

# Researchers find memory can be manipulated by photos

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The camera may not lie, but doctored photos do according to new research into digitally altered photos and how they influence our memories and attitudes toward public events.

When presented with digitally altered images depicting the 1989 Tiananmen Square protest in Beijing and a 2003 anti-war protest in Rome, participants in a new study by American and Italian researchers recalled the events as being bigger and more violent than they really were, suggesting that viewing doctored photographs might affect people's memories of past public events.

The study, published in the journal *Applied Cognitive Psychology*, was designed by UC Irvine psychologist Elizabeth Loftus along with University of Padua researchers Franca Agnoli and Dario Sacchi.

Internet photo hoaxes are well known, but reputable media outlets such as the *LA Times* and *USA Today* recently published digitally altered photos, and subsequently issued retractions and apologies. When media use digitally doctored photographs, they may ultimately change the way we recall history, Loftus said.

“It shows the power of anyone to tamper with people's recollection, and it gives the media another reason to regulate such doctoring, besides ethical reasons,” Loftus said.

In the study, 299 participants aged 19-84 viewed either original or

digitally altered images depicting two events -- the 1989 Tiananmen Square protest and a 2003 anti-war protest in Rome -- and then answered questions about the events, including the number of people they thought had been involved, the response of law enforcement authorities and the level of violence.

Researchers doctored the Beijing photo to show large crowds standing in the sidelines while a lone protester stood before a row of advancing Chinese military tanks, and the Rome protest photo was altered to show riot police and a menacing, masked protester among a crowd of demonstrators.

“It’s potentially a form of human engineering that could be applied to us against our knowledge and against our wishes and we ought to be vigilant about it,” Loftus said. “With the addition of a few little upsetting and arousing elements in the Rome protest photo, people remembered this peaceful protest as being more violent than it was, and as a society we have to figure how we can regulate this.”

Viewing the digitally altered images affected the way participants remembered the events, as well as their attitudes toward protests. Those who viewed the doctored photograph of the Rome protest recalled the demonstration as violent and negative, and also recalled more physical confrontation and property damage. Participants who viewed the doctored photos said they were less inclined to participate in future protests, according to the study.

Source: University of California - Irvine

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