Recovered Memory and Sexual Assault

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Introduction and Background

A true recovered memory has been defined as an event that a person experienced that they could not recall at some later time, and which later can be successfully recalled by the person (Gleaves, Smith, Butler, Spiegel, & Kihlstrom, 2010). A false recovered memory is a memory a person experiences of an event that did not occur. Definitive sorting of memories into either of these categories requires external corroboration of events in a person's life. The majority of scholarly investigation surrounding recovered memories has centered around the recovered memory of child sexual abuse (CSA) in adult survivors (Brown, 2000). This was a hotly debated topic with a substantial amount of empirical/clinical studies and scholarly reaction to reports emerging in the 1990s. In addition to discussion in scholarly communities, ideological groups dominated the popular media discussion during this time and greatly influenced public opinion on the topic. Today, it is widely accepted that both true and false memories exist in the body of recoveries of CSA memories by adults (Belli, 2012; Freyd, 1996; Pezdek & Banks, 1996).

Outside empirical and scholarly investigation of recovered CSA memories, two major ideological groups shaped public opinion of the issue in the United States. The False Memory Syndrome Foundation (FMSF) is an ideological group founded by parents who have been accused of CSA by their adult children and others whose careers were defined by defending men accused of sexually abusing children (Brown, 2000). The current activities of the still operating FMSF includes asserting the innocence of Jerry Sandusky, a convicted serial rapist and child molester who was a football coach at Pennsylvania State University (False Memory Syndrome Foundation, 2018). The FMSF holds the position that intrusive recall is the only true form of traumatic memory; that memory of traumatic events can only be characterized by continuous unwanted imagery following the trauma. They also hold the position that it is impossible for memory of sexual trauma to be forgotten and then subsequently recovered (Loftus & Ketcham, 1994). Some members of the organization have also asserted that CSA is not traumatic to children, stating that "it is not clear that fondling or even fellatio are experienced by infants and young children as assaultive" (p.403), and thus such memories could not be affected by memory disruption associated with trauma (Ceci, Huffman, Smith, & Loftus, 1994). The FMSF asserts that any individuals who claim to recover memories of CSA as adults are afflicted with a "false memory syndrome." This "syndrome" is best defined as a condition in which an individual

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is affected in their relationships and self-identity by the strong belief of a false memory (Michels, 2009), although there are no clear criteria for this "syndrome." False memory syndrome is not included in any major medical or mental health classification systems including the Diagnostic and Statistical Manual of Mental Disorders, fifth ed. (DSM-V) or the International Classification of Diseases, tenth ed. (ICD-10). Trauma researchers have concluded that the possibility of the existence of false memories does not support the existence of a "false memory syndrome," and that there is no empirical evidence of such a syndrome (Gleaves et al., 2010).

The other branch of ideological groups that emerged in the public conversation of recovered memories of CSA is the Incest Survivor Movement. This loosely organized movement has been identified as an opponent to the FMSF (Brown, 2000). While the goal of the FMSF was to advocate for those accused of perpetrating CSA by discrediting victim claims, the goal of the Incest Survivor Movement was to support survivors of CSA by believing them and connecting them to formal and informal resources including networks of other survivors and appropriate medical, psychological, and legal services. It was a grassroots movement comprised of survivors of CSA, with both continuous and recovered memories, sharing first-hand accounts of their abuse as a way to promote empowerment (Bass & Thornton, 1983; McNaron & Morgan, 1982).

Both of these factions were very influential in influencing public opinion on the topic of recovered memories as it pertains to the popular issue of the time, CSA. While both of these politically motivated branches were influenced by the science surrounding memory and trauma, most of their momentum was propelled by anecdotal reports of individuals who claim to have experienced one aspect of the recovered memory phenomenon either first- or second-hand. Alongside this hotly debated popular culture discussion, scientists who were experts in the fields of trauma and memory embarked on a rich investigation of the subject, leading to a more complete and balanced understanding of the topic adopted by the field today.

Empirical Research

An understanding of the trauma experience and traumatic memory initially arose in the field of trauma research from clinical examples of those who had experienced CSA, including those with delayed recall of memory after a period of forgetting (Herman, 1992). There is significant case study evidence of true memories of CSA recovered by adults (e.g. Schooler, Ambadar, & Bendiksen, 1997; Schooler, Bendiksen, & Ambadar, 1997; Williams, 1994, 1995), suggesting that the experience is not uncommon. Empirical evidence has moved beyond case studies and has found support for the existence of both true and false recovered memories. Much of the scholarly activity on this issue is relevant to the conversation of recovered memories of CSA.

False Memory Research

There have been many definitions of a false memory in the literature including, when recalling a list of words, the naming of a word not originally included in the list (Roediger III & McDermott, 1995), an event that has been deceptively suggested to a research participant by a person close to them (Hyman Jr., Husband, & Billings, 1995; Loftus & Pickrell, 1995; Pezdek & Roe, 1994), and a complex trauma perpetrated by a family member that has been falsely suggested to a patient in psychotherapy by a therapist (Loftus & Ketcham, 1994). A general definition of a false memory is a memory of an event that did not occur. It is accepted in the field that false memories do exist, but more uncertainty concerning the question of whether false memories of complex trauma can be adopted by an individual. It is almost impossible to design experiments that study this question directly, due to ethical constraints. Still, the field has used both clinical case studies and empirical laboratory studies to fully investigate the existence and formation of both simple and complex false memories.

One source of evidence for false recovered memories of CSA comes from clinical reports of

individuals who claim to have been falsely accused of perpetrating CSA or individuals who claim to have had recovered memory of CSA that they subsequently believe to be false, known as recantors (Gleaves et al., 2010). A small number of studies investigating the experiences of recantors have been conducted (de Rivera, 1997, 2000; Gavigan, 1992; McElroy & Keck Jr., 1995; Nelson & Simpson, 1994; Pasley, 1994). These experiences are more credible than reports of those who claim to be falsely accused of CSA, due to the societal consequences for those who have been found to have perpetrated CSA and potential motivation of those accused to avoid those consequences. However, the concern with these case reports of both scenarios described above is that in most cases there is no way to determine if the recovered memory is in fact false. Even individuals with verifiable histories of abuse have alternated between believing and denying their abuse (Gleaves et al., 2010; Gleaves, 1994), so denying a memory of abuse or believing it to be false is not sufficient evidence to determine with certainty if a person has ever experienced sexual abuse. Only documented external corroboration would provide a definitive answer, which in most cases is impossible to obtain.

An additional source of evidence for false memories more generally comes from laboratory research. Lines of inquiry have included study of and positive evidence for the misinformation effect (Loftus & Palmer, 1974), failures in reality monitoring (Johnson & Raye, 1981), and false recall of word lists (Roediger III & McDermott, 1995). The misinformation effect is a phenomenon that occurs when incorrect information about an event or experience is integrated into a memory after the original event occurs, resulting in inaccurate recall of the original event. In one seminal study of the misinformation effect, Loftus, Miller, and Burns (1978) investigated how post-event information could impact later recall of the original event. Participants were shown slides of a car accident in which a stop sign was present. Then, participants were exposed to information that was either consistent with the original slides (assumed a stop sign was present), misleading about the original slides (assumed a yield sign was present), or irrelevant to the original slides. Finally, participants were asked questions about the original slides. They found that participants exposed to misleading information were more likely to incorrectly remember the original slides. This study demonstrates that post-event misinformation can negatively impact memory accuracy.

Reality monitoring consists of correct identification of information that originated externally (information individuals perceive through the senses) and information that originated internally (through thoughts, dreams, or other internal experiences). Failures in reality monitoring occur when individuals misattribute the source of information or experiences. Johnson and Raye (1981) propose a model of reality monitoring that suggests that there are differences between internal originating and external originating information, and individuals use different cues to determine what the origin of specific information or memories are. They suggest that externally originating memories might contain more sensory, semantic, or contextual details and internally originating memories might contain more details about cognitive operations. This working model has created a framework with which to start to evaluate the "reality" of memories. Deficits in reality monitoring are thought to be one way in which false memories are adopted by adults who believe to have recovered true childhood memories.

The correct recall of a word in a list has been treated as analogous to the correct recall of a memory of any length and complexity. For example, Roediger III and McDermott (1995) conducted a study attempting to make participants recall a word as a member of a list they had studied, when in fact that word was never on the original list. Participants were given a list of 12 words to study. The words on the list were related to some other word that was not included in the list. For example, the list might be comprised of words such as bed, dream, and pillow, which are all related to the word "sleep," which is not presented in the list. Results indicated that almost half the participants incorrectly recalled the related, nonpresented word as being part of the

original list. This line of research indicates that individuals can be made to report things that did not happen.

Most of this laboratory research with the aim of investigating false memory as it relates to CSA involved the use of schema-consistent suggestion of neutral events in nonclinical subjects (Gleaves et al., 2010), such as lines of research that use word or picture sequence recall as an analog for memories of personal, complex experiences such as sexual abuse. Thus, lines of research that focus on narrow or brief memory impairment may not be directly applicable to more complex memories such as recovered memories of CSA. One line of inquiry with more applicability to such memories is the question of the impact of suggestibility on memory.

There are two major tests of suggestion pursued in the literature, the possibility to change a recalled memory and the possibility to encode information or events that never occurred as memories (Brown, 2000). Loftus (1979) was a leader in investigating the impact of suggestion on eyewitness memory. They found that in a number of studies a portion of participants will report a different memory of an experimental event due to experimental suggestion in a particular direction (Loftus & Davies, 1984; Loftus & Hoffman, 1989; Loftus & Loftus, 1980; Loftus, 1979, 1979). Loftus & Davies (1984) suggested in a survey of eyewitness literature that adults are able to more correctly recall events that have happened to them than are children, but children might not more susceptible to suggestion than adults. They concluded that both children and adults are vulnerable to suggestion in eyewitness scenarios. Loftus & Hoffman (1989) discusses potential sources of memory impairment including source misattribution, or confusion concerning the origin of a memory item, and asserts that this is a prominent phenomenon that occurs in the misinformation effect. They concede, however, that the mechanism of adopting the misinformation (e.g. interfering with an original memory or standing independently) is unknown. Loftus & Loftus (1980) assert that there is no such thing as permeant, unchangeable long-term memory and concludes that all memory is theoretically susceptible to post-event alteration. However, other investigations suggest that Loftus' low-stakes experimental settings might be responsible for the results. Participants in laboratory studies do not have the same emotional relationship with memories as real-world individuals who experience an event. Further, the consequences of error are more extreme in real-world contexts than in laboratory contexts. Other investigations into real forensic eyewitness situations find lower susceptibility to suggestion when the stakes are higher, as they are in real life (Yuille & Cutshall, 1989; Yuille, 1993). It is also suggested that the type of crime or event witnessed by an individual might impact their memory performance.

Ceci et al. (1994) and Ceci, Ross, and Toglia (1987) developed another line of inquiry investigating how vulnerable children are to suggestibility. In these studies, children were read either a passage about an event they are told that they have experienced but have not, or a story about an unrelated topic, and then questioned on their memory of their own lives or the presented story. The results indicate that children are vulnerable to suggestion. Ceci et al. (1994) conducted a study attempting to implant a memory of an event that can be shown to have not occurred, and to have that memory be accepted by very young children. Participants in this study were 96 preschool children of diverse sociodemographic composition. This study investigated age differences of the children and thus one group was composed of younger preschoolers aged 3–4 years and a second group was composed of older preschoolers aged 5–6 years. The children were presented with a list of events they had experienced mixed with events they had not experienced, and subsequently asked which events had actually happened to them once a week for 10 weeks. Results indicated that while children were made to adopt some memories of events that did not happen to them, the frequency of this did not increase over time. Importantly, children were overwhelmingly accurate in identifying that the real events did in fact happen to them. In this study, older children were more accurate in their memory than younger children.

Ceci, Ross, and Toglia (1987) presented several experiments examining the eyewitness memory of children, ranging throughout the experiments from preschool to early middle school age. In one experiment, children were read a story from a picture book and then asked questions that were either neutral or leading concerning the pictures accompanying the story. Results of this experiment indicated that there was no difference in memory between ages when children were asked neutral questions, but younger children were much more susceptible to suggestion in the leading question condition. However, in other experiments when conditions were altered, age differences between young and very young children disappeared. However, further studies might complicate these findings. Others have found in similar studies that fewer individuals are vulnerable to suggestion (McClouskey and Zaragoza 1985; Zaragoza, McCloskey & Jamis, 1987; Zaragoza, 1991), including suggestion with CSA overtones (Goodman, Quas, Batterman-Faunce, Riddlesberger & Kuhn, 1994; Goodman, Bottoms, Schwartz-Kenney & Rudy, 1991; Pezdek & Roe 1994), than were reported in Ceci's investigations.

Zaragoza, McCloskey, and Jamis (1987) examined the effect of post-event information on subject's memory of an event, utilizing a similar method to Ceci's memory experiments with children. Participants were undergraduate students who viewed a series of slides depicting a scene or event. Participants then read a lengthy written narrative about the slides that was either neutral (did not provide information contradicting what was viewed in the slides) or misleading (contained information contradicting what was viewed in the slides). In two experiments following this protocol, Zaragoza, McCloskey, and Jamis (1987) found no difference in recall accuracy between the neutral and mislead groups. The authors present explanations as to why their results seems so different than others who investigate misleading post-event information's effect on memory. They assert that other studies are not detecting true changes in an original memory and are failing to account for phenomenon such as forgetting, response bias, and non-encoding of original event information.

McClouskey and Zaragoza (1985) even go so far as to claim that their series of six experiments, with methods and results similar to the two Zaragoza, McCloskey, and Jamis (1987) experiments, prove that post-event misleading information has no effect on memory of the original event. They argue that while post-event information might influence response to questions about an event, actual memory of what a person experienced of an event is unchanged. This finding is important as it may demonstrate that more extreme circumstances are required to develop a true false memory. The work of McClouskey and Zaragoza (1985) and Zaragoza, McCloskey, and Jamis (1987) is likely more applicable to the issue at hand of cases of individuals who are reporting recovered memories of CSA as adults, as it investigates memory error originating in adulthood. The work of Ceci et al. (1994) and Ceci, Ross & Toglia (1987) is likely more applicable to individuals who are children reporting current or past experiences of CSA.

Pezdek and Roe (1994) investigated the resiliency of children's memory. In one experiment, a group of 4-year-old children and a group of 10-year-old children were shown a series of slides either once or twice. Following viewing of the slides, the children were read a narrative summarizing the slides that either did or did not contain misleading information about the slides. The results of this experiment indicated that "stronger" memories, or memories of events that have occurred multiple times, are resistant to suggestion regardless of age. This finding is particularly salient to individuals who are reporting CSA experiences, where children are often victimized multiple times by the same perpetrator.

A second experiment conducted by Pezdek and Roe (1994) investigated how vulnerable children are to suggestions with sexual overtones. In this experiment 10-year-old children were individually shown slides by an experimenter who throughout the activity either touched the child's shoulder, touched the child's hand, or did not touch the child. The children were later read statements that either confirmed what had

actually happened in the session or presented misleading information (e.g., That the experimenter had touched the child's shoulder when the experimenter had actually touched the child's hand). The results of this experiment indicated that children did not easily adopt the suggestion. This finding suggests that it is not easy to convince a child that something happened to them that did not happen in reality. This is a distinct finding from other studies of suggestion that include suggesting a slight change in an event the individual knows to have occurred.

One study conducted by Loftus (1993) provides evidence for the possibility to implant false memories. In this study, an undergraduate research assistant experimentally convinced their younger sibling that they had been lost in a shopping mall as a child. The sibling adopted the "lost in a shopping mall" story as a memory they believed to be true. While there have been ethical criticisms of the conduct of this study, its results are applicable to the conversation of recovered memory of CSA and questions of the ability to retroactively "implant" memories of events that did not occur. Hyman, Husband, and Billings (1995) conducted a larger variation of this study in which parents of college students told their children stories of actual events that had happened to them and scattered in false suggestions, such as an experience of needing to go to the hospital due to a severe earache as a child. The results of this study reported that 20% of participants adopted the suggestion, and most participants required multiple exposures to the suggestion in order to adopt it.

Loftus's (1993) study has been questioned in terms of its applicability to CSA (Gleaves et al., 2010) due to the content of the suggested memory being relatively common and nontraumatic. Pezdek (1995) attempted to extend this line of research to suggesting a more traumatic event (a rectal enema) to research participants. This suggestion was not adopted by any participants in this study. Some have argued that Pezdek's (1995) study indicates that although it is less difficult to achieve adoption of a suggestion of neutral material (mall or earache), it is more difficult to achieve adoption via suggestion of false stories of extremely painful events that violate a person's beliefs about loved individuals (Brown, 2000), as would be the case with implanting a false memory of CSA.

For ethical reasons, it is impossible to empirically test directly if false memories of CSA can be adopted by individuals, leaving an obvious gap in the literature on this topic. The experimental research that we do have on false memory demonstrates that under some conditions individuals can report memory of events that are false or report observing things that were not observed. However, there are several limitations to the body of false memory research as it has been applied to the conversation around recovered memory and CSA. The body of research may only suggest that individuals are likely to adopt false memories in situations where the stakes are low, and the degree to which these reported errors are in fact fully adopted false memories has been questioned (Gleaves et al., 2010). The degree to which these lines of inquiry can be generalized to cases of recovered memory of CSA has been questioned as well (Butler & Speigel, 1997; Freyd & Gleaves, 1996). The research clearly suggests that memory is fallible, and that memory error could result in the adoption of a false memory of CSA is a distinct possibility.

Recovered Memory Research

There have been several names in the trauma literature for the phenomenon of recovered or delayed trauma memories including dissociative amnesia, repressed memory, and posttraumatic amnesia (Brown, 2000). A considerable number of case studies have accumulated documenting recovered memories of various traumatic experiences (Cheit, 1998; Corwin & Olafson, 1997; Freyd, 1996; Scheflin & Brown, 1996; Schooler, Beudikson & Ambadar, 1997; Williams, 1994, 1995). In a notable case study, Duggal and Strouge (1998) detail a woman who recovered memories of CSA outside of the context of therapy. In this case several sources corroborate the occurrence of the CSA, the forgetting, and the recovery event. The author interprets this case as

evidence for memory loss with an explanation beyond simple childhood amnesia.

The most important and reliable case studies that have been considered on this topic are those that can be corroborated. One such notable and illustrative case study was presented by Corwin and Olafson (1997). In this case a young girl, "Jane," was videotaped reporting sexual abuse at the hands of her mother when she was 6 years old when talking to a psychologist who was investigating the custody situation of Jane. The doctor, after using the tape for teaching purposes reached out to Jane at age 17 to reattain her consent to use the tape. At that time, Jane did not remember the contents of the tape and asked to see it. Before watching it, in a videotaped conversation with the doctor, Jane recovered the memory of the abuse as a child. This case is significant because of the documentation, and the ability to compare Jane's reports both as a child and as a 17-year-old. Corwin and Olafson (1997) discuss that while Jane did not remember every event of her abuse that she reported at age 6, the events that she remembered after the recovery at age 17 were consistent with her original report. This case, while an isolated example, provides evidence that a noncontinuous memory can be an accurate memory.

Beyond individual case examples, a large-scale study of adult survivors of CSA contacted by authorities who had documented original CSA incidents provides evidence for the prevalence of forgetting CSA experiences as an adult. Williams (1994) and Williams (1995) interviewed 129 adult women (age 18–31) who had disclosed their CSA experiences to authorities as children at the initial time of their abuse. The women were asked a series of questions to determine if they recalled the abuse at the time of the interview and, if so, if there was ever a period of time where they had forgotten the abuse. Williams (1994) reported that 38% of the women in the sample did not remember their abuse at all. In this study they found that being younger at the time of the initial abuse and women who were abused by a family member (or other known person) were more likely to report not remembering the abuse. Williams (1995) reported that 16% of the women who remembered the abuse at the time of the interview had entirely forgotten the abuse at some point in the past, and therefore had recovered memories. Importantly, Williams (1995) reported that women with recovered memories, defined as women who reported a period of forgetting the memory of their abuse, were just as accurate in their memory of the abuse as women with continuous memories of their abuse. The accumulation of these larger studies along with the numerous case studies implies that forgetting experiences of CSA, and even subsequently recovering those CSA memories, might not be uncommon in the general population.

Experiences of the forgetting and ensuing recovery of trauma memories are also common in studies of clinical populations who have experienced child physical and sexual abuse (Gleaves et al., 2010; Brown, Scheflin & Whittfield, 1999), suggesting that the real-world experience of a trauma, which would be difficult to replicate in laboratory settings for ethical reasons, is the best scenario to investigate the existence and course of recovered memories. The field has certainly reached a balanced consensus on the subject of the existence of recovered memories of sexual abuse. The American Psychological Association itself put together a working group to evaluate this issue and determined that while false memories can be created through suggestion, it is also possible to recover memories of CSA as an adult (Sales, 1998). All recovered memories are not false memories, and further there is no evidence that the continuity of a memory determines its accuracy (Freyd & DePrince, 2001; Dalenberg, 1996; Pope & Brown, 1996; Scheflin & Brown, 1996; Williams, 1995). While there is strong evidence for the existence of the recovered memory phenomenon, the evidence for the process by which forgetting and recovery occurs is less complete.

There are several lines of empirical inquiry that have yielded evidence for the mechanisms that might lead to forgetting and recovering memories including: spontaneous recovery from retroactive interference (Wheeler, 1995), tip of the tongue research (Jones, 1989; Smith, 1994), blocking in implicit memory (Lustig & Hasher,

2001; Smith & Tindell, 1997), and retrieval-induced forgetting (Anderson, Bjork & Bjork, 1994). Spontaneous recovery is the improvement in memory over time without practice or additional exposure. Wheeler (1995) conducted a study in which subjects were repeatedly presented a list of pictures, tested on their initial recall of the list, and then tested again after a delay in time. The results of this study demonstrated that subjects could exhibit spontaneous recovery over time in memory of a presented list of pictures, as for several participants their memory improved on the second delayed recall test. Jones (1989) investigated the tip-of-the-tongue phenomenon, or the reported feeling of almost being able to remember something. They discussed that the tip-of-the-tongue state can lead to recall of similar memory items to the target memory item and suggested that the tip-of-the-tongue state might be caused by present events interfering with retrieval of the target memory item.

Lustig and Hasher (2001) investigated the impact of early items from a list on later items on a list when the early items were intended distractors, similar to the later items on the list. This is an investigation of the potential for proactive blocking or interference. The results indicated that the presentation of certain early list words could decrease later recall of later list words, affirming the vulnerability of memory to proactive interference. Smith and Tindell (1997) conducted a variation of Lustig and Hasher's (2001) study, with the alteration that participants were warned of the memory blocking potential and instructed to specifically only remember the words at the end of the list. Results of this study were consistent with the results of Lustig and Hasher (2001), indicating that even when individuals are aware of memory blocking risks, the effect remains essentially unchanged. Anderson, Bjork, and Bjork (1994) discuss the possibility that retrieving and recalling information from long-term memory can lead to forgetting of that information. It is hypothesized that the encoding of new information that accompanies retrieval of old information might be the culprit. In a series of experiments, Anderson, Bjork, and Bjork (1994) find that repeatedly retrieving information can decrease recall of related information, the more closely related the related cue is to the target information the more robust this impairment becomes, and that this memory impairment can be long term (stretching beyond the immediate experimental situation).

These lines of research provide evidence for the phenomenon of forgetting information, including traumatic information through a variety of hypothesized processes. However, the precise mechanisms for posttraumatic amnesia, or the process of forgetting a traumatic memory before recovery, are not understood. Little direct laboratory research on the process exists, due to the ethical constraints creating a barrier to experimentally simulating trauma. However, there are theories that might move in the direction of pointing to a cognitive mechanism of forgetting. Two theories that attempt to describe such a mechanism are Betrayal Trauma Theory (Freyd, 1996) and dissociation more broadly.

Betrayal Trauma Theory (BTT) asserts that the effects of a traumatic experience are related to the level of interpersonal or social betrayal in the trauma. In this aim, CSA is highly traumatic because it has a high level of social betrayal. Supporters of this theory argue that evolutionarily it may be adaptive to block the memory of betrayal (CSA) while the individual is still a child due to the continued dependence on caregivers for survival. There is empirical support for the prediction of BTT that abuse by family perpetrators will be forgotten more than abuse by nonfamily perpetrators of CSA (Belli, 2012; Freyd, DePrince & Zurbriggen, 2001; Freyd, Klest & DePrince, 2010; Lindblom & Gray, 2010). Similarly, it has been found that rates of forgetting do vary between trauma types (Gleaves et al., 2010, Freyd & DePrince, 2001; Elliott, 1997), suggesting that the impact trauma has on memory is related to the level of social betrayal of the trauma. BTT supposes that it is effective for a person to forget CSA trauma, especially when perpetrated by someone socially significant such as a caregiver, until the danger has passed and the individual has more autonomy. Once the individual is out of danger, likely by becoming an adult, it is no longer necessary for survival that

the memory be inaccessible, and therefore the memory may become accessible again.

Dissociation has also been suggested as the mechanism accounting for posttraumatic amnesia (Yates & Nasby, 1993). Spiegel (1986) suggested that dissociation might block pain from a traumatic experience. As is also suggested in BTT, this may become maladaptive without continuing or subsequent trauma (Duggal & Stroufe, 1998), leading to a recovery. However, the exact relationship between dissociation and trauma is complex and not completely understood (Chiu, Yeh, Ross & Lin, 2012; Giesbrecht, Lynn, Lilienfeld & Merckelbach, 2008; Bremmer, 2010). It has been established in the literature that there are individual differences in trait dissociation, such that some individuals have more dissociative experiences than others even outside of the context of trauma (Freyd & DePrince, 2001; Freyd, 1996). Dissociation is thought to contribute to psychiatric disorders including PTSD (Freyd &DePrince, 2001; Bremner et al., 1992; Carlson & Putnam, 1993; Marmar et al., 1994). In fact, trait dissociation has been found to be high in trauma survivor populations (Freyd & DePrince, 2001; Bremner et al., 1992; Carlson & Putnam, 1993; Marmar et al., 1994; Putnam & Trickett, 1997).

Freyd et al. (1998) conducted a study investigating the relationship between dissociation and attention. Results of this study suggest a relationship between dissociative tendencies and selective attention. Controlled attentional abilities were disturbed in individuals with high trait dissociation, in that high dissociators performed worse on the selective attention directed task. It is important to note that these disruptions were not related to the emotional content of the situation. In other words, dissociation negatively impacted attention even when the situation was not distressing, indicating that the high impact of trait dissociation on attention is independent of context. By interfering with attention and the encoding of information, trait dissociation might be a mechanism that accounts for the forgetting or recovery of traumatic memories, or memories in general. This relationship between dissociation and attention is made more salient by other studies that have established a relationship between trauma and dissociation, such that individuals with high trait dissociation are more likely to have experienced more traumatic events (Freyd, 1996).

DePrince and Freyd (1999) conducted another relevant study investigating dissociative tendencies and memory. They found that participants with high trait dissociation, compared to participants with low trait dissociation, remembered fewer emotionally charged words and more emotionally neutral words. Trait dissociation in this way might explain posttraumatic amnesia. Further, laboratory studies have shown that dissociation does not relate to false recognition (Chiu et al., 2012; Platt, Lacey, Iobst & Finkelman, 1998; Geraerts, Smeets, Jelicic, van Heerden & Merckelbach, 2005). One study found that when recovered memories are associated with dissociative tendencies they have a corroboration rate of 86% (Chiu et al., 2012).

While most people who experience CSA do not forget the experience, the experience of forgetting and recovering true CSA memories does occur (Duggal & Strouge, 1998) and might not be uncommon (Williams, 1994, 1995). Though the occurrence of recovered memories is recognized by most trauma researchers and the APA (Sales, 1998), the mechanism for this phenomenon is not well understood. However, there is some evidence that dissociation (DePrince & Freyd, 1999) or betrayal trauma (Freyd, 1996) processes may contribute to forgetting and recovering memories of CSA.

The theory of betrayal trauma starts to move toward a mechanism that might explain why victims forget experiences of CSA, as well as explain why as an individual's environment changes they might be more inclined to recover the previously inaccessible memory. Empirical evidence of rates of forgetting supports this theory and suggests that it is on the right track. Investigation into dissociation moves even closer toward a mechanism that may account for major memory interference surrounding trauma and CSA. However, cognitive psychology does not have a more precise mechanism that accounts for the forgetting and subsequent

recall of CSA that is experienced by some survivors. Further insight into the constructs and mechanisms of memory are required for a deeper understanding of recovered memory. This knowledge gap does not obscure the evidence that the phenomena of true recovered memories does exist in a minority of trauma survivors.

Treatment Implications

When considering cases of recovered memories in the context of sexual assault or CSA, there are two major considerations for practitioners: supporting survivors of trauma and not aiding in the formation of false memories. The evidence firmly supports that recovering memory of CSA is a real phenomenon, and survivors should not be denied access to care if they report this experience. There is no such thing as a false memory syndrome, and as such those who have recovered memories should receive care only for their reported trauma symptoms and not for memory problems. Whether memory of trauma is continuous or was lost and subsequently recovered, the trauma of sexual assault is linked to many physical and psychological problems that survivors may need assistance with.

It is also firmly established that memory is likely vulnerable to suggestion or other influence, and false recovered memories are also a true phenomenon. Practitioners must be mindful to not aid in the formation of false memories. The literature provides several clues as to some best practices for practitioners. There are several historical therapeutic strategies that should be avoided, and special consideration should be followed when working with children, who may be especially vulnerable to the formation of false memories. Therapist malpractice leading to the creation of false memories has resulted in lawsuits (Brown, 2000) and harm to individuals as well as families. Strategies such as hypnosis and guided recall should not be used to retrieve potential forgotten memories, and recovery of memories should not be a goal of therapy. Beyond case examples, some scholarly activity has addressed the question of what practices should be avoided by treatment providers in order to decrease the risk of aiding in the formation of false memories.

Loftus and Loftus (1980) discuss dubious methods for attempting to retrieve forgotten memories, under the assumption that memories are fixed items that exist somewhere in the mind. These methods include brain stimulations, hypnosis, and Freudian psychoanalysis. Brain stimulation techniques that were used specifically to identify memories include using electrodes to send electrical impulses directly to the cerebral cortex. Hypnosis involves encouraging individuals to enter a trance-like state before asking questions or exploring other internal experiences. Psychoanalysis involves the assumptions that client difficulties can be traced back to early childhood experiences or unresolved issues of which the client may have no memory.

All of these methods are likely to introduce suggestion into the memory and may increase the likelihood for the development of false memories. Treatment providers should avoid these methods, as well as avoiding stating recovering a forgotten memory as a treatment goal. Some clients also may seek aid in determining if a recovered memory is true or false. Research on the topic of reality monitoring might provide some assistance to this end. Johnson and Raye (1981) suggested that memories with an external origin might contain more sensory or contextual details than memories with an internal origin. However, the distinction is not an exact science and it will likely be impossible for practitioners to know for sure if a memory of abuse is true or false without external corroboration.

When working with younger children care must be taken to avoid aiding in the creation of false memories. As discussed in Ceci et al. (1994), presenting known real and known false events together might increase memory error in children. Additionally, asking children to talk about what might have happened, or some variation of asking a child to imagine if an event had

happened to them, may also increase likelihood of false memory creation. This might be explained in younger children by a desire to confirm the statements of adults or authority figures, as is suggested by Ceci, Ross & Toglia (1987). These memory disturbances could result in later experiences of forgetting and recovering memories that could be difficult for children to work through and discern.

Conclusions

Despite the historical conversations surrounding recovered memory and CSA, it is without question that forgetting and recovering memories of CSA is real and experienced by adult CSA survivors. The experience might even be a relatively common occurrence. It is also true that false memories can be created through processes such as suggestion, and people can make false reports of their experiences in experimental settings. Based on this information, it is important that adults who recover memories of CSA should not be discounted. The proposed mechanisms of forgetting involved in recovered memories are not associated with decreased memory accuracy, so recovering a memory does not necessarily make it a false memory. Other memory research suggests that unlike false memories, true memories are more likely to be held with confidence and clarity (Gleaves et al., 2010; Oakes & Hyman, 2000; Pezdek & Taylor, 2000), and even if peripheral details are less accurate central details are well-maintained (Christianson, 1992). These guidelines might help to differentiate between true and false recovered memoires, but without external corroboration no memory can be definitively labeled as true or false. It is clear that memory is likely vulnerable to suggestion, so practitioners should avoid aiding in recovering memories as a treatment goal, as the possibility of creating a false memory is high if using certain therapeutic techniques. When working with individuals who have recovered memories of sexual abuse, it is most important for practitioners to prioritize the safety and care of the survivor.

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