

Title: Familiarity breeds distortion: The effects of media exposure on false reports concerning media coverage of the terrorist attacks in London on 7<sup>th</sup> July 2005.

Running head: Media exposure and false reports.

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## Abstract

The present experiment investigated whether increased media exposure could lead to an increase in memory distortions regarding a traumatic public event: the explosion of the No.30 bus in Tavistock Square, London on the 7<sup>th</sup> July 2005. One hundred and fifty Swedish and one hundred and fifty UK participants completed a series of questionnaires about their memory of either (i) the aftermath of the explosion, (ii) a non-existent computerised reconstruction of the moment of the explosion or (iii) non-existent Closed Circuit Television footage of the moment of the explosion. In line with the availability heuristic, UK participants were more likely than Swedish participants to claim to have seen all three types of footage. Furthermore, a sub-sample of UK participants who appeared to have developed false ‘memories’ of seeing the No.30 bus explode scored significantly higher on measures of dissociation and fantasy proneness than participants who did not develop false ‘memories.’ This experiment provides further support for the role of imaginative processes in the development of false memories.

## Introduction

Several studies have now shown that repeated suggestive interviews about parentally-provided false childhood events leads a proportion of participants to claim that they actually remember experiencing such events (Loftus & Pickrell, 1995; Porter, Yuille & Lehman, 1999; Wade, Garry, Read & Lindsay, 2002). There is also evidence that asking participants to imagine non-events can change their subjective belief that such events actually occurred (Garry, Manning, Loftus & Sherman, 1996; Mazzoni & Memon, 2003; but see Pezdek, Blandon-Gitlin & Gabbay, 2006).

Hyman and Kleinknecht (1999) and Hyman and Loftus (1997) have proposed a three stage model to explain how individuals might come to report that they remember events that did not occur. Firstly, the person must believe that the event is plausible. Secondly, they must believe that they were likely to have experienced the event (see Scoboria, Mazzoni, Kirsch & Reylea, 2004). Thirdly they must make a source monitoring error and misattribute the constructed memory as being a personal memory. Although there are important debates over terminology and the generalisability of findings (see DePrince, Allard, Oh & Freyd, 2004; Pezdek & Lam, 2007; Wade *et al.*, 2007; see also Smeets *et al.*, 2005) the convergent evidence suggests that a proportion of individuals will come to report that they remember witnessing events that they did not experience, or will incorporate substantial amounts of incorrect detail into their memory reports.

A recent line of research which complements the above studies has shown that people can be misled to report that they remember central details of recent, public events that they could not possibly have witnessed. This so-called 'crashing memories' method,

typically asks participants to state whether they have seen (non-existent) video footage of highly charged public events, for example, an airplane crash in Amsterdam (Crombag, Wagenaar & van Koppen, 1996) or the car crash in which Diana, Princess of Wales, Dodi Al-Fayed, and their driver were killed (Ost, Vrij, Costall & Bull, 2002; see also Granhag, Strömwall & Billings, 2003; Jelicic *et al.*, 2006b; Ost, Hogbin & Granhag, 2006; Wilson & French, 2006; Smeets *et al.*, 2006).

The crashing memory effect appears to be robust with between 36% and 66% of participants in any given study claiming to have seen the non-existent video footage (Wilson & French, 2006; but see Jelicic, Smeets, Candel, van Suijdam & Merckelbach, 2006a), but these rates can be reduced by phrasing the misleading question in an unambiguous, rather than ambiguous manner (Smeets *et al.*, 2006). Yet, in almost every study to date, the participants have been residents of the country in which the focal event took place (the studies by Ost *et al.*, 2006, and Wilson & French, 2006 are the only exceptions). Therefore it becomes very difficult to tell whether the crashing memory effect occurs simply because there is something about certain people that leads them to generate 'false memories' or whether the effect occurs because participants are exposed to lots of media coverage concerning the events they are misled about.

The explanation initially suggested by Crombag *et al.* (1996), and echoed by Jelicic *et al.* (2006b) is that the vivid and emotionally-charged nature of the events may lead participants to make a metacognitive error by combining the misleading suggestion that such footage exists with memories of footage (e.g. of the aftermath) that was shown on television, or pictures shown in media outlets (e.g. newspapers), and judging the resultant representation as a memory of the events that they did not, in fact, witness (see

Hyman & Loftus, 1997). If this is the case then when participants have been exposed to a lot of footage of such events, they may be more likely to be misled about them (see Nourkova, Bernstein & Loftus, 2004). Possibly, then, the crashing memories effect, could be explained with reference to the availability heuristic.

According to the availability heuristic (Tversky & Kahneman, 1973) having seen similar footage may increase participants' willingness to report seeing similar non-existent footage because the repeated media coverage means that they are fairly easily able to retrieve information / images concerning that event<sup>1</sup>. Catastrophic events typically result in a great deal of detailed discussion and analysis by media outlets in the country where the event occurred. It is easy to see how this may lead to general information or images about that event being easier to retrieve for participants in that country (or with access to that media). Our first hypothesis was that there would higher rates of false reporting in samples of participants who had been exposed to more television / media coverage of these events than samples of participants who have not.

The next two aspects of the study addressed two enduring problems with many of the existing crashing memories studies. The first problem is that we cannot be certain whether participants are truly *remembering* the events, or merely reporting that they *believe* the events to have occurred (Scoboria *et al.*, 2004; Smeets *et al.*, 2005; see also Ost, 2003). Specifically, participants in the present study were asked whether they remembered whether the bus was moving or not. This was included in order to try to differentiate those participants who seemed to genuinely have falsely 'remembered' the event (e.g. seemed to be 'picturing' the event) from those who merely 'believed' that they

had (e.g. answered 'yes', but provided no information that could not have been gained from other sources).

The second, related, problem is that we cannot be sure that participants are truly remembering the false footage (i.e. developing a false 'memory') or whether they are instead making a source misattribution and confusing computerised reconstructions as being their personal memories of the events. In the present study we explored this by including a condition in which participants were asked whether they had seen a (non-existent) computerised reconstruction of the moment of the explosion. Given that this comparison has not been made in previous research, we made no predictions about the likely rates of false reports in each condition.

Finally, we investigated personality correlates of false reporting or false memory. A substantial body of work has found that participants who score highly on personality measures related to dissociation (Wright & Loftus, 1999) and fantasy proneness (Merckelbach, Horselenberg, & Muris, 2001) are more likely to make certain types of memory errors (Geraerts *et al.*, 2005; Horselenberg *et al.*, 2006; Ost *et al.*, 2005; Wilson & French, 2006; Wright & Livingston-Raper, 2001; Wright & Osborne, 2005; but see Horselenberg, Merckelbach, van Breukelen, & Wessel, 2004).

## Method

### The target event

The target event was the explosion on the number 30 bus in Tavistock Square, London on 7<sup>th</sup> July 2005. This was the fourth and final explosion on the morning of 7<sup>th</sup> July and occurred at approximately 09:50 British Standard Time. The three previous

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<sup>1</sup> Belli *et al.* (1998) for example found that participants who were able to retrieve four childhood memories rated their overall memorial abilities as better than participants who were asked to retrieve 12 childhood

explosions had occurred around 08:50 British Standard Time on trains just outside Liverpool Street and Edgware Road stations, and on a train travelling between King's Cross and Russell Square. Shortly after the first three explosions occurred, television stations began covering the scenes showing survivors emerging from the underground stations. The coverage continued throughout the day and the attacks were covered extensively as the lead news story for several days on the major news channels and in all the major newspapers in the UK. It is highly likely that any resident of the UK would have seen at least some part of the television coverage. These events were the lead news story on Swedish television on the 7<sup>th</sup> and 8<sup>th</sup> July, and continued to be mentioned for the next few days, but not as the headline story.

### Design

This experiment employed a 2 (Location: UK; Sweden) x 3 (Type of footage: aftermath; computerised reconstruction; closed circuit television) independent groups design. Participants in the first condition were asked whether they remembered seeing the televised footage of the aftermath of the explosion of the number 30 bus in Tavistock Square on 7<sup>th</sup> July 2005. Participants in the second condition were asked about their memory of having seen a computerised reconstruction of the explosion on television. Participants in the third condition were asked about their memory of having seen Closed Circuit Television (CCTV) footage of the actual moment of the explosion. Neither CCTV footage, nor a computerised reconstruction, showing the moment of the explosion on the bus has ever been shown.

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events (a more difficult task).

## Participants

UK sample: 150 (non- Psychology) students were recruited at a University 'Fresher's Fair' event and systematically assigned to conditions (e.g. participant one completed condition one, participant two completed condition two etc.). Three participants did not report their gender. The rest of the sample consisted of 69 males and 78 females, aged from 18 to 70 years ( $M = 20.54$ ,  $SD = 5.46$ ). Participants were recruited by responding to a poster asking people to complete a questionnaire entitled "How well do you remember the television coverage of the London bombings?" in return for being entered into a draw to win various prizes (vouchers for a local music shop). Participants who indicated that they had been personally involved, or knew someone who had been personally involved in the 7/7 attacks were not asked to complete the questionnaires, but their details were still entered into the prize draw. The experiment was approved by the Psychology Department Research Ethics Committee.

Swedish sample: 150 participants (non-Psychology) were recruited in university cafes, libraries and other social areas and systematically assigned to condition. Seventeen participants did not report their gender and one did not report their age. Of the remaining participants there were 46 males and 87 females, aged from 18 to 42 years ( $M=23.01$ ,  $SD=3.59$ ). Participants took part in return for being entered into a draw to win various prizes (e.g. cinema tickets).

## Materials

Three recall questionnaires were constructed. The first section of the questionnaire asked for demographic information, including whether the participant had been resident in the country (UK or Sweden) for the last six months (questionnaires from



three UK participants and two Swedish participants were excluded for this reason). The second section of the questionnaire was identical except that participants were asked about their memory of having seen either (i) the televised aftermath of the explosion of the number 30 bus in Tavistock Square on 7<sup>th</sup> July 2005, (ii) a computerised reconstruction of the explosion on television, or (iii) Closed Circuit Television (CCTV) footage of the actual moment of the explosion. Participants were then asked to circle either Yes or No. If they indicated ‘No’ then they were asked to skip ahead to a later section. Participants who answered ‘Yes’ were asked to complete additional questions concerning their memory of the footage they had seen (adapted from Wilson & French, 2006). For the purposes of the present paper only three questions are directly relevant. These were “How certain are you that you have seen the [*CCTV / Computerised reconstruction / Aftermath*] footage?” (*1 = very uncertain to 7 = very certain*), and an open ended question which asked “Please briefly describe the sequence of events shown in the [*CCTV footage / Computerised reconstruction / Aftermath footage*]”. Participants in the CCTV footage and computerised reconstruction were also asked “In the [*CCTV footage / Computerised reconstruction*], was the bus moving at the moment of the explosion?” (*Yes, No, Can’t remember*). The recall questionnaires were straightforward to translate and any linguistic ambiguities were resolved by the authors via email prior to data collection. Finally, all UK participants were also asked to complete the Dissociative Experiences Scale (DES-C; Wright & Loftus, 1999) and the Creative Experiences Questionnaire (CEQ; Merckelbach *et al.*, 2001), presentation of which was counterbalanced<sup>2</sup>.

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<sup>2</sup> These questionnaires were not distributed to the Swedish sample due to time constraints which precluded timely translation of the questionnaires from English.

## Procedure

These data were collected in both the UK and Sweden during a two week period at the beginning of October 2005, approximately 3 months after the events of 7<sup>th</sup> July 2005. The investigator explained the nature of the questionnaire, and the events that it pertained to. If participants indicated that they had not been personally involved in the 7<sup>th</sup> July events, then they were presented with a questionnaire pack consisting of the recall questionnaire (aftermath, reconstruction, or CCTV depending on condition) and, for the UK sample only, the individual differences measures, to complete at their own pace. Once the questionnaires were completed, participants were thanked for their time and debriefed fully about the nature of the experiment. Once the nature of the deception had been revealed to participants in the reconstruction and CCTV conditions, they were asked to sign a second informed consent form to indicate their consent for their data to be used.

## Results

### Differences in UK and Swedish samples

The Swedish sample were significantly older ( $M=23.01$  yrs,  $SD 3.50$ ) than the UK sample ( $M=20.54$  yrs,  $SD 5.46$ ) ( $t_{295} = 4.59, p<.005$ ) and comprised significantly more females than males in the Swedish sample ( $\chi^2(1)=4.40, p<.05$ ). However, there were no effects of gender on rates of false reporting in either the Swedish ( $t_{131}=1.15, p>.05$ ) or UK ( $t_{145}=0.59, p>.05$ ) samples. Neither were there any correlations between age and false reporting for either the Swedish ( $Kendall's\ tau\_b = -.03, p>.05$ ) or UK ( $Kendall's\ tau\_b = -.02, p>.05$ ) samples.

### Rates of false reports of having seen real and false footage - Sweden vs. UK

The next analysis examined the number of participants in the Swedish sample, compared to the UK sample, who claimed to have seen either non-existent CCTV footage, a non-existent computerised reconstruction or the televised footage of the aftermath of the attack on the number 30 bus in Tavistock Square on 7<sup>th</sup> July 2005. Across both samples, participants were most likely to claim to have seen the aftermath footage (67%), followed by the non-existent CCTV footage (28%) and the non-existent computerised reconstruction (17%).

As shown in Table 1, the type of footage participants claimed to have seen differed significantly as a function of their geographical location. Forty percent of the UK sample claimed to have seen the non-existent CCTV footage, compared to 16% of the Swedish sample ( $\chi^2(1)=7.14, p<.01$ ), 28% of the UK sample claimed to have seen a non-existent computerised reconstruction, compared to 6% of the Swedish sample ( $\chi^2(1)=8.57, p<.01$ ), whilst 84% of the UK sample claimed to have seen any footage of the aftermath, compared to 50% of the Swedish sample ( $\chi^2(1)=13.07, p<.001$ ).

As also shown in Table 1, there was a main effect of geographical location on certainty judgments ( $F_{1, 106}=9.54, p<.005$ ) with Swedish participants reporting significantly less certainty that they had seen any of the types of footage ( $M=1.91, SD=0.90$ ) than UK participants ( $M=2.85, SD=1.01$ ). Interestingly, there were no significant differences in participants' certainty scores as a function of which type of footage they were asked about ( $F_{2, 106}=2.85, n.s.$ ). The mean scores indicate that this lack of variation was unlikely to be due to floor or ceiling effects as the lowest mean certainty score (Swedish participants, reconstruction condition) was 3.66 ( $SD=2.51$ ) on a seven

point scale, whereas the highest (UK participants, aftermath condition) was 6.23 ( $SD=1.28$ ).

#### Distinguishing false ‘memories’ from false ‘reports’

The next analysis focussed on whether it was possible to distinguish participants who had just falsely reported seeing the event (i.e. who did not really ‘remember’ it), from those who genuinely seemed to have a false memory of the event. Participants who claimed to have seen the non-existent footage were divided into two groups, based on their answers to a question about whether, in the footage they claimed to have seen, the bus was moving or not. This first group, which stated that the bus definitely was or was not moving (they ticked a ‘yes’ or ‘no’ box in response to a question about whether or not the bus was moving at the moment of the explosion), were compared to participants who claimed that they could not remember this information (they ticked a ‘can’t remember’ box in answer to the same question). The reason for this split was to attempt to categorise participants who genuinely thought they had seen the footage from those participants who claimed to have seen it yet could not provide any further information about the footage. Of the 11 Swedish participants who claimed to have seen either the CCTV ( $n=8$ ) or reconstruction ( $n=3$ ), only 3 stated definitely that the bus was *not* moving (none claimed it was moving). Of the 34 UK participants who claimed to have seen the CCTV ( $n=20$ ) or reconstruction ( $n=14$ ), 12 stated that the bus was ( $n=3$ ), or was not ( $n=9$ ), moving.

Taking the base rates of exposure to media surrounding the events of 7<sup>th</sup> July into account allowed us to calculate (tentatively) that, in the Swedish sample (where the base rate of exposure was 50%) the rate of false reporting was 16% and the rate of false

'memory' was 6%. Likewise, for the UK sample (where the base rate of exposure was 84%) the false reporting rate was 29% and the false 'memory' rate was 12%. This may indicate for the first time the ratio of 'false reports' to false 'memory' using the crashing memories paradigm.

In order to investigate possible individual differences between participants who had a false memory of the footage, compared to those who made a false report, the analysis was run again but this time only including the 34 UK participants who had completed the personality questionnaires (the Swedish participants did not complete the individual differences measures). There was a significant difference between the groups on both of the personality questionnaires. Participants who made definite judgments about whether the bus was moving or not ( $n=12$ ) scored significantly higher on the DES-C ( $M = 46.93$ ,  $SD = 14.37$ ) than participants who reported that they did not know whether the bus was moving ( $n=22$ ,  $M = 34.77$ ,  $SD = 13.80$ ) ( $t(32) = 1.78$ ,  $p < .05$ , *1-tailed*). An effect in the same direction was found for participants' scores on the Creative Experiences Scale with participants who claimed that the bus was, or was not, moving scoring significantly higher ( $M = 13.33$ ,  $SD = 4.22$ ) than participants who claimed that they did not remember ( $M = 10.54$ ,  $SD = 4.40$ ) ( $t(31) = 2.39$ ,  $p < .05$ , *1-tailed*). As shown in Figure 1, the descriptions provided by these participants support the idea that these participants were making erroneous judgments of having seen the non-existent footage on the basis of a mental image of the sequence of events (i.e. a false 'memory').

### Discussion

The present study replicated previous work showing that participants will claim to remember events that they were not exposed to (Crombag *et al.*, 1996; Ost *et al.*, 2002;

Granhag *et al.*, 2003; Ost *et al.*, 2006; Jelicic *et al.*, 2006b; Smeets *et al.*, 2006; Wilson & French, 2006). More noteworthy are several important findings that extend our understanding of this kind of memory distortion.

In the present study 40% of UK participants and 16% of Swedish participants claimed to have seen a central aspect of a real life traumatic event that they could not have witnessed. A smaller percentage (28% UK and 6% Swedish) claimed to have seen a computerised reconstruction of the moment of the explosion. The extent of false reporting was contingent on geographical location, with more UK participants (34%) in total claiming to have seen non-existent footage (CCTV + computerised reconstruction) than Swedish participants (11%). In line with the availability heuristic (Tversky & Kahneman, 1973) UK participants, who had been exposed to more media information about the attacks, were more prone to misremember a central detail such as having seen non-existent CCTV footage or a computerised reconstruction of the moment of the explosion. This is the first time the effect has been demonstrated using the crashing memories method it would therefore be premature to conclude that the higher amounts of available information in the UK alone led to participants falsely reporting.

We cannot, for example, rule out the possibility that the higher personal salience of these events for the UK sample may well have led them to seek out further sources of information concerning the attacks (the UK sample were more likely to have had relatives working in London at the time, for example). The problem is that exposure and salience are likely to be highly positively correlated (the more salient an event is to you, the more likely you will be to seek information about it) which makes it difficult to analyse the effects of these two factors separately.

One possible way to examine this issue might be to find an event that was highly salient for a large number of individuals, some of whom had experienced more media exposure than others due to being in different geographical locations. For example, Schuster *et al.* (2001) conducted a random telephone survey of 560 U.S. citizens in the days after the terrorist attacks on September 11<sup>th</sup>, 2001. They found that the greatest stress reactions were reported by participants resident in New York at the time of the attacks but that substantial stress symptoms were reported by respondents from all across the U.S. Following this line of thought, future studies might compare the memory errors of British nationals living abroad, participants resident in other areas of the UK and participants who were resident in London at the time of the attacks. In this way the personal salience of the event might be held constant, whilst the geographical distance was varied. It might even be possible to examine, with appropriate ethical safeguards, memory errors (or lack thereof) in participants who were directly caught up in the events of 7<sup>th</sup> July 2005 (see Thompson, Morton & Fraser, 1997; Yuille & Cutshall, 1986).

*False “memories” or false “reports”?*

A recent debate in the false memory literature has focused on whether memory errors or distortions produced following certain methodologies can indeed be said to represent false memories (DePrince *et al.*, 2004; Ost, 2003; Pezdek & Lam, 2007; Scoboria *et al.*, 2004; Smeets *et al.*, 2005; Wade *et al.*, 2007). As noted by these authors, it is not always clear whether participants in some false memory studies actually ‘remember’ a particular false event, or just ‘believe’ they have seen it (Smeets *et al.*, 2005; Scoboria *et al.*, 2004; Ost, 2003; see also Tulving, 1989). The present data provided a partial solution to this problem. In the present experiment participants were

asked whether they remembered the bus moving at the time of the explosion (response options: 'yes', 'no', and 'can't remember'). Participants' responses to one closed question (which asked them whether or not the bus was moving at the time of the explosion) and a separate open-ended question (which asked them to describe the sequence of events in the non-existent CCTV footage) revealed that some participants reported having clear memories of the bus moving, and the subsequent explosion. As they clearly cannot have experienced these events, it is reasonable to assume that these descriptions must be the result of a false memory mechanism (Hyman & Kleinknecht, 1999; Hyman & Loftus, 1997). It is worth stressing again that the explosion was a central feature of the event that these participants *could not* have witnessed.

Interestingly, participants who claimed to have seen the bus moving, compared to those who did not, scored significantly higher on measures of dissociation and measures of fantasy proneness (although this is not entirely surprising, given that both measures are highly correlated; Merckelbach, Muris & Rassin, 1999). This suggests that these particular false memories are indeed likely to be the product of imaginative processes or a deficit and/or failure in metacognitive monitoring (Crombag *et al.*, 1996).

It is important to note a number of caveats to our claims. Firstly, participants who chose not to answer the question about the bus moving (e.g. who answered 'don't know') may still have provided other (false) details of the CCTV if questioned further. Thus, it is conceivable that participants we classified as not having a false 'memory' may indeed have developed a false 'memory' about other aspects of the event, or may have believed that they had seen the footage but could not recall any specific details. They may also have incorrectly believed that the footage exists but that either did not see it, or did see it



but subsequently forgot about it. It is also possible that this group consisted of participants who ‘complied’ with the initial question without ever believing the reality of the non-existent footage. In order to examine this possibility, future research should attempt to elicit narratives from participants (as opposed to yes/no responses) to examine in more detail the extent, or lack, of their memory errors. Whilst we attempted to gather narrative details in the present study (by asking participants to give a brief description of the sequence of events), gathering more extended narratives would enable more detailed analyses. A second limitation is that we cannot rule out the possibility that some participants may already have believed that they had seen the non-existent footage before we suggested it to them. Thus it is not clear whether it is the misleading question that is driving this effect. One way this could be tested in the present methodology would be to pre-screen participants by eliciting a free narrative prior to any testing and then checking to see whether any false details were reported.

### Summary

Our findings lend further support to the idea that it is relatively easy to mislead people to report incorrect central details concerning televised footage of highly charged public events. We found that, overall, Swedish participants were less likely to be misled than UK participants, even when we took base rates of exposure into account. Whether this is due primarily to increased exposure to images of the event from various media sources or due to other factors, such as the personal relevance of the event, remains an important question for future research. We were also able to suggest, for the first time, that the rate of false ‘memory’ was roughly a third that of the rate of false reporting. Finally, we are able to show that the people most ‘at risk’ of developing such false

'memories' were those who scored higher on measures of dissociation and fantasy proneness. This clearly has important implications for the treatment of individuals in extended, abuse-focused therapy and for the interviewing of witnesses to criminal events more generally.

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Table 1. UK and Swedish participants who claimed to have seen each type of footage.

<i>Number of participants who claimed to have seen each type of footage (yes/no) with certainty ratings (1-7)</i>												
<i>(percentage / standard deviation)</i>												
	<i>CCTV</i>				<i>Reconstruction</i>				<i>Aftermath</i>			
	<i>Yes</i>	<i>Cert.</i>	<i>No</i>	<i>Cert.</i>	<i>Yes</i>	<i>Cert.</i>	<i>No</i>	<i>Cert.</i>	<i>Yes</i>	<i>Cert.</i>	<i>No</i>	<i>Cert.</i>
UK	20	4.80	30	---	14	4.78	36	---	42	6.23	8 (16)	---
	(40)	(1.90)	(60)		(28)	(2.22)	(72)		(84)	(1.28)		
N=150				n=50				n=50				n=50
Sweden	8 (16)	3.75	42	---	3 (6)	3.66	47	---	25	4.08	25	---
		(1.83)	(84)			(2.51)	(94)		(50)	(1.89)	(50)	
N=150				n=50				n=50				n=50

Note: *Cert.* refers to participants' ratings of "certainty" (1=very uncertain; 7=very certain).



*Figure 1:* Examples of participants' responses to open ended statements about the sequence of events in the non-existent footage.

“Bus appears to turn into Tavistock Square and people stand to get off and there is a flash and then nothing” (Participant 158).

“The event was shown after a brief report. The bus has stopped at a traffic light. There was a bright light and a loud bang and the top of the bus flew off and lots of screaming and then everything seemed still” (Participant 13).

“Bus had just stopped to let people off when two women got on and a man. He placed the bag by his side, the woman sat down and the doors closed, as the bus left there was the explosion and everyone started to scream while a leg was on the floor” (Participant 9).

“The bus was moving slowly in traffic and then the back of the bus exploded. A lot of debris everywhere and people panicking” (Participant 131).

“Bus moving normally, then explosion, debris everywhere, chaos” (Participant 24).