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Older Adults' Metamemory: Coping, Depression, and Self-Efficacy

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ENHANCEMENT OF cognitive performance is a goal of successful aging, and 80% of older adults' cognitive complaints are memory-related (Poon, 1985). Closely related to memory is the construct of metamemory, which has both clinical and developmental underpinnings. The developmental emphasis is information about the memory system that is comprised of one's perceptions, beliefs, and knowledge about the functioning and development of memory mechanisms and contents (Perlmutter et al., 1987). The clinical emphasis is on memory problems and failures, such as frequency of forgetting in specific domains and mnemonic strategy usage (Gilewski & Zelinski, 1986).

Self-assessment of metamemory and memory complaints from a clinical perspective is important for at least three reasons: (a) memory complaints may provide information for assessing dementia and distinguishing it from depression; (b) complaints provide important information about how individuals view their own cognitive functioning; and (c) knowledge of memory processes using self-report instruments elucidates beliefs underlying performance (Gilewski & Zelinski, 1986).

As an individual ages, cognitive changes, such as memory problems and failures, require coping. However, the level of distress experienced by a symptom and the action taken are related to a number of factors. Such factors are beliefs about aging, perception of symptom severity, attribution to aging, and neurotic personality traits. Older adults rated memory loss and forgetfulness the least serious problem or the one that they neglected (Haug, Wykle, & Namazi, 1989). There is an inherent conflict if older adults are concerned about their cognitive functioning yet do nothing about their memory lapses.

Health promotion is an appropriate paradigm for investigating antecedents of cognitive disorders in older adults. Metamemory may be conceptually considered as a cue to action within the Health Belief and the Health Promotion Models (Pender & Pender, 1987). When relatively healthy older adults are concerned about memory problems, possible transitory, nonmemory factors should be considered (Perlmutter et al., 1987). Cognitive and affective factors known to significantly affect self-assessment of memory are depression (O'Hara,

Hinrichs, Kohout, Wallace, & Lemke, 1986; Zelinski, Gilewski, & Anthony-Bergstone, 1990) and beliefs about self-efficacy (Bandura, 1989).

The purpose of this pilot study was to investigate the relationships among the variables of coping, self-efficacy, depression, and older adults' metamemory. This preliminary investigation encompasses two questions:

1. Are there age variations in coping, depression, self-efficacy, and metamemory among adults 55 years of age and older?
2. What are the relationships among the factors coping, depression, and self-efficacy and their relationship to metamemory in older adults?

METHOD

Subjects

Individuals attending a nonprofit continuing education program were recruited because of their expressed interest in learning. This purposive sample consisted of 16 females and 10 males. The entire sample was white with 65% married ($n = 17$), 23% widowed ($n = 7$), 6% divorced ($n = 1$), and 6% never having been married ($n = 1$). Subjects ranged in age from 59 to 78 years ($M = 68.73$, $SD = 13.13$), with males being older ($M = 72.33$) than females ($M = 66.25$). All individuals had a college degree and averaged 17.84 years of education ($SD = 2.72$). Yearly incomes ranged from \$15,000 to \$100,000.

Instruments

Four self-report, self-administered instruments were used in the study. The Metamemory Questionnaire, developed by Gilewski and Zelinski, is a 92-item, 7-point Likert instrument consisting of nine subscales: general rating, frequency of reliance on memory alone, retrospective functioning, frequency of forgetting, frequency of forgetting when reading novels, frequency of forgetting when reading newspapers and magazines, remembering past events, seriousness, and mnemonics (Gilewski & Zelinski, 1986). Higher scores in each subscale indicate higher levels of memory functioning, fewer forgetting and less serious incidents, improvement in current memory ability relative to earlier ability in life, and less use of mnemonics. The Coping Strategies Inventory (CSI) is a 52-item, 4-point Likert instrument with scores ranging from 52 to 208 (Quayhagen & Quayhagen, 1982). The CSI measures coping patterns of mid- and late-life older adults' stressful life events and is organized around three conceptual categories: (a) strategies that directly alter the stressful situation, (b) those that control the meaning of it, and (c) those that address management of the stress generated by it. Higher scores indicate greater use of coping strategies. The Zung Self-Rating Depression Scale, a 20-item, 4-point Likert instrument, was developed to measure clinical depression in all age groups (Zung & Durham, 1965). Scores range from 20 to 80, with higher scores indicating greater depression. The General Self-Efficacy Subscale is a 17-item, 5-point Likert instrument, with scores ranging from 17 to 85. Higher scores indicate greater self-efficacy (Sherer & Adams, 1983).

RESULTS

Pearson correlation coefficients were computed to determine the relationships among age, coping, depression, self-efficacy, and metamemory factors. A significance level was set at $p = .10$ because of the small sample size and the exploratory, heuristic nature of the study. The correlations of age with coping, depression, self-efficacy, and metamemory factors were not significant. The findings addressed by the second research question yielded significant inverse relationships between the variable depression (even though scores $M = 33.00$, $SD = 7.08$ indicated absence of depression) and the metamemory factors of frequency of forgetting ($r = -.49$), remembering past events ($r = -.45$), retrospective functioning ($r = -.34$), seriousness of forgetting ($r = -.39$), and mnemonics usage ($r = -.40$). A significant inverse relationship also was produced between self-efficacy and frequency of forgetting ($r = -.33$). The correlations between self-efficacy and coping ($r = .49$) and self-efficacy and mnemonic usage ($r = .51$) were positive and significant.

DISCUSSION

Results of this pilot study indicate a need to further investigate modifiable factors affecting cognitive function. Of particular interest are the significant correlations between self-efficacy and the metamemory factors of frequency of forgetting and mnemonics usage. Frequency of forgetting includes ratings of how often forgetting occurs in 28 specific situations, including when one is reading, and mnemonics usage includes the frequency with which eight specific mnemonics are used. These findings support Bandura's (1989) notion that individuals may give up trying because they doubt their own efficacy for achieving a desired level of performance, or they may be convinced of their own capabilities but give up trying because of an unresponsive or punishing environment. Given the level of education and income of these adults, a high sense of efficacy would be expected, particularly because they were attending educational programs.

The clinical practice implications of this study are related to the cognitive assessment of older adults. Nurses tend to emphasize the disease or pathological condition in an individual. What is missing are indicators of normal functioning, such as memory knowledge in healthy older adults. Assessment of metamemory is important to determine how individuals view their own cognitive functioning. Clinical psychiatry has documented the need in psychiatric practice for tests of normal functioning (Havens, 1984). An area requiring further investigation is that of cognitive functioning and mental decline in normal aging (Rinn, 1988). Age-associated memory impairment (AAMI), a relatively new area of diagnostic inquiry, is receiving increased attention and considers both subjective and objective memory losses in evaluating treatment efficacy (Blackford & LaRue, 1989; Larrabee & Crook, 1989). Metamemory is the subjective component of AAMI research. This interest is based on the need for precise diagnostic criteria to distinguish individuals aged 50 years and older who are not experiencing memory loss from those individuals with specific disease states. Previous scientific terminology used to describe cognitive function and aging, such as "benign senescent forgetfulness," is grossly inaccurate and has hindered research and practice. Precise diagnostic criteria will also enable the measurement of treatment effects.

Assessment of metamemory and self-efficacy in a healthy older adult population also has prescriptive possibilities as a cognitive health promotion intervention (Greenberg & Powers, 1987; Yesavage, 1985). Questions for further investigation include (a) Does cognitive performance of older adults' improve with higher efficacy perceptions? and (b) Is it possible to change self-efficacy beliefs with knowledge?

The geographic location, small number, and unusual demographic characteristics of this sample, such as higher education and income, limits generalizability. However, this study supports continuing use of the metamemory construct as one ecologically valid method to measure older adults' cognitive concerns related to memory. Further investigation is necessary to determine if metamemory is related to engagement in health promoting behaviors to minimize symptoms of poor memory. Continued investigation of older adults' self-efficacy beliefs and memory strategies, such as mnemonics usage, is also recommended in relation to cognitive function.

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REFERENCES

- Bandura A (1989). Regulation of cognitive processes through perceived self-efficacy. *Developmental Psychology*, 25(5), 729–735.
- Blackford RC, & La Rue A (1989). Criteria for diagnosing age-associated memory impairment: Proposed improvements from the field. *Developmental Neuropsychology*, 5(4), 295–306.
- Gilewski MJ, & Zelinski EM (1986). Questionnaire assessment of memory complaints. In Poon LW (Ed.), *Handbook for Clinical Memory Assessment of Older Adults* (pp. 93–107). Washington, DC: American Psychological Association.
- Greenberg C, & Powers SM (1987). Memory improvement among adult learners. *Educational Gerontology*, 13, 263–280.
- Haug MR, Wykle MY, & Namazi KH (1989). Self-care among older adults. *Social Science in Medicine*, 29(2), 171–183.
- Havens LL (1984). Need for tests of normal functioning in the psychiatric interview. *American Journal of Psychiatry*, 141(10), 1208–1211. [PubMed: 6486253]
- Larrabee GJ, & Crook TH (1989). Performance sub-types of everyday memory function. *Developmental Neuropsychology*, 5(4), 267–283.
- O'Hara MW, Hinrichs JV, Kohout FJ, Wallace RB, and Lemke JH (1986). Memory complaint and memory performance in the depressed elderly. *Psychology and Aging*, 1(3), 208–214. [PubMed: 3267400]
- Pender NJ, & Pender AJ (1987). *Health promotion in nursing practice* (2nd. ed.). Norwalk, CT: Appleton & Lange.
- Perlmutter M, Adams C, Berry J, Kaplan M, Person D, & Verdonik F (1987). Aging and memory. In Schaie KW & Eisdorfer C (Eds.), *Annual Review of Geriatrics and Gerontology: Volume 7* (pp. 57–92). New York: Springer.

- Poon LW (1985). Differences in human memory with aging: Nature, causes, and clinical implications. In Birren JE & Schaie KW (Eds.), *Handbook of the Psychology of Aging* (2nd ed., pp. 427–462). New York: Van Nostrand Reinhold.
- Quayhagen MP, & Quayhagen M (1982). Coping with conflict: Measurement of age-related patterns. *Research on Aging*, 4(3), 364–377.
- Rinn WE (1988). Mental decline in normal aging. A review. *Journal of Geriatric Psychiatry and Neurology*, 1 (July-September), 144–158. [PubMed: 3075496]
- Sherer M, & Adams CH (1983). Construct validation of the self-efficacy scale. *Psychological Reports*, 53, 899–902.
- Yesavage JA (1985). Nonpharmacological treatments for memory losses with normal aging. *American Journal of Psychiatry*, 142(5), 600–605. [PubMed: 3885762]
- Zelinski E, Gilewski M, & Anthony-Bergstone C (1990). Memory functioning questionnaire: Concurrent validity with memory performance and self-reported memory failures. *Psychology and Aging*, 5(3), 388–399. [PubMed: 2242243]
- Zung WK, & Durham NC (1965). A self-rating depression scales. *Archives of General Psychiatry*, 12(1), 63–70. [PubMed: 14221692]