

A Comparison Between Dissociative Amnesia and PTSD after Traumatic Experiences

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Author Bio

Sophia Zhang is a junior at Mountain Lakes High School in New Jersey. She hopes to continue researching in both psychology and biology in college and further education. Sophia is the captain of her high school debate team and has participated in it since freshman year. It is because of debate that sparked Sophia's interests in philosophical questions. Sophia has also been interested in analyzing connections between humans and pondering the causes of various mannerisms. Additionally, she also enjoys finding patterns in both mathematical equations and nature. Sophia has also participated in many volunteer efforts to spread her love of learning to others. In her free time, Sophia's hobbies include playing tennis, reading books, and cooking.

Abstract

Dissociative amnesia occurs when a person is unable to recall autobiographical memory due to a traumatic event. Post traumatic stress disorder (PTSD) stems from similar causes, but it is the periodic re-experiencing of the stressor. These two conditions share similar neurological functions such as state-dependent memory. However, other processes such as retrieval inhibition and motivated forgetting are attributed more to dissociative amnesia. As a result of war trauma and childhood abuse, it can lead to any combination of dissociative amnesia and PTSD. Numerous studies look into the likelihood a trauma survivor will experience one of these conditions and which factors may contribute to it. There have been limited studies regarding this issue because there has been doubt on the validity of recovered memories from someone who has experienced dissociative amnesia. Similarly, few studies are able to research and document the impact of child abuse on psychological conditions in adulthood. This study aims to shed light on the similarity and differences in the dissociative amnesia and PTSD.

The History and Development of Dissociative Amnesia

Johann Herbart first (1806) defined “repression” as a term to describe thoughts beneath the “threshold of consciousness”. Sigmund Freud, one of the most prominent figures in this field, however, in 1893, expanded the terms as a defense mechanism to protect painful memories. With more research, Sigmund Freud popularized the theory of repressed memories from trauma. A simple definition of this concept is that people use defense mechanisms, such as “the automatic and unconscious repression” of the memories, to forget the traumatic experience. This belief has been supported in recent studies as people who have experienced abuse and have this condition face less anxiety and depression than those who are not afflicted. However, it is important to note that Freud’s idea does not explain how repression occurs, only the base idea for it.

As more research has been done on the field, there is more contradictory evidence. Beginning from the 1990s, a term coined the “memory wars” to describe the controversy surrounding repressed memory. Especially in more modern settings, people have become more skeptical about the reliability of these memories. The debate began after the 1990s when many professionals questioned the accuracy of uncovered repressed memories; this research exposing this problematic concept began to be hotly debated, especially with its use in courtrooms. Even with confusion regarding the validity of these memories, studies have shown that an overwhelming majority of clinical psychologists agree that traumatic memories can be unconsciously blocked, and a smaller majority of them believe that these memories can be accessed. The main debate is framed between practitioners and scientists. Additionally, there have been doubts on the validity of recovered memories. In a review of 128 case studies, scientists found that there is often ambiguity in each case. Because of this, there are multiple explanations that could explain symptoms which dilutes the likelihood of the alleged memory loss.

Because of the controversy, the term “dissociative amnesia” has gained more traction, and the concept of repressed memory is rarely defended. Dissociative amnesia is defined by the American

Psychiatric Association as “the inability to recall autobiographical information that is usually of a traumatic or stressful nature”. Also, it is different from ordinary forgetting. The information should be successfully stored, but it involves a period of time when there is an inability to recall that information. Despite this, the condition is always potentially reversible. This condition is not caused by a substance or neurological condition. However, dissociative amnesia is just as ambiguous as repressed memory. For example, there is no way to determine falsifiability because to know a memory, is through a report that automatically disproves that the memory cannot be accessed. As a result, it is difficult to implement experiments involving this topic, and many use studies researching similar phenomena to compare.

The Development of Post Traumatic Stress Disorder (PTSD)

Post traumatic stress disorder (or PTSD) is one of the most well known psychological conditions that stems from experiencing or witnessing a traumatic event. This condition has been known spanning across written human history such as the first major epic, the tale of Gilgamesh. The concept became much more prevalent after modern warfare. The use of artillery battles in World War I and the following total war in World War II led to large numbers of veterans and civilians facing PTSD. This burst of conflict and thus people affected by PTSD coincided with more work being done on this field. After decades of research into PTSD, there has been a consensus on the definition and symptoms of it. There are three possible groups of symptoms that occur: re-experiencing the event in dreams (oftentimes distressing), emotional numbness or avoiding stimuli similar to the trauma, and a permanent state of anxiety from the trauma. Additionally, these symptoms must occur for at least one month to qualify under the disorder.

There are many conditions that can affect the likelihood of having PTSD after a traumatic event. For example, studies have found that genetics are highly influential in predicting if family members will be similarly affected. Furthermore, women are more likely to have PTSD compared to men under the same circumstances; this also means that women face higher levels of severity as well. Currently, there has not been enough research to determine the reason for this.

On the other hand, the nature of the trauma will also affect the probability. There has been a consensus that if the traumatic event occurs earlier in life or involves a physical injury, there will be a greater chance of receiving PTSD as a result.

Compare and Contrast the Two Concepts

In a broader aspect, forgetting occurs either because the memory is compromised (it is degraded so only fragments or nothing of the original memory remains) or access to the memory is compromised, which more relates to dissociative amnesia where a patient is unable to retrieve traumatic events. The specifics of dissociative amnesia often stems from three main concepts: retrieval inhibition, motivated forgetting, and state-dependent remembering.

Retrieval inhibition is “an automatic cognitive effect induced by partial recall” which prevents people from accessing memories. The theory of retrieval-induced forgetting does not mean that a memory is forgotten permanently. Access to a specific memory can be regained if specific cues are given, allowing the person to “remember” once more. A memory’s accessibility can be influenced by the retrieval cue itself and other memories with similar retrieval cues. These two aspects are considered together because one memory can overpower the other which would make the other memory more difficult to retrieve. The concept of inhibiting this process occurs to suppress some memories during retrieval, so another memory can be retrieved. This is more commonly understood as blocking irrelevant information in favor of accessing needed memories. In the case of dissociative amnesia, inhibition is attempting to suppress traumatizing memories as a defense mechanism to prevent a person from reliving that memory.

Another possibility is motivated forgetting, also known as intentionally forgetting which is defined exactly as the term: there is sufficient motivation to actively forget something learned or experienced that is generally unpleasant. Previous experiments that used the think-no-think paradigm showed individuals can intentionally forget memories using pairs of words and cues to remember or suppress specific ones. While this is possible in a laboratory setting, there is limited evidence showing its effectiveness. As a

result, an experiment was conducted to see if children actively attempt to forget math learned in school while on break because of its stress-inducing content. The findings suggested that there were similar defensive adaptations that students used to forget these lessons. This concept can also be applied in traumatic and stressful settings where someone may actively attempt to forget the experience.

State-dependent memory is something that is actively used in everyday life; this function is defined as “information that was learnt in a particular mental or physical state to be [remembered more easily] in a similar state... as when the memory was initially formed”. This idea has been examined and tested numerous times throughout history. For example, when testing the conditioned reflex in dogs, scientists found that the dogs would not only react to the stimulus when certain conditions were met. This suggests that the memory of the dogs could be triggered in one condition, and it would be more difficult or even impossible to remember in another setting. This relates to dissociative amnesia because in some extreme cases of state-dependent memory, there is a “complete amnesic barrier” where the memory cannot be retrieved at all under normal conditions. While this was found true in rats, tests involving humans have not been conducted. Furthermore, drugs were used to simulate similar effects. Therefore, it is difficult to assume which of the causes, retrieval inhibition, motivated forgetting, or state-dependent remembering, or which combination of the causes is most likely the cause of dissociative amnesia.

On the other hand, for cases involving PTSD, studies have been conducted to consider the role of state-dependent memory. For example, sexual assault victims who were intoxicated during the traumatic event causes “involuntary recollection of trauma” when drinking in another instance. Sensory cues are another possibility for resurfacing traumatic memories. State-dependent memory is heavily involved in research for both dissociative amnesia and PTSD. These traumatic memories are often formed in a condition of state-dependent learning which causes the memories to be hidden until a similar trigger is experienced. This would also lead to flashbacks of the traumatic memory when provoked. In other words, state-dependent memory can simultaneously hide memories in normal conditions and resurface them when certain triggers are met. Furthermore, memories

when involved in either dissociative amnesia or PTSD are not stored in the same pathways as normal memories. A study conducted at Northwestern found that when mice were under a drug (the stressor) memories formed in different ways which allowed the mice to react only when that stress is met. This further proves that memories lost due to dissociative amnesia or recovered from PTSD symptoms are not just regular forgetting and remembering.

While PTSD is the repeated involuntary remembering of the stress, dissociative amnesia is reduced voluntary remembering of the stress. Despite the paradoxical symptoms, the underlying cause of both of these conditions is incomplete processing of the traumatic event and the need for defense mechanisms to protect the consciousness. There has been recent evidence suggesting that these memory disorders are not two different paths but can intersect with each other. Studies have seen that people can experience a flashback of the traumatic event then immediately forget it afterwards. Furthermore, it is commonly believed that incomplete, fragmenter, or not integrated memories would cause PTSD. This can affect the person in two ways. First, shallow processing of the memories prevents the memories from being integrated into a time frame, so it overcomes the person's focus. With a group of people who have PTSD, it was found that they perceive their trauma to be central in their lives. The second way involves shallow processing when the memories are being encoded. This causes memories to be fragmented, which seems similar to a mix between PTSD and dissociative amnesia. Overall, a recent study has found that because of the similarity in the science behind these memory disorders, they are more connected than previously imagined. In generalized cases, it is difficult to separate what would cause PTSD versus what would lead to dissociative amnesia.

PTSD Associated with War

One of the most common areas where PTSD and dissociative amnesia is present is in war veterans. It is clear that the severity of conflicts seen in war can determine the likelihood the veteran will have this condition. Studies have found veterans with a combination of all three primary factors, "prewar experience or psychological vulnerability, combat exposure, and involvement in harming civilians or

prisoners," had the greatest percentage of experiencing PTSD, something that is often correlated with dissociative amnesia, as detailed in the earlier. These conditions for prewar vulnerability often correlate with adverse childhood experiences, potentially traumatic events in childhood. On the other hand, civilians living in a war zone faced similar degrees of PTSD. It was found that in countries with active war zones, such as Afghanistan, Cambodia, Palestine, and many others, who live in war zones, its citizens experienced many symptoms of PTSD and depression.

Based on different countries, these psychological effects of conflict are seen in different proportions depending on numerous variables such as the nature, type, or severity of conflict. PTSD can occur beyond facing conflict in a war zone but emotional stress and indirect stressors as well. These include the most drastic such as war-related activities or stress through economic hardships and the safety of loved ones. In both war veterans and civilians living in a war zone, the more exposure to trauma causes the symptoms to be more clear.

Post-war PTSD and Dissociative Amnesia Development

This cycle of trauma which forms in the presence of extreme war conditions continues after war as well. In the aftermath of war, there are often higher levels of family violence both against children and against women. Similarly, there have been reports that in Sri Lanka and Uganda alcohol consumption increased after a parent's exposure to war. This would not only affect the generation experiencing war but future generations as well because alcoholism and trauma can carry on from one generation to the next through the negative impacts an alcoholic passes on to their children. Darlene Lancer, an author and licensed family therapist explains the mentality alcoholics' children face. She lists many roles children often adopt to cope with an alcoholic parent; however, when adults, these personalities often become fixed, preventing them from healing. Furthermore, Lisa Frederikson, a daughter of an alcoholic, explains the term "Second Hand Drinking" as "the negative impact an alcoholic has on other people in the form of 'toxic stress'". It is clear that trauma can cause cyclical behaviors that continue between generations.

While children are often the focus of the impacts of trauma because their developmental stage is affected, there are also differences between gender. In a study examining responses to war-related trauma for refugees from the Democratic Republic of Congo, it was found that although there was no significant difference between the amount of trauma exposed, male participants faced more imprisonment while female participants witnessed more trauma from rape. Furthermore, a higher percentage of women had PTSD and women had higher amounts of symptoms. This indicates that the type of trauma faced affects the severity of PTSD experienced.

Dissociative Amnesia Caused by Abuses in Childhood

Childhood abuse experiences are the cause of dissociative amnesia for many. In a participant group taken from posttraumatic stress and dissociative disorders, over 80% reported physical and sexual abuse during childhood. Symptoms of childhood abuse included both partial and complete amnesia. Furthermore, the younger the age that abuse was first witnessed or experienced, correlated with a higher degree of amnesia. However, this difference may be contributed by infantile amnesia, limited explicit memory of childhood events. Despite this discrepancy, many studies account for it by not considering subjects under the age of four. Infantile amnesia also does not explain memories that were eventually recovered in later life. Additionally, sources say that gender plays a large role in dissociative amnesia for children who were sexually assaulted since males are less likely to remember the abuse. This is less likely to be attributed to gender, but it is caused by social stigma causing males to be less willing to talk about the situation. This is supported in other cases where children are encouraged to speak about their experience more which reduces likelihood of amnesia. Moreover, the child's relationship with the perpetrator is likely a factor in dissociative amnesia. Many modern studies support Freud's "Betrayal Trauma Theory" which states that dissociative amnesia is more likely to occur if there is a close relationship between the victim and the aggressor. These studies judge the closeness of a relationship either based on familial connection or perceived emotional closeness. While these factors contribute to the likelihood of having dissociative amnesia, there are always certain cases where

dissociative amnesia is more likely to occur because of the person itself rather than any environmental conditions.

Additionally, there is reason to believe that dissociative amnesia is more prominent in children who face chronic abuse. This contrasts those who face limited abuse since they often do not experience extreme levels of amnesia and can recall the abuse in precise detail. Furthermore, in some of these extreme cases, the subjects of a study had lost memory for a portion of their lives, including negative, neutral, and positive moments. This also suggests that dissociative amnesia may not be a defense mechanism against traumatic experiences but an entire rewiring of mechanisms for processing and storing memories. This new thought process in analyzing memories after traumatic experiences also brings the plausibility of recovered memories.

Due to the "memory wars" and the following debate, it is extremely important to consider this with children. False memories can easily occur even without a traumatic instance causing amnesia. In one case, a two-year-old infant vividly remembered that someone had tried to kidnap him, but it was revealed that the story told to the child was fabricated. As a result, studies considering the memories of children (especially younger ones) may contain pseudomemories. Furthermore, this idea is supported by a study using information from parents to test college students. The study found that 6% of the college students created vivid pseudomemories. While this is true for ordinary circumstances, it was found that memories recovered from children with severe cases of dissociative amnesia are even more likely to be distorted.

Conclusion

While dissociative amnesia and post traumatic stress disorder both stem from the same place — often caused by trauma — it has widely different symptoms. Dissociative amnesia, originally referred to as repressed memories, is the active forgetting of the trauma. By referring to this condition as active does not indicate that a person voluntarily attempts to forget, but it is rather a distinction from regular forgetting on an everyday basis. On the other hand, PTSD is the involuntary remembering of the

stressor either after certain triggers. Because these two conditions can occur simultaneously, it is difficult to categorize them to certain traumas. Both war and childhood trauma can lead to both dissociative amnesia and PTSD. Recent research has studied which conditions would lead to a higher likelihood of the manifestation of either dissociative amnesia and/or PTSD. However, there continues to be debate about the validity of recovered memories from dissociative amnesia.

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