Predictors of Subjective Memory in Older Adults

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Memory complaints by healthy older people usually show little relation to objective memory performance. If subjective memory evaluations are not driven by actual memory problems, what is the cause of these complaints? Correlations of an objective measure of memory as well as measures of personality, emotional distress, and health with subjective memory evaluations were examined in 283 community-dwelling people aged 45 to 94 years. Stepwise regression analysis revealed that a combination of personality measures (Conscientiousness, self-esteem, Neuroticism) explained about a third of the variance in memory complaints compared with only 4% unique variance associated with the objective memory measure. Successful interventions for memory concerns in nondemented older people need to be tailored to the individual.

Methods

Participants

Three hundred nine community-dwelling older adults over the age of 45 were solicited through senior groups and the Washington University Aging and Development research volunteer pool after approval by the human subjects committee. The participants were screened by telephone to determine eligibility and to collect basic demographic information. Following verbal consent, participants were administered the short Blessed test (Katzman et al., 1983), which is commonly used to screen for cognitive dysfunction. Sixteen people did not return their surveys, leaving a total of 283 participants (209 women, 74 men). Their mean age was 70.6 (SD = 11.0), ranging from 45 to 89 years. Their mean education was 14.7 (SD = 2.8) years.

Measures and Procedure

The Ability and Frequency scales from the Memory Assessment Clinics Self-Rating Scale (MAC-S, Revised; Winterling, Crook, Salama, & Gobert, 1986) were used to measure subjective memory. Each item is rated on a 5-point scale. The 21 items of the Ability factor indicate people’s subjective ratings of their memory ability in various situations. The 24 items of the Frequency factor provide a subjective rating of the frequency of occurrence of certain memory problems. The MAC-S has high test–retest reliability and concurrent validity, and the Ability and Frequency factors remain stable across the life span (Crook & Larabee, 1992). Because the scores on the two factors were highly correlated (.80) in this study, the scales were standardized and averaged to form a composite that served as the dependent variable. A negative composite indicates poorer subjective memory.
The Logical Memory subtest from the Wechsler Memory Scale III (Wechsler, 1997) was used to measure objective memory. The test includes two different short stories with the second story presented twice. Scores are based on the accuracy of the participant’s story recall and can range from 0 to 75, with a high score indicating good memory. Because the test was administered by telephone after the cognitive screening assessment, only immediate recall was assessed. The participant listened while the examiner read a short story. Immediately after hearing the story, the participant retold it from memory. Participants’ responses were recorded, with their permission, for subsequent scoring by the first author.

The 15-item Geriatric Depression Scale (GDS; Sheikh & Yesavage, 1986) is a self-report measure specifically designed to avoid classification errors that are due to somatic complaints common in older adults. This shortened version of the original 30-item GDS has been shown to be a valid and reliable instrument for screening depression (Sheikh & Yesavage, 1986). Scores can range from 0 to 15, with higher scores indicating more depression.

We did not expect high rates of depression in this volunteer sample but thought there might be more variability in self-esteem, a related construct. Scores on the Single-Item Self-Esteem Scale (Robins, Hendin, & Trzesniewski, 2003) range from 1 to 5, with higher scores indicating positive evaluations of the self. This scale has been shown to have good convergent validity with the Rosenberg Self-Esteem Scale (Robins et al., 2001) and is a more practical alternative to the longer Rosenberg Scale. The trait measure of the State–Trait Anxiety Inventory (Spilberger, 1983) was used to evaluate trait anxiety. Individuals rank their anxiety levels on 4-point Likert scales. Total scores can range from 20 to 80, with higher scores indicating higher levels of trait anxiety.

The Anxiety about Aging Scale (Lasher & Faulkender, 1993) was used to identify the role that specific fears about aging play in subjective memory. This scale includes four general areas of aging anxiety, including the fear of old people, psychological concerns, physical appearance concerns, and the fear of losses. This 20-item scale uses 5-point Likert ratings; scores can range from 20 to 100, with higher scores indicating more anxiety about aging.

A simple 11-point rating scale ranging from 0 (poor) to 10 (excellent) was used to evaluate participants’ present health (Botwinick & Storanid, 1974, p. 57).

The self-rated NEO-Five Factor Inventory (NEO-FFI; Costa & McCrae, 1992) was used as a measure of personality. The five personality domains include Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness. Scores on each dimension can range from 0 to 48, with higher scores indicating higher levels of the particular trait.
Our results regarding the correlation of self-esteem and memory complaints agree with those Giovagnoli, Mascheroni, and Avanzini (1997) observed in people with epilepsy. Older adults’ perceptions of their memory appear to depend on their view of the self. Alternatively, it could be that their self-esteem depends on their perceived memory ability. Because of the correlational nature of this study, the direction of causality is unclear. Previous studies concluded that depression is a major contributor to memory complaints by older adults (Antikainen et al., 2001), but none included a measure of self-esteem. Although depression certainly may lead to complaints about memory, in those who are not depressed low self-esteem may be a more useful predictor. The mean GDS score in the present sample was 1.79 (SD = 2.19).

As shown in Table 1, Neuroticism was correlated with both Conscientiousness (r = .37) and self-esteem (r = .52), but it still contributed to the prediction of memory complaint after these two related variables were included in the analysis. This additional component of explained variance (4%) probably contains elements of anxiety, which has been reported in previous studies (e.g., Poitrenaud et al., 1989). Neuroticism and trait anxiety were strongly correlated in our sample (r = .80). An examination of the facets of both conscientiousness and neuroticism is needed to determine which aspects of these personality traits are related to memory complaint.

In summary, several personality variables—conscientiousness, self-esteem, neuroticism—were associated with memory complaints. Considered together, they explained approximately a third of the variance in subjective memory evaluation. These findings suggest directions for future interventions. In the past, the focus has been on teaching memory skills. We need interventions that address the other variables that are related to memory complaint. Although personality change is a complex task, low self-esteem and anxiety are problems commonly addressed in therapeutic settings. Treatments for these conditions should be considered for treatment of memory complaints as well. In addition, interventions may be tailored to the individual. For example, different approaches to learning may be needed for people low in conscientiousness compared with those high in conscientiousness.

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