Chapter 3
No, I Don't Remember Seeing Video Footage of the Killing of Theo van Gogh! Misinformation Manipulations Do Not Always Elicit False Memories.

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Introduction

Our memories are not perfect. Much of what we experience will sooner or later be forgotten, and events we do remember may be prone to distortions (Roediger & McDermott, 2000; Schacter, 2001). Sometimes we even remember events that never took place (Gerrie, Garry, & Loftus, 2005; Brainerd & Reyna, 2005). An example of a false memory was described by the famous child psychologist Jean Piaget (Loftus & Ketcham, 1991). Piaget had vivid images of how he was almost kidnapped on the Champs Elysees in Paris. He could remember that his nurse bravely intervened and, by doing so, received various scratches. Piaget recalled how her face looked, how a policeman with a white baton appeared, and how the would-be kidnapper fled. But the entire episode turned out to be a fabrication. After several years, Piaget's nurse confessed that she had faked the scratches. There had been no kidnapper. Piaget concluded that he must have heard detailed accounts of the story as a child, and created his own visual memory of a completely fictitious event.

One way to demonstrate memory illusions in the laboratory is *imagination inflation* (Garry, Manning, Loftus, & Sherman, 1996). 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. Another forceful demonstration of false recollections is provided by the *Deese/Roediger-McDermott (DRM) paradigm* (Roediger & McDermott, 1995). In this paradigm, a list of semantically associated words (e.g., 'drowsy', 'bed', 'tired', 'dream', 'rest', and 'blanket') is presented to participants, all of which converge on a single non-presented theme word 'sleep'. In general, many participants will falsely recall or recognize the theme word.

Methods as *imagination inflation* and the *DRM-paradigm* have been criticized as being to artificial (Conte, 1999; Koss, Tromp, & Tharan, 1995). Findings from these methods would be difficult to transfer to real-life settings. This type of critique does not apply to yet another method to elicit false memories: the 'crashing memories' paradigm introduced by Crombag, Wagenaar, and van Koppen (1996). These Dutch authors examined whether or not people were willing to report 'memories' of an emotionally charged public event, which they could *not* have perceived. About a year after the disaster took place, Crombag et al. asked participants about the crash of an El Al cargo plane into an apartment building in Amsterdam. This crash was considered a national disaster, because it was initially believed that over 200 people had been killed. Participants, mainly lawyers and medical doctors, were asked if they had seen live footage of the plane crash. Although no such footage exist, the majority of participants (55% in study 1; 66% in study 2) said they had seen the crash on television. These

findings were replicated by different research groups. Ost, Vrij, Costall, and Bull (2002) found that almost half of their participants (44%) indicated they had seen non-existent video footage of the car crash in which Lady Diana was killed. 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 Estonia ferry, a tragic accident in which almost 900 people lost their lives. Jelicic, Smeets, Peters, Candel, Horselenberg, and Merckelbach (2006) asked Dutch participants if they had seen non-existent footage of the assassination of controversial politician Pim Fortuyn, and whether they could remember details of this footage. The majority of participants (63%) said they had seen the footage, and a nontrivial minority (23%) was able to provide details of this footage.

Although misinformation manipulations of emotionally charged public events may elicit false memories in many participants, it seems that the 'crashing memories' paradigm does have its boundaries. Smeets, Jelicic, Peters, Candel, Horselenberg, and Merckelbach (2006) found that the type of questions plays an important role in generating false memories. Using the assassination of Pim Fortuyn, they found that ambiguous questions ('Did you see the amateur film of the Fortuyn shooting?') were far more effective in eliciting false memories than more specific questions ('Do you remember whether there was a film of the moment Fortuyn was shot by Volkert van der G.?'). There might be other factors that reduce the efficacy of the 'crashing memories' paradigm in generating false memories. Evidence suggests that recent events are more resistant to misleading questions than more remote events. Loftus, Miller, and Burns (1978) tested the effect of misleading questions on memory for a simulated car accident after different time delays. Misleading questions elicited more false memories with increasing delay. An explanation for this finding is that with longer retention intervals it becomes more difficult to detect discrepancies between the actual event and misinformation given by researchers (Gerrie et al., 2005). Most 'crashing memories' studies have used relatively long delays between the target event and testing. Crombag et al. (1996) interviewed their participants about a year after the target event, while Granhag et al. (2003), Jelicic et al. (2006), and Smeets et al. (2006) used retention intervals ranging from two up to six years.

Inspired by the Loftus et al. (1978) study, we decided to examine the efficacy of the 'crashing memories' paradigm to generate false memories with a relatively short delay between the target event and testing. It was hypothesized that the number of people with memories of non-existent video footage of an emotionally charged public event would be substantially lower than those usually reported in the literature. Because Jelicic et al. (2006) found that people reporting false memories in the 'crashing memories' paradigm had higher scores on a questionnaire measuring fantasy proneness than people with no memories for a non-existent video, a subsidiary aim of our study was to examine whether there are differences in personality between people with memories of non-existent video footage and those unable to remember such footage.

Method

Target event

The target event used in this study was the assassination of Dutch film director and writer Theo van Gogh on 2nd November 2004. Van Gogh, a strong critic of radical Islam, made a controversial film about the abuse of Muslim women. About three months after his film was broadcasted on national television, while cycling to work in the morning, he was shot and stabbed to death by a radical Islamist. The killing of van Gogh took place in a crowded street in Amsterdam. Although there were many eyewitnesses of the incident, no video footage of the actual shooting and stabbing exists. Many people were shocked by the second political murder in the Netherlands in a short time period (some two years before van Gogh was assassinated, controversial politician Pim Fortuyn was killed by an animal-rights activist). For several months, the Dutch media reported extensively on the van Gogh assassination.

Participants

Participants were 76 undergraduate students (37 men) who agreed to take part in a study on emotional memory in return for a small compensation (5 Euro). They were all native Dutch

speakers and were residing in The Netherlands (the Maastricht area) at the time of the van Gogh assassination. The mean age was 21.6 years (*SD* = 2.4; range 18-28 years). The study was approved by the standing ethics committee of the Psychology Faculty of Maastricht University.

Procedure

Data collection took place 6-8 months after the killing of van Gogh. The participants were asked to fill out five questionnaires. The first questionnaire contained four questions about the van Gogh assassination. The first two questions were 'Where were you when you first heard the news of the van Gogh assassination?' and 'What were you doing at that particular time?'. Next, the participants were given two misleading memory questions: 'Did you see video footage of the actual shooting and stabbing of van Gogh?' and 'Describe, as detailed as possible, what you can remember from this video?' Subsequently, the participants were given the Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986), the Gudjonsson Compliance Scale (GCS; Gudjonsson, 1989), the Creative Experiences Questionnaire (CEQ; Merckelbach, Horselenberg, & Muris, 2001), and the Questionnaire upon Mental Imagery (QMI; Sheehan, 1967). The DES consists of 28 items that pertain to dissociative experiences (e.g., feelings of derealization, depersonalization, and memory disturbances). Participants have to indicate on visual analogue scales the degree to which they experience these feelings. Higher scores on this instrument indicate stronger dissociative experiences. The GCS is a questionnaire consisting of 20 true/false statements that have to do with the way in which individuals may deal with conflicts and confrontation. On this instrument, higher scores reflect a stronger tendency to comply. The CEQ is a 25 item yes/no index of fantasy proneness. Higher scores on this instrument indicate higher levels of fantasy proneness. The QMI consists of 35 items that measure individual differences in mental imagery. Participants are asked to indicate on 7-point scales how vividly and lively they can imagine events such as the taste of salt or the sensation of a sore throat. On this instrument, low scores reflect better mental imagery. After all questionnaires had been filled out, the participants received information about the purpose of the study and they were thanked for their participation. They were asked not to discuss the aim of the study with their fellow students while the authors were collecting their data.

Results and discussion

Five participants (7% of the total sample) indicated having seen video footage of the van Gogh assassination. They were one man and four women. The man was unable to provide details of the footage, but all four women (5% of the total sample) 'remembered' details of the non-existent video. One participant, for instance, said 'I saw that Theo van Gogh fell off his bike, and then was stabbed by the perpetrator', while another reported having seen that 'the perpetrator pulled a gun and then ran away'.

In contrast with previous research that used the 'crashing memories' paradigm, only a small percentage of our participants said they had seen non-existent video footage of an emotionally charged public event. Crombag et al. (1996), Ost et al., (2002), Granhag et al. (2003), and Jelicic et al. (2006) all found that over 40% of their participants claimed to have seen non-existent footage of a highly emotional event. With the exception of Ost et al. (2002), these studies all used relatively long retention intervals (from one to six years). In the present study, the participants were tested 6-8 months after the target event. Also, at the time of testing, the Dutch media again covered the assassination of van Gogh because the perpetrator was standing trial. Our findings show that it is quite difficult to elicit false memories of events that have not faded. If one has a good memory for an episode, participants will easily detect discrepancies between the actual events and misremembering manipulations provided by researchers (Gerrie et al., 2005). In such cases, only a handful of participants will 'remember' events that did not occur in reality.

Table 1. **Mean personality questionnaire scores (and range of scores) of the participants with 'memories' of the footage (n = 4) and participants without such 'memories' (n = 72).**

	Memories	No memories
DES	18.6 (12.1 – 25.7)	15.0 (1.8 – 47.3)
GCS	10.3 (6 – 14)	9.7 (3 – 18)
CEQ	8.0 (3 – 15)	5.6 (0 – 13)
QMI	105.8 (88 – 117)	102.8 (50 – 222)

DES, GCS, CEQ, and QMI scores of the participants who 'remembered' details of the video footage and those with no memories of the footage are presented in Table 1. Because of the small number of participants with memories of the non-existent video, we were unable to statistically test for differences in personality features between the two groups. However, Table 1 suggests that participants with memories of the video footage had somewhat stronger dissociative tendencies, higher levels of fantasy proneness, and better mental imagery capabilities than those who reported no memories. The finding that participants with memories of the footage scored 2.4 points higher on the CEQ than those who were unable to remember the footage is in accordance with previous research. Jelicic et al. (2006) found that participants who remembered details of a non-existent video of the assassination of Pim Fortuyn had higher CEQ scores than those who reported no memories of this footage. Thus, it seems that fantasy proneness may make people susceptible to the creation of false memories. It might be that fantasy prone people have reality monitoring problems (i.e., problems in distinguishing between real and fictitious events), making them vulnerable to memory illusions (cf. Horselenberg, 2005).

The findings of the present study may have forensic implications. Some forensic experts believe that memory distortion almost invariantly takes place in eyewitnesses. For instance, Haber and Haber (2000; p. 1057) opine that "... scientific research on memory in the last decade has revealed that people's memories are often inaccurate. These errors are systematic and are especially likely to occur for the kinds of events that are reported in courtroom testimony ..." There is reason to believe that when eyewitnesses are properly interviewed, they hardly suffer from memory distortions. Yuille and Cutshall (1986) analysed eyewitness memory in 21 witnesses of a serious shooting incident and found that most of them were highly accurate in their accounts, and this continued to be the case several months after the incident (see Woolnough & MacLeod, 2001, for similar cases). Interestingly, witnesses who reported high stress levels during the shooting had better memory for events than those who indicated moderate levels of stress. Orbach and Lamb (1999) provide another example of accurate memory of sexual abuse. They compared information given by a 13-year-old girl during an investigative interview with an audio-taped record of the incident. Many of the informative details given by the victim were corroborated by the audio-tape (see Bidrose & Goodman, 2000, for more cases of accurate memories of sexual abuse in children). In addition to the findings by Yuille and Cutshall (1986) and Orbach and Lamb (1999), the findings from the present study show that misleading questions may not affect memories for events that are well-remembered. Thus, it appears that eyewitness memory may sometimes be better than authors such as Haber and Haber (2000) would like us to believe.

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