

‘Of course I Remember Seeing that Film’—How Ambiguous Questions Generate Crashing Memories

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SUMMARY

Although previous research has shown that people are willing to report having seen non-existent footages of high publicity events, no study has looked at the potential boundaries of what has been dubbed the *crashing memory* paradigm. We examined whether the ambiguity of interview questions may lead some people to affirm without much conviction having seen non-existent footages. Using *ambiguous*, *specific high-suggestive*, *specific low-suggestive*, or *neutral* questions, the current study asked 120 individuals whether they had seen non-existent footage of the assassination of the famous Dutch politician Pim Fortuyn. Replicating previous research, 63% of our participants in the ambiguous group falsely reported having seen the footage. This percentage dropped to 30% for the specific high-suggestive as well as the specific low-suggestive group, while still 27% of the neutral group were willing to make false reports. Our results demonstrate that *crashing memories* do depend on the way in which people are interviewed, but that question type does not fully account for these false reports. Copyright © 2006 John Wiley & Sons, Ltd.

Eyewitness testimony is among the most potent types of evidence used in criminal and civil lawsuits. By and large, eyewitness testimonies hinge upon memories of events or facts that are in some way related to the legal issue at hand. Disconcerting is the fact that these memories are prone to various types of error, which under some circumstances may lead to inaccurate or even utterly wrong testimonies. That such errors may have far-reaching consequences is evidenced by the fact that mistaken eyewitness identifications account for over 80% of wrongful convictions in the United States (Scheck, Neufeld, & Dwyer, 2001). The malleability of memory is not restricted to personally experienced events, but also applies to ‘memory’ for highly exposed public events. That is, people may come to report having witnessed events that they, in fact, could not possibly have experienced. In their pioneering study, Crombag, Wagenaar, and van Koppen (1996) examined to what extent people would claim having seen television footage of the 1992 El-Al Boeing 747 crashing into apartment buildings in Amsterdam. To this end, participants were asked a straightforward yes/no question, namely ‘Did you see the television film of the moment

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Contract/grant sponsor: The Netherlands Organization for Scientific Research (NWO); contract/grant number: 452-02-006.

the plane hit the apartment building?’ (Crombag et al., 1996, p. 99). Crombag and colleagues found that over half of their participants (55% in study 1 and 66% in study 2) claimed to have seen the footage. This is remarkable given that there is no actual footage of the moment the El-Al airplane crashed into the buildings, although it is true that the event was extensively covered in the media.

This technique, coined the *crashing memory* paradigm, has recently been employed to investigate people’s ‘memory’ of non-existent footages of a wide range of public events (Granhag, Strömwall, & Billings, 2003; Jelicic et al., in press; Ost, Hogbin, & Granhag, in press; Ost, Vrij, Costall, & Bull, 2002; Wilson & French, submitted for publication). Ost et al. (2002), for example, found that 44% of their participants were willing to report that they had seen television fragments of the 1997 fatal crash of Diana, Princess of Wales, when in fact, no such film material exists. Interestingly, these authors obtained evidence that compliance (i.e. eagerness to please) may be a key factor in explaining why so many people claim to have seen the non-existent footage. Similarly, Granhag et al. (2003) showed that a substantial number of Swedish participants (i.e. 38% in study 1 and 55% in study 2) came to report having seen a non-existent film of the disastrous sinking of the Estonia ferry, in which almost 900 lives were lost. Yet another replication of Crombag et al.’s (1996) crashing memories is a study by Jelicic et al. (in press), who asked Dutch undergraduate students whether they had seen footage of the assassination of Dutch politician Pim Fortuyn and if so, whether they could remember any details of it. Sixty-three per cent of the participants claimed they had seen the non-existent footage, yet only 23% were able to provide details. Interestingly enough, those participants who came up with details of the footage were characterized by elevated levels of fantasy proneness (i.e. a deep and profound involvement in fantasy and imagination; see Lynn & Rhue, 1988).

The fact that a substantial proportion of individuals are willing to state that they have seen footage of an event that actually does not exist, has often been interpreted as implying that it is relatively easy to induce full-blown *false memories* in healthy people. For example, as many participants in the Crombag et al. (1996, p. 102) study gave detailed answers to the follow-up questions, the authors asserted that ‘[...] apparently these subjects had formed images [...]’. However, one could take the stance that the high percentage of participants claiming to have seen the footage does not necessarily mean that all of them actually had false memories or images (Smeets, Merckelbach, Horselenberg, & Jelicic, 2005; see for a similar interpretation of results from imagination inflation studies, Scoboria, Mazzoni, Kirsch, & Relyea, 2004). Another explanation for these results could be that participants, due to the highly suggestive context, drew upon general knowledge heuristics rather than false memories when they answered the interview questions. As well, participants may have been eager to please the researchers and, hence, might have provided socially desirable answers without really believing them. Finally, it might have been the case that some of the participants misinterpreted the critical question and believed that it related to several television images depicting the aftermath of the various events (e.g. the destroyed apartment buildings, the car wreckage).

Perhaps the most parsimonious explanation for these false reports can be found in the original work by Crombag et al. (1996). They speculated that the misleading suggestions embedded in their questions may have led their participants to come to believe that they saw a television fragment that in fact did not exist. If this holds true, one wonders to what extent manipulating the way in which one formulates the critical question (i.e. varying its specificity or the amount of misleading information conveyed by it) modulates the proportion of participants who claim to have seen the non-existent footage. Using the

assassination of the Dutch politician Pim Fortuyn as the target event, the current study addressed this issue by varying the wording of the critical question. Participants were given one of four critical questions. The critical questions differed with regard to their ambiguity and the extent to which they conveyed misleading information (see below). In the current context, ambiguity refers to a question that does not articulate whether it pertains to the incident itself or its aftermath (i.e. images of the body surrounded by a first-aid team and the police). Misleading information refers to the assumption embedded in a question that the footage must exist.

If it is true that previous reports of having seen non-existent footage of a high publicity event (e.g. Crombag et al., 1996; Granhag et al., 2003; Jelicic et al., in press; Ost et al., 2002) were shaped by (mis)leading *and* ambiguous questions, then participants given a crashing memory question that was both vague and misleading would be expected to yield the highest percentage of 'yes'-responses. Furthermore, a higher proportion of 'yes'-responses in participants given a specific, but misleading question would then be anticipated in comparison to the group that received a specific, but less suggestive question. The group that received a neutral question, in turn, would be expected to produce the lowest percentage of 'yes'-responses.

We also administered the Memory Characteristics Questionnaire (MCQ; Johnson, Foley, Suengas, & Raye, 1988), which assesses a wide variety of memory qualities. Note that in the present study, participants who did not endorse false reports of having seen the non-existent footage were asked to imagine having seen such footage. Subsequently, they were asked to provide MCQ ratings for the images they had formed through imagination. One would expect that participants with false reports of the non-existent film would have few problems in retrieving images supporting their false reports. Therefore, it was predicted that participants endorsing the false reports would provide higher MCQ scores than participants who deny to have seen the non-existent footage. Indeed, there are some indications in the literature that fabricated memories are sometimes rated as more vivid and detailed than real memories (e.g. Porter, Yuille, & Lehman, 1999).

METHODS

Target event

Like Jelicic et al. (in press), the current study used the Pim Fortuyn assassination as the target event. Being a famous Dutch politician, Pim Fortuyn was an intriguing right wing representative who had gained national recognition for his opinions on immigration control and the systematic integration of foreigners already residing in the Netherlands. He was the person heading the list of candidates for a new political party called 'List Pim Fortuyn' in May 2002, and opinion polls for the upcoming Dutch general elections had shown that his party would gain a considerable number of seats in the Dutch parliament. On May 6th 2002, just as he was leaving a radio station where he had given an interview, Pim Fortuyn was shot and killed by animal rights activist Volkert van der G.¹ The Pim Fortuyn assassination shocked many people both inside and outside the Netherlands and was front page news in national and international newspapers. For many months, the Dutch media

¹Under Dutch law, it is illegal to reveal the full name of a suspect in the media. As the suspect of the Pim Fortuyn assassination was consistently referred to as Volkert van der G. in Dutch media, this alias was used in the critical questions developed for this study.

extensively covered the murder and its aftermath, thereby also showing images of the dead body. There is however no video footage of the moment Fortuyn was shot.

Participants

Our sample consisted of 120 individuals (49 men and 71 women) selected at random from the community. Their mean age was 38 years ($SD = 12.4$; range: 20–63). The entire test protocol was approved by the standing ethical committee of the Psychology Department of Maastricht University. All participants signed a written informed consent and were asked to report age, gender and level of education (following Verhage, 1964). Groups (see below) did not differ with respect to age [$F(3,116) = 0.21$; $p = 0.89$], gender distribution [$\chi^2(3, N = 120) = 0.38$; $p = 0.94$] or level of education [$F(3,116) = 0.67$; $p = 0.56$]. All participants reported they were local residents and lived in the Netherlands at the time Pim Fortuyn was killed.

Materials

Crashing memory questionnaire

Four sets of questionnaires were developed specifically for this study, each differing only with respect to the critical question. Participants were first required to provide some personal background characteristics, such as age, gender, and educational level. They then were asked two factual questions regarding the assassination of Pim Fortuyn, one probing for the exact date of the Pim Fortuyn assassination, the other querying for the location of the murder. The third question was the critical *crashing memory* question probing for knowledge of the Pim Fortuyn shooting. Participants were randomly assigned to one of the following groups. Participants in the first group received the rather vague question ‘Did you see *the* amateur film of the Fortuyn shooting?’ (*ambiguous group*; $n = 30$), while a second group was given a more restrictive, specific question, namely ‘Did you see *the* amateur film of the moment Fortuyn was shot by Volkert van der G.?’ (i.e. the *specific high-suggestive group*; $n = 30$). A third group was asked a less suggestive variant of the specific suggestive question, which was phrased as follows: ‘Did you see *an* amateur film of the moment Fortuyn was shot by Volkert van der G.?’ (*specific low-suggestive group*; $n = 30$). Finally, participants in the fourth group were queried with a neutral, non-suggestive, open question formulated as ‘Do you remember whether there was a film of the moment Fortuyn was shot by Volkert van der G.?’ (*neutral group*; $n = 30$). It should be acknowledged here that this neutral question is different in terms of the decision that has to be made. That is, while the ambiguous, specific high-suggestive and specific low-suggestive question solicit whether participants *remember* seeing the footage, the neutral question taps more general knowledge of whether such footage *exists*. However, throughout the remainder of this article we will use the term *neutral* to refer to this question. The critical question was answered in a ‘yes, I remember that film’ or ‘no, I do not remember such a film’ format. Thus, the pertinent questions given to the groups differed in the amount of misleading information and specificity they conveyed.

Finally, if participants indicated having seen the non-existent footage, they were asked to write down in as much detail as possible whatever they could remember from the footage. These data were scored dichotomously (0 = without details; 1 = with details). That is, we focused on whether participants came up with specific details (e.g. shots being fired, Fortuyn collapsing etc.) that they could not have seen (i.e. for which no actual footage

exists). If they did, a 1 was scored. Yet, details derived from what was shown in the media i.e. details pertaining to the events surrounding the assassination (e.g. the first aid team and police officers, the dead body) were scored as 0.

Memory characteristics questionnaire

The Memory Characteristics Questionnaire (MCQ; Johnson et al., 1988) comprises 39 statements that tap a broad range of memory characteristics. For most statements, participants are required to indicate on a 7-point scale (anchors vary depending on the item) the degree to which they agree with the statement. McGinnis and Roberts (1996) showed that the MCQ consists of eight subscales. For practical considerations, only the subscales Clarity, Thoughts and Feelings, Sensory Components, Valence and Frequency of Consideration were administered. The *Clarity* subscale consists of five items related to memory clarity and vividness (e.g. 'My memory for the event is: 1 = sketchy; 7 = very detailed'), while the *Thoughts and Feelings* subscale involves six items associated with the emotional components of the memory and the implications of the remembered experience (e.g. 'At the time, the event seemed like it would have serious implications: 1 = not at all; 7 = definitely'). The four items related to memory for touch, sound, taste and smell (e.g. 'My memory for this event involves sound: 1 = little or none; 7 = a lot') constitute the *Sensory Components* subscale, while the two items tapping the magnitude of positive or negative tone or feelings (e.g. 'Feelings at the time were: 1 = negative; 7 = positive') make up the *Valence* subscale. The two items related to how frequently an individual has thought or talked about the specific event (e.g. 'Since it happened, I have thought about this event: 1 = not at all; 7 = many times') comprise the *Frequency of Consideration* subscale.

Procedure

Data collection took place about 36 months after the Fortuyn assassination. Clients of a local shopping venue were approached and asked whether they would like to participate in a study on memory for emotional events. The investigators continued to approach individuals until all four groups comprised 30 participants. In total, about 200 potential participants had to be approached. Participants gave written informed consent and were then asked to carefully read and complete three questionnaires. First, participants were randomly given one of four variants of the crashing memory questionnaire concerning the Fortuyn assassination. Next, they filled out the MCQ and also the Gudjonsson Compliance Scale (Gudjonsson, 1989), which will not be considered here. Afterwards, participants were debriefed and thanked for their participation.

RESULTS

Background characteristics and gender distribution for each of the four subgroups can be found in Table 1. Sixty-three per cent of our participants in the ambiguous group, 30% in the specific high-suggestive as well as the specific low-suggestive group and 27% in the neutral group claimed to have seen the non-existent footage. Pearson Chi-Square Exact test (2-sided) was used to evaluate group differences in the frequency of 'yes' responses (i.e. falsely claiming to have seen the footage). This yielded a significant effect of question type [$\chi^2(3, N = 120) = 11.48; p = 0.009$; Cramer's $V = 0.31$, representing a medium effect size]. Meanwhile, there were no group differences with respect to the frequency of correct

Table 1. Means (standard deviations) for background characteristics of the participants, the proportion of participants claiming to have seen the footage, and the proportion of participants providing details for each of the four subgroups ($n = 30$ per group)

	Ambiguous	Specific high-suggestive	Specific low-suggestive	Neutral
Age (years)	39.0 (12.0)	37.8 (11.9)	36.6 (13.4)	38.6 (12.9)
Male/female ratio (%)	43.3/56.7	43.3/56.7	36.7/63.3	40.0/60.0
Educational level (max = 7)	5.83 (1.1)	6.00 (0.9)	6.03 (0.8)	5.73 (0.9)
Proportion 'yes'-responses (%) [*]	63.3	30.0	30.0	26.7
Proportion providing details (%)	33.3	20.0	23.3	6.7

^{*} $p < 0.05$.

answers to both the first [$\chi(3, N = 120) = 0.65$; $p = 0.91$; Cramer's $V = 0.07$] and the second [$\chi(3, N = 120) = 3.73$; $p = 0.32$; Cramer's $V = 0.18$] factual question. Thus, group differences in factual knowledge about the assassination do not account for group differences in false reports.

Mean MCQ ratings for 'yes'- and 'no'-respondents can be found in Table 2. To find out whether 'yes'-respondents differed from 'no'-respondents in terms of memorial qualities, we conducted a MANOVA on each of the five MCQ subscale ratings. Box's M -test for homogeneity of variance was found to be non-significant [Box's $M = 15.36$; $F(15, 34630) = 0.97$; $p = 0.48$] and, therefore, homogeneity was assumed. 'Yes'-respondents did not differ from 'no'-respondents on the MCQ with respect to the Clarity subscale [$F(1, 118) < 0.01$; $p = 0.99$], the Thoughts and Feelings subscale [$F(1, 118) = 1.56$; $p = 0.21$], the Sensory Components subscale [$F(1, 118) = 0.05$; $p = 0.82$], the Valence subscale [$F(1, 118) < 0.01$; $p = 0.95$] or the Frequency of Consideration subscale [$F(1, 118) = 0.09$; $p = 0.77$].²

We also asked participants who claimed to have seen the non-existent footage whether they could remember specific details of the footage. Overall, 20.8% of the entire sample came up with such details. Breaking this percentage down for each of the four subgroups, we found that 33% in the ambiguous group, 20% in the specific high-suggestive group,

Table 2. Means (standard deviations) for MCQ ratings of the participants reporting having seen the footage ($n = 45$) and participants without such claims ($n = 75$)

	'Yes'-respondents	'No'-respondents
MCQ		
Sensory components	6.93 (3.68)	7.09 (3.61)
Clarity	21.69 (6.64)	21.68 (5.71)
Valence	4.24 (1.68)	4.27 (1.90)
Thoughts and feelings	29.64 (6.84)	28.19 (5.76)
Frequency of consideration	8.13 (2.24)	8.00 (2.43)

Note: MCQ is memory characteristics questionnaire.

²One could speculate that if varying the question format would lead to a manipulation of source monitoring criteria, these analyses might yield a different pattern of results had we looked within each of the 4 groups separately. Therefore, we conducted MANOVA's on the 5 MCQ subscale ratings comparing yes- and no-respondents within each group. Results were highly similar in that for all 4 groups, MCQ ratings did not differ between participants endorsing the false reports and participants who did not make such false reports (all p 's > 0.05).

23% in the specific low-suggestive group and 7% in the neutral group provided details [$\chi^2(3, N=120)=6.62; p=0.10; \text{Cramer's } V=0.24$]. Participants providing details had similar scores on the MCQ subscales as participants who did not report details [Box's $M=8.46; F(15, 7647)=0.52; p=0.93$; all F 's(1, 118) < 0.74 and all p 's > 0.39].³

DISCUSSION

The present study sought to investigate whether it is the ambiguous or suggestive nature of the assessment procedure that serves as the crucial antecedent of reports of non-existent film fragments of tragic public events (Crombag et al., 1996; Granhag et al., 2003; Jelicic et al., in press; Ost et al., 2002). The main results of the present study can be summarized as follows. First, a substantial number of participants (37.5% overall) erroneously reported having seen footage of the Pim Fortuyn assassination. Second, the frequency with which these reports were made was related to the way in which participants were interviewed. That is, depending on the precise condition, the proportion of participants claiming to have seen the footage varied between 27% and 63%. MCQ ratings did not differ between participants reporting to have seen the footage and those who did not, or between participants providing details of the footage and participants who did not report such details.

The fact that many people are willing to falsely report having seen non-existent footage replicates previous findings by Crombag et al. (1996), Granhag et al. (2003), Jelicic et al. (in press) and Ost et al. (2002). However, in line with our prediction that these reports are shaped by misleading and/or ambiguous questions, our data show that the rate at which people endorse having seen the footage depends on the way they are queried. More precisely, we found that when participants were asked an unambiguous question (i.e. specifically conveying the message that the footage they were queried about relates to the instant where Pim Fortuyn was shot), the proportion of them making false claims was significantly lower compared to that in the group given an ambiguous question. In our view, this suggests that at least a subgroup of participants in the ambiguous group that made false reports merely affirmed having seen images of events surrounding the Fortuyn murder.

The fact that false report rates were related to how the questions were formulated also shows that language to some degree interacts with subsequent 'memory' reports. Our findings concur with, for example the scholarly work by Loftus and Palmer (1974). These authors noted that participants who had been shown films of automobile accidents gave lower speed estimates when they were questioned using the verbs *collided*, *bumped*, *contacted* or *hit* than when the verb *smashed* was used. Moreover, these authors found that participants who were questioned using the verb *smashed* were more likely to falsely report having seen broken glass than when any of the other verbs were used. Further support for the language-memory report interaction comes from the work by Grice (1989). This author pointed out that human communication rests on the fundamental assumption that the questioner provides information that is clear (i.e. the *maxim of manner*) and trustworthy (i.e. the *maxim of quality*). Indeed, the mere fact that an individual is probed for footage of a public event presupposes that the footage actually exists. Thus, in our view, it is plausible that even the neutral question misled some participants. Many studies have found that

³Even when we looked at the 4 groups separately, no differences on MCQ ratings were found between participants who did and those who did not provide false details (all p 's > 0.05).

about 30% of any sample is willing to offer an opinion on fictitious issues (see Schwarz, 1999) and this percentage fits nicely with the rate of 27% in the neutral group who said they had seen the non-existent footage.

It is important to note that the original study by Crombag and colleagues used a specific question (i.e. 'Did you see the television film of the moment the plane hit the apartment building?'; see Crombag et al., 1996, p. 99) to investigate whether their participants would claim to have seen the footage of the El-Al crash. The authors found that 55% (study 1) and 66% (study 2) of their participants mistakenly claimed to have seen the footage. However, it is conceivable that at least a subgroup of these individuals tried to be cooperative and mistook the animated reconstruction film that was extensively used by the media to cover the aftermath of the crash for real television footage of the actual crash. We acknowledge, though, that our interpretation is speculative and should not be taken as a comprehensive account of the Crombag et al. findings.

Although the current study showed that an ambiguous question can potentiate false report rates, it failed to find differences for these rates between specific high-suggestive, specific low-suggestive and neutral question formats. Accordingly, our data somewhat contradict the notion that crashing memory reports are shaped by the suggestiveness of the probe. Perhaps, then, it is not so much the suggestiveness of the question, but rather the suggestibility of the respondent that is of importance here. Another possibility is that our manipulation of the suggestiveness of the critical question was too subtle and, hence, resulted in non-significant differences between the specific high-suggestive, specific low-suggestive and neutral groups. The fact that we were unable to find differences between the specific high- and specific low-suggestive group is at variance with, for example work by Loftus and Zanni (1975). These authors had their participants view a film of a motor vehicle accident, after which they were asked either 'Did you see a broken headlight?' or 'Did you see the broken headlight?' Loftus & Zanni (1975) found that participants were more likely to answer 'yes' when the question was posed with the definite article 'the' than the indefinite article 'a'. Future research should explore these issues in more detail.

In light of the fact that the current data was obtained using a forced choice answer format, it is interesting to note that previous studies have shown that report option has a substantial effect on memory accuracy (see, for example Koriat & Goldsmith, 1994, 1996; Roebbers & Fernandez, 2005; Schwarz, 1999). In general, forced choice formats yield lower accuracy rates than open-ended questions and other answer formats. Thus, we can only speculate as to what would happen when studies like the current were to include answer options such as 'I'm not sure' or 'I don't know' (e.g. Roebbers & Fernandez, 2005), or allowing participants to refuse to respond (e.g. Koriat & Goldsmith, 1996). In our view, this would lead to increases in memory accuracy and, hence, fewer claims of having seen the non-existent footage.

An intriguing aspect of the current data concerns the proportion of participants providing details that they could not possibly have witnessed. Twenty-one per cent of the participants in the present study confabulated at least one specific detail related to the event at hand. Most likely, these participants tried to reconstruct what they believe happened during the event from the information that was communicated in the press. Our results concur with those of Jellicic et al. (in press), who found that 23% of their participants provided details of a non-existent film. It is worthy of note that Jellicic and co-workers found that participants willing to provide details of non-existent footage were characterized by elevated fantasy proneness scores. Their finding is reminiscent of a study by Platt, Lacey, Iobst, and Finkelman (1998) in which a connection was noted between absorption—which is a close

cousin of fantasy proneness—and spontaneous memory distortions in participants' flashbulb memories of the O. J. Simpson trial. Similarly, Eisen and Carlson (1998) found that heightened levels of absorption predicted participants' tendency to give in to misleading questions about the peripheral details of a staged event. Thus, a deep and profound involvement in fantasy and imagination (i.e. fantasy proneness) may increase participants' willingness to envision particular aspects of how an event must have taken place. Investigating the precise role that fantasy proneness plays in the reconstruction of these details could prove fruitful to future research. Also note that the proportion of participants falsely conveying details corresponds nicely to the percentage of participants who come up with false beliefs or false memories typically found in *false memory* studies (e.g. Hyman & Billings, 1998; Porter et al., 1999). Evidently, a host of factors operating in these latter studies (e.g. repeated questioning, ruminating about the critical event between sessions) may be held responsible for the obtained false reports.

Regarding the MCQ ratings, the present study replicated the findings by Ost et al. (2002) in that the MCQ ratings of the 'yes'-respondents were not significantly different from those of 'no'-respondents. Neither did the MCQ ratings differ between participants providing details of the footage and participants who did not report such details. These results admit of at least two interpretations. One interpretation would be that the MCQ does not serve well to distinguish imagined from false reports as elicited by the crashing memory paradigm. Alternatively, perhaps the most straightforward way of accounting for the MCQ data would be in terms of Fuzzy-Trace Theory (Brainerd & Reyna, 2002; Reyna & Brainerd, 1995). This theory holds that during encoding verbatim and gist traces are formed in parallel. The crux of the matter is that there is a differential survival rate for verbatim and gist traces, with gist traces showing superior memorability and accessibility over time (e.g. Brainerd & Reyna, 2004). One could therefore argue that the time lag of approximately 3 years between the critical event (i.e. the Fortuyn killing) and the *memory* interview was so long that verbatim memory traces were subjected to considerable decay, leaving mainly gist traces intact for future attempts at retrieval. If participants endorsing the false reports primarily drew upon gist information (e.g. Fortuyn being shot and killed) in answering the MCQ items, then it is not surprising that their MCQ ratings are similar to those of participants who did not endorse false reports.

Some notes on the potential limitations of the present study are in order. First, our study relied on a community sample that voluntarily took part in our survey. Although implausible, it cannot be entirely ruled out that those individuals who were willing to participate are in some way different from people who declined to participate (e.g. in assertiveness). Second, a limitation of the crashing memory paradigm is that there is a possibility that some participants may have come to falsely believe in having seen the non-existent footage prior to being interviewed about it (i.e. in the interval stretching from the event itself to being questioned). Thus, it is unfeasible to determine with any degree of certainty whether those participants making false reports do so in response to being interviewed or that they only endorse a false belief they had developed in advance. Another drawback of the current study concerns the individual differences measures that were examined. For practical consideration, we included only some of the MCQ subscales. Future studies might benefit from additionally including scales intended to evaluate participants' tendency to provide socially desirable answers (e.g. the Social Desirability Scale; Crowne & Marlow, 1964) to investigate whether a response bias may account for some of the false reports elicited by the crashing memory paradigm. Moreover, the precise

role fantasy proneness plays in reporting details that could not have been witnessed, deserves further exploration.

Summing up, this study provides the first evidence that *crashing memory* reports may be related to how the questions are phrased. Future research should take these findings into account when constructing questionnaires intended to investigate people's accounts of specific events. The fact that 27% of the participants given a neutral question claimed to have seen the non-existent film, underscores the fact that misleading and ambiguous questions are not the sole or even the most important explanation for the results previously obtained through the crashing memory paradigm. We believe that in these participants, it is the question *per se* that fuels distorted reports. Conducting extensive post-experimental interviews could shed further light on this issue.

ACKNOWLEDGEMENTS

This research was supported by the Netherlands Organization for Scientific Research (NWO) grant 452-02-006 awarded to Dr Marko Jelicic. The authors would like to thank A. J. Praamstra for his assistance in collecting the data and two anonymous reviewers for their helpful comments.

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