

Remembering Traumatic Events

The world today seems filled with disasters and catastrophes, and it is estimated that over half the population will experience a life-threatening event at some point in their lives. Post-Traumatic Stress Disorder (PTSD) is an intense emotional reaction to such an event that involves high anxiety, especially in the presence of reminders of the event, repeated attempts to avoid these reminders, reliving the event, hyper-alertness for danger, preoccupations with safety, and a tendency to startle easily. Interestingly, not everyone who experiences trauma goes on to develop PTSD, which raises some interesting questions for psychologists: What causes PTSD? Who is most prone to developing the disorder? What distinguishes those people who develop PTSD from those who don't? One difficulty in studying PTSD is that the traumatic events that precede it vary greatly in their nature and specifics so that it is difficult to find a group of people who experience precisely the same event. Recently a group of Canadian researchers overcame this dilemma by finding a group of people who had experienced precisely the same terrifying event at the same time: passengers aboard an airline that nearly crashed.

The flight occurred in August, 2001, flying from Canada across the Atlantic Ocean. The plane ran out of fuel, lost power, and nearly crashed into the ocean before making a rough landing onto a military base runway on an island. Half of the 306 passengers were subsequently diagnosed with PTSD. Interestingly, the principal author of the study was one of the passengers on the jet.

The study was conducted several years after the event, and the researchers were able to recruit only 15 of the original passengers to participate in it. Nevertheless by carefully interviewing each person using the same Autobiographical Interview and comparing each minute of the event recalled with the flight log they could measure quantity and accuracy of each person's recollection. They also assessed personality factors that might have contributed to each passenger's emotional reaction. Half of the 15 passengers suffered from PTSD following the flight and the other half were labeled "resilient." Another fifteen "healthy control" participants were recruited who had not been on the flight and were asked to complete a similar Autobiographical Interview regarding a "highly negative event" from their own lives in 2001. These controls were screened for psychiatric disorder, specifically PTSD.

Results. First, all passengers of the ill-fated flight recalled more details more accurately and in more detail than did the non-passenger healthy controls when recalling their "negative events." Second, there was no difference in amount of detail or in the accuracy of memory between passengers with and without PTSD. Third, persons with neurotic tendencies and particularly those with PTSD were less likely to keep to the facts of what happened and more inclined to comment about what happened or repeat themselves than the non-PTSD passengers. These three findings held not just for the target event but also for interviews about recollections of other events, such as the September 11, 2001 attacks and non-traumatic memories.

So what can we learn from this study? Despite the small sample size, the results support the popular notion of “flashbulb memories.” It appears that a life-or-death situation completely captures our attention and etches the experience into our brains so that we remember it more clearly than we would other kinds of experiences. These results also suggest that the heightened awareness that occurs during a traumatic event is not due to the amount of stress it produces. The passengers who were subsequently diagnosed with PTSD were no more likely to recall details of the flight than were non-PTSD passengers. Indeed PTSD appears to be neither the cause nor the effect of such detailed memories. The study cannot tell us if certain passengers were more prone to PTSD than others, as all testing and diagnoses occurred after the event happened. However the authors found that the PTSD passengers recalled the near plane crash differently from the non-PTSD passengers. These results support a growing consensus among PTSD researchers that “it is not what happened, but to *whom* it happened that determines subsequent psychopathology.”

McKinnon, M.C., Palombo, D.J., Nazarov, D., Kumar, N., Khuu, W., & Levine, B. 2015.
Threat of death and autobiographical memory: A study of passengers from Flight AT236.
Psychological Science, Vol. 3, Pages 487-502.