

# Middle-Aged People's Perceptions of Name Recall Failures

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## ABSTRACT

The retrieval of proper names in memory is particularly prone to failure. Several authors have suggested that being unable to retrieve someone's name is likely to be an embarrassing or irritating experience. However, empirical data showing that name recall failures actually elicit embarrassment and annoyance are particularly sparse. In an online questionnaire study, participants were asked about their negative feelings associated with the occurrence of retrieval failures. The strongest negative feeling reported was annoyance rather than embarrassment. The highest rated factor favouring recall failures was mental fatigue. We also asked participants whether they interpreted name recall failures as an early-warning sign of Alzheimer's disease. Participants did not believe this to be the case. In the second part of the study, participants responded to questions related to the strategies they use to resolve recall failures. Contextual strategies were reported more frequently than other strategies, such as searching for biographical details about the target person or searching for phonological or orthographic information about the name to be retrieved. Moreover, participants considered that retrieving a name by themselves was more likely to help them recall the name later than using external aids. This result suggests that people are aware of the self-resolution effect.

## KEYWORDS

memory  
naming  
proper names  
tip-of-the-tongue  
metacognition

## INTRODUCTION

The retrieval of proper names in memory is particularly prone to failure (for a review, see Brédart, 2017). Several authors have noted that being unable to retrieve someone's name is likely to be an embarrassing experience (Cohen, 1994; Fogler & James, 2007; Marful et al. 2014; Ross et al., 2010). Others have stressed that this particular memory lapse may be frustrating (Cohen, 1994; Cohen & Burke, 1993; White et al., 2013). However, even if one can assume that failing to retrieve a name can be discomfiting in social situations, empirical data showing that such a failure actually elicits embarrassment and frustration in speakers are particularly sparse. To our knowledge, there is only one study (Lovelace & Twohig, 1990) that has addressed this point. In that study, the participants aged from 54 to 85 answered open-ended and forced-choice questions about their everyday life memory problems, the extent to which they had experienced more memory difficulties as they grew older, and the kinds of memory aids they used. Sixty percent of the participants reported that the inability to recall someone's name was their most frequent retrospective memory difficulty (see also Condret-Santi et al., 2013; Sunderland et al., 1986; Weaver Cargin et al., 2008). In addition, when asked which kind of memory difficulty was the most annoying, embarrassing, and frustrating, 55 percent of the

participants responded that it was the failure to recall someone's name. Lovelace and Twohig (1990) did not report if this percentage varied across the wide age range of their participants (more than 30 years).

Given the sparsity of empirical data regarding people's subjective response to name retrieval failure, we decided to conduct a questionnaire study in order to collect information about different aspects of these subjective responses, and to consider each aspect separately rather than asking generic questions encompassing several issues such as annoyance, embarrassment, and frustration together, as Lovelace and Twohig (1990) did. Therefore, the participants were asked, firstly, to rate the extent to which they felt that name retrieval failures were worrying, annoying, or embarrassing for themselves, embarrassing for the person whose name was not recalled, detrimental in their private life, and detrimental in their professional life. Besides reporting these ratings, it seemed interesting to correlate them with the participants' estimates of the frequency of their name retrieval failures.

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In addition, the participants answered questions about the circumstances that they thought would favor the occurrence of name retrieval failures, namely, aging, physical fatigue, mental fatigue, worry, and stress. Some of these factors were previously explored by Burke et al. (1991), but with only a small subset of 10 participants in each age group (young, middle-aged, and older groups). Their study showed no significant differences between young, middle-aged, and older participants (mean ratings varied from 3.01 to 4.35 for worry, and from 3.24 to 4.76 for fatigue, using a 1-7 Likert scale). Other studies reported that participants tended to experience more retrieval failures when the pressure to perform well was high than when it was low, suggesting that levels of stress may play a significant role (James et al., 2018; Widner et al., 1996). There is still debate in the current literature regarding whether or not older people's name retrieval difficulties predict future Alzheimer's disease (Condret-Santi et al., 2013; Garcia et al., 2021). We were interested in determining whether the participants interpreted name retrieval failures as a sign of Alzheimer's disease (see Fogler & James, 2007), and to check whether these ratings correlated with the estimated frequency of occurrence of name retrieval failure.

A second aim of the present study was to gather further information about the strategies people use when experiencing such a name retrieval failure. Following Brédart and Geurten (2020), the participants were asked to rate how frequently they used semantic, contextual, phonological, and orthographic strategies, but also how frequently they used external aids (e.g., the Internet). An important result of the Brédart and Geurten (2020) study was that the participants reported using contextual and semantic strategies more frequently than orthographic and phonological strategies. It seemed interesting to check whether this result could be replicated. Finally, another point relevant to spontaneous strategies was to establish whether the participants were aware of the self-resolution effect in the occurrence of word retrieval failure. Indeed, it has been demonstrated that the resolution of a word retrieval failure by the participants themselves leads to a higher probability of a later successful retrieval of that word compared with a condition in which the correct answer is simply given by someone else (D'Angelo & Humphreys, 2015). To our knowledge, people's metacognitive knowledge of the self-resolution effect has not yet been investigated in the literature.

Recently, Kljajevic and Erramuzpe (2018) noticed that most research on age-related decline in proper name retrieval was conducted on elderly participants, leaving name retrieval difficulties in midlife relatively unexplored. In the present study, we addressed this gap by recruiting participants aged between 40 and 65. The overall objective of the present study was to gain insight about middle-aged people's views on the negative feelings associated with name retrieval failures, the factors favoring the occurrence of failures, and the strategies that can be useful to resolve such failures (as a follow-up to Brédart & Geurten, 2020). The participants' metacognitive knowledge of the self-resolution effect was also evaluated.

## METHOD

### Participants

The participants were recruited online, through social media platforms, for a study on "memory for proper names." Although 191 participants completed the full study, 61 participants (31.9 %) were subsequently excluded for one or several of the following reasons. Given that our aim was to describe healthy middle-aged people's perceptions of retrieval failures, we excluded participants with conditions that can affect memory ( $n = 33$ ), such as neurological or cardiovascular conditions. Participants taking psychotropic medication ( $n = 12$ ) were also excluded when a decrease of memory performance was listed among the potential side effects on the package leaflet of the drug. Finally, we excluded participants who failed the attention checks ( $n = 21$ ), suggesting that they did not follow instructions. Previous studies showed that excluding participants who incorrectly responded to attention check questions increases power and reliability of data (e.g., Berinsky et al., 2014; Oppenheimer et al., 2005). The final sample ( $N = 130$ ; 91 women and 39 men) ranged in age from 40 to 65 ( $M = 50.92$ ,  $SD = 6.33$ ). The participants' average educational level, as measured by the number of years of study completed to achieve their highest qualification, was 15.33 ( $SD = 3.37$ ). All of them were professionally active. Their average score of subjective assessment of health was 7.86 ( $SD = 1.74$ ) out of 10 (1 = *very bad health*; 10 = *very good health*). This study was approved by the local Ethics Committee. All participants gave their informed consent prior to participation. The study was conducted in French with native French-speaking participants.

### Materials and Procedure

The participants filled in the questionnaire online by using the survey system of the Faculty of Psychology, Speech Therapy, and Education Sciences of the University of Liège. The questionnaire started with the question "Are you sometimes momentarily unable to retrieve the name of a person whose name you are sure you know?" Participants who answered "no" were directly invited to provide personal sociodemographic information (see below). Those who responded "yes" continued to fill in the questionnaire. First, the participants were asked to estimate the frequency of occurrence of their name recall failures from among five options: 1 = *At least once a day*, 2 = *At least once a week*, 3 = *At least once a fortnight*, 4 = *At least once a month*, and 5 = *Less frequently*.

For the following 14 questions related to the subjective perception of recall failures, the participants gave their response on a 7-point Likert-type scale (1 = *not at all*; 7 = *very much so*).

- 1) When it happens, do you find it worrying?
- 2) When it happens, do you find it annoying?
- 3) When it happens, do you find it embarrassing for you?
- 4) When it happens, do you find it embarrassing for the person whose name you cannot recall?

- 5) Do you find that your difficulty in retrieving names is detrimental in your private life?
- 6) Do you find that your difficulty in retrieving names is detrimental in your professional life?
- 7) Please move the cursor to number 6 on the scale shown below; we just want to check that you are attentive.
- 8) Have you found that your name retrieval difficulties have increased with age?
- 9) Do you find that your name retrieval difficulties increase when you feel mentally tired?
- 10) Do you find that your name retrieval difficulties increase when you feel physically tired?
- 11) Do you find that your name retrieval difficulties increase when you feel worried?
- 12) Do you find that your name retrieval difficulties increase when you feel stressed?
- 13) Do you find that you have more difficulty in retrieving the names of people you do not like?
- 14) Do you think that your difficulty in retrieving proper names is an early-warning sign of Alzheimer's disease?

For the following 10 items related to the strategies of recall failure resolution, the participants gave their response on a 10-point Likert-type scale (1 = *never*; 10 = *always*). Before rating the items, the participants were informed that, in this part of the questionnaire, our aim was to learn more about the strategies they used to resolve naming failures. They were explicitly instructed to focus on information that they voluntarily searched for to help resolve a naming failure and to ignore information coming spontaneously to mind without a voluntary search.

- 15) I search for further information about the person, such as her/his profession or nationality, or the people associated with her/him.
- 16) I search for the context in which I usually encounter the person (e.g. at work, on TV, in magazines, in the gym, etc.)
- 17) I search for the first or the last sound of the target name.
- 18) I search for the first or the last letter of the target name.
- 19) Please move the cursor to number 2 on the scale shown below; we just want to check that you are attentive.
- 20) I ask someone else or I search the Internet.
- 21) I let it go and wait for the name to come back to my mind by itself.
- 22) I think that if I can find the name on the Internet, this will help me retrieve this name later.
- 23) I think that if someone tells me the name, this will help me retrieve this name later.
- 24) I think that if I retrieve the name by myself, this will help me retrieve this name later.

Questions 7 and 19 served as an attention check.

Following this questionnaire, personal information about the participants was collected: age, gender, educational level, occupation, medical condition (head injury, concussion, and severe cardiovascular

disease), current medication, and subjective assessment of health. The participants performed no other tasks in the present study.

## RESULTS

All the statistical analyses reported here were conducted using JASP 12.2. The achieved power of the following statistical analyses was calculated a posteriori. It varied from 0.93 to 0.99 according to the analysis. The estimation of achieved power for the analyses of variance (ANOVAs) was calculated using the G\*Power 3.1 software (Faul et al., 2007) with the following parameters,  $f = 0.25$ ,  $\alpha = .05$ , correlation between repeated measures = 0.5, nonsphericity correction  $\epsilon = 0.2$  for the first three reported ANOVAs which included six measures each and  $\epsilon = 0.5$  for the last ANOVA which included three measures. Because the assumption of sphericity was violated (Mauchly's test,  $p < .05$ ), the Greenhouse-Geisser correction was applied for each of the one-way ANOVAs. Holm corrections for significance were applied to the post-hoc comparisons.

Of the 130 participants who completed the questionnaire, 123 (94.6%) reported experiencing name retrieval failures. The median frequency was 3 ( $M = 3.33$ ,  $SD = 1.32$ ), which corresponded to a frequency of at least once a fortnight.

### Negative Feelings Associated with the Occurrence of Recall Failures

A one-way repeated-measures ANOVA indicated that the ratings were significantly different across the six types of affective responses (for descriptive data, see the first section of Table 1),  $F(4.32, 526.97) = 49.88$ ,  $p < .0001$ ;  $\eta_p^2 = 0.29$ . The achieved power of this analysis was 0.98. Post-hoc comparisons indicated that the ratings were significantly higher for annoyance than for any other negative feeling (all  $ps < .0001$ ). The feeling that name retrieval failures were detrimental in private life was

**TABLE 1.**

Mean Ratings (*SD* in parentheses) for Negative Feelings Regarding Name Recall Failures and for Factors Potentially Favouring the Occurrence of Such Failures.  $N = 123$  for all the Variables

Negative feelings	
Worry	2.89 (1.75)
Annoyance	5.09 (1.78)
Finding the recall failure embarrassing for oneself	3.50 (1.85)
Believing the recall failure to be embarrassing for the other person	3.52 (2.02)
Detrimental in private life	2.33 (1.44)
Detrimental in professional life	3.15 (1.88)
Factors favoring retrieval failures	
Aging	4.36 (2.09)
Physical fatigue	4.11 (1.89)
Mental fatigue	5.05 (1.81)
Worry	4.10 (1.49)
Stress	4.11 (1.88)
Dislike of the person	1.87 (1.32)

rated lower than any other negative feeling (all  $ps < .05$ ). The other statistically significant differences showed that worry was rated lower than both embarrassment for oneself ( $p = .007$ ) and embarrassment for the person whose name was not retrieved ( $p = .005$ ).

We checked whether there was a relationship between the frequency of retrieval failures and each of these negative feelings. There were statistically significant correlations showing that the higher the reported frequency of retrieval failures, (a) the stronger the feeling that retrieval failures are detrimental in professional life, Spearman's  $r_s = -.320$ , 95% CI [-0.151, -0.470], Holm corrected  $p$  threshold = .0018, (b) the stronger the feeling that these failures are detrimental in private life,  $r_s = -.270$ , 95% CI [-0.097, -0.426], Holm corrected  $p = .015$ , (c) the stronger the feeling of worry,  $r_s = -.233$ , 95% CI [-0.058, -0.394], Holm corrected  $p = .040$ , and (d) the stronger the feeling of embarrassment for the person whose name was not retrieved,  $r_s = -.217$ , 95% CI [-0.042, -0.380], Holm corrected  $p = .048$ . The correlations are negative because the scale for rating the frequency was reversed (see the Procedure section). We found no statistically significant correlations between the frequency of failures and the strength of annoyance ( $r_s = -.029$ ) or of embarrassment for self ( $r_s = -.170$ ). For these correlational analyses, the achieved power was 0.93 with the following parameters: effect size = 0.3,  $\alpha = .05$ , two-tailed test.

## Factors Favoring the Occurrence of Recall Failures

A one-way repeated-measures ANOVA indicated that the ratings were statistically significantly different across the six favouring factors (for descriptive data, see the second section of Table 1),  $F(3.88, 473.66) = 67.63$ ,  $p < .0001$ ;  $\eta_p^2 = 0.35$ . The achieved power of this analysis was also 0.98 (same parameters as for the preceding analysis). Post-hoc comparisons indicated that participants rated mental fatigue higher than any other factor (all  $ps \leq .001$ ). By contrast, they rated dislike of the person whose name they could not retrieve with a lower score than any other factor (all  $ps < .0001$ ). There was no other statistically significant difference.

## Recall Failures as an Early-Warning sign of Alzheimer's Disease

Overall, the participants did not seem to consider that their difficulty in retrieving names was an early warning sign of Alzheimer's disease ( $M = 2.51$ ,  $SD = 1.55$ ). However, ratings for this item were correlated with the estimated frequency of failures: the higher the frequency of failures, the stronger the feeling that retrieval failures could be a warning sign,  $r_s = -.307$ , 95% CI [-0.137, -0.459],  $p < .001$ .

## Strategies to Resolve Recall Failures

A one-way repeated-measures ANOVA indicated that the ratings were significantly different across the six strategies (for descriptive data, see the first section of Table 2),  $F(4.20, 512.10) = 11.07$ ,  $p < .0001$ ;  $\eta_p^2 = 0.08$ . The achieved power of this analysis was 0.98 (same parameters as for the preceding analysis). Post-hoc comparisons indicated that

the search for contextual information was rated higher than the other strategies (all  $ps < .001$ ), except for the use of external aids. The use of external aids was rated higher than the search for phonological ( $p = .014$ ) and orthographic information ( $p < .001$ ). There was no other statistically significant difference.

## Knowledge of the Self-Resolution Effect

A one-way repeated-measures ANOVA indicated that the ratings were statistically significantly different across the three ways of finding the name (for descriptive data, see the second section of Table 2),  $F(1.90, 231.75) = 83.93$ ,  $p < .0001$ ;  $\eta_p^2 = 0.40$ . The achieved power of this analysis was 0.99. Post-hoc comparisons indicated that the participants rated retrieving the name by oneself as helpful in recalling this name later statistically significantly higher than searching for the name on the Internet and asking someone else for the name (both  $ps < .0001$ ). The participants reported searching on the Internet more often than asking someone else ( $p = .038$ ). This result suggests that people are quite aware of the self-resolution effect.

## DISCUSSION

The first aim of the study was to assess the extent to which people reported experiencing negative feelings when they failed to retrieve proper names. The feeling that the participants clearly rated as the strongest under these circumstances was annoyance. However, the average ratings for worry, embarrassment, and perceived detriment in private or professional life remained below the middle of the Likert scale used in the study. Such relatively low ratings could be explained by the fact that the participants reported failing to recall a proper name on average only around once a fortnight. It would be interesting to record the responses of older people, who presumably fail to recall names more often, and to assess whether they rate experiencing stronger worry or embarrassment in this regard. The present study provides some cues

**TABLE 2.**

Mean Ratings ( $SD$  in Parentheses) for Strategies Used to Resolve Name Recall Failures and for Beliefs about the Benefits, in Successful Later Recall of the Name, of Searching for the Name on the Internet, Asking Someone Else for the Name and Retrieving the Name by Oneself.  $N = 123$  for all the Variables

Strategies	
Searching for contextual information	6.59 (2.86)
Searching for semantic information	4.95 (3.27)
Searching for phonological information	4.39 (3.58)
Searching for orthographic information	4.06 (3.49)
Using external aids	5.63 (2.91)
Waiting for the name to come to mind	4.86 (2.99)
The self-resolution effect	
Looking on the Internet helps	2.43 (2.50)
Asking someone else helps	3.04 (2.61)
Retrieving the name by myself helps	5.98 (2.93)

that the frequency of retrieval failures may be related to ratings for negative feelings. Indeed, we found that the higher the reported frequency of retrieval failures, the stronger the feeling that these failures were detrimental in both private and professional life, and the stronger the feeling of worry or of embarrassment for the other person. In brief, using specific questions rather than a more generic mixing of annoyance/irritation and embarrassment, as in the Lovelace and Twohig (1990) study, revealed that when experiencing a recall failure, people mainly felt annoyed rather than embarrassed. The average ratings for one's own embarrassment when forgetting another person's name and for the embarrassment of the person whose name is forgotten were not statistically significantly different, and were even numerically close (see Table 1). Unfortunately, our questionnaire did not include an item assessing the participants' embarrassment when their own name is forgotten. Including such a question in future studies would be interesting. Indeed, recently, Hargis et al. (2020) reported that younger and older people viewed forgetting others' names as more embarrassing than having their own names forgotten by others. In addition, it would be interesting to compare embarrassment and other negative feelings experienced when the retrieval failures occur for names of people included in and absent from the conversation (e.g., media people). More generally, further studies should investigate whether people consider that the context (i.e., private vs. public) in which retrieval failures occur is likely to affect the level of their negative feelings.

The highest rated factor potentially favoring the occurrence of recall failures was mental fatigue. This result is in line with the hypothesis that recall failures occur more frequently when people are fatigued (Cohen, 1994) but suggests that it is more precisely mental (and not physical) fatigue that is a key factor. In future studies, it would also be worth assessing people's knowledge that low frequency of use makes name recall more difficult.

As mentioned earlier, our participants did not view their name recall failures as an early warning sign of Alzheimer's disease. Again, the relatively low frequency of occurrence of these failures in the participants could explain why they rated this item so low. It would be interesting to assess how older people would respond to this question, given that their name retrieval abilities are presumably more impaired (e.g., Burke et al., 2004; James, 2006). However, there was a correlation between the frequency of failures and the strength of the feeling that recall failures could be a warning sign.

The participants reported mainly trying to retrieve contextual cues in order to resolve name recall failures. The prevalence of this contextual strategy is quite consistent with the results of Brédart and Geurten (2020). However, in the present study, the participants' ratings were not statistically significantly different for the frequency of use of semantic, phonological, and orthographic strategies. This pattern is somewhat different from that described by Brédart and Geurten (2020), in which the orthographic strategy was used significantly less frequently than the semantic strategy. This discrepancy cannot be explained by the participants' age, since the age ranges (40 to 66 in Brédart and Geurten vs. 40 to 65 in the current study) and the average ages (53 years in Brédart and Geurten vs. 51 in the current study) were similar. Neither can the

inconsistency be attributed to the wording of the questions, which was the same in the present study as in Brédart and Geurten (2020). The two studies differed with respect to the mode of administration (pencil-and-paper vs. online) and the content of the whole questionnaire. However, it is difficult to understand how such differences could explain the specific discrepancy described above. Further research is needed to assess whether or not people tend to use semantic strategies more frequently than orthographic strategies.

The final aim of the present study was to assess whether middle-aged people have a metacognitive knowledge of the self-resolution effect (D'Angelo & Humphreys, 2015). We reasoned that if the participants had such knowledge, they would more strongly agree with the statement that retrieving the name by oneself helps recall this name later in comparison with searching for the name on the Internet or asking someone else for the name. The participants showed this pattern of ratings. Further research should try to determine to what extent this metacognitive knowledge is explicit. Indeed, it is remarkable that, on the one hand, middle-aged participants showed some knowledge of the self-resolution effect but that, on the other hand, resorting to external aids (such as the Internet, or someone else) was their second most used strategy for resolving a name recall failure.

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