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# Age-Related Impairments in Monitoring Recollection-Based Memory

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## Introduction

Many studies have shown older adults to be impaired in monitoring their memory of recently learned information (e.g., #1, 4), whereas studies examining monitoring of general knowledge questions have not shown age differences (e.g., #2, 3). We propose a misrecollection account that suggests age differences in monitoring are due to older adults' propensity to committing high-confidence memory errors on recollection-based memory tasks. The current study tests this account by examining monitoring of both item and source memory responses after equating overall memory accuracy between older and younger adults.

## Method and Results

Older adults (OA), younger adults (YA), and younger adults who we equated on overall memory accuracy with OA (Y-M) saw and heard sentences spoken by either a male or female speaker. At test, we asked participants to identify each item as old or new and then rate their confidence in the accuracy of their response. If they responded 'old', we then asked participants to identify the source of each item as male or female, again followed by a confidence rating. The top half of Table 1 shows item and source memory for each group. OA did not differ from YA or from Y-M in terms of item memory, nor did OA differ from Y-M in terms of source memory.

Table 1: Memory and Monitoring Accuracy

Memory Type	Group		
	OA	YA	Y-M
	Accuracy		
Item	0.83	0.88	0.79
Source	0.61	0.78	0.65
	Calibration		
Item	0.09	0.08	0.10
Source	0.18	0.11	0.13

The bottom half of Table 1 shows monitoring accuracy for item and source memory for each group. Whereas the three groups did not differ in monitoring item memory responses, OA showed worse monitoring of source memory responses than both YA and Y-M. Figure 1 shows the proportion of source memory errors to which OA and Y-M assigned low (i.e., 50 or 60) and high (i.e., 70 or 80) confidence. Whereas OA and Y-M did not differ in the proportion of source

errors to which they assigned low confidence ratings, OA assigned high confidence ratings to a greater proportion of source memory errors than Y-M, indicating that OA's impaired ability to monitor source memory responses was due a propensity to committing high-confidence memory errors.

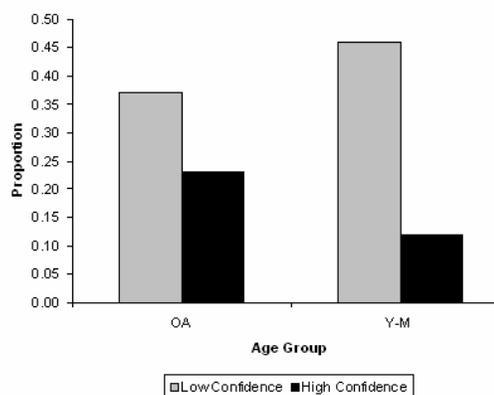


Figure 1: Low and High-Confidence Source Errors

## Discussion

Even after exhibiting equal levels of item and source memory, OA nonetheless showed worse monitoring of source memory responses than Y-M. Consistent with our misrecollection account, this monitoring impairment was due to OA's propensity to committing a large number of high-confidence memory errors on the source memory task. Furthermore, OA did not show an impairment in monitoring item memory responses.

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