Older adults exhibit a deficit in associative long-term memory relative to younger adults. However the associative deficit of older adults is less apparent in short-term memory or working memory; the literature is inconclusive regarding whether this deficit is attenuated or consistent with the deficit in long-term memory. In order to help elucidate the issue, three experiments assessed younger and older adults’ item and associative memory and the effects of several variables that might have potentially contributed to the inconsistent pattern of results in previous studies. In Experiment 1, participants were tested on item and associative recognition memory with both long-term and short-term retention intervals in a single, continuous recognition paradigm. There was an associative deficit for older adults in the short-term as well as the long-term intervals. To examine the potential effect of test event salience discrepancies between the item and associative tests, Experiment 2 utilized mixed and blocked test designs of the same paradigm of Experiment 1, using only short-term intervals. Blocking the test did not attenuate the age-related associative deficit seen in the mixed test blocks. Finally, in Experiment 3, study material was presented sequentially, as in Experiments 1 and 2, or simultaneously. An age-related associative deficit was found in both conditions. Even while accounting for some methodological discrepancies, the associative deficit of older adults is evident in short-term/working memory.