Preprint: Bastin, C., Folville, A., & Geurten, M. (2022, October 28). “I trust you if your memory is detailed”: Interpersonal memory fidelity judgments and social bonding. PsyRXiv. DOI: <https://doi.org/10.31234/osf.io/ns2qd>

“I trust you if your memory is detailed”: Interpersonal memory fidelity judgments and social bonding

Christine Bastin1,2,3, Adrien Folville1,2 & Marie Geurten,2,3

1 GIGA-Cyclotron Research Center-In Vivo Imaging, University of Liège, Belgium

2 Psychology and Cognitive Neuroscience Unit, University of Liège, Belgium

3 F.R.S.-FNRS, Belgium

Corresponding author: Christine Bastin.

**Email:** [Christine.Bastin@uliege.be](mailto:Christine.Bastin@uliege.be)

**Author Contributions:** CB and MG designed the research; CB performed the research; CB and AF analyzed data; CB, AF, and MG wrote the paper.

**Abstract**

Episodic memory is thought to serve social functions. Here, we focused on the extent to which a person thinks another person’s memory is faithful to what happened and the link between these judgments and social bonding. We assessed whether the quality of the recollection (detailed versus general) of past events influenced how individuals aged between 18 and 41 years old rated the degree of fidelity of others’ memory and whether ratings of memory fidelity were associated with social attitudes towards the narrator. In two experiments (Ns = 59 and 40), we found that participants judged memories to match more closely what really happened when the memories contained many specific details compared to when memories were more general. Moreover, higher memory fidelity judgments were associated with more trust and empathy felt towards the narrator and more willingness to interact with him/her, suggesting a role for interpersonal memory monitoring in social bonding.

**Keywords:** memory monitoring, interpersonal, recollection

**Highlights**

* Other people tell us memories about events they experienced.
* Individuals monitor other people’s memory for their fidelity to the actual events based on the quality of the recollection.
* Higher judgments of fidelity for a memory were associated with more positive social attitudes towards the narrator.
* Interpersonal memory monitoring may contribute to the social bonding function of memory.

**Introduction**

Humans can remember past events with a great richness of details and an intense sense of reliving. Why have we this recollection ability? Philosophers and cognitive neuroscientists have suggested that episodic memory has three functions (Bluck & Alea, 2009): Directive – to use past experiences to guide current behavior and plan the future; Self – to create a stable and enduring representation of our selves over time; Social – to initiate, develop and maintain socialbonds. Regarding the latter, an interesting idea has been proposed by Mahr and Csibra (2017). In their view, the ability to recollect past events would be interpreted as a claim that the information has been obtained firsthand by the person who remembers it. The person can thus be confident that his or her memory corresponds to something that occurred. Critically, in situations of communication between people, the fact that a narrator can produce a rich recollection of a past event would be taken as evidence by the listener that the narrator is indeed remembering. According to Mahr and Csibra (2017), this mechanism allowing us to evaluate the veracity and fidelity of others’ memories supports vicarious learning, which is a key source of learning in everyday life.

The existence of interpersonal monitoring mechanisms has already been suggested by studies demonstrating that people are able to accurately evaluate whether other people’s memories reflect real or imagined events (Clark-Foos, Brewer, & Marsh, 2015). Recently, Mahr and Csibra (2021) showed that participants believed a statement more readily if the narrator claimed firsthand knowledge (e.g., “I saw it”) than in case of secondhand evidence (e.g., “somebody told me”). Older experiments indicated that other people’s descriptions of an event that contained more perceptual and emotional information were more often judged as corresponding to a real experience than to an imagined scenario (Johnson, Bush, & Mitchell, 1998; Johnson & Suengas, 1989; Keogh & Markham, 1998). These studies refer to interpersonal reality monitoring or belief that an event truly occurred - Belief in Occurrence (Scoboria et al., 2014). People can also judge whether another person has a reliable memory for a past event, an interpersonal equivalent of Belief in Accuracy (Rubin, 2006) for autobiographical memory. Justice and Smith (2018) found that interpersonal reliability ratings were greater for memories high in detail than low in detail. Here, we investigated another still unexplored dimension of interpersonal monitoring by focusing on fidelity (i.e., the narrator has a faithful memory of what happened, things happened like the person told them). If one wishes to learn from others, a memory that adequately reflects the unfolding of events should be more valuable than a vague memory. The first aim of the current study was to test the hypothesis that individuals use recollection of details in others’ memories as a sign that the narrator has a faithful memory of what happened.

Beyond monitoring of others’ memory in communication, the social function of memory would also promote the creation of relationships between people. Sharing memories with others contributes to develop and maintain social bonding (Bluck & Alea, 2009). However, the quality of our memories seems to determine the quality of social bonding. In young adults, the individuals who recalled fewer specific memories reported lower social support given by friends and romantic partners one year later (Barry et al., 2019). Moreover, participants express more positive social attitudes (indexed by more willingness to interact, more instrumental support, more positive feelings, more empathy, and more trust) towards narrators who tell coherent memories than towards narrators who tell incoherent memories (Vanaken, Bijttebier, & Hermans, 2020). Therefore, the second aim of the present study was to test the idea that interpersonal judgments on memory fidelity are associated to social attitudes towards the person telling a memory. More specifically, the fact of considering that a narrator gives a faithful recount of past events should be associated with more trust and willingness to interact with this narrator.

In this study, participants were presented with two types of memories narrated by another person: either rich recollections containing many perceptual and contextual details, or general memories lacking specific details. After each narrative, participants rated how much they think the person has a faithful memory of what happened (Memory Fidelity judgments). We predicted that Memory Fidelity judgments should be higher for detailed narratives than for undetailed narratives. Moreover, we assessed whether Memory Fidelity judgments overlap with other interpersonal monitoring ratings: believability (Belief in Occurrence) and reliability (Belief in Accuracy). So, participants also rated how much they think the event told by the narrator truly happened and how accurate they think the memory is. Additionally, for each narrative, participants indicated whether they would be willing to interact with the narrator (Willingness-to-Interact) and whether they feel empathy and trust towards the narrator (Socio-Emotional Reactions). We hypothesized that higher Memory Fidelity judgments would be associated with more willingness-to-interact and more trust and empathy, especially for detailed narratives.

**Open Practices Statement**

The study was not pre-registered. The materials used in the experiments are presented in Supplemental Materials. The data for both experiments are publicly accessible on Open Science Framework [https://osf.io/prs7g/].

**Materials and Methods**

Experiment 1

*Participants*

A total of 59 participants aged between 18 and 39 years old (M = 25.2, SD = 5.6) completed the tasks. This sample size is superior to the minimum requested based on an *a priori* power analysis. To obtain a medium-size effect (d = 0.50) in a dependent-means t-test (to assess the effect of degree of detail of narratives on Memory Fidelity judgments), the sample must include at least 27 participants for a power of .80 at an alpha level of .05 (GPower 3.1). The group was composed of 36 women and 23 men. Years of education ranged between 9 and 20 (M = 14.3, SD = 2.8). The study was approved by the institutional ethics committee.

*Materials and procedure*

The experiment was completed via an online survey created with an in-house software. Advertisement for the survey was posted on social media and Prolific. The survey could only run on computers (not on smartphones or tablets). After giving informed consent to participate to the study, participants completed a visual recognition memory task (not analyzed here), a demographic questionnaire (asking for age, sex, and education), and a task designed to probe interpersonal memory monitoring judgments and social attitudes via narrative ratings.

Four narratives corresponding to autobiographical memories of similar length served as core materials: two narratives were memories that contained many details about the unfolding of the event, spatiotemporal context, perceptual information, thoughts, and emotions, and the other two narratives were general memories with very few specific details. The text of the narratives and the procedure to select them can be found in Supplemental Materials. Two narratives per condition were used to avoid a potential item bias in case one narrative finds a personal echo in some participants. For analysis, ratings were averaged across the two narratives in each condition (see Johnson et al., 1998 for a similar procedure).

Four women and four men recorded a verbal performance of each narrative. They did not simply read the text but told it as if it was their own memory they were telling. Four versions of the task were created by rotating the voices across texts, so that a different voice narrated each memory in each version. Female voices were used for female participants and male voices were used for male participants, in order to avoid any potential own versus opposite-sex bias (Jones, Feinberg, DeBruine, Little, & Vukovic, 2010). Each participant rated the four narratives.

Participants were instructed to listen to the memory that the person was telling and then to answer some questions that followed each narrative. The order of the four narratives was counterbalanced across participants. Questions pertained to 5 questionnaires in which participants rated each item on a Visual Analog Scale (VAS) from 0, absolutely no, to 100, absolutely yes. First, we designed a Memory Fidelity scale containing 3 items asking whether the person appears to have a faithful memory of what happened. The second and third questionnaires contained 3 items from the Belief in Occurrence scale (Scoboria et al., 2014; Scoboria & Pascal, 2016) and 3 items from the Belief in Accuracy scale (Scoboria, Talarico, & Pascal, 2015), respectively, that were adapted to make the narrator the subject of the ratings. For instance, for the Belief in Accuracy scale, the original item “How confident are you that your memory for this event is accurate?” became “To what extent are you confident that the memory told by the person is accurate?”. Items from the Memory Fidelity scale, Belief in Occurrence scale and Belief in Accuracy scale can be found in Supplemental Materials. The fourth questionnaire was the Willingness to Interact scale (Coyne, 1976; Vanaken et al., 2020) that probed the willingness to engage in future interaction with the narrator and contained 7 items sampling situations like meeting the person, asking the person for advice, inviting the person to one’s house, and so forth. The fifth scale was the Socio-Emotional Reactions scale (Vanaken et al., 2020) assessing trust and empathy towards the narrator with 9 items (e.g., “Can you understand the situation of this person?”; “Do you trust this person?”). For each questionnaire, the score was the sum of ratings for the different items divided by the maximum score.

Experiment 2

Experiment 2 is mainly a replication of Experiment 1, to confirm that ratings relative to the fidelity of the narrator’s memory are influenced by the degree of detail of the memory. One difference was nevertheless introduced in the methods. To guarantee that the ratings were driven by the memory itself, and not by elements that the participant could extract from the voice, narratives were presented as written texts rather than as audio-recordings.

*Participants*

Sample size was estimated considering the results regarding the relationship between social attitudes and memory fidelity judgments in Experiment 1. As reported below, the smallest effect size in the mixed-effect analyses was observed for the prediction of Willingness to Interact by Memory Fidelity with β = 0.26. Using the simr function (Green & MacLeod, 2016) in R software (R Core Team, 2017), we used this β value to estimate the required sample size to obtain a statistical power of .80 in the present experiment. Considering that participants receive 4 task trials, the function estimated that we should recruit at least 36 participants to obtain a power of .80 to observe a relation between Willingness to Interact and Memory fidelity with a comparable β.

A new sample of 40 participants aged between 20 and 41 years old (M = 27.7, SD = 5.6) completed the tasks. The group was composed of 30 women and 10 men. Years of education ranged between 12 and 20 (M = 16.5, SD = 2.6). The study was approved by the institutional ethics committee.

*Materials and procedure*

The materials and procedure were identical to that in Experiment 1, with one exception: narratives were presented to participants as written texts that they could read at their own pace.

**Results**

Experiment 1

Narrative ratings as a function of condition (detailed versus undetailed narratives) are presented in Table 1.

**Table 1.** Ratings for detailed and undetailed narratives

|  |  |  |
| --- | --- | --- |
|  | Detailed narratives | Undetailed narratives |
| *Experiment 1* |  |  |
| Memory Fidelity | .75 (.20) | .69 (.20) |
| Belief in Occurrence | .75 (.23) | .70 (.20) |
| Belief in Accuracy | .65 (.23) | .59 (.23) |
|  |  |  |
| *Experiment 2* |  |  |
| Memory Fidelity | .76 (.13) | .68 (.14) |
| Belief in Occurrence | .76 (.14) | .74 (.15) |
| Belief in Accuracy | .54 (.20) | .49 (.17) |

Note. Standard deviations in parentheses.

First, we tested whether Memory Fidelity, Belief in Occurrence and Belief in Accuracy ratings differed when the narratives were detailed compared to when they were undetailed. A t-test for dependent samples revealed that Memory Fidelity ratings were higher for detailed than for undetailed narratives, t(59) = 2.60, p = .011, d = 0.31, 95% confidence intervals: 0.01-0.11. Ratings of Belief in Occurrence did not significantly differ between detailed and undetailed narratives, t(59) = 1.36, p = .176, d = 0.19, 95% confidence intervals: -0.02-0.10. As for Belief in Accuracy, ratings were higher for detailed than for undetailed narratives, t(59) = 2.01, p = .048, d = 0.27, 95% confidence intervals: 0.0003-0.12.

Second, we evaluated whether narrative ratings for Memory Fidelity, Belief in Occurrence and Belief in Accuracy predicted social attitudes towards the narrator, as assessed with the Willingness-to-Interact scale and the Socio-Emotional Reactions scale. To investigate the relationship between social attitudes and narrative ratings on a trial-by-trial basis, we ran mixed-effects models using the lme4 package (Baayen, Davidson, & Bates, 2008) implemented in R software. Subjects and items were modelled as crossed random effects. The dependent variables were the scores on either the Willingness-to-Interact scale or the Socio-Emotional Reactions scale, and narrative ratings were introduced as first-level predictor, condition (detailed versus undetailed) was second-level predictor, and we added the ratings × condition interaction. Results of the different mixed-effects models are presented in Table 2.

Table 2: Experiment 1: Mixed-effects modelling assessing the relationship between social attitudes towards the narrator and narrative ratings

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Coefficients and statistics | | |
| Dependent variable | Predictors | Estimate | SE | p |
| WTI | Memory Fidelity | 0.26 | 0.08 | .003 |
|  | Condition | -0.02 | 0.08 | .757 |
|  | Memory Fidelity × Condition | 0.11 | 0.11 | .295 |
| WTI | Belief in Occurrence | 0.22 | 0.07 | .003 |
|  | Condition | -0.05 | 0.08 | .545 |
|  | Belief in Occurrence × Condition | 0.13 | 0.10 | .191 |
| WTI | Belief in Accuracy | 0.23 | 0.007 | .004 |
|  | Condition | 0.0003 | 0.007 | .995 |
|  | Belief in Accuracy × Condition | 0.008 | 0.009 | .373 |
| SER | Memory Fidelity | 0.51 | 0.06 | <.001 |
|  | Condition | 0.07 | 0.05 | .221 |
|  | Memory Fidelity × Condition | -0.08 | 0.07 | .261 |
| SER | Belief in Occurrence | 0.40 | 0.05 | <.001 |
|  | Condition | -0.004 | 0.05 | .940 |
|  | Belief in Occurrence × Condition | 0.002 | 0.07 | .970 |
| SER | Belief in Accuracy | 0.41 | 0.05 | <.001 |
|  | Condition | 0.03 | 0.04 | .501 |
|  | Belief in Accuracy × Condition | -0.04 | 0.07 | .544 |

Note. WTI, Willingness to Interact; SER, Socio-Emotional Reactions.

For all analyses, narrative ratings on all scales (Memory Fidelity, Belief in Occurrence and Belief in Accuracy) predicted significantly social attitudes, with more willingness to interact with the narrator and more positive attitude toward the narrator when narrator’s memory was rated as more true, accurate and faithful to the actual experienced event. The total explained variances were numerically larger for Socio-Emotional Reactions (R2 = .31 for Memory Fidelity, R2 = .27 for Belief in Occurrence, R2 = .33 for Belief in Accuracy) than for Willingness-to-Interact (R2 = .07 for Memory Fidelity, R2 = .07 for Belief in Occurrence, R2 = .08 for Belief in Accuracy). However, social attitudes did not differ as a function of condition, and there was no differential relationship between social attitude and narrative ratings as a function of condition (i.e., no interaction).

Additionally, ratings on the Willingness-to-Interact scale and the Socio-Emotional Reactions scale were compared between the detailed and undetailed condition (Table 3). There was no significant difference, Willingness-to-Interact scale t(59) = -1.27, p = .207, d = 0.20, 95% confidence intervals: -0.09-0.02; Socio-Emotional Reactions scale, t(59) = 0.80, p = .421, d = 0.12, 95% confidence intervals: -0.02-0.07.

Table 3. Social attitude ratings for detailed and undetailed narratives

|  |  |  |
| --- | --- | --- |
|  | Detailed narratives | Undetailed narratives |
| *Experiment 1* |  |  |
| Willingness-to-Interact | .46 (.18) | .50 (.17) |
| Socio-Emotional Reactions | .60 (.15) | .58 (.15) |
|  |  |  |
| *Experiment 2* |  |  |
| Willingness-to-Interact | .45 (.17) | .45 (.15) |
| Socio-Emotional Reactions | .58 (.10) | .54 (.14) |

Note. Standard deviations in parentheses.

Finally, we assessed the possible overlap of measured concepts across the Memory Fidelity, Belief in Occurrence and Belief in Accuracy scales by applying a Principal Component Analysis (PCA)-based exploratory factor analysis on individual items scores. The factor analysis yielded a single factor explaining 74% of the variance, with high loadings for all items (Table 4).

Table 4. Experiment 1: Loadings from the Principal Component Analysis on Memory Fidelity (MF), Belief in Occurrence (BO) and Belief in Accuracy (BA) scales

|  |  |
| --- | --- |
| Items | Factor 1 |
| MF1 | -.86 |
| MF2 | -.83 |
| MF3 | -.89 |
| BO1 | -.89 |
| BO2 | -.88 |
| BO3 | -.88 |
| BA1 | -.92 |
| BA2 | -.87 |
| BA3 | .68 |

Experiment 2

Narrative ratings as a function of condition (detailed versus undetailed narratives) are presented in Table 1.

Dependent-samples t-tests evaluated whether Memory Fidelity, Belief in Occurrence and Belief in Accuracy ratings differed when the narratives were detailed compared to when they were undetailed. Memory Fidelity ratings were higher for detailed than for undetailed narratives, t(40) = 3.70, p < .001, d = 0.60, 95% confidence intervals: 0.03-0.12. There was no significant difference between detailed and undetailed narratives for ratings of Belief in Occurrence, t(40) = 1.48, p = .145, d = 0.15, 95% confidence intervals: -0.008-0.05, and for ratings of Belief in Accuracy, t(40) = 1.94, p = .058, d = 0.28, 95% confidence intervals: -0.002-0.11.

Next, we evaluated whether narrative ratings for Memory Fidelity, Belief in Occurrence and Belief in Accuracy predicted social attitudes towards the narrator, as assessed with the Willingness-to-Interact scale and the Socio-Emotional Reactions scale via mixed-effects models. Results are presented in Table 5.

Table 5. Experiment 2: Mixed-effects modelling assessing the relationship between social attitudes towards the narrator and narrative ratings

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Coefficients and statistics | | |
| Dependent variable | Predictors | Estimate | SE | p |
| WTI | Memory Fidelity | 0.40 | 0.12 | .001 |
|  | Condition | 0.06 | 0.11 | .545 |
|  | Memory Fidelity × Condition | -0.05 | 0.15 | .730 |
| WTI | Belief in Occurrence | 0.34 | 0.12 | .007 |
|  | Condition | -0.02 | 0.10 | .814 |
|  | Belief in Occurrence × Condition | 0.04 | 0.14 | .752 |
| WTI | Belief in Accuracy | 0.16 | 0.08 | .062 |
|  | Condition | -0.11 | 0.06 | .073 |
|  | Belief in Accuracy × Condition | 0.25 | 0.11 | .028 |
| SER | Memory Fidelity | 0.48 | 0.09 | <.001 |
|  | Condition | 0.02 | 0.08 | .781 |
|  | Memory Fidelity × Condition | -0.02 | 0.11 | .849 |
| SER | Belief in Occurrence | 0.36 | 0.09 | <.001 |
|  | Condition | 0.03 | 0.09 | .680 |
|  | Belief in Occurrence × Condition | -0.08 | 0.11 | .483 |
| SER | Belief in Accuracy | 0.28 | 0.06 | <.001 |
|  | Condition | -0.05 | 0.05 | .258 |
|  | Belief in Accuracy × Condition | 0.08 | 0.08 | .363 |

Note. WTI, Willingness to Interact; SER, Socio-Emotional Reactions.

For all analyses, narrative ratings with Memory Fidelity and Belief in Occurrence scales predicted significantly social attitudes, with more willingness to interact with the narrator and more positive attitude toward the narrator when narrator’s memory was rated as more faithful relative to the actual experienced event and more accurate. The total explained variances were numerically larger for Socio-Emotional Reactions (R2 = .22 for Memory Fidelity, R2 = .29 for Belief in Occurrence) than for Willingness-to-Interact (R2 = .04 for Memory Fidelity, R2 = .02 for Belief in Occurrence). For the Belief in Accuracy scale, the link between ratings and the Socio-Emotional Reactions scale was also significant (R2 = .30), but not the link with Willingness-to-Interact judgments. Social attitudes did not differ as a function of condition, and there was no differential relationship between social attitude and narrative ratings as a function of condition (i.e., no interaction), with one exception. Belief in Accuracy ratings predicted Willingness-to-interact differently as a function of condition. The interaction was explored by assessing the relationship between Belief in Accuracy and Willingness-to-interact in each condition. For memories that were detailed, there was no significant association, Estimate = 0.001, SE = 0.10, p = .987. In contrast, for memories that were not detailed, higher Belief in Accuracy ratings were related to higher Willingness-to-Interact scores, Estimate = 0.36, SE = 0.10, p < .001.

Moreover, a comparison of ratings on the Willingness-to-Interact scale and the Socio-Emotional Reactions scale between the detailed and undetailed condition (Table 3) did not reveal any significant difference, Willingness-to-Interact scale t(40) = 0.02, p = .97, d = 0.004, 95% confidence intervals: -0.05-0.05, Socio-Emotional Reactions scale, t(40) = 1.16, p = .250, d = 0.24, 95% confidence intervals: -0.02-0.08.

Finally, a PCA-based exploratory factor analysis was applied on individual items scores from the Memory Fidelity, Belief in Occurrence and Belief in Accuracy scales. After varimax rotation, two factors emerged (Table 6). The first explained 43% for the variance and showed high loadings for the three items from the Belief in Occurrence scale and the first item of the Memory Fidelity scale. The second factor accounted for 29% of the variance and had high loadings for the three items of the Belief in Accuracy scale. The remaining two items from the Memory Fidelity scale had equally moderate loadings for both factors.

Table 6. Experiment 2: Loadings from the Principal Component Analysis on Memory Fidelity (MF), Belief in Occurrence (BO) and Belief in Accuracy (BA) scales

|  |  |  |
| --- | --- | --- |
| Items | Factor 1 | Factor 2 |
| MF1 | .80 | .21 |
| MF2 | .59 | .43 |
| MF3 | .59 | .58 |
| BO1 | .88 | .21 |
| BO2 | .89 | .15 |
| BO3 | .86 | .23 |
| BA1 | .45 | .73 |
| BA2 | .11 | .88 |
| BA3 | -.15 | -.78 |

**Discussion**

The main findings that were consistent across the two experiments were twofold. First, when participants listened to or read another person’s detailed recollections of past events, they judged that the person who tells the memory had a more faithful representation of what happened compared to when they were presented with general and undetailed autobiographical memories. In other words, they granted more memory fidelity to narrators who could recount past events with high detail compared to narrators who recalled more generic memories. Second, the higher the participants’ memory fidelity ratings were, the higher the participants reported feelings of trust and empathy towards the narrator and willingness-to-interact with him/her. These results support our hypothesis that individuals make inferences regarding the fidelity of others’ memory based on its degree of detail and that such inferences play a role in social interactions by shaping social attitudes.

Past research reported that mock jurors are more readily convinced by a witness who inserts very precise but trivial details in his/her testimony than by a witness whose testimony contains no such details (Bell & Loftus, 1989; Reyes, Thompson, & Bower, 1980; Shedler & Manis, 1986). Bell and Loftus (1989) hypothesized that such effect was due to the possible use of inferences by which witnesses are perceived as more credible and as having a better memory when they provide trivial details. Although not in the context of mock jury, the current findings suggest that individuals indeed make inferences about the faithfulness of a person’s memory based on the detailedness of the memory. Like in source monitoring applied to one’s memory, individuals would also rely on heuristics using qualities of the memory to evaluate others’ memories (Johnson, Hashtroudi, & Lindsay, 1993). From a philosophical point of view, rich recollection of a past event could serve to convince other people that they can learn reliably about the event as the narrator has high memory fidelity for this event (Mahr & Csibra, 2017). It remains to determine what aspects of recollection drive this memory fidelity judgment. In the current study, we contrasted autobiographical memories according to a specific versus general distinction (Conway, 2009; Piolino, Desgranges, Benali, & Eustache, 2002). Detailed narratives corresponded to recollection of specific episodic memories of events that lasted less than one day, that were precisely situated in time and place, and that contained some sensory-perceptual and emotional details. In contrast, undetailed memories referred to semanticised memories of general events based on repeated experiences over an extended period. A limitation here is that narratives differed in content as well as in level of detail. Further work should compare interpersonal ratings when the same content is told with various degrees of detail. Future work should also test whether we grant more memory fidelity to a person because the memory contains contextual information, perceptual or emotional details, or because a certain number of details is present.

It should be noted that the use of heuristics to assess memories is influenced by the context (Bastin et al., 2019; Bodner & Richardson-Champion, 2007). Here memories were presented as real personal memories from the narrator, and participants readily inferred that greater number of details suggested higher fidelity of the other person’s memory. It might be that such memory fidelity heuristic based on level of detail is not used when there is reason to believe that the narrator is lying. Indeed, in the context of possible deception, people stop weighting the number of details presented in narratives in reality monitoring judgments and sometimes even consider a memory as false if it contains too many details (Johnson et al., 1998).

Higher memory fidelity judgments were significantly related to higher positive social attitudes (i.e., more trust and empathy, and more willingness to interact) towards the narrator. Previous studies indicated that the quality of one’s memory can influence the degree of social support one receives (Barry et al., 2019) and positive social feelings one evokes in others (Vanaken et al., 2020). Here, it is not the quality of the memory per se which is associated to social attitudes, as ratings did not globally differ as a function of condition. It is rather the judged fidelity of the narrator’s memory which predicts trust and empathy in the recipient and willingness to interact. So, the mechanism that could mediate the link between the characteristics of a narrator’s autobiographical memories and the social reactions of a recipient relative to the narrator in previous studies may lie in the recipient’s cognitive inferences about the memory fidelity of the narrator. In everyday life, such mechanism could allow us to scrutinize the information provided by another person to determine whether we can rely on this person (Mahr & Csibra, 2017, 2021).

A few previous studies examined interpersonal memory monitoring via believability (Clark-Foos et al., 2015; Johnson et al., 1998; Johnson & Suengas, 1989; Justice & Smith, 2018; Mahr & Csibra, 2021) and reliability judgments (Justice & Smith, 2018). We assessed whether such judgments have some overlap with memory fidelity judgments. Although not entirely consistent across the two experiments, the findings seem to indicate some commonalities between memory fidelity judgments and the other two types of belief. The three scales had some shared loadings on similar factors in PCA. Also judging another person’s memory, no matter on what aspect, seems to influence social attitudes towards this person. However, only memory fidelity judgments were consistently sensitive to the level of detail contained in the narratives. In Experiment 1, presence of details was associated with higher reliability ratings, but not with believability ratings, like in Justice and Smith (2018), but in Experiment 2, there was no significant between-condition difference for those two scales. The fact that the three types of belief were behaving more similarly to each other in Experiment 1 than in Experiment 2 could be due to the methodological difference between experiments, which was the fact that memories were orally narrated only in Experiment 1. Whereas reading memories as text provide no other information than the memory, oral narration included information about a real person via his or her voice. Vocal cues are used by listeners to make judgments about physical and psychological aspects of the person behind the voice and this can modify how the message is interpreted (Imhof, 2010; Zuckerman & Driver, 1989). Moreover, willingness to meet a person differs as a function of vocal characteristics, such as pitch, independently from content (Imhof, 2010). Therefore, one cannot exclude that judgments made in Experiment 1 contained some degree of voice-based inferences about the person, on top of inferences specific to the memory. If Experiment 2 is considered as providing a less-contaminated measure of interpersonal memory monitoring, it would suggest that judgments of believability, reliability and fidelity are partly distinct, but this would require further investigation.

In conclusion, people more readily believe that a person has a faithful memory of a past event when this person provides detailed recollection of the event, and this belief is associated with more positive social attitudes towards the person.

**Acknowledgments**

This research was supported by the National Fund for Scientific Research (F.R.S.-FNRS, grant T0009.19). The authors thank Arnaud D’Argembeau for useful suggestions on this study.

**References**

Baayen, R. H., Davidson, D. J., & Bates, D. M. (2008). Mixed-effects modeling with crossed random effects for subjects and items. *Journal of Memory and Language, 59*(4), 390-412. doi:https://doi.org/10.1016/j.jml.2007.12.005

Barry, T. J., Vinograd, M., Boddez, Y., Raes, F., Zinbarg, R., Mineka, S., & Craske, M. G. (2019). Reduced autobiographical memory specificity affects general distress through poor social support. *Memory, 27*(7), 916-923. doi:10.1080/09658211.2019.1607876

Bastin, C., Besson, G., Simon, J., Delhaye, E., Geurten, M., Willems, S., & Salmon, E. (2019). An Integrative Memory model of recollection and familiarity to understand memory deficits. *Behavioral and Brain Sciences, 42*(e281), 1-60. doi:10.1017/S0140525X19000621

Bell, B. E., & Loftus, E. F. (1989). Trivial persuasion in the courtroom: the power of (a few) minor details. *Journal of Personality and Social Psychology, 56*(5), 669-679. doi:10.1037//0022-3514.56.5.669

Bluck, S., & Alea, N. (2009). Thinking and talking about the past: Why remember? *Applied Cognitive Psychology, 23*(8), 1089-1104. doi:https://doi.org/10.1002/acp.1612

Bodner, G. E., & Richardson-Champion, D. D. L. (2007). Remembering is in the details: Effects of test-list context on memory for an event. *Memory, 15*(7), 718-729.

Clark-Foos, A., Brewer, G., & Marsh, R. L. (2015). Judging the reality of others' memories. *Memory, 23*(3), 427-436. doi:10.1080/09658211.2014.893364

Conway, M. A. (2009). Episodic memories. *Neuropsychologia, 47*, 2305-2313.

Coyne, J. C. (1976). Depression and the response of others. *Journal of Abnormal Psychology, 85*(2), 186-193. doi:10.1037//0021-843x.85.2.186

Green, P., & MacLeod, C. J. (2016). SIMR: an R package for power analysis of generalized linear mixed models by simulation. *Methods in Ecology and Evolution, 7*(4), 493-498. doi:https://doi.org/10.1111/2041-210X.12504

Imhof, M. (2010). Listening to Voices and Judging People. *International Journal of Listening, 24*(1), 19-33. doi:10.1080/10904010903466295

Johnson, M. K., Bush, J. G., & Mitchell, K. J. (1998). Interpersonal reality monitoring: Judging the sources of other people's memories. *Social Cognition, 16*(2), 199-224. doi:10.1521/soco.1998.16.2.199

Johnson, M. K., Hashtroudi, S., & Lindsay, D. S. (1993). Source monitoring. *Psychological Bulletin, 114*(1), 3-28.

Johnson, M. K., & Suengas, A. G. (1989). Reality monitoring judgments of other people’s memories. *Bulletin of the Psychonomic Society, 27*(2), 107-110. doi:10.3758/BF03329910

Jones, B. C., Feinberg, D. R., DeBruine, L. M., Little, A. C., & Vukovic, J. (2010). A domain-specific opposite-sex bias in human preferences for manipulated voice pitch. *Animal Behaviour, 79*(1), 57-62. doi:https://doi.org/10.1016/j.anbehav.2009.10.003

Justice, L. V., & Smith, H. M. J. (2018). Memory judgements: the contribution of detail and emotion to assessments of believability and reliability. *Memory, 26*(10), 1402-1415. doi:10.1080/09658211.2018.1484142

Keogh, L., & Markham, R. (1998). Judgements of other people's memory reports: Differences in reports as a function of imagery vividness. *Applied Cognitive Psychology, 12*(2), 159-171. doi:10.1002/(SICI)1099-0720(199804)12:2<159::AID-ACP506>3.0.CO;2-J

Mahr, J., & Csibra, G. (2017). Why do we remember? The communicative function of episodic memory. *Behavioral and Brain Sciences, 41*, 1-93. doi:10.1017/S0140525X17000012

Mahr, J. B., & Csibra, G. (2021). The effect of source claims on statement believability and speaker accountability. *Memory and Cognition, 49*(8), 1505-1525. doi:10.3758/s13421-021-01186-x

Piolino, P., Desgranges, B., Benali, K., & Eustache, F. (2002). Episodic and semantic remote autobiographical memory in ageing. *Memory, 10*(4), 239-257.

Reyes, R. M., Thompson, W. C., & Bower, G. H. (1980). Judgmental biases resulting from differing availabilities of arguments. *Journal of Personality and Social Psychology, 39*(1), 2-12. doi:10.1037/0022-3514.39.1.2

Rubin, D. C. (2006). The basic-systems model of episodic memory. *Perspectives in Psychological Science, 1*(4), 277-311.

Scoboria, A., Jackson, D. L., Talarico, J., Hanczakowski, M., Wysman, L., & Mazzoni, G. (2014). The role of belief in occurrence within autobiographical memory. *Journal of Experimental Psychology: General, 143*(3), 1242-1258. doi:10.1037/a0034110

Scoboria, A., & Pascal, L. (2016). Dissociating appraisals of accuracy and recollection in autobiographical remembering. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 42*(7), 1068-1077. doi:10.1037/xlm0000230

Scoboria, A., Talarico, J. M., & Pascal, L. (2015). Metamemory appraisals in autobiographical event recall. *Cognition, 136*, 337-349. doi:10.1016/j.cognition.2014.11.028

Shedler, J., & Manis, M. (1986). Can the availability heuristic explain vividness effects? *Journal of Personality and Social Psychology, 51*(1), 26-36. doi:10.1037/0022-3514.51.1.26

Vanaken, L., Bijttebier, P., & Hermans, D. (2020). I like you better when you are coherent. Narrating autobiographical memories in a coherent manner has a positive impact on listeners' social evaluations. *PloS One, 15*(4), e0232214. doi:10.1371/journal.pone.0232214

Zuckerman, M., & Driver, R. E. (1989). What sounds beautiful is good: The vocal attractiveness stereotype. *Journal of Nonverbal Behavior, 13*(2), 67-82.

Supplemental materials for manuscript

Details about the materials used in the experiments

*Selection of the narratives*

The four narratives came from a large pool of autobiographical memories collected in the lab (unpublished data) using the cue-word method (1). We first selected 16 autobiographical memories of similar lengths (around 150 words), half of them judged *a priori* by the first author as relatively detailed and the other half as relatively general. Then, 4 memory researchers experienced in coding of autobiographical memories rated the 16 narratives in terms of amount of episodic details (on a 10-point scale from 0, not detailed at all, to 10, very detailed, to what extent does the narrative contain details about the unfolding of the event, spatiotemporal context, perceptual information, thoughts and emotions) and emotional valence (on 10-point scale from 0, very negative, to 10, very positive, with 5 corresponding to neutral, to what extent is the narrated event emotionally positive or negative). We selected the two narratives judged as the most detailed (M = 8.5 and 8.75 respectively) and the two narratives judged as the least detailed (M = 4.25 for both). All were judged as neutral to slightly positive (M = 6, 6.25, 5, and 6.25).

*Texts of the narratives:*

Detailed 1: “When I started my studies in St-Luc, we had three days of entrance exams. It’s around September 3rd. The first day, at noon, I find myself with a girl who had held the door for me so that I could go out. And I start to chat with this girl. We ask ourselves trivial questions: "What kind of music do you like", "where did you study before? ". To the question about music, I say Manu Chao, Indochine, Pink. Then I ask her "What kind of music do you listen to?" ". There she looks at me with a big smile and she says "Ah me, I like Avril Lavigne, Kyo, and Tokyo Hotel". And there I say to myself: "I came to St Luc to meet strange people like me; I will be more in osmosis with myself and I fall on Miss Tokyo Hotel!" ”

Detailed 2: “Friday afternoon, I went to Fnac to buy a DVD for my mother. First, I’m on the wrong escalator because everything has been turned upside down. Finally I go upstairs. I had been looking for the DVD for some time and it was finally out. So I take it. It costs 20 euros 90 cents. And then I take a look at the bookstore. There, I come across a book that my mother was waiting for. I think to myself: "what should I do?" The book costs € 25.50. I wonder: "Which one should I buy? ". I didn't know if I had enough money on my card to pay for both. Finally, I decide: "Come on, I'll take both". At the cash desk, the lady tells me that I have a credit of 20 euros on the loyalty card. So instead of 45, I paid 25 euros.”

Undetailed 1: “When we are all there at family gatherings, we like to converse. We see each other often. To parties and all that, they all come back. We talk a lot when we meet. Luckily we always got along well in the family. It has always worked well. Even with my siblings. With the kids and all that. I lived with my parents for a long time. Even when I got married, at the beginning, we lived with my parents. 6 years in fact. The people of the family, they all came back. So we really had good days, good evenings, good nights because they were staying. We liked to talk about everything. Like now, but there are only three of us left because the oldest have unfortunately died. I wish my dad had lived longer than that because he was proud of his family.”

Undetailed 2: “It is not always easy to make choices in professional life. At one point, I chose to study accounting because I had a neighbor who was in Sainte Marie. Me, at that time, I didn't know what to do. And I knew that the Sainte Marie school was an accounting school and that it had a good reputation. At the same time I might have had a fear, but all in all, I'm happy because that prompted me to change my mind and move on to IT afterwards. I found a job in IT and there I was very happy. But you have to adapt all the time. With internet, cellphones and all that. It's another thing to play on keyboards, hard drive and all that. It takes a lot of flexibility. But at the same time, I like this job. It's stimulating.”

*Narrative ratings scales*

*Memory Fidelity scale*

MF1: How much do you think that the narrated memory corresponds to what the person has actually experienced?

MF2: How much do you think that the person has a faithful memory of what happened?

MF3: How much do you think that things happened like the person told them?

*Belief in Occurrence scale*

BO1: How much do you think the person actually experienced this event?

BO2: How much do you think the event actually happened?

BO3: How true do you think it is that the event happened?

*Belief in Accuracy scale*

BA1: How confident are you that the memory is correct?

BA2: How accurate do you think all the elements of the memory are?

BA3: To what extent do you think the accuracy of the memory can be doubted?

References

1. Rubin DC & Schulkind MD (1997) Distribution of important and word-cued autobiographical memories in 20-, 35-, and 70-year-old adults. *Psychol. Aging* 12(3):524-535.