

**CROSS-CULTURAL BELIEFS ABOUT MEMORY
AND AGING FOR SELF AND OTHERS:
SOUTH KOREA AND CANADA***

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ABSTRACT

Young adults in Canada ($N = 161$) and South Korea ($N = 165$) rated either themselves or typical others at target ages 25, 45, and 65 years. In both countries, poorer memory was anticipated with each increase in age on all 3 memory belief factors: capacity, change, and locus. Both groups demonstrated a self-protective bias about age-related decline, with Koreans showing a greater effect. These findings demonstrate the cross-cultural generality of negative memory stereotypes of middle and old age and the importance of self-other distinctions in age biases.

Attitudes toward aging in the West have been found to be negative in domains of competence, independence, and health (Nelson, 2002, 2005; Palmore, 1999).

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Studies of memory in North America and Europe have shown a strong pattern of expected decline across the adult age span (e.g., Erber & Prager, 1999; Lineweaver & Hertzog, 1998; Noesjirwan, Gault, & Crawford, 1983; Ryan, 1992), and older adults express concerns about future memory problems (Dark-Freudeman, West, & Viverito, 2006). Moreover, age-based attitudes are important because they can influence memory performance. Research concerning the impact of implicit and explicit memory threat shows that elicitation of negative age-based memory stereotypes or counteracting them can yield corresponding changes in the memory performance of older adults and that the extent of performance shift depends upon how strongly the stereotype is held (Andreoletti & Lachman, 2004; Hess, Aumana, Colcombe, & Rahhal, 2003; Hess & Hinson, 2006; Levy, 1996).

The present study continues the line of research into memory changes anticipated across the life span by comparing views in two cultures about one's own aging and the typical aging of others. For this purpose, we are following up several previous studies with the Dixon and Hultsch (1983) Metamemory in Adulthood instrument, adapted for use in documenting memory stereotypes along three dimensions: memory capacity, change (over past and future 10 years), and locus of control for memory. With an independent group design, Ryan and Kwong See (1993) asked young Canadians to rate the memory of either typical adults or themselves at one specific target age along the three dimensions. Young adult beliefs about capacity and change were more favorable for 25-year-old targets than for either 45- or 65-year-old targets, and least positive for 85-year-old targets (see also Ryan, 1992).

There has long been the view that strong traditional norms of filial piety in the East should support more positive attitudes toward older adults in Asian countries. However, empirical East-West studies conducted recently have shown that expectations about older adults regarding vitality and communication competence are at least as negative in Asia (Giles, Fortman, Honeycutt, & Ota, 2003; Harwood, Giles, Ota, Pierson, Gallois, Ng, et al., 1996; Koyano, 1989; Ng, 1998; Williams & Nussbaum, 2001). With respect to memory, one intriguing study suggested that more positive Asian expectations about aging might be associated with better memory in old age. Levy and Langer (1994) found that older Chinese participants did not show the age-group deficit found in an American group and that both Chinese age groups showed more favorable attitudes toward aging in general than young and older Americans. However, a replication comparing Chinese immigrants to Canada with English Canadians found the generally positive aging attitude among the Asian immigrants, but the same age-group differences in memory performance occurred for the two cultural groups (Yoon, Hasher, Feinberg, Rahhal, & Winocur, 2000). To assess Asian expectations specifically about memory across the adult age span, Jin, Ryan, and Anas (2001) replicated the independent-group study of Ryan and Kwong See (1993) study in South Korea, with 25-, 45-, and 65-year-old targets and found a

similar strong pattern of increased expectation for memory problems with aging among Korean young adults for all three scales (i.e., capacity, change, and locus). However, only a direct comparison of participants from the East and the West can establish whether memory expectations differ across cultures. Moreover, asking participants to rate targets of all three ages would allow for clear cross-cultural comparisons of expected declines.

Another important issue regarding cross-cultural beliefs about aging concerns whether individuals anticipate a more favorable aging trajectory for themselves as compared to typical others (Cavanaugh, Feldman, & Hertzog, 1998; Cross, & Markus, 1991). Krueger and Heckhausen (1993) and Martini and Dion (2001) have obtained evidence for this self-protective bias on personality ratings in Germany and North America, respectively. Projections into the future showed greater separation between evaluations of self and typical others for the oldest target ages. Cross-cultural comparisons of North America to Japan and China have not been consistent concerning the relative size of the Asian self-protective age bias, which was stronger for personality (e.g., Levy, 1999) but weaker for intergenerational communication difficulties (e.g., Giles et al., 2003). With respect to memory, the Ryan and Kwong See (1993) study asked young Canadians to rate one target: typical others at one of three target ages or oneself at one of the three hypothetical ages (25, 45, or 65). No evidence of a self-protective bias was found. In contrast, the Jin et al. (2001) Korean replication study documented the self-protective bias in the memory domain for the first time. In particular, differences in capacity and locus across target ages were larger for typical others than anticipated for the self. Given the conflicting cross-cultural patterns regarding a stronger self-protective bias in Asia than North America for personality and memory but not for communication, further research contrasting self-other age-based memory beliefs in Western and Asian countries is needed.

In the present study, we directly compared the beliefs about memory across the life span in South Korea and Canada. In contrast to the two earlier studies, we employed a within-participants contrast for target ages in order to increase the sensitivity to possible cross-cultural differences in the target age trajectory either for self or others. Young adults in both countries rated the expected memory of either themselves or typical others at three target ages. This cross-cultural examination contributes to the growing body of literature concerning possible differences in ageism between the East and the West and in the relative self-relevance of ageist beliefs.

Hypotheses:

1. Target age differences will show a pattern of decreasing memory from age 25 to age 45 and from age 45 to age 65 years.
2. Self-other comparisons will show higher memory ratings for the self than for typical others.

3. Self-other differences will increase from target age 25 to target age 65, showing a self-bias in aging expectations.
4. The self-bias in aging expectations will be greater for Korean than for Canadian participants, given the findings from the studies conducted separately in each country.

METHOD

Participants

Participants were volunteer university undergraduates earning course credit in introductory psychology courses in Korea ($N = 165$, M Age = 21.6 years, $SD = 2.0$) and in Canada ($N = 161$, M Age = 19.9 years, $SD = 1.3$). In both countries, ages ranged from 18 to 27 years. In Canada, students of Asian background were not included.

Materials

As in previous studies, memory beliefs were assessed with the 44 items representing the Capacity (18 items), Change (17 items), and Locus of Control (9 items) dimensions from the Metamemory in Adulthood instrument (Dixon & Hultsch, 1983). Examples of statements assessing Capacity are "I am good at remembering names" and "I am poor at remembering trivia." Statements assessing Change included "Compared to 10 years ago, I am much worse at remembering titles of books, films, or plays" and "I can remember things as well as always"; Locus of control over one's memory, was represented with statements such as "It's up to me to keep my remembering abilities from deteriorating" and "Even if I work on it, my memory ability will go downhill."

Participants were asked to make judgments about all items at each of three hypothetical ages (25, 45, 65 years), either for themselves or for typical others. They indicated their level of agreement with each item using a 5-point scale, with 1 indicating high agreement. Some items were reversed so that high numbers for the three dimensions consistently indicated high capacity, little unfavorable change and internal locus of control. The target ages were presented in counter-balanced orders (increasing or decreasing).

The criterion for significance was set at $\alpha = .05$. Post-hoc comparisons were conducted using t -tests with Bonferroni-type corrections for experiment-wise error.

Within each cultural group, and within Self and Other conditions, Cronbach alpha coefficients were calculated for the memory dimensions for each target age. The 18 indices of internal consistency for the Korean sample ranged from .77 to .84 for self assessment, and from .71 to .89 for assessment of others. For the Canadian sample, the ranges were .82 to .91 and .73 to .90 respectively. Twenty-nine of the 36 coefficients were at or above .80. Composite variables were formed by averaging the ratings of the relevant items for Capacity, Change, and Locus.

RESULTS AND DISCUSSION

A multivariate analysis of variance was conducted with Country (between: Canada vs. Korea), Group (between: Self vs. Other), and Target Age (within: 25 vs. 45 vs. 65 years) as independent variables, and the Capacity, Change, and Locus of Control dimensions as dependent measures (see Table 1 for means and standard deviations for each dimension across all conditions).

The MANOVA revealed a main effect of target age, Wilks' $\Lambda = .29$, $F(6, 317) = 128.32$, $p < .001$, with large target age effect sizes for all three dependent measures: Capacity, $\eta^2 = .54$, Change, $\eta^2 = .61$, and Locus, $\eta^2 = .26$. With each increase in target age, there was a significant decline in the ratings. As predicted, respondents expected memory decline from youth to middle age and from middle age to old age on each dimension, with the anticipated decline for capacity and change accounting for a larger proportion of variance than for locus. Target age differences on locus accounted for the least variance in Jin et al. (2001) and were not significant in Ryan and Kwong See (1993).

Table 1. Korean and Canadian Memory Perceptions for Self and Typical Other for Three Self-Efficacy Dimensions across Target Ages

Dimension	Korea Target age (years)			Canada Target age (years)		
	25	45	65	25	45	65
Capacity						
Self	3.34 (.48)	3.10 (.48)	2.79 (.54)	3.76 (.55)	3.53 (.56)	3.15 (.66)
Other	3.45 (.52)	3.01 (.54)	2.49 (.58)	3.76 (.42)	3.55 (.46)	3.14 (.46)
Change						
Self	3.14 (.44)	2.81 (.49)	2.52 (.49)	3.65 (.52)	3.25 (.63)	2.72 (.70)
Other	3.12 (.52)	2.58 (.51)	2.29 (.55)	3.63 (.39)	3.08 (.56)	2.66 (.59)
Locus						
Self	3.44 (.57)	3.27 (.64)	3.05 (.67)	3.41 (.74)	3.24 (.77)	3.07 (.90)
Other	3.39 (.52)	3.12 (.59)	2.89 (.73)	3.20 (.57)	2.98 (.57)	2.75 (.62)

There was also a multivariate main effect of self/other, Wilks' $\Lambda = .97$, $F(3, 320) = 3.82$, $p < .05$, with respondents showing a self bias in their estimates of Change, $\eta^2 = .02$, and Locus, $\eta^2 = .03$. On Locus only, memory expectations were higher for self than typical others uniformly across target ages. The self/other main effect was qualified by:

1. a self/other by target age multivariate interaction, Wilks' $\Lambda = .93$, $F(6, 317) = 3.91$, $p < .01$, with contributions from Capacity, $F(1.6, 525.9) = 9.38$, $p < .001$, $\eta^2 = .03$, and Change, $F(1.8, 571.9) = 6.05$, $p < .01$, $\eta^2 = .02$; and
2. a multivariate triple interaction, Wilks' $\Lambda = .95$, $F(6, 317) = 2.65$, $p < .05$, with a univariate effect only for Capacity, $F(1.6, 525.9) = 7.7$, $p < .01$, $\eta^2 = .02$.

For Change, the 2-way interaction between self/other and target age showed the predicted significant positive aging self bias at ages 45 and 65 (see Figure 1). For Capacity, the triple interaction was examined by separate 2-way interactions for Canada and Korea. For Canada, the interaction between self/other and target age was not significant. For Korean participants, the 2-way interaction appeared at age 65 (see Figure 2).

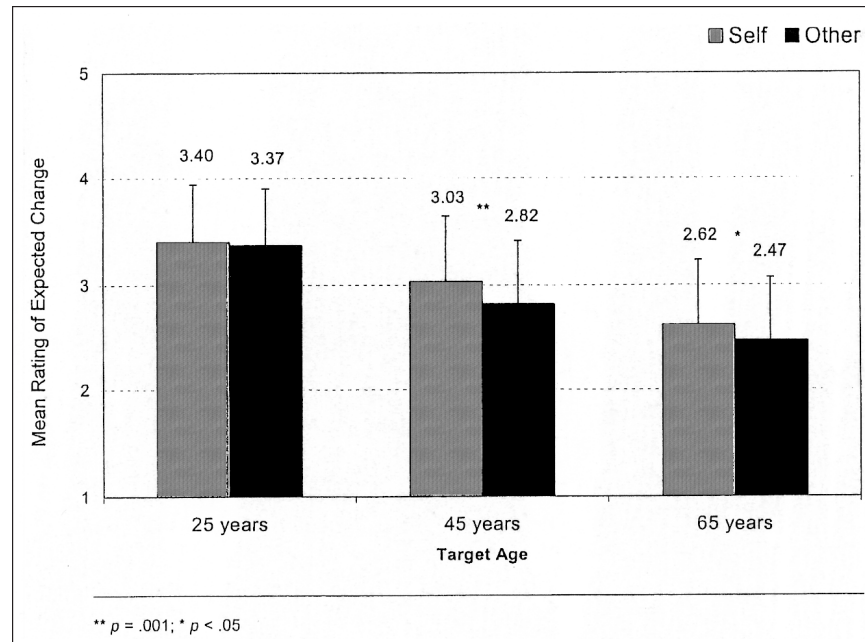


Figure 1. Beliefs about Memory Change (decline) for self and other at three target ages. (Error bars are Standard Deviations.)

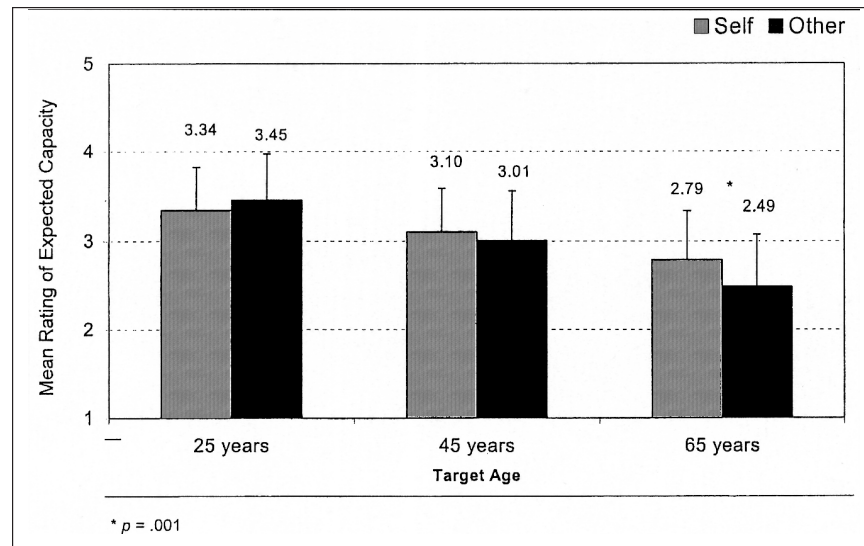


Figure 2. Korean Beliefs about Memory Capacity for self and other at three target ages. (Error bars are Standard Deviations.)

Overall, the large target-age main effects (varying from 26% to 61%) confirm Hypothesis 1 concerning cross-cultural generality in expectations of memory decline across adulthood. The self/other main effect supported Hypothesis 2 of self bias. Importantly, results with this sizeable sample provide support for Hypothesis 3. In both Korea and Canada, the aging self-protective bias was found in terms of less decline anticipated for the self than for typical others, at ages 45 and 65. This is the first evidence for the aging self-protective bias for memory in North America. Consistent with Hypothesis 4, the Korean participants showed an additional self aging bias for capacity ratings at age 65.

These findings, for young adults in university, suggest that there is generality across cultures of expectation for memory decline with age, especially for typical others. Youth expect memory to decline, in middle age as well as early old age, and hence they will expect less of older people (beginning in middle age) with respect to this core indicator of mental capability in their social interactions. Such expectations can guide work, community, and even family relationships in terms of lowered expectations for competent behaviors. At least in North America, age-based memory stereotypes may lead young people to use patronizing speech, over-react to an everyday memory failure, or pay greater attention to age excuses by older adults (see Hummert, Garstka, Ryan, & Bonnesen, 2004). Downward social comparisons based on the aging self-protective bias can be useful to individuals as they age in maintaining their identity as competent members of society.

The similarity in beliefs about memory decline among undergraduates from these two cultures may reflect the impact of westernization/urbanization/modernization or it may be part of the Asian separation of public behaviors of respect for the old from privately held negative beliefs (Harwood et al., 1996; Koyano, 1989). Cross-cultural research highlighting traditional Confucian values among young adults (Zhang, Lin, Nonaka, & Beom, 2005) shows the continuing power of interpersonal harmony, followed by hierarchy and traditional conservatism, in Korea as in other Asian countries. Interpersonal harmony may well be achieved by graciously showing filial piety even while believing in aging declines in memory and other mental and bodily capacities and worse declines for others than for oneself.

The cross-cultural generality in beliefs about typical aging memory was found here among the highly educated. The American findings of Andreoletti and Lachman (2004) concerning greater vulnerability to the impact of negative stereotypes on performance for less educated participants suggest that level of education might indeed account for part of the self-other protective bias observed here. Compared to Canada, the greater competition for university admission in Korea might have led Korean undergraduates to see themselves as an especially select group anticipating a superior age trajectory in comparison to typical others with less education. Direct comparisons in both countries of adults with different levels of education would be particularly informative.

It should be noted that a full repeated measures design was not possible due to constraints on the time and attention of participants. In the future, one could compare self and typical ratings directly within participants for all the target ages by using a less elaborate measure of memory expectations.

Future research should also examine the replicability of the greater self-protective bias about memory aging in Korea and also examine the patterns of aging bias in other Asian countries among which significant variation in age beliefs has been observed (see Williams & Nussbaum, 2001). It would also be useful to examine the cross-cultural implications of these memory stereotypes for evaluative reactions toward forgetful individuals of different ages (see Erber & Prager, 1999) and for the impact of priming positive or negative memory stereotypes (see Levy, 2001).

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