Ethical Consideration: There are no ethical violations in this study. Participants were not harmed mentally or physically, they were debriefed, there was no deception, and the participants’ informed consent was taken, as they were volunteers. The participants’ personal information was kept confidential.

Controls
- The same questions were asked.
- The same ten events were used.
- Events were of relative importance.
- Defined key terms for the participants in the questionnaire, like FB and consequentiality.

Blind Technique: None

Sampling Method: Self Selected (in response to newspaper ads and flyers)

Research Method: Questionnaire

Influence of Culture: Johnson, and Williams (2011) investigated the formation of flashbulb memories in 5 countries: China, the United Kingdom, the United States, Germany, and Turkey. Overall participants in the United States and the United Kingdom reported more memories in a 5 minutes span than participants from Germany, Turkey, and China. However, this study is ethnocentric because only American participants were used.

Influence of Gender: Bauer et.al 2003 found that women use more emotions to explain their experiences than men, and Aizpurua 2010 found that women have more accurate recalling of event; however this study only uses male participants.

Other Relevant Studies

Support: Modern Neuroscience which claims that emotional events are better remembered because of the amygdale.

Against: Neisser (1982) questioned the idea of FBM by asking participants about the Challenger Tragedy 24 hours and 2 years later. Found that memories were distorted due to post-event information. Also, questioned the idea of flashbulb memories. According to Neisser, a flashbulb memory may simply be a narrative convention. The flashbulb memories are governed by a storytelling schema following a specific structure, such as place, activity, informant (who told us?), and affect. Talarico and Rubin (2003) found that emotional intensity is often associated with greater memory confidence, but not with accuracy.

Furthering our Understanding?
FBM suggests why we experience very vivid memories of very emotional events but it does not provide the reason or an alternative reason to why this is the case. This study is innovative and opened up a new field of research after Brown and Kulik introduced this new term in 1977.

Learning Outcomes: To what extent is one cognitive process reliable? Evaluate one theory of how emotion may affect one cognitive process. Discuss how and why particular research methods are used at the cognitive level of analysis.

Flashbulb Memory: refers to vivid and detailed memories of highly emotional events that appear to be recorded in the brain as though with the help of a camera’s flash.

Aim: To investigate whether dramatic, or personally significant events can cause flashbulb memories.

Hypothesis: People will report vivid and detailed memories of events with high consequentiality and surprise such as the death of Princess Diana.

Null Hypothesis: People will not report vivid and detailed memories of events with high consequentiality and shock such as the death of Princess Diana.

Procedure:
1. Used retrospective questionnaire to assess the memories of 40 black and 40 white American male participants for the circumstances in which they learned of public events. The participants were asked the question “Do you recall the circumstances in which you first heard [about the event]...?” (Such as what they were doing, who informed them of the news, where they were..etc) Then the participants had to check either yes or no. If they checked yes, they were asked to write a free recall of the circumstance they were in, in any form or length. The questionnaire included the assassination of John F. Kennedy and Martin Luther King Jr.
2. The questionnaire was used to see if participants had flashbulb memories significant events, and they were based on the consequentiality of the event, so how much an impact the event had on the participants’ lives.
3. Participants were also asked if they had flashbulb memories of personal events, such as the sudden loss of a loved one.

Strengths:
1. There are many later researches that support FBM.
2. Can be easily replicated.
3. Provides evidence to support anecdotal and personal experience of FBM.
4. Uses both black and white participants, so the findings can be representationally generalized to males of those two ethnicities.

Limitations:
1. Accuracy is doubted because data is collected through a questionnaire.
2. Accuracy of memory could not be measured.
3. Little evidence that emotion affects the encoding stage.
4. Rehearsal: if the event was very important to the individual, the event may have been rehearsed several times which strengthens the individual’s memory of that event. People do not always know that an event is important until later. Neisser suggests that the memories are so vivid because the event itself is rehearsed and reconsidered after the event.
5. Post event information: post event information may alter individual’s memories by changing, adding, or removing information about the event.
6. Low Participant variability and lacks cross-cultural validity: only male American participants were used. Findings cannot be representationally generalized to other cultures.

Results:
1. Positive correlation between consequentiality of an event and flashbulb memories.
2. It was found that people said that they had very clear memories of where they were, what they did, and what they felt when they first learned about an important public occurrence such as the assassination of John F. Kennedy, Martin Luther King, or Robert Kennedy. The participants recalled the assassination of John F. Kennedy most vividly.
3. Of the 80 participants, 73 said that they had flashbulb memories associated with a personal shock such as the sudden death of a close relative.

Conclusion:
Dramatic events can cause a physiological imprinting of a memory of the event. Flashbulb memory is more likely to occur for unexpected or shocking events, as well as personally relevant events. Brown & Kulik (1977) described flashbulb memories, suggesting that dramatic events can imprint a powerful impression in peoples’ memories, and argued that there may be some physiological process involved in encoding such as memory. Such events as John F. Kennedy’s assassination or the sudden death of a family member are examples that trigger flashbulb memories. Brown and Kulik suggested that there may be a special neural mechanism which triggers an emotional arousal because the event is unexpected or extremely important. At the time, it was only a hypothesis, but it is supported by modern neuroscience: emotional events are better remembered than less emotional events—perhaps because of the critical role of the amygdale.

Flashbulb Memories: Brown and Kulik (1977)