicitly state it.

Correlation establishment.—Many participants who chose to “say something else” seemed to provide information on how they performed on the questionnaire, as if they were establishing correlation between how they answered and the information they provided. Six comments were categorized in this section. For example, one participant indicated that he/she continued professional activities: “P.S. I still work for a living as a real estate associate.” Other participants revealed physical and social activities: “I love to gamble, dance, cook. I love to paint, theater, plays.”

Other participants wanted the researcher to know about conditions surrounding completion of the survey, in case these items influenced their performance: “I did the survey off and on

while on a trip to Reno.” Another participant noted, “I did not time answering these surveys, and I did not do them in one sitting.” Another stated, “I delay in getting anything started. [I] cannot relate it to aging.”

A final participant seemed to want the research team to know about personal habits: “I retire late—2 a.m. [I] spend most of [my] time listening to friends’ and relatives’ problems on the phone. [I] visit friends also in nursing homes and feed stray cats. I live alone. I still drive my car.”

DISCUSSION

Participants who provided additional comments wanted the researcher to know something about their memory. Most of the statements related to the theme of memory management, and all four questions on the memory self-efficacy questionnaire emphasized maintenance skills to prevent decline and strategies for memory management. Some participants recognized that their memory was affected by illness, fatigue, or medications, and other researchers have found similar relationships with memory ratings, health, and depression.^{3,12,18,19} Others mentioned the importance of activities such as hobbies, continuing education, or volunteerism, to maintain their memory status.

Various illnesses or medications affect memory, but AD was the only condition mentioned. It is possible respondents knew someone with the disease, and that encouraged them to participate in this research study. Perhaps AD is a common fear among this population of educated elders. Geriatric nurses with information on the disease, risk factors, and its impact on memory loss should counsel these elders.

The second theme from the data was rationalization. Some respondents mentioned outside factors that have negatively affected their memory, such as retiring or living alone. The respondents rationalized their performance by giving potential reasons they performed as they did. Studies have found that, even though older adults have daily concerns about their memory problems, they often do nothing.¹ These participants were attending educational programs and participating in activities that are cognitively and socially engaging, but this was an exceptional group of seniors who were highly motivated. The participants’ confidence was evident in their high memory self-efficacy scores, which were found in similarly engaged older adults in other studies.^{20,21}

Information provided by participants in this study is similar to what was identified by Hertzog et al.²² in the dimensions of metamemory. They defined metamemory as having two components: knowledge of memory mechanisms, processes, and failures and beliefs about one’s own memory abilities, strengths, and weaknesses. Clearly these participants had knowledge and beliefs about their memory function in their daily lives. However, clinicians should know that actual memory performance was not tested in this study. The accuracy of the older adults’ metamemory should not be evaluated independently of memory performance.¹⁰

Additional research regarding the elderly and memory function is warranted. There were no age group differences on memory self-efficacy using the four-item ME; however, age group

differences are significant when more comprehensive measures of memory self-efficacy are used.¹² Nevertheless, this research study and content analysis merely provided a glimpse of what older adults experience regarding memory function and what they believe is important for nurses to know. Future research that is longitudinal and more in-depth will provide additional data on the memory experiences of older adults. Further, it would be interesting to see how the experiences change over time and among participants.

CLINICAL ASSESSMENT

How should nurses make a thorough assessment of memory and cognition difficulties during routine physical examination? The routine screening of cognitive function of all older patients is recommended, regardless of the practice site: community, clinic, or hospital. Cognitive function as a broad construct includes the 12 categories of attention span, concentration, intelligence, judgment, learning ability, memory, orientation, perception, problem solving, psychomotor ability, reaction time, and social intactness.²³ This study emphasized the subjective evaluation of memory self-efficacy. Because self-report of health data is a valuable assessment source of client/patient information, clinicians are encouraged to use all types of data, subjective and objective evaluations, for diagnosis and treatment. The ME is a useful assessment screen for subjective memory evaluation and may lead to an in-depth assessment of cognitive function.

For global cognitive function, clinicians are encouraged to use either of two screening instruments with known reliability and validity. The Mini Mental State Exam (MMSE) is a popular screening instrument used for determining levels of cognitive impairment. It contains 11 questions and has no time limit. The MMSE has been recognized as a quantitative aid in the clinical examination for many types of cognitive impairment, but it is unable to differentiate patients with depression from those with dementia because of equal numbers of incorrect responses. However, in the elderly (older than 60) and the poorly educated (less than 8th grade), the MMSE, when used as the sole criterion, may overestimate the prevalence of delirium and dementia. If the MMSE is too long, an alternative instrument is recommended.

MEMORY EFFICACY

This questionnaire has statements about your memory. Read each statement and provide the answer that is right for you by following the directions and practicing with the example below.

First of all, you will be asked to agree or disagree with the following practice statement.

If you **do not agree** with the statement, **circle NO**.

If you **agree** with the statement, **circle YES**.

If you **agree** and circle **YES**, we would like to know how confident you are of your answer. To indicate your confidence, circle the number that shows the percentage (amount) of your confidence.

PRACTICE OR SAMPLE STATEMENT

"If I wanted to, I could memorize all of my friends' phone numbers."

NO YES 10% 20 30 40 50 60 70 80 90 100%

If you circled **NO**, go on to the next question.

If you circled **YES**, mark the number indicating how confident you are of your answer. For example, if you are completely sure you could remember all of your friends' phone numbers, circle 100%. If you are 50% sure, circle 50. If you are less certain, you might circle 20 (for 20% sure) or 30 (for 30% sure). There are no right or wrong answers. We are interested in what you think about your memory today.

Please go to the next page and provide the answer that is right for you by following the same directions:

If you **do not agree** with the statement, **circle NO**, and go on to the next question.

If you **agree** with the statement, **circle YES**.

If you **agree** and circle **YES**, we would like to know how confident you are of your answer. To indicate your confidence, circle the number that shows the percentage (amount) of your confidence.

MEMORY EFFICACY

1. "I know how to keep my memory from going downhill as I age."

NO YES 10% 20 30 40 50 60 70 80 90 100%

2. "I can discover ways either by myself or with the help of others to maintain my memory."

NO YES 10% 20 30 40 50 60 70 80 90 100%

3. "If I knew ways to keep my memory up, I would make an effort to use them."

NO YES 10% 20 30 40 50 60 70 80 90 100%

4. "If necessary, I would be able to get someone to remember things for me as I get older."

NO YES 10% 20 30 40 50 60 70 80 90 100%

Circle the number that best describes your memory:

How good is your memory now?

1 2 3 4 5 6 7
very poor poor fair average good very good excellent

The Short Portable Mental Status Questionnaire (SPMSQ), a 10-item questionnaire, was developed to detect the presence of intellectual impairment in older adults living in the community and residing in institutions. Three significant items on the SPMSQ are date of birth (day, month, year), naming the previous president, and naming the day of the week. The SPMSQ may be administered by a range of clinicians and health care providers and is reliable in detecting the presence of cognitive impairment. The SPMSQ classifies impairment into three categories: minimal, moderate, and severe. However, a normal score on the SPMSQ (≥ 2) should be regarded as nonspecific rather than suggestive of normal functioning.

Screening instruments are best suited to measure the presence, absence, and severity of cognitive impairment. When screening instruments are selected as quick assessment tools,

clinicians and health care providers need to be discriminating in their choices and base their selections on their purposes for using the instrument. Screening instruments were never designed to be the sole measure of cognitive function or mental status. They can be used to assist the clinician or advanced practice nurse in a more rigorous and quantified clinical assessment. The clinician must obtain permission to use screening instruments and, therefore, they may not be published as a result of issues with copyright infringement.

LIMITATIONS

Not all of the authors of this analysis participated in the survey or gathered data. The sample was a convenience sample of healthy older adults who were educated beyond high school. A desire for information and past experience with other elders who may have had memory impairments could have led to a biased sample of individuals seeking information on memory improvement. Participants who completed this survey are likely to have opinions regarding their memory; otherwise, they may have avoided study participation. Additionally, participants may have answered responses to the questionnaire in a socially desirable way.

RECOMMENDATIONS FOR PRACTICE

On routine physical examinations, older adults should have a thorough assessment of memory and difficulty in cognition. The fact that 26 participants in this study chose to provide additional comments suggests that older adults are interested in their memory function. When individuals express concern about their memory capabilities, geriatric nurses need to provide education on normal changes that can occur with age. Many elders in this study thought their cognitive abilities were maintained by staying physically and mentally active; this motivation is supported in other studies. Health care providers should encourage these activities for memory and general health promotion.

Furthermore, elders in this study expressed concern over the possibility of losing their memory abilities and being diagnosed with AD. Health care providers need to address client concerns by listening carefully, assessing cognition, and providing education on disease processes and memory training.

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REFERENCES

1. Haug MR, Wykle MY, Namazi KH. Self-care among older adults. *Soc Sci Med* 1989;29:171–83. [PubMed: 2749300]
2. Mitchell ES, Woods NF. Midlife women's attributions about perceived memory changes: observations from the Seattle midlife women's health study. *J Womens Health Gend Based Med* 2001;10:351–62. [PubMed: 11445026]
3. Woods NF, Mitchell ES, Adams C. Memory functioning among midlife women: observations from the Seattle midlife women's health study. *Menopause* 2000;7:257–65. [PubMed: 10914619]
4. Zandi PP, Carlson MC, Plassman B, Welsh-Bohmer KA, Mayer LS, Steffens DC, et al. Hormone replacement therapy and incidence of Alzheimer disease in older women. *JAMA* 2002;288:2123–9. [PubMed: 12413371]

5. Ponds RWHM, van Boxtel MPJ, Jolles J. Age-related changes in subjective cognitive functioning. *Educ Gerontol* 2000;26:67–81.
6. McDougall G Decreasing mental frailty in at-risk elderly. *Geriatr Nurs* 1998;19:220–4. [PubMed: 9866512]
7. Lykestos CG, Lopez O, Jones B, Fitzpatrick AL, Breitner J, Dekosky S. Prevalence of neuropsychiatric symptoms in dementia and mild cognitive impairment. *JAMA* 2002;288:1475–83. [PubMed: 12243634]
8. Shah Y, Tangalos EG, Petersen RC. Mild cognitive impairment. When is it a precursor to Alzheimer's disease? *Geriatrics* 2000;55:65–8.
9. Petersen RC, Doody R, Kurz A, Mohs RC, Morris JC, Rabins PV, et al. Current concepts in mild cognitive impairment. *Arch Neurol* 2001;58:1985–92. [PubMed: 11735772]
10. Perfect TJ, Stollery B. Memory and metamemory performance in older adults: one deficit or two? *Q J Exp Psychol* 1993;46A:119–35.
11. Schmidt IW, Berg IJ, Deelman BG. Relations between subjective evaluations of memory and objective memory performance. *Percept Mot Skills* 2001;93:761–76. [PubMed: 11806600]
12. McDougall G Predictors of metamemory in older adults. *Nurs Res* 1994;43:243–8.
13. Lachman ME, Leff R. Perceived control and intellectual functioning in the elderly: a 5-year longitudinal study. *Dev Psychol* 1989;25:722–8.
14. Lachman ME, Weaver SL, Bandura M, Elliott E, Lewkowicz CJ. Improving memory and control beliefs through cognitive restructuring and self-generated strategies. *J Gerontol B Psychol Sci Soc Sci* 1992;47:P293–P299.
15. Lachman ME. Memory efficacy in community elders. Unpublished raw data; 1990.
16. Lachman ME, Steinberg ES, Trotter SD. Effects of control beliefs and attributions on memory self-assessments and performance. *Psychol Aging* 1987;2:266–71. [PubMed: 3268218]
17. Goldstein MZ, Perkins CA. Mental health and the aging woman. *Clin Geriatr Med* 1993;9(1):191–6. [PubMed: 8443734]
18. McDougall GJ. Memory improvement in assisted living elders. *Issues Ment Health Nurs* 2000; 21:217–33. [PubMed: 10839062]
19. Zelinski EM, Gilewski MJ, Schaie KW. Individual differences in cross-sectional and 3-year longitudinal memory performance across the adult life span. *Psychol Aging* 1993; 8:176–86. [PubMed: 8323722]
20. Berry JM, West RL. Cognitive self-efficacy in relation to personal mastery and goal setting across the life span. *Int J Behav Dev* 1993; 16:351–79.
21. Berry JM, West RL, Dennehey DM. Reliability and validity of the memory self-efficacy questionnaire. *Dev Psychol* 1989;25:701–13.
22. Hertzog C, Dixon RA, Schulenberg JE, Hultsch DF. On the differentiation of memory beliefs from memory knowledge: the factor structure of the Metamemory in Adulthood Scale. *Exp Aging Res* 1987;13:101–7. [PubMed: 3678344]
23. McDougall G A review of screening instruments for assessing cognition and mental status in older adults. *Nurs Pract* 1990;15:18–20, 22–4, 26–8.

Table 1

Memory efficacy of entire sample by age groups (n = 169)

	Young (50–64 years)		Middle (65–74 years)		Older (age 75 and older)	
	M	SD	M	SD	M	SD
ME # 1	40.40	31.03	40.56	33.30	38.62	30.44
ME # 2	52.40	27.15	53.11	32.35	42.07	29.45
ME # 3	72.40	25.52	72.56	29.32	68.62	24.46
ME # 4	35.40	35.41	36.89	35.05	32.41	32.37
Memory Eval	4.56	.95	4.62	1.19	4.52	1.30