

Assassination of a Controversial Politician: Remembering Details from Another Non-Existent Film

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SUMMARY

We asked undergraduate students ($N=83$) if they had seen non-existent video footage of the assassination of Dutch politician Pim Fortuyn, and whether they could remember details of this footage. Sixty-three percent of the participants indicated they had seen the footage, and 23% were able to provide details of this footage. Participants with 'memories' of the non-existent footage had higher fantasy proneness scores than those who could not remember this footage. Results underscore the malleability of our autobiographical memory. Copyright © 2006 John Wiley & Sons, Ltd.

Inspired by the pioneering work of Elizabeth Loftus (see Loftus, 2003, for a brief overview), memory research has shifted from an emphasis on memory as an accurate reproduction of past experiences to memory as a reconstructive process that often goes awry. Loftus was among the first to demonstrate that healthy, intelligent people may remember events differently from what actually happened, and sometimes even recollect events that never took place. In a series of classic experiments, she showed that *misleading post-event suggestions* might cause memory distortions (summarized in: Loftus & Pickrell, 1995). Research participants were first exposed to slides or a videotape depicting a sequence of events, and were then asked questions about these events. Some questions suggested details that were not present. Typically, Loftus and co-workers found that participants falsely recognize many of the suggested details as real events.

Roediger and McDermott (1995) provided another forceful demonstration of false recollections. A list of semantically associated words (e.g., 'drowsy,' 'bed,' 'tired,' 'pillow,' 'rest,' and 'pyjamas') was read to participants, all of which converged on a single non-presented theme word 'sleep.' The theme word was falsely recalled and/or recognized by many participants. Interestingly, confidence ratings for false recognition did not differ from those for accurate recognition of previously studied words. This paradigm is now known as the *Deese/Roediger–McDermott (DRM) paradigm* (see Bruce & Winograd, 1998, for the history of the paradigm). Still another way to elicit memory illusions is *imagination*

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inflation (Garry, Manning, Loftus, & Sherman, 1996; see review by Garry & Polaschek, 2000). Participants who are instructed to imagine certain fictitious childhood events (e.g., 'broke a window with my hand') will after some time come to report a raised confidence that these events did happen to them when they were a child.

Some authors have criticized the above-mentioned paradigms as being too artificial (e.g., Conte, 1999; Koss, Tromp, & Tharan, 1995). They argue that findings from these paradigms cannot easily be generalized to real-life settings. This type of criticism is not very convincing, if only because it seems to assume that people's memory suddenly becomes immune to the 'Trojan horse' of misinformation (Loftus, 1992) once they step outside the psychological laboratory. However that may be, the whole issue of ecological validity is largely irrelevant in the case of yet another paradigm that was heavily inspired by Loftus' work. This 'crashing memories' paradigm was introduced by our Dutch colleagues Crombag, Wagenaar, and van Koppen (1996), who examined whether or not people were willing to report 'memories' of a 'flashbulb' event, that is, a highly emotional and consequential event, that they could *not* have perceived. Ten months after the disaster took place, Crombag et al. asked participants about the crash of an EL AL Boeing 747 into an apartment building in Amsterdam. This event was perceived as a national disaster, because it was initially believed that over 200 people had been killed. Participants, among them lawyers and medical doctors, were asked if they had seen live footage of the crash. Although no such footage exist, more than half of the participants (55% in study 1; 66% in study 2) said they had seen the crash on television. These findings were replicated by Ost, Vrij, Costall, and Bull (2002) who found that 44% of their participants indicated they had seen non-existent footage of the car crash in which Diana, Princess of Wales was killed. Finally, Granhag, Strömwall, and Billings (2003) reported that many Swedish participants (38% in study 1; 55% in study 2) claimed to have seen non-existent footage of the sinking of the Estonia ferry, a tragic accident in which almost 900 people lost their lives. Thus, it appears that by combining misinformation manipulations and flashbulb events, the crashing memories paradigm can elicit wildly inaccurate claims in people. In a fine, but somewhat overlooked paper, Loftus and Castelle (2000) have outlined the significance of these findings for forensic interviews with witnesses.

The present study was initiated to replicate and expand previous studies in which the crashing memories paradigm was used. In addition to the percentage of participants 'remembering' a non-existent film, we were also interested in personality correlates of pseudo-memories in this paradigm. Note that the present study was not the first to study individual differences in the crashing memories paradigm. Ost, Vrij, Costall, and Bull (2002) found no differences in self-reported dissociative experiences between participants with recollections of a non-existent film of the Princess Diana car crash and those who had no memories of this footage. The flashbulb event we used was the assassination of the famous and controversial Dutch politician Pim Fortuyn, a few days before the 2002 Dutch general elections. This killing shocked many people, inside and outside the Netherlands. Although Fortuyn was shot in the vicinity of a television studio, no live footage of the assassination exists. We reasoned that high levels of cognitive failures and fantasy proneness might be associated with reporting memories of non-existent footage of the Fortuyn killing. Pseudo-memories can only develop when source-monitoring errors take place (Hyman & Loftus, 1998). Because highly emotional public events such as the assassination of Fortuyn, are given much media attention, many people create images of such events. Individuals who 'remember' non-existent video fragments apparently misattribute the source of these images to live footage. People who score high on cognitive failures tend to distrust their

own memory and other cognitive capabilities (Broadbent, Cooper, Fitzgerald, & Parkes, 1982). Hence, they often rely on external sources of information (Gudjonsson & MacKeith, 1982), making them vulnerable to source monitoring errors. In line with this, we found in an earlier study that people with many cognitive failures also exhibit elevated scores on Gudjonsson's Suggestibility Scale (Merckelbach, Muris, Rassin, & Horselenberg, 2000). People scoring high on fantasy proneness have a tendency to fantasize and daydream about events (Merckelbach, Horselenberg, & Muris, 2001). They may be susceptible to source monitoring errors because of difficulties in distinguishing between real and imagined events.

Based on previous research (Crombag et al., 1996; Granhag et al., 2003; Ost et al., 2002), we expected that a substantial percentage of participants would be willing to report having seen amateur footage in which Pim Fortuyn was assassinated. In line with Crombag et al. (1996), we also anticipated that some participants would be able to 'remember' details of the non-existent film. We hypothesized that participants with 'memories' of such footage would score higher on cognitive failures and fantasy proneness than participants without such 'memory' reports.

METHOD

Target event

The target event in this study was the assassination of Dutch politician Pim Fortuyn. Fortuyn was a flamboyant, right wing politician. His radical ideas on immigration restriction and integration of foreigners already residing in the Netherlands generated much controversy. On 6 May 2002, after giving a radio interview, he was shot dead by an animal-rights activist. This assassination took place only a few days before the Dutch general elections. Opinion polls had predicted that Fortuyn would win many seats in the parliament. In light of the low level of violent crime in the Netherlands, the killing shocked people inside and outside the country. For several months, the media reported extensively on the Fortuyn assassination. As mentioned before, no video footage of the actual shooting exists.

Participants

Participants were 83 undergraduate psychology students (39 men) who agreed to take part in a study on emotional memory in return for course credit. The mean age was 21.4 years ($SD = 2.2$; range 18–27 years).

Procedure

Data collection took place 24 months after the Fortuyn killing. The participants were asked to fill out three questionnaires. The first contained questions about the assassination of Pim Fortuyn. Participants were asked about facts such as 'What date was Pim Fortuyn killed?' and 'Where did the assassination take place?'. The first questionnaire also contained two misleading memory questions: 'Did you see video footage of the actual Fortuyn shooting?' and 'Describe, as detailed as possible, what you can remember from this video.' The second questionnaire was the Cognitive Failures Questionnaire (CFQ; Broadbent et al.,

1982). The CFQ ($\alpha = 0.83$) is a 25-item self-report instrument that measures everyday lapses in perception/attention (e.g., 'Do you fail to notice signposts on the road?'), memory (e.g., 'Do you forget appointments?'), and action (e.g., 'Do you bump into people?'). Participants were requested to indicate on five-point scales how often they have experienced each cognitive failure during the past month (anchors: 0 = *never*; 4 = *very often*). Scores were summed to obtain a total CFQ score, with higher scores indicating a higher frequency of self-reported failures. The third questionnaire was the Creative Experiences Questionnaire (CEQ; Merckelbach et al., 2001). The CEQ ($\alpha = 0.79$) is a 25-item yes/no index of fantasy proneness. Typical items are: 'In general, I spend at least half of the day fantasizing or daydreaming' and 'My fantasies are so vivid that they are like a good film.' Yes-answers were summed to obtain a total CEQ score, with higher scores indicating higher levels of fantasy proneness. Finally, the participants were debriefed and thanked for their participation.

RESULTS

Fifty-two participants (63%) said they had seen non-existent footage of the Fortuyn assassination, while 19 participants (23% of the total sample) were able to remember details of this footage. Age, mean CFQ and CEQ scores, and male/female ratio of the participants who were able to provide details of the footage and all other participants (including those who claimed to have seen the footage but were unable to remember details of it) are shown in Table 1.

Participants who 'remembered' details of the film did not differ from the other participants with respect to age or mean CFQ score (p 's > 0.30). However, there were more women in the group with 'memories' of the footage than in the group without 'memories' ($\chi^2 = 4.0$; $df = 1$; $p = 0.044$). The difference in mean CEQ score between the two groups was also significant ($t = 1.7$; $df = 81$; $p = 0.048$, one-tailed). Cohen's d (effect size) was 0.43.

DISCUSSION

In line with previous research (Crombag et al., 1996; Granhag et al., 2003; Ost et al., 2002), we found that a substantial percentage of participants were willing to report that they had seen non-existent video footage of a highly emotional event. However, when participants were asked if they could remember details of the footage, this percentage dropped from 63% to 23% (see Crombag et al., 1996, for a similar finding). But even this latter percentage

Table 1. Means (standard deviations) for background characteristics of the participants with 'memories' of the footage ($n = 19$) and participants without such 'memories' ($n = 64$)

	Memories	No memories
Age (years)	21.0 (1.9)	21.5 (2.3)
CFQ	43.3 (6.4)	41.5 (12.2)
CEQ	7.7 (2.9)	6.3 (3.2)*
Male/female ratio	4/15	30/34*

Note: * $p < 0.05$, one-tailed. CFQ, Cognitive Failures Questionnaires; CEQ, Creative Experiences Questionnaire.

represents a nontrivial minority of our participants. Note that they day after Fortuyn was assassinated, several Dutch newspapers published rather graphic photographs of Fortuyn's dead body at the crime scene. The availability of photographs might have contributed to the relatively large percentage of participants with recollections of non-existent amateur footage of the Fortuyn shooting (Lindsay, Hagen, Read, Wade, & Garry, 2004). The discrepancy between participants who indicated having seen footage of the Fortuyn assassination and those who were able to provide details of the footage, lends further support to the distinction between believing and remembering fictitious events (Scoboria, Mazzoni, Kirsch, & Relyea, 2004; Smeets, Merckelbach, Horselenberg, & Jelicic, 2005). Evidence suggests that believing and remembering fictitious events are nested constructs. The first step in creating a pseudo-memory is plausibility. If an event is judged to be plausible, this may lead to a belief in a fictitious event (e.g., believing to have seen non-existent footage). Such a belief could then evolve in a full-blown pseudo-memory (e.g., remembering details of non-existent footage).

We found that women had a greater tendency to remember details of a non-existent film of the Fortuyn assassination than men. This accords well with Crombag et al. (1996), who offered different explanations of this gender difference in 'remembering' a non-existent film. One of their explanations had to do with the notion that women may visualize dramatic events more than men. There is some evidence that women report more sensory details of pseudo-memories in the crashing memory paradigm than men (Ost et al., 2002). In contrast with our expectations, it appears that cognitive failures are not associated with 'memories' of a non-existent film. There are hints in the literature that memory distrust may contribute to the development of pseudo-memories via source monitoring errors (Gudjonsson & MacKeith, 1982). Besides memory lapses, the CFQ also assesses failures in perception/attention and action. It is therefore conceivable that this questionnaire is an imperfect index of memory distrust. We did find an association between fantasy proneness and 'remembering' details of non-existent footage. Participants with 'memories' of the footage had higher scores on the CEQ than those without memories. The effect size of the difference between the two groups, however, was small ($d = 0.43$). A link between pseudo-memories and personality traits resembling fantasy proneness (e.g., absorption and creative imagination) has also been found with other paradigms (Drivdahl & Zaragoza, 2001; Hyman & Billings, 1998). However, other authors failed to find evidence for such an association (Horselenberg, Merckelbach, van Breukelen, & Wessel, 2004).

In sum, then, it appears that many intelligent people are willing to admit having witnessed non-existent footage of a highly emotional event. Even more alarming is the finding that almost a quarter of our participants were able to 'remember' details of such footage. Apparently, people easily make source-monitoring errors and take internally generated images for events that they have perceived. Thus, we concur with Elizabeth Loftus (2003) who, in a major neuroscience journal, emphasized that 'Memory is more prone to error than most people realize. Our memory system can be infused with illusory memories of important events (p. 233).'

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