Nonepisodic Autobiographical Memory Details Reflect Attempts to Tell a Good Story

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A persistent finding in the autobiographical memory (AM) literature is that older adults report more nonepisodic (or generalized/semantic) information than young adults. Since studies are usually focused on memory for episodic (or specific) autobiographical events, the reason for the age difference in nonepisodic AM remains understudied. This experiment investigated whether the higher rate of nonepisodic AM in older adults reflects (a) a difference incommunicative preferences or (b) cognitive decline, by way of either an inhibition deficit or as a means of compensating for a deficit in episodic AM. A sample of 54 young ($N = 28$, age range = 18–46) and older ($N = 26$, age range = 62–86) participants retrieved the same AM twice, under two different sets of instructions: to tell a good story for their autobiography, or to provide a detailed police witness statement. Both groups reported more general details when they were aiming to tell a good story. In addition, older adults also reported fewer specific details when the aim was to tell a good story. In a separate ranking task, young and older adults differed in their perceptions of what makes a good story; young adults ranked "detail," "grammar," and "full descriptions" more highly than older adults, whereas older ranked "linking ideas" and "explaining not just describing" more highly than young adults. The results suggest that age-related differences in nonepisodic AM might be explained by communicative preferences rather than cognitive decline.

> **Public Significance Statement**
> This study found that both young and older adults described their personal memories differently depending on the aim of their communication. Older adults were found to value a less detailed and more explanatory style of storytelling than young adults. The results suggest that some of the features of older adults' narratives that have previously been assumed to reflect cognitive decline may instead reflect the intention to tell a good story, highlighting the inherently social nature of autobiographical memory retrieval.

Keywords: autobiographical memory, episodic memory, personal semantics, ageing

Nonepisodic autobiographical memory (AM) refers to remembered information that is not specific to a single, unique autobiographical event. This includes general semantic knowledge (e.g., Paris is the capital of France), autobiographical facts (e.g., John is my brother), and information about repeated events (e.g., We went to the beach many times in the summer) or extended time periods (e.g., I spent the holidays abroad; see Renoult et al., 2012). This contrasts with episodic AM, which refers to information pertaining to a specific event that happened only once, and lasting a day or less (e.g., Last summer John and I spent the day on a beach in France; Holland et al., 2012; Levine et al., 2002; Piolino et al., 2002; Viard et al., 2007). In this article, we investigate a recurring finding in the AM literature that remains so far unexplained: older adults' tendency to report more nonepisodic memory details, relative to young adults (Addis et al., 2008; Aizpurua & Koutstaal, 2015; Beaman et al., 2007; Devitt et al., 2016; Levine et al., 2002; Madore

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et al., 2014; Mair et al., 2017, 2021; Piolino et al., 2006). This study aims to distinguish between two broad potential explanations for this age difference: that nonepisodic details are a marker of cognitive decline in older adults or that they reflect a shift in communicative preferences that biases older adults toward telling an entertaining story.

Most AM tasks are principally concerned with recall of episodic AMs. In a typical procedure, participants describe their memories verbally, and their reports are later scored by the experimenter. If the scoring procedure involves tallying the number of individual details that were recalled, older adults usually score higher on nonepisodic details—those that are *not* specific to the event in question (e.g., Aizpurua & Koutstaal, 2015; Levine et al., 2002; Mair et al., 2017, 2021). If the scoring procedure involves rating the memory on a scale ranging from nonepisodic to episodic, older adults usually score closer to the nonepisodic end of the scale (e.g., Beaman et al., 2007; Mair et al., 2021; Piolino et al., 2006).

A Sign of Cognitive Decline

One explanation for these findings is that older adults use nonepisodic AM to compensate for a deficit in episodic AM. Consistent with this hypothesis, a number of studies have shown a deficit in episodic AM in older adults alongside a larger number of nonepisodic details compared to young adults (e.g., Levine et al., 2002). However, the same surplus of nonepisodic details has been observed in other studies in the absence of a deficit in episodic details (e.g., Aizpurua & Koutstaal, 2015; Mair et al., 2017), and one study of memory changes across the lifespan found that the increase in nonepisodic memory began in middle age, before there was a deficit in episodic memory to compensate for (Habermas et al., 2013). Moreover, a reanalysis of five existing AM data sets found that episodic and nonepisodic details were inversely correlated within individual narratives in only three of them (Devitt et al., 2017), and there is also evidence that correlations between the number of episodic and nonepisodic details recalled varies across AM tasks within the same sample of participants (see Table 4 of Mair et al., 2021). Thus, if retrieval of nonepisodic details is one way to compensate for a reduction in episodic recall, it does not appear to be a strategy that is adopted consistently.

An inhibition deficit in older adults (Hasher & Zacks, 1988) is another mechanism by which cognitive decline could cause a surplus of nonepisodic AM. Studies on the timing of both AM retrieval and episodic future thoughts have shown that nonepisodic autobiographical knowledge is usually accessed first and is followed by retrieval of event-specific knowledge (D'Argembeau & Mathy, 2011; Haque & Conway, 2001), and a recent study found that when participants were asked to verbalize their retrieval attempts they sometimes tried to access memories by generating related semantic knowledge (Mace et al., 2021). Retrieval of nonepisodic information therefore appears to facilitate access to episodic information, and while young adults may inhibit the reporting of this nonepisodic information under normal test conditions, older adults may struggle to do so. Apparent support for this hypothesis comes from studies in which older adults fail to modify their memories in response to changes in task instructions. For example, one study presented young and older adults with photographs and asked them either to describe their thoughts or to generate episodic AMs. Both groups produced narratives rich in nonepisodic details in the "thoughts" condition, and while young

adults reported fewer nonepisodic details in the episodic AM condition, older adults did not (Strikwerda-Brown et al., 2021). In another study, participants were first taught the distinction between episodic and nonepisodic memories and then tested under different task instructions requiring retrieval of either episodic or nonepisodic memories (Ford et al., 2014). In young adults, instructions to retrieve nonepisodic memories increased the proportion of nonepisodic (relative to episodic) memories that were retrieved. In contrast, older adults retrieved a higher proportion of nonepisodic memories overall, and the proportion was not affected by task instruction. However, in the same study executive function—including inhibition—did not differ between groups and was not correlated with the proportion of nonepisodic AMs. Thus, although older adults appear to be less flexible in response to task instructions, evidence that this inflexibility is caused by either an inhibition deficit or more general executive dysfunction is lacking. Moreover, both studies required the participants themselves to understand and respond to the distinction between episodic and nonepisodic AM—a distinction that is neither intuitive nor particularly meaningful among laypeople.

Communicative Preference

The finding of elevated nonepisodic autobiographical information among older adults is echoed by a separate literature on the narrative analysis of young and older adults' speech, which shows that older adults' narratives contain more "off-topic" speech than younger adults' narratives (Arbuckle & Gold, 1993; James et al., 1998; Trunk & Abrams, 2009). Off-topic speech is defined as speech that is not relevant to the topic under discussion, or not necessary to answer a particular question, and is therefore broadly equivalent to nonepisodic AM (see Trunk & Abrams, 2009, p. 331, for examples of off-topic speech). Accordingly, an inhibition deficit has also been proposed as an explanation for older adults' off-topic speech (Arbuckle & Gold, 1993).

However, in contrast to viewing nonepisodic details as a negative or unwanted feature of AM narratives, an alternative possibility is that the inclusion of this information serves some communicative purpose. Several studies have suggested that in older age the goals of communication shift toward emphasizing personal narratives, reminiscence, and the establishment of one's own identity (Boden & Bielby, 1986; Giles & Coupland, 1991; Habermas et al., 2013; James et al., 1998). Older adults are more likely than young adults to relate information in their narratives to the overarching sense of self (Pasupathi & Mansour, 2006), to interpret and integrate events into their life story (Habermas et al., 2013), and to refer to themselves as the speaker, and to refer to the listener, in their narratives (Allison et al., 2006). There is also evidence that when retelling stories, young adults favor a more literal style whereas older adults favor a more interpretative style (Adams et al., 1990, 1997). Previous studies have attempted to link older adults' off-topic speech to communicative preferences, with mixed results. For example, one study found that older adults' autobiographical narratives contained more off-topic speech than young adults' autobiographical narratives, but were also rated as more interesting, more informative, and better stories by an independent sample of young and older raters (James et al., 1998). In the same study, the same older adults did not produce more off-topic speech than young adults when describing pictures, leading the authors to suggest the presence of these details in autobiographical narratives reflected communicative preferences. On the other hand,

two more recent studies found that the amount of off-topic speech in older adults' narratives was not related to ratings of story quality (Baron & Bluck, 2009; Trunk & Abrams, 2009), and that older adults' communicative preferences did not predict the amount of off-topic speech in their narratives (Trunk & Abrams, 2009). Thus, although ageing is associated with changes in communicative style, there is little evidence that these changes are intentional, or that they are the cause of age-related differences in off-topic speech. However, the definition of off-topic speech is broader than nonepisodic AM details, and it is possible that nonepisodic details could more clearly represent changes in communicative preferences.

The Current Investigation

The present study aimed to examine whether the number of nonepisodic details included in older adults' narratives is under intentional control. We manipulated retrieval goals in a within-subjects design by asking participants to retrieve the same AM twice, under two different imagined scenarios—writing for an autobiography, and giving a police witness statement. These scenarios were selected as familiar examples in which the purpose of sharing the details of a memory differs considerably. In recounting a memory for a police witness statement, the purpose is to recall as much specific detail as possible, regardless of whether it makes a good story. In contrast, when writing for an autobiography, the purpose is to tell a good story. Importantly, understanding the purpose of communication in each of these scenarios does not require participants to understand the difference between episodic and nonepisodic AM details. We were interested in whether these different communicative aims would give rise to differences in the composition of retrieved memories, and in particular, whether the number of nonepisodic AM details would differ between scenarios. If older adults' retrieval of more nonepisodic information reflects communicative preferences, they should report a greater number of nonepisodic details when retrieving an AM for an autobiography, compared to when retrieving an AM for a police witness statement. On the other hand, if retrieval of nonepisodic details reflects cognitive decline, then the composition of older adults' memories should not vary according to the task instructions. If older adults fail to inhibit irrelevant details, they should do so in both retrieval conditions. Alternatively, if older adults use nonepisodic AM details to compensate for a deficit in episodic retrieval, then we would expect to find the same degree of compensation in both retrieval conditions, alongside a deficit in specific memory details.

Method

Transparency and Openness

We report how we determined our sample size and describe all exclusions, manipulations, and measures that were collected. Deidentified data are available on our project page on the Open Science Framework website (Mair, 2023). Data were analyzed using R Version 4.2.3. The design and analysis of this study were not preregistered.

Participants

Thirty-six young adults (29 female, seven male; aged 18–46, $M = 23.69$, $SD = 6.62$) and 30 older adults (21 female, nine male; aged 55–86, $M = 70.17$, $SD = 5.53$) were recruited to take part in this study. Eight young adults and four older adults were subsequently excluded. Of these, one older adult's reported age was below the level specified in the inclusion criteria, and because testing was online this only became known on receipt of the participant's complete response. Three young and two older adults only provided one memory, two young adults described two different memories, two young adults did not describe a specific event, and one young adult wrote each memory from a different perspective. One older adult did not write anything at all. In the final sample, there were 28 young adults (24 female, four male; aged 18–46, $M = 23.00$, $SD = 6.15$) and 26 older adults (19 female, seven male; aged 62–86, $M = 70.46$, $SD = 5.03$). The final sample size was similar to that used in previous studies using a similar design (Adams et al., 1997; Dutemple & Sheldon, 2022; Ford et al., 2014). According to a G*Power sensitivity analysis (G*Power Version 3.1.9.2; Faul et al., 2007), the sample should be sufficient to detect a between-groups main effect size of $f = .34$, a within-groups effect size of $f = .19$, and a within-between interaction of size $f = .19$. This calculation was based on 80% power at an α level of .05, with the assumed correlation between repeated measures set at .50. Young adults were undergraduate students at the University of Hertfordshire, United Kingdom, who participated for course credit. Older adults were recruited from a panel of people who had previously expressed an interest in participating in memory research, and were not compensated for participation. The panel was originally recruited through a combination of local lifelong learning groups (University of the Third Age) and a local newspaper advertisement. In the older adult group, 71% were educated to at least degree level, and 25% were educated to postgraduate level. All participants were fluent English speakers. No other demographic data were collected.

Design

This study used a 2 (age group: young vs. older) × 2 (retrieval condition: witness statement vs. entertainment) mixed design, with repeated measures on the second factor. The order of the retrieval conditions was randomized. Retrieval condition was manipulated by asking participants to imagine they were recalling a memory as part of a police witness statement (witness statement condition), or for a chapter in their autobiography (entertainment condition). The outcome variable was the number of details reported in each condition, of which two categories of detail were counted separately: nonepisodic details and episodic details.

Materials and Procedure

The study was approved by the University of Hertfordshire Health, Science, Engineering, and Technology Ethics Committee with delegated authority (HSET ECDA; title: Effects of Specific Goals on Memory Descriptions, protocol number: LMS/SF/UH/03273) and was administered online using Qualtrics survey software (Qualtrics, Provo, Utah). Data were collected in 2018–2019. After giving written informed consent, participants were required to fill in a form asking for demographic details and were then presented with a single page of task instructions. Participants were asked to think of a specific (one-off) event from their personal past that fulfilled three criteria: (a) It lasted a day or less, (b) it occurred

within the past year, and (c) they were willing to write about it in detail. On the initial instruction page, participants were informed that they would be asked to write about the same memory twice under different imagined scenarios, but they were not told what those scenarios were. The two imagined scenarios were then presented on separate pages, and the order of presentation was randomized. In the *witness statement* condition, participants were asked to imagine that during the event a crime had taken place, and although they had not seen the crime, their memory might contain information that could help the police. They were asked to describe everything that they could remember, even if it seemed insignificant, and to focus on the facts of what happened. In the *entertainment* condition, participants were asked to imagine that they were a celebrity who had just secured a book deal with a prominent publisher. They were asked to write what they remembered as though it would be included in their autobiography, which was tipped to be a best-seller whose release was eagerly awaited by fans. In this condition, they were told to focus on telling a good story to entertain their fans. On both pages, it was reiterated that the written narratives should both describe the same event. The full instructions for each condition are presented in the additional online material (see Mair, 2023). An unlimited free-text box was presented immediately below the scenario text on each page, and participants were required to type their story into the box. There was no time limit. When they had completed the first narrative and had advanced to the second, it was not possible to return to the previous page to read or edit the text. Thus, participants who wrote the witness statement first were not aware that the second task would be to write for an autobiography, and those who completed the autobiography first were not aware that the second task would be to write for a witness statement.

After writing both narratives, the final page of the questionnaire asked participants to rank a series of characteristics of a good story. Ten characteristics were displayed in a single list, with the order randomized across participants. Each characteristic was presented beside a text box, and participants were asked to rank the order of importance of each characteristic by typing the rank number into the corresponding box (1 = most important, 10 = least important). The 10 characteristics are listed in Table 1.

Narrative Coding

The number of nonepisodic and episodic details in each narrative was coded by the first author. A specific detail was defined as a standalone idea that described an aspect of the particular event in question (i.e., the one-off event that lasted a day or less, which the participant had chosen to describe). According to this coding scheme, the utterance, "I took the train to London at 10.30 a.m." contains three specific ideas: (a) taking the train, (b) going to London, and (c) leaving at 10.30 a.m. and thus would be counted as three episodic details. Any episodic details pertaining to a different, nontarget event were excluded from the analysis. Episodic details in this study were therefore equivalent to the category of "internal" details in the widely used Autobiographical Interview (Levine et al., 2002).

A nonepisodic detail was defined as a memory detail that was not specific to the event in question, and was not specific to any other event. Nonepisodic details were those that described decontextualized information that was not linked to a specific time

and place, including personal information about routines and repeated events (e.g., "I usually take the train in the morning," "I took the train every time I went to London") and factual information including autobiographical knowledge (e.g., "I live near the train station") and general knowledge (e.g., "The train to London takes 2 hr"). General details also included information about time periods extending beyond a single day (e.g., "I was working in London at that time").[1]

A subset ($n = 11$, ~10%) of the transcripts was second-coded by an independent rater who was blind to the study's hypotheses. The independent rater was provided with raw transcripts and asked both to divide the text into individual details and to categorize those details following the scheme described earlier. The aim of this analysis was to determine how reliably narratives higher in each type of detail could be distinguished from narratives lower in each type of detail. Reliability was calculated separately for episodic and nonepisodic details. The results showed that interrater agreement was high for both types (nonepisodic: Cronbach's $\alpha = .94$; episodic: Cronbach's $\alpha = .96$; see the Open Science Framework page (Mair, 2023 for details).

Results

Episodic and nonepisodic details were analyzed separately. Episodic details were approximately normally distributed, but nonepisodic details were heavily right-skewed. The analyses below are based on data from all 54 participants; however, the additional online material (Mair, 2023) contains an exploration of potential outliers and the effect of their removal on the pattern of results. Outliers were predominantly in the nonepisodic detail category and were all at the top end of the distribution. The cases were not random, but instead represented an exaggerated pattern consistent with the pattern in the remainder of the data set when the outliers were removed. Removal of the outliers had little impact on the findings. All data and analysis scripts are available on our project page on the Open Science Framework website (Mair, 2023). Summary data are presented in Figure 1.

Nonepisodic Details

Nonepisodic details followed a Poisson distribution, but the data were severely overdispersed. A negative binomial regression was carried out to test the effects of age group (young vs. older) and condition (entertainment vs. witness statement) and their interaction. Witness statement narratives contained significantly fewer nonepisodic memory details than entertainment narratives (incidence rate ratio, IRR = -1.34, 95% CI [-1.74, -0.94], $p < .0001$), and young adults' narratives contained significantly fewer nonepisodic details than older adults' narratives (IRR = -0.67, 95% CI [-1.19, -0.15],

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[1] The narratives also included a third type of detail, in which the participant mused on the topic, interpreted or summarized a section of the narrative for the reader, or conveyed current thoughts about the content of the narrative. These details were excluded from the analysis because we considered them to be nonmemory details. Narratives also occasionally included episodic details about events other than the one in question (i.e., external event details in the Autobiographical Interview scoring protocol; Levine et al., 2002), which were excluded from analysis due to their very small numbers.

Table 1
Young and Older Adults' Mean Rankings of 10 Characteristics of a Good Story

Short name	Description	Mean rank (SD)	
		Young adults	Older adults
Entertainment	Story is entertaining.	3.96 (3.03)	2.88 (2.86)
Focus	Story is focused (stays on target throughout).	4.89 (2.97)	4.75 (1.78)
Reflection	Narrator reflects on events that took place (e.g., shares their thoughts and feelings).	5.11 (2.34)	5.04 (2.74)
Full descriptions	**People, places, and so forth are described in full.**	**5.30 (2.96)**	**7.29 (2.58)**
Detail	Story contains lots of detail.	**5.33 (2.91)**	**7.25 (2.75)**
Structure	Structure is coherent (the story is told in order—beginning, middle, and end).	5.56 (2.79)	5.54 (2.81)
Grammar	Grammar is used correctly.	5.63 (3.28)	7.42 (2.24)
Linked ideas	**Ideas within the story are clearly linked.**	**5.81 (2.65)**	**3.92 (1.87)**
Explained not just described	**Events are explained, not just described ("why," not just "what").**	**6.63 (2.04)**	**4.67 (2.37)**
Authenticity	Story has authenticity (narrator is telling the truth about the events that occurred).	6.78 (3.00)	6.25 (2.92)

Note. Bold formatting indicates characteristics for which young and older adults differed in their mean rankings.

$p = .04$). There was no Age × Condition interaction (IRR $= -0.04$, 95% CI $[-0.64, +0.57]$, $p = .92$).

Additional Bayesian analysis was carried out to assess the strength of the evidence for these effects. Bayes factors were computed using the Bayes Factor package in R (Bayes Factor Version 0.9.12-4.5; Morey & Rouder, 2023) and interpreted in line with Rouder et al. (2017). Table 2 shows Bayes factors for models containing age group, condition, and an Age × Condition interaction, relative to a null model containing only participant ID as a random factor. Evidence was weak for Model 1, which included only a main effect of age, but very strong for Model 2, which included only a main effect of condition. The data were 147,000 times more likely under Model 2 compared to the null, and the ratio of Bayes Factors in Models 1 and 2 showed that the data were 100,000 times more likely under Model 2 compared to Model 1. Although the strongest evidence was for Model 4, which included both main effects of age and condition and an Age × Condition interaction, comparison of Model 4 (with the interaction) and Model

3 (without the interaction) yielded a ratio of 1.67:1, and the ratio of Model 3 (age group + condition) to Model 2 (condition only) was 1:1.14, indicating only weak evidence for the interaction and the main effect of age, respectively.

Across the sample of 54 participants, 44 reported more nonepisodic details in the entertainment narratives than the witness statement narratives, eight participants reported the same number of nonepisodic details in both narratives, and only two participants reported more nonepisodic details in the witness statement narratives than the entertainment narratives.

Episodic Details

Episodic details were analyzed in a 2 (age group: young vs. older) × 2 (retrieval condition: witness statement vs. entertainment) analysis of variance (ANOVA). There was no main effect of retrieval condition on the number of episodic details contained in the narratives, $F(1, 52) = 2.44$, $p = .12$, $\eta_p^2 = .05$, and there was no main

Figure 1
Number of Nonepisodic (Panel A) and Episodic (Panel B) AM Details Reported by Young (Light Gray) and Older (Dark Gray) Adults in Each of the Two Retrieval Conditions
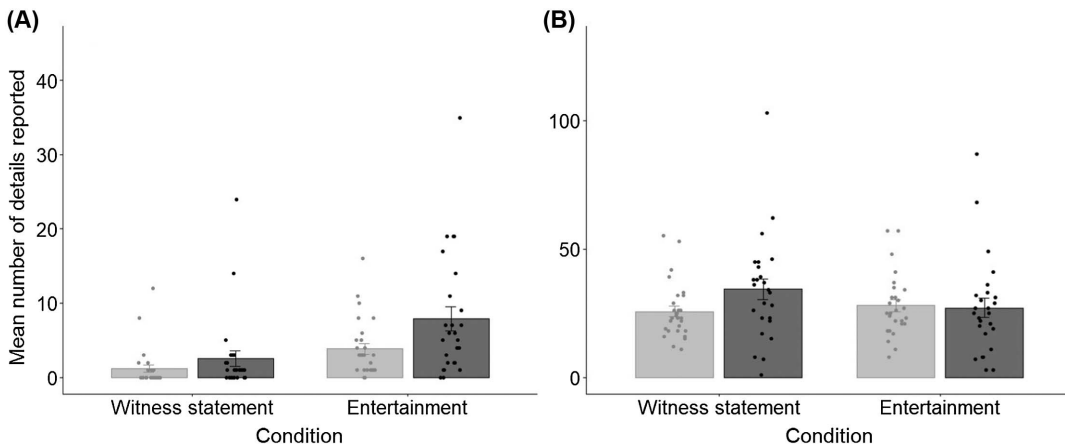
Note. Note that the scale of the y-axis differs between figures. AM = autobiographical memory.

Table 2
Bayesian Models for Nonepisodic and Episodic Details

Model	Nonepisodic		Episodic	
	Bayes Factor	Error %	Bayes Factor	Error %
Model 1: Age group + ID (random)	1.47	10.41	1.52	1.69
Model 2: Condition + ID (random)	147,858	1.79	0.36	0.92
Model 3: Age group + condition + ID (random)	168,630	2.92	0.59	2.10
Model 4: Age group + condition + Age Group × Condition + ID (random)	281,780	2.22	2.67	2.32

effect of age group, $F(1, 52) = .93$, $p = .34$, $\eta_p^2 = .02$. However, there was a significant interaction between condition and age group, $F(1, 52) = 9.04$, $p = .004$, $\eta_p^2 = .15$. This interaction was explored with simple main effects analyses with Bonferroni corrections for multiple comparisons; older adults reported more episodic details in the witness statement condition than in the entertainment condition, $F(1, 25) = 7.48$, $p = .02$, $\eta_p^2 = .23$, but there was no difference in young adults, $F(1, 27) = 1.59$, $p = .44$, $\eta_p^2 = .06$. In both conditions, there was no difference in the number of episodic details reported by young and older adults, witness statement: $F(1, 52) = 3.95$, $p = .10$, $\eta_p^2 = .07$; autobiography: $F(1, 52) = .05$, $p = 1.00$, $\eta_p^2 = .001$.

Bayes factors were computed in the same way as for nonepisodic details. As shown in Table 2, the best evidence was for Model 4, which included both main effects of age and condition and an Age × Condition interaction. However, evidence for all four models was weak relative to the null model, which contained only the participant ID as a random factor.

Correlation Between General and Specific Details

We next examined the relationship between nonepisodic and episodic retrieval in each condition. Because of the significant main effect of age in nonepisodic retrieval, and interactions between age and condition in nonepisodic and episodic retrieval, the correlations were computed for each age group separately to avoid age confounding the estimate. The results showed no relationship between episodic and nonepisodic retrieval in the young adult group (entertainment: $r = -.14$, $p = .49$; witness statement: $r = .06$, $p = .75$), but in the older adult group there were negative correlations between episodic and nonepisodic retrieval in both conditions (entertainment: $r = -.49$, $p = .01$; witness statement: $r = -.43$, $p = .03$).

Characteristics of a Good Story

We next analyzed the rankings of the 10 characteristics of a good story. A Kruskal–Wallis test showed that young adults ranked detail ($H = 4.50$, $p = .03$) and full descriptions ($H = 5.59$, $p = .02$) more highly than older adults, and older adults ranked linked ideas ($H = 7.24$, $p = .01$) and explanations not just descriptions ($H = 7.82$, $p = .01$) more highly than young adults. There were no between-group differences in rankings of the importance of focus ($H < .01$, $p = 1.00$), reflection ($H = .04$, $p = .85$), grammar ($H = 3.76$, $p = .052$), entertainment ($H = 2.74$, $p = .10$), structure ($H < .01$, $p = .99$), or authenticity ($H = .43$, $p = .51$). The mean ranked importance of each characteristic is presented in Table 1, in order of young adults' rankings and with between-group differences highlighted in bold;

note that lower scores indicate characteristics considered to be more important.

Discussion

This study examined whether young and older adults modified the detail composition of their AM narratives in response to different communicative goals. The results showed that, when aiming to tell a good story that would be appropriate in an autobiography, both young and older adults modified their narratives to include more nonepisodic details than when describing the same story for a police witness statement. In the police witness statement, the instruction was simply to give as much detail as possible. Thus, the results showed that the number of nonepisodic details that were reported was directly related to the intention to tell a good story. This effect was similar for both young and older adults, and consistent with previous studies showing that older adults can successfully adapt their narrative output in response to different communicative goals. In one such study, young and older adults retold previously learned stories for a listener who was either the experimenter or a young child. The results showed that both young and older adults simplified the stories for young children, but older adults did so to a greater extent than young adults (Adams et al., 2002). Similarly, Barber and Mather (2014) asked young and older adults to retell a previously learned story either in an entertaining manner, intended for a group of friends, or in a precise manner, intended for a police officer or lawyer. They found that both groups, to a similar extent, modified their narrative output in line with the communicative goals, although older adults were more likely to include a "moral of the story" when the task was to be entertaining. On the other hand, in two studies in which participants were asked to modify the way they reported personal memories in response to differing task requirements, older adults were found to do so *less* successfully than young adults (Ford et al., 2014; Strikwerda-Brown et al., 2021). Another study also found that older adults were less likely than young adults to modify their speech output because they gradually became more familiar with their communication partner (Horton & Spieler, 2007). These apparently inconsistent findings concerning older adults' communicative adaptability may reflect differences between studies in the type of instructions given to participants, and the extent to which participants' interpretation of the instructions overlaps with the researchers' expectations.

In the present study, we sought to explain the greater number of nonepisodic details reported by older adults in typical AM studies, in which the communicative goals are somewhat implicit. Although nonepisodic details in this context may be considered to be off-topic by researchers primarily interested in the retrieval of episodic

details, older adults may report more nonepisodic details than young adults because they are attempting to tell a good story. One question, then, is whether young adults report fewer nonepisodic details in AM studies because they are less concerned with telling a good story, or because they differ from older adults in their evaluation of which features make a story entertaining. The results of the ranking task in the present study appear to lend some support to the idea that young and older adults value different features of a story for the purpose of entertainment. In the ranking task, participants were asked to rank a set of 10 characteristics of a good story in order of importance; older adults ranked *the linking together of ideas* and *explaining the* "why" *and not just describing the* "what" more highly than young adults. In AM narratives, nonepisodic details often provide this kind of context for episodic event details. For example, in the sentence "We had a very quiet Christmas last year *because we were in a national COVID lockdown*," the italicized clause is a nonepisodic detail that explains why the event happened in the way that it did. Similarly, in the passage "Sam came to pick me up. We left early. *Sam hates to be late*," the italicized sentence is a nonepisodic detail linking the two specific details in the previous sentences. As such, older adults' higher rankings for this type of contextual information are consistent with the idea that their retrieval of nonepisodic AM details in older adults reflects their attempts to tell a good story. This explanation is consistent with a previous study suggesting older adults may be biased toward attempting to tell a good story even when the task does not require it. In that study, young and older adults were required to retell stories they had learned under either easy or difficult conditions, and both their accurate recall and the extent to which their retelling deviated from the original story were measured (Smith et al., 1983). The results showed that, whereas young adults deviated more from the original story when it was difficult to remember the original, older adults deviated more from the original story for those stories they recalled the best. Additional analyses suggested that young adults were more concerned with accuracy, whereas older adults were more concerned with keeping the information flowing.

The findings presented here are inconsistent with the inhibition deficit account of nonepisodic AM retrieval, which suggests that older adults fail to inhibit the reporting of nonepisodic details. In this study, nonepisodic details that were reported by older adults in the entertainment condition were successfully inhibited in the witness statement condition, and in the witness statement condition there was no difference in the number of nonepisodic details reported by young and older adults. Of course, it could be argued that any effect of inhibition was diminished in this study compared to a typical laboratory study because participants produced written narratives without time pressure. While this argument does not explain why the age-related difference in nonepisodic AM details *was* observed in the entertainment condition, it remains possible that during verbal retrieval under normal laboratory conditions an inhibition deficit also plays a role.

The findings are also inconsistent with the idea that the greater number of nonepisodic details in older adults' narratives is a result of compensation for a deficit in episodic AM. First, we did not find a deficit in episodic AM in older adults: both groups reported an equal number of episodic details overall; and older adults reported marginally *more* episodic details than young adults in the witness statement condition. Although older adults' increased nonepisodic retrieval in the entertainment condition co-occurred with a reduction

in episodic retrieval relative to the witness statement condition, and this might superficially resemble a compensatory effect, it is unlikely that the reduction in episodic retrieval reflects a deficit in episodic memory because both retrieval attempts were undertaken back-to-back in the same session. However, we did observe a significant negative correlation between the number of episodic and nonepisodic details reported by older adults, which could reflect individual differences in the use of nonepisodic details to compensate for an episodic deficit (i.e., in a minority of participants for whom the number of episodic details reported in both conditions was very low).

The absence of an age-related deficit in episodic AM is inconsistent with the findings of many previous studies in which such a deficit has been observed (e.g., Levine et al., 2002), though the magnitude of the deficit appears to depend on the way AM is measured (see Mair et al., 2021). In the present study, participants were free to describe any autobiographical event from the previous year and could therefore select an event they remembered particularly well. They also had unlimited time to type their response, which likely relieved some of the retrieval pressures that are ordinarily present in a face-to-face testing session, such as output monitoring. However, as described above, older adults retrieved a greater number of episodic event details when describing their memories for a police witness statement, compared to the entertainment condition. Thus, when their intention was to tell a good story, older adults omitted some episodic details from their narratives. This finding is consistent with a recent study, which found that participants recalling a previously encoded story reported fewer precise details when they were instructed to imagine they were talking to friends, compared to when they were instructed to be as accurate as possible (Dutemple & Sheldon, 2022). There are at least three possible explanations for these missing details in the present study: (a) The older adults consciously omitted certain remembered details from their narratives, perhaps because they assumed that the information would dilute the quality of the story if, for example, it was deemed to be irrelevant or inconsequential; (b) the older adults did not make an exhaustive attempt to retrieve every available detail, perhaps because they were less concerned with ensuring their stories were as detailed as possible; or (c) the retrieval dynamics at the time of the attempt (e.g., output interference from the nonepisodic AM details, or from the particular order of retrieval of the episodic AM details) caused the inadvertent omission of some of the available episodic details. In the rating task, older adults ranked *stories contain a lot of detail* and *full descriptions of people, places, and so forth* as less important indicators of a good story than did young adults, hinting at the possibility that a less exhaustive attempt was made to retrieve all of the available episodic details when telling a good story in the entertainment condition. However, neither of the alternative explanations can be ruled out, nor can the possibility that a combination of these factors could account for the missing details.

Limitations and Future Directions

Age differences in nonepisodic AM have been observed over at least the last 20 years (e.g., see Levine et al., 2002). However, in cross-sectional designs such as in the present study it is not possible to determine whether differences between young and older adults' narratives are due to age-related changes in communication, or cohort or generational effects. One potential avenue for further

research would therefore be to examine communicative styles across the lifespan in a longitudinal design. For example, one such longitudinal study has found evidence for a shift in AM from episodic event-based memories to more semanticised general memories with increasing age, over a period of 9 years (Frankenberg et al., 2022). On the other hand, a 3-year longitudinal study of 80–95 year olds asked to learn then retell fables found no significant changes in discourse processing, including recall of the fables and the ability to summarize and extract the gist (Ulatowska et al., 1998). A longitudinal study of nonepisodic AM could help to shed more light on the reason for the effects typically observed in older adults, as well as the timing and nature of any shift in communicative preferences.

Another possible limitation of the present study was that retrieval attempts were collected online, in typed form. Because data collection is increasingly carried out online, it is useful to understand the degree to which effects observed in face-to-face studies can be replicated online. Although the present study replicated the age effect in nonepisodic AM observed in previous face-to-face studies (e.g., Aizpurua & Koutstaal, 2015; Levine et al., 2002; Mair et al., 2017, 2021), and direct comparisons of online and in-person testing in older adults have found no difference in cognitive test scores obtained (Cyr et al., 2021), it remains a possibility that the present study would have produced different findings if conducted in-person. As noted above, the online design allowed participants more time to think about and construct their responses than in a typical face-to-face testing procedure, and could have limited any impact of an inhibition deficit or compensatory mechanism in older adults. An in-person testing procedure could therefore explore the relative contributions of communicative goals, inhibition, and compensation under more difficult experimental circumstances (e.g., time pressure, oral recall, etc.).

Finally, in this study we did not collect additional demographic data such as the race, ethnicity, or socioeconomic status of participants. Future research might therefore examine whether the results reported here are replicable in demographically diverse samples.

Conclusion

Both young and older adults reported more nonepisodic memory details in their autobiographical narratives when their aim was to tell a good story, compared to when their aim was to report the same story in as much objective detail as possible. The results are inconsistent with the idea that nonepisodic memory details in older adults reflect cognitive decline, and suggest instead that an age-related shift in communicative preferences can explain older adults' tendency to report a greater number of nonepisodic memory details in AM tasks. Older adults also suppressed retrieval of available event-specific episodic details when aiming to tell a good story. Because AM retrieval is an inherently sociable activity, even in a typical testing environment, these findings suggest that the number of both nonepisodic and episodic details in participants' AMs may be influenced by their attempts to ensure their stories are interesting. This may be particularly true for older adults, who rank contextualizing information as an important feature of an entertaining story, whereas young adults favor detail and full descriptions. These findings highlight the need for AM researchers to better understand the relationships between the participants'

retrieval goals, their interpretation of task instructions, and the output of AM retrieval.

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