

Is human memory for
the details of past
events reliably
accurate?



Introduction

Human brain activity is tied with the consciousness. People's mind tend to construct memories based on the past experiences, surrounding environments and creates things that have not happened like dreams. This essay will argue that human memory is unreliable and might influenced by different conditions that cause distortion and inaccurate memories. The researcher Bi Zhu(2011) strongly states that " brief exposure to misinformation can lead to long-term false memory and that the strength of memory trace was similar for true and false memories".

Evidence

Human memory works as constructive process to encode, store important informations and experiences that encounter everyday. However, recalling the past events cause false memory that people believe are reliable. The experiment conducted by (Bi Zhu., Chuasheng Chen., Elizabeth Loftus, 2012) aim to examine whether short exposure to misinformation would make long term false memories and remain for an extended period (one and half years). A total of 437 population participated in the first study (189 were males and 248 females). Participants were tested by three steps (event, narration and recognition and source monitoring tests). Firstly, participants were demonstrated two separate events which contain 50 slides for each. Then followed up by the narrations which consist of 50 sentences for each event, 12 would be misleading informations and 38 correct descriptions (Bi Zhu., Chuasheng Chen., Elizabeth Loftus, 2012). Finally, participants took the recognition test were randomly presented. In the memory test had three

selection for each question. According to Bi Zhu., Chuasheng Chen., Elizabeth Loftus, 2012 options were detail described in the image (original item) or a detail describes in the narrations with misinformation (misinformation item) or a new foil detail (foil item). After one and half years, 342 volunteers participated in the long-term follow up study with the same event, but the presentation slides will stop before the crucial slide. Notice that at the end of the first experiment, the participants did not know that they would be retested in one and half years later (Bi Zhu., Chuasheng Chen., Elizabeth Loftus, 2012). The dependent variable was misinformation and the correct information presented in the narration. The independent variable was the proportion of participants which misguided by the wrong information presented in the narration will affect in their recognition test.

The results demonstrated at the first test that the participant had good memory of the original information(61%), and also perform a high rate in misleading items (31%), only 8% of participant chose foil items. On the other hand, the results from the second test that misinformation items had increased by 8%, original items had decreased to 45% and 17% for the foil. Bi Zhu., Chuasheng Chen., Elizabeth Loftus, 2012 conclude that a short exposure of misleading information lead to produce false memories and remain for a long period.

Another study performed by Alexis C. Carpenter & Anne C. Krendl. (2018) claimed eyewitness testimony had been demonstrated to be unreliable and susceptible to false memories. The study had the objective to prove whether eyewitness memory mistakes were altered by the victim's group

membership (related to the eyewitness and perpetrator) is underexplored
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(Alexis C. Carpenter & Anne C. Krendl (2018). The independent variables were two ambiguous group conflict conditions and two salient group conflict conditions. There were 4 level of condition, in-group victim/out-group victim ambiguous conflict condition and salient in group/out group conflict condition. The dependent variable was the accuracy rate of eyewitness in recollection of prior events. There were 53 undergraduates students (age ranged of 22 years), from the Indiana University and Purdue University. 38 female and all white race. Participants were needed to view six events related criminal activities (a wallet being stolen), and two related neutral activities (a woman going to the grocery store) (Alexis C. Carpenter & Anne C. Krendl. (2018). Each presentation slides consisted 50 pictures, participants were told will be rated and approximately in 24 hours later, but were not aware that they would take a memory test. The six criminal activities were clearly distinguished the perpetrator and the victim with photoshopped symbols (banners or logos). After 24 hours later, participants listened to an audio recording for the each prior slides, the recording were played in random order. A total of 50 sentences for each event, out of the 12 were unreal informations, the rest were correct. After the audio recordings, participants took the recognition test based on their memory, consisting 18 questions with three possible options.

The results indicated that Participants had more false memories in the salient in-group conflict condition (MFalse memories = 9. 81) than the salient out-group conflict condition (MFalse memories = 7. 52), the in-group-victim ambiguous group conflict condition (MFalse memories = 7. 54), and trending for the out-group-victim ambiguous group conflict condition (MFalse

memories = 7. 72). Comparing the salient in-group and out-group conflict may have extracted more false memories due to students may have been misled by the nature of the intragroup conflict (Alexis C. Carpenter & Anne C. Krendl. (2018).

Interpretation

Conclusion

In conclusion, human memory definitely perform low reliability in recollection of the memory, human's brain might be influenced by the exposure to misinformation and various conditions. This based on the two study conducted by the researchers. The first study indicated short exposure to mislead information can retain for a long period of inaccurate memory. For the second study demonstrated that eyewitness performed high false memories in salient group when it was identified as in-group members. The study can be improved by including participants from different culture in order to create an unbiased result.

Reference

- Zhu, B., Chen, C., Loftus, E. F., He, Q., Chen, Lei, X., Lin, L. & Dong, Q. (2012) Brief Exposure to Misinformation Can Lead to Long-Term False Memories. *Applied Cognitive Psychology*. 26, 301-307.