False Memories

[Student’s Name:]

[Institution’s Name:]

Abstract

 This paper takes into consideration the psychological phenomenon of “false memory” and describes its causes, effects, and remedies. False memories have become important in researches and discussions due to their legal, social, and interpersonal implications. False memory has been selected as one of the cognitive problems, and principles of cognitive psychology have been applied to explore the facts. Scientists have used approaches and principles of cognitive psychology to understand the phenomenon in depth. They have successfully explained false memory by using cognitive psychology knowledge. The four approaches to study cognitive behaviors and activities have been reviewed briefly. The process of cognition with an explanation of the principles of cognitive psychology has been depicted to provide a context for understanding the topic. The dynamics of problems related to false memory have been described in detail. One important issue in discussion is how to distinguish between true or false memories to avoid negative impacts of it. Distinction between true or false memories becomes difficult because both originate the same way, and the person having this dysfunction remains confused between the two, or start believing in the false perception. At the end, remedies have been suggested to reduce false memory occurrences and effects.

False Memories

A false memory refers to a psychological phenomenon wherein a person remembers an event in a way that is different from its actual happening, or in other case, a person recalls an event that had never happened at all (Zaragoza, Hyman, & Chrobak, 2019). False memories hold serious implications when the person claiming one believes in such a memory and it becomes difficult to convince that person for the vice-versa. Psychologists became interested in studying false memories when hearings of certain court cases indicated that false memories could lead to convicting a person untruthfully. This implies that false memories have a clear practical relevance. Memory is the most vital and pivotal factor that controls people’s behavior and everyday activities. People who have impaired memories cannot live an independent life. False memories can also be referred to be memory illusions. This means that people claim sometimes to remember events but the reality remains quite different. Scientists deploy various techniques in studying false memories. They have also conducted studies by carrying out controlled experiments to induce false memories on the subjects. These studies yielded several facts that were responsible for creation of false memories.

 Psychologists divide memory into several subcategories to better understand the phenomenon. The two main subcategories include the passive memory and the active memory. The passive memory is the large store of information gathered all along the life of a person. All data regarding education, experiences, and events is stored in the long-term memory. The other main subcategory is the active memory, which stores only the run-time information to process it for a purpose. Researchers have further subdivided memory into various categories. Different kinds of knowledge are stored in different memory stores, namely, autobiographical memory, semantic memory, episodic memory, etc. In view of the passive and active memories, “memory” can be defined as the ability to retrieve information from the passive memory to the active memory. False memories emerge when a person cannot retrieve accurate information from passive memory to store as input in the passive memory (Baddeley & Hitch, 2017). The active or working memory is necessary for cognition, because cognitive functions rely on the interaction between information existing in the passive memory and that in the active memory.

Memory has the ability to recall events occurred in the past. If sufficient cues are given to someone to support memory, that person can remember many things that could not have happened to come to mind otherwise. Therefore, some researchers use the suggestive therapy to find out more information about a particular event. In such a study, the researcher indulges in a focused conversation with a client, and urge the client to speak about things that have been forgotten with time. The researcher suggests the client a few relevant things about the event by mere speculation. Consequently, the subject begins remembering the details of the event, which were not available in the active memory before.

 The principles of cognitive psychology help in understanding the phenomenon of and discussing problems associated with false memories. These cognitive psychology principles are attention, perception, memory, learning, language, and reasoning (Robinson-Riegler & Robinson-Riegler, 2016). Earlier, the scientists considered memory to be same as the intelligent model developed by computer programs and algorithms. However, with later experiments and researches, it has now been established that the brain works as a result of the combined output of the different parts of it. The aforesaid processes of cognition work interdependently. They occur at the same time. They have their respective roles in different modes of cognition. Every time a stimulus reaches the brain, the attention process gets activated. It is followed by recognition and perception of the stimulus. The brain processes the input and generates a response. Processing includes computation, reasoning, and other similar logical functions. Memory becomes active in processing the information. It presents related information to brain, which connects various inputs and generate desired, refined output. The cognitive processes enable an individual to play effective role in life.

 When suggestive therapy is used to help an individual recall some event in the past, there are two possible outcomes. The suggestions or clues given by the therapist work as stimuli for the brain. Memory relates these clues to the past events, or more precisely said, try to relate. In this process, some details come to memory, which were not present in the working memory before. The individual starts telling seemingly unknown details of the event. The other possibility arises where the person describes certain details of an event in the past, which are neither true nor real. This happens because suggestions inflicted by the therapist in the subject trigger the reasoning without processing factual data. The brain logically comes to a conclusion as a result of the induced hints of the event. The person thinks that the processed information is the actual fact. The person is sometimes so much convinced of this processed output of the brain as a result of the suggestive therapy that he/she believes in it firmly and claim it to be true in serious matters as well. For instance, some people exclaim that they have been subjected to sexual abuse in their childhood, and claim this information to be true, resulting in untruthful conviction of an innocent person (Goodman, Gonzalves, & Wolpe, 2019). Therefore, research has to establish certain methods and measures to find the truth of such memories.

 Susceptibility to false memory can be caused by several factors. Sometimes a person is put under great pressure by a superior authority. The individual might be forced to accept a false event as true, and being a weak fellow, he/she is affected by the imposed pressure. The false memories arise as an effect of the unusual, suppressive behaviors. Further, the way a person builds up memory also impacts their true or false. A person who believes that memory once built remains a permanent source of information, the person’s criteria for accepting an event’s reality might be more liberal. Individuals who are used to recall things from their past, and make better use of their memory, are more likely to retrieve information correctly with time. They have less chances of having false memory. People who are put through sleep deprivation are prone to make false statements the following day. Tests have proved this fact by showing evidence of participants who were deprived of sleep in contrast with those who had taken proper rest.

 False memory patients were tested in a study by presenting them lists of words. First, they were given a list of words, and they were asked to go through it. Second, they were offered similar list that contained semantically related words, and asked if they had seen these words in the previous list, but they failed to recognize the similarity of words (Zhu et al., 2019). This study provided an evidence of their false memory.

 False memories can cause adverse effects on relationships, as they imply uncertainties in behaviors. A person who has dilemma of false memories can suppose someone guilty of an offense, which the other person has never committed. Many misunderstandings can create that will result in the breakup of relationships. The person affected by false memories can never stand in a witness box to pledge for occurrence of an event. For instance, a person sees a crime in the dark, and he/she is suffering from memory illusions. That person’s witness will have no weight in the court, as the person will not be able to remember and identify the criminal accurately (Wang et al., 2018). The jury will catch the witness’s weakness and they will declare that person ineligible for being a witness.

 Making inferences contributes a lot to constructing false memories. People are in the habit of making inaccurate and baseless inferences. Different people interpret the same event in different ways. They do not care about inquiring into the situation or finding facts related to the event. Therefore, they give false statements about certain past events, because they have remembered them the same way. False interpretations of an incident or event lead to false memories, which eventually develop into false statements or inaccurate representation of reality (Laney & Loftus, 2016). Therefore, the interrogators at a hearing or therapists during their sessions usually keep this fact about false memories in mind to make their judgments correct. The cognitive processes tend to be more lenient in making inferences about events. People ignore the perceptual and phonological details of events. They are inclined to make easy conclusions. They demonstrate biased behaviors when it comes to analyze or research about an event.

 To understand the causes and problems of false memory, it is important to explore the functions or construction of memory first. Information or events stored in the memory are often interlinked. For instance, a person recalls his school time, and also recalls the miseries he faced during that period at the same time. That person simultaneously recalls memories of time spent in company of the school friends. Another situation is about a witness, who reads a news article about a crime, which gives an account of the questions asked by interrogators. That witness discusses this news with other people also. Gradually, the witness develops his/her own perception of the news, and unconsciously makes an inference about the event. By the end, the witness starts believing that inference to be true and makes a statement accordingly in the court. This type of false memories can cause serious harm to others if not attended with shrewdness.

 Cognitive psychology approaches the impairments of cognition in four different ways. The experimental cognitive psychology deals with the issue by making experiments and deducting conclusions subsequently. The normal individuals are included in the experiments to find out facts. The cognitive neuropsychology studies impairments in cognition caused by damaged parts of brain. The inferences made in this study provide insight into the abnormal behaviors. The cognitive science develops computational models of activities of brain, and implements those models to understand the cognitive processes. The cognitive neuroscience studies the functions of different parts of brain and incorporates the retrieved information into the study of cognitive science. All these four approaches to study the cognitive processes help in understanding the functions of memory and the causes of false memories.

The experimental cognitive psychology empowers the researcher with scientific experimentation methods to trace the reasons of false memories. Scientists have been involved in the experimentation related to memory impairments for many decades. Their findings have proved helpful in determining the reasons of false memory occurrences. The cognitive neuropsychology involves research on damages occurred to certain parts of brain and gives evidence that these damages result in increases in false memories in a person. The cognitive science has transformed with time from considering the brain to work as a unit to believing that different parts of brain collectively contribute to cognition. The cognitive neuroscience explains cognitive processes in view of the study implications of different parts of brain.

To distinguish between true and false memories, the region of brain that is associated with the reflective or executive processes is important to consider. The researchers name it as the prefrontal cortex. This judgment is based on the evidence the processes involved in memory may be constructive or reconstructive. Cognitive psychology principles explain these processes, where cues are retrieved automatically, criteria are set, and information is evaluated. The studies show that there are regions in brain that are overlapped, and responsible for true and false memories.

 False memories originate the same way the true memories arise in the brain. The processes of information encoding, rehearsals, and source monitoring are common to both types of memories. Therefore, the confusion between these memories never ends, and it is difficult to absolutely be sure of the reality. False memories may be advantageous or harmful. Remembering pleasant memories of childhood with amalgamation of false memories will increase the associated joy. However, certain cases can prove to be truly disappointing. The negative impacts of false memories can be personal, social, or professional. Someone can be declared victim through evidence based on false memories. In a social context, a false memory can cause someone’s actions to be subjected to erroneous testimony. In another scenario, the works of a person or entity can be attributed wrongly to some other person or entity.

 To reduce the occurrences of false memories, it is potentially helpful to understand the mechanisms underlying them. The analysis of mechanisms underlying false memories also helps in specifying and assessing the cognitive dysfunctions. The extent to which individuals will experience false memories is directly proportional to their inability to recall the detailed information of an item or event. Any technique used to reduce false memories depends on the memory related to information of the specific item or event. If the therapist encodes information related to a specific item or event through multiple trials, false recognition responses can be reduced. False memories can also be reduced by orienting the individuals at retrieval in scrutinizing their memory for information related to some specific source or item. The information that cannot be remembered in spite of being distinctive is a signal indicating that the test item is new. To sum up, the false memories can be reduced by removing the hindrances in identifying the past event or item precisely.

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