CIB #5: Inconsistent, Piecemeal, Changing, or Incomplete Memories

The CIB expert is often asked to explain why the memory recall for the complaining witness varies. Typical explanations from the expert can include:

- What appears inconsistent might just be normal or memories are retrieved or triggered •
- Victims withhold or lie about elements because they
    - Fear blame or culpability
    - Are ashamed
    - Are trying to protect the listener or others
    - Are trying to protect self
    - Are triggered by the detail
- Trauma profoundly impacts how events are sequenced, encoded and recalled – often chaotic

Research on Trauma and Memory

Dissociation and the fragmentary nature of traumatic memories: Overview.
Bloom, Sandra L.
British Journal of Psychotherapy, Vol 12(3), Spr 1996. pp. 352-361.
Abstract:

Reviews studies of people's memories of highly stressful and of traumatic experiences, focusing on the differences between recollections of these 2 types of events. Research shows that accuracy of memory is affected by the emotional valence of an experience such that highly personal events are remembered more accurately. However, trauma can lead to extremes of remembering and forgetting that can be categorized into 4 sets of functional disturbances: traumatic amnesia, global memory impairment, dissociative processes, and the sensorimotor organization of traumatic memories. The evidence for dissociation as the central pathogenic mechanism that gives rise to posttraumatic stress disorder (PTSD) is reviewed. Brief clinical material from various groups, including combat soldiers, is provided.

Memory for acute stress disorder symptoms: A two-year prospective study.
Harvey, Allison G. and Bryant, Richard A.
Journal of Nervous and Mental Disease, Vol 188(9), Sep, 2000. pp. 602-607.
Abstract:

Examined the accuracy of memory for acute trauma symptoms by comparing the symptoms reported by motor vehicle accident (MVA) victims within 1 mo posttrauma with the recall of these symptoms at 2 yrs posttrauma. 92 consecutive MVA admissions (aged 17–63 yrs) were assessed for the presence of acute stress disorder (ASD) within 1 mo posttrauma. At 2 yrs posttrauma, 56 Ss were reassessed for posttraumatic stress disorder (PTSD) and for accuracy of recall of the symptoms reported during the 1st assessment. At least 1 of the 4 ASD diagnostic clusters was recalled inaccurately by 75% of patients. High levels of posttraumatic stress severity and high subjective ratings of injury severity at 2 yrs posttrauma were associated with errors of addition (i.e., recalling the presence of acute symptoms 2 years posttrauma that were not reported during the first assessment). Low levels of posttraumatic stress severity and low subjective ratings of injury severity at 2 yrs posttrauma were associated with errors of omission (i.e., omitting to recall acute symptoms 2 yrs posttrauma that were reported during the 1st assessment). These results suggest that retrospective reports of acute stress symptoms should be interpreted cautiously because of the influence of current symptoms on recall of acute symptoms.

'Review and critique of the new DSM-IV diagnosis of acute stress disorder': Comment.
Bryant, Richard A. and Harvey, Allison G.
The American Journal of Psychiatry, Vol 157(11), Nov, 2000. pp. 1889-1890.

Abstract:

Comments on the article by R. D. Marshall et al (see record 1999-01651-001) which raised considerations regarding the diagnosis of acute stress disorder. The present authors question the evidence on which Marshall et al base their conclusions that dissociation should be removed as a core diagnostic feature of acute stress disorder. The retrospective studies of acute trauma reactions that Marshall et al cite are flawed because mood-related memory bias renders renders the accuracy of retrospective reports as questionable. Only one of three prospective studies cited employed a validated diagnostic measure of acute stress disorder. Four key studies not cited found that 78%–83% of individuals with acute stress disorder subsequently developed posttraumatic stress disorder (PTSD). Rather than prematurely deciding the worth of acute stress diagnosis at this juncture, it is important to conduct prospective studies that employ standardized measures that will define the optimal criteria for acute stress disorder.

Posttraumatic stress disorder following assault: The role of cognitive processing, trauma memory, and appraisals.

Halligan, Sarah L., et al.

Journal of Consulting and Clinical Psychology, Vol 71(3), Jun, 2003. pp. 419-431.

Abstract:

Two studies of assault victims examined the roles of (a) disorganized trauma memories in the development of posttraumatic stress disorder (PTSD), (b) peritraumatic cognitive processing in the development of problematic memories and PTSD, and (c) ongoing dissociation and negative appraisals of memories in maintaining symptomatology. In the cross-sectional study (n=81), comparisons of current, past, and no-PTSD groups suggested that peritraumatic cognitive processing is related to the development of disorganized memories and PTSD. Ongoing dissociation and negative appraisals served to maintain PTSD symptoms. The prospective study (n=73) replicated these findings longitudinally. Cognitive and memory assessments completed within 12-weeks postassault predicted 6-month symptoms. Assault severity measures explained 22% of symptom variance; measures of cognitive processing, memory disorganization, and appraisals increased prediction accuracy to 71%.

Autobiographical memories of anxiety-related experiences.

Wenzel, Amy, et al.

Behaviour Research and Therapy, Vol 42(3), Mar, 2004. pp. 329-341.

Abstract:

Ninety-nine undergraduate students retrieved three memories associated with each of the five emotional experiences: panic, trauma, worry, social anxiety, and feeling content. Subsequently, they answered 24 questions assessing properties of each memory, including the vividness and perceived accuracy of the memories and sensory, emotional, and anxiety-related experiences during retrieval. Memories were coded for affective tone and specificity. Results indicated that panic-related and trauma-related memories were rated similarly as content memories, but that they generally were associated with more imagery and emotional experiencing than worry-related or social anxiety-related memories. Participants experienced panic and worry symptoms to the greatest degree when they retrieved panic-related and trauma-related memories. All anxiety-related memories were characterized by more negative tone than content memories. Panic-related and trauma-related memories were more specific than worry-related, social anxiety-related, and content memories. These findings can explain partially why individuals with some, but not all, anxiety disorders experience enhanced memory for threatening material.

Traumatic memories are not necessarily accurate memories.

Laney, Cara and Loftus, Elizabeth F.

The Canadian Journal of Psychiatry / La Revue canadienne de psychiatrie, Vol 50(13), Nov, 2005.

Abstract:

Some therapists, as well as other commentators, have suggested that memories of horrific trauma are buried in the subconscious by some special process, such as repression, and are later reliably recovered. We find that the evidence provided to support this claim is flawed. Where, then, might

these memory reports come from? We discuss several research paradigms that have shown that various manipulations can be used to implant false memories--including false memories for traumatic events. These false memories can be quite compelling for those who develop them and can include details that make them seem credible to others. The fact that a memory report describes a traumatic event does not ensure that the memory is authentic.

The influence of emotion on memory in forensic settings.

Reisberg, Daniel and Heuer, Friderike.

The handbook of eyewitness psychology, Vol I: Memory for events. Toglia, Michael P., (Ed); Read, J. Don, (Ed); Ross, David F., (Ed); Lindsay, R. C. L., (Ed); pp. 81-116; Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers; 2007. xii, 703 pp.

Abstract:

Being the witness or victim of a crime is in most cases a highly emotional experience--during the crime itself and in the minutes (or months) afterward. If the crime involves or threatens violence, the witnesses and victims are likely to feel fear. Other crimes will leave the witnesses and victims feeling angry, and still other crimes might trigger an episode of emotional disturbance (e.g., anxiety or depression) that continues long after the crime itself. And in some cases, these emotional reactions will be quite strong--perhaps rising to the level we call trauma. How will these various aspects of emotion influence the witness's or victim's memory? How will they influence the completeness, accuracy, or longevity of the memory, or the ease with which the memory can be retrieved later on? These issues set the agenda for this chapter. In the chapter's first section, we review evidence that indicates that moderate levels of emotion promote memory--at least for an event's central aspects or gist. In the next section, we turn to evidence that suggests that the same levels of emotion may have the opposite effect, undermining memory, for more peripheral aspects of an event. In the following section, we consider the memory effects of stronger emotion and trauma. We next consider at length the memory effect of stress. We then turn to a different issue, asking how emotion, experienced during an event, can influence the ease with which the event can be recalled; we move from this to a consideration of the highly contentious claim that emotion during an event can cause that event to be 'repressed' later on, and thus not available for recall. We then shift our focus and examine emotional memories in a group often of special interest for the legal system: children. Finally, we turn to a different issue--namely, the potential use of emotionality, associated with a memory, as a means of distinguishing which memories are correct and which are not.

New insights in trauma and memory: A special issue of Memory.

Geraerts, Elke, et al.

Memory, Vol 16(1), Jan, 2008. Special Issue: New insights in trauma and memory. pp. 1-2.

Abstract:

This special issue opens with three papers reporting research in people who have experienced traumatic events like combat or sexual abuse. The first article reports a prospective study examining the consistency papers reporting research in people who have experienced traumatic events like combat or of retrospective accounts of traumatic events reported by Dutch soldiers deployed to Iraq. This theme is continued in the next article which compares characteristics of traumatic memories for sexual violence with other types of emotional experiences. Third article examines memory functioning in people who report that they have forgotten being sexually abused as a child, only to recover it later in life. The next article presented is a critical review literature on retrospective accounts from adults reporting childhood sexual abuse (CSA) experiences from their childhood, as well as studies of children undergoing forensic evaluation for CSA. The second theme in this special issue relates to manipulation of memory functioning to address questions in the field of trauma and memory. An article examines the effect of emotional stress on voluntary and involuntary (intrusive) memories. Next, two other papers study the effects of manipulation on memory accuracy and the creation of false memories.

Trauma and memory: Effects of post-event misinformation, retrieval order, and retention interval.

Paz-Alonso, Pedro M. and Goodman, Gail S.
Memory, Vol 16(1), Jan, 2008. Special Issue: New insights in trauma and memory. pp. 58-75.
Abstract:

The present study concerned effects of misinformation, retrieval order, and retention interval on eyewitness memory for a traumatic event (a vivid murder). Relations between misinformation acceptance and compliance were also examined. The classic three-stage misinformation paradigm (Loftus, 1979) was employed, with a multi-component recognition test added. Either immediately or 2 weeks after viewing a distressing film, 232 adults read a narrative (misleading or control) about the murder and then took a recognition test that tapped memory for central and peripheral details. Test-item order either matched the chronology of the film or was randomly determined. Significant misinformation effects were obtained. Moreover, control participants were more accurate in response to questions about central than peripheral information; however, this was not so for misinformed participants. Sequential but not random retrieval order resulted in a higher proportion of correct responses for central as opposed to peripheral misinformation questions. Compliance was significantly related to misinformation effects. Delay increased participants' suggestibility, impaired memory accuracy, and produced higher confidence ratings for misinformed participants compared to controls. Findings indicate that even for a highly negative event, adults' memory is not immune to inaccuracies and suggestive influences.

The organization of autobiographical and nonautobiographical memory in posttraumatic stress disorder (PTSD).

Jelinek, Lena, et al.
Journal of Abnormal Psychology, Vol 118(2), May, 2009. pp. 288-298.
Abstract:

Disorganized trauma memory seems to play an important role in the pathogenesis of posttraumatic stress disorder (PTSD). However, it is unclear whether memory organization of nonautobiographical material (i.e., sequence memory) is also impaired in PTSD. A novel task designed to assess nonautobiographical memory for content and order information was administered to trauma survivors with (n = 26) and without PTSD (n = 55) as well as to nontraumatized healthy adults (n = 30). In addition, traumatized participants were asked to give a detailed narrative of the traumatic event and an unpleasant autobiographical event. Transcripts of both types of narratives were analyzed with regard to disorganization. Results indicated that trauma memories were more disorganized than memories of an unpleasant event in the PTSD group in comparison with the non-PTSD group. However, no differences were found for memory organization of nonautobiographical material among trauma survivors with and without PTSD and nontraumatized controls. With regard to memory accuracy of nonautobiographical material, group differences were more strongly associated with trauma exposure than with PTSD.

Effect of personal involvement in traumatic events on memory: The case of the Dolphinarium explosion.

Nachson, Israel, et al.
Memory, Vol 18(3), Apr, 2010. pp. 241-251.
Abstract:

The association between memories of the terrorist explosion at the Dolphinarium discotheque in Tel Aviv and the level of personal involvement in the explosion was investigated. Memories of injured victims, uninjured eyewitnesses, and uninvolved controls who learned about the explosion from the mass media were compared. It was expected that memory of the explosion would be most and least detailed and accurate among the victims and the controls, respectively. The participants responded to an open-ended question about the explosion, as well as to specific and multiple-choice questions. Data analyses showed that the victims and the eyewitnesses remembered more details than the controls, and that the victims remembered both central and peripheral details more accurately than the other participants. Degree of involvement in the same traumatic experience was thus shown to be differentially associated with memory accuracy.

The effects of expressive and experiential suppression on memory accuracy and memory distortion in women with and without PTSD.

Moore, Sally A., et al.

Journal of Experimental Psychopathology, Vol 3(3), 2012. pp. 368-392.

Abstract:

Specific emotion regulation strategies impinge on cognitive resources, impairing memory accuracy; however, their effects on memory distortion have been largely unexamined. Further, little is known about the effects of emotion regulation on memory in individuals with posttraumatic stress disorder (PTSD), who exhibit both emotion regulation and memory difficulties. We examined the effects of expressive suppression (i.e., concealing visible signs of emotion), experiential suppression (i.e., suppressing the subjective emotional experience), and control instructions on memory accuracy and distortion in trauma-exposed individuals with PTSD, those without PTSD, and psychologically healthy controls. Expressive and, to a lesser degree, experiential suppression led to poorer memory accuracy and both expressive and experiential suppression led to less memory distortion compared to control instructions. Participants with and without PTSD did not significantly differ. Under high cognitive load, irrelevant details may receive more processing, potentially leading to lower accuracy but improved processing of source information, preventing memory distortion.

Credibility of asylum claims: Consistency and accuracy of autobiographical memory reports following trauma.

Memon, Amina.

Applied Cognitive Psychology, Vol 26(5), Sep-Oct, 2012. pp. 677-679.

Abstract:

Comments on an article by Jane Herlihy, Laura Jobson & Stuart Turner (see record 2012-25654-001). Herlihy and colleagues (current issue) review the literature on the characteristics of autobiographical memory in asylum seekers who are presenting evidence of their traumatic experiences in the immigration courts with a view to finding a safe haven. In this commentary, I briefly discuss how the quality of the memory report may influence reliability and credibility judgements in individuals whose memories may be subject to post-traumatic stress disorder.

Attentional and executive functions are differentially affected by post-traumatic stress disorder and trauma.

Flaks, Mariana K., et al.

Journal of Psychiatric Research, Vol 48(1), Jan, 2014. pp. 32-39.

Abstract:

Background: Among the neurocognitive impairments observed in patients with Post-traumatic Stress Disorder (PTSD), attentional and executive dysfunctions appear to correlate with negative effects on education, work, daily life activities, and social relations, as well as the re-experiencing, avoidance, and hyperarousal symptoms of PTSD. However, there is no consensus regarding which aspects of attentional and executive functions are impaired in PTSD patients. Methods: Attentional and executive functions were assessed using the digit span (WAIS-III) and spatial span (WMS-III) tests under forward and backward recall conditions, the Stroop Test, and the Wisconsin Card Sorting Test (WCST). Our sample was composed of victims of urban violence who developed PTSD (PTSD+) (n = 81), victims of urban violence who did not develop PTSD (PTSD-) (n = 70), and healthy controls not exposed to trauma (HC) (n = 50). Results: The PTSD+ group had poorer performance on the spatial span forward subtest ($p = 0.023$; $eta^2 = 0.038$) and poorer execution time ($p = 0.023$; $eta^2 = 0.042$) and accuracy ($p = 0.019$; $eta^2 = 0.044$) on the Stroop Test compared to HC. Conclusions: These data suggest that there are few differences between the PTSD+ and HC groups, which are restricted to less complex measures of attentional and executive functional processes (short term capacity, selective attention, processing speed, and inhibitory control) and are related to visual stimuli. Therefore, cognitive impairments directly correlated with the manifestation of PTSD.

Perspective: I believe what I remember, but it may not be true.

Morgan, Charles A. and Southwick, Steven.

Neurobiology of Learning and Memory, Vol 112, Jul, 2014. pp. 101-103.

Abstract:

A growing number of research findings have challenged the conception that memory for traumatic events is highly accurate or even indelible in nature. Research involving soldiers indicates that realistic levels of high stress decrease the accuracy of eyewitness memory. In addition, recent findings from several studies show quite clearly that memories for stressful events—including those from combat trauma—are malleable and vulnerable to alteration by exposure to misinformation. Under high stress, our brains facilitate the formation of 'gist' memories that allow us to avoid future dangers but which may not contain the detail and precision demanded by the judicial system. Although mental health professionals ought to play a role in educating the courts about mental illness and trauma, it is unwise for them to become advocates for the idea that traumatic memories are indelible, factual accounts of events.

The legal system and memory for analogue traumatic experiences.

Segovia, Daisy A.. City U New York, US

Dissertation Abstracts International: Section B: The Sciences and Engineering, Vol 76(3-B)(E),

Abstract:

Trauma and its consequences are ubiquitous in the courtroom. Research on memory for trauma suggests there is reason to suspect that traumatized people may be prone to memory errors. Additionally, jurors' views of witnesses are important as they tend to mistrust evidence given by witnesses they believe to be not credible. If traumatized people are prone to errors, is there a way to safeguard against those errors and make jurors more trusting of their memory reports? In Part One, I polled participants on their views toward traumatized people and trauma memory (Study 1). Results of this study suggest people have somewhat positive views of traumatized people's memory and competency to testify. Results from Study 2 imply that these views may be unsubstantiated. In Study 2, participants watched a traumatic film with missing scenes. Some saw the scenes unfold in their correct temporal sequence; others saw a random sequence. I manipulated participants' conscious processing of that film via an instruction: some were told to focus on the meaning of the event (conceptual), some on the sensory details (data-driven), and some received no instruction (control). A week later, I gave participants a memory test. False recognition of missing clips was high but did not differ across groups. However, experimental participants were more likely than controls to falsely remember the traumatic, compared to non-traumatic, missing clips. Moreover, self-reported disorganization appeared more important to the malleability of people's trauma memories than objective measures. In Part Two (Study 3), I investigated whether cross-examination safeguarded participants' memory reports. Participants watched the same film used in Study 2. Then, participants underwent direct examination, which included misleading questions. Participants were accurate on specific questions, but they frequently yielded to misleading questions.Two days later, participants returned for an unexpected cross-examination and memory recognition test. Participants' interview and recognition accuracy worsened after cross-examination. Participants misremembered clips that were asked about in cross-examination more often than clips that were not. This research lends further evidence for the malleability of trauma memories and the need for the general public to be educated about this issue. Possible theoretical and practical implications are discussed.

Threat of death and autobiographical memory: A study of passengers from flight AT236.

McKinnon, Margaret C., et al.

Clinical Psychological Science, Vol 3(4), Jul, 2015. pp. 487-502.

Abstract:

We investigated autobiographical memory in a group of passengers onboard a transatlantic flight that nearly ditched at sea. The consistency of traumatic exposure across passengers, some of whom developed posttraumatic stress disorder (PTSD), provided a unique opportunity to assess verified memory for life-threatening trauma. Using the Autobiographical Interview, which separates

episodic from nonepisodic details, passengers and healthy controls (HCs) recalled three events: the airline disaster (or a highly negative event for HCs), the September 11, 2001, attacks, and a nonemotional event. All passengers showed robust mnemonic enhancement for episodic details of the airline disaster. Although neither richness nor accuracy of traumatic recollection was related to PTSD, production of nonepisodic details for traumatic and nontraumatic events was elevated in PTSD passengers. These findings indicate a robust mnemonic enhancement for trauma that is not specific to PTSD. Rather, PTSD is associated with altered cognitive control operations that affect autobiographical memory in general.

False memories for an analogue trauma: Does thought suppression help or hinder memory accuracy?

Oulton, Jacinta M., et al.

Applied Cognitive Psychology, Vol 30(3), May-Jun, 2016. pp. 350-359.

Abstract:

In the current study, we investigated whether suppression can produce an amplified memory for a traumatic experience. Participants viewed a distressing film depicting a multi-fatality car accident. We broke the film down into several short clips, some of which were removed. After viewing the film, we instructed participants to (i) suppress and monitor film-related thoughts, (ii) think freely and monitor film-related thoughts or (iii) just think freely. Twenty-four hours later, participants completed a recognition test. Memory distortion was comparable across conditions; however, suppression and monitoring of trauma-related thoughts removed the typical bias to falsely remember the most critical and traumatic clips of the film over the least critical clips. Our data suggest that suppression may be effective in reducing trauma-related cognitions and, therefore, does not predict a more 'amplified' memory for trauma. Instead, suppression and thought monitoring encourage an unbiased, although inaccurate, memory for trauma.

Trauma memories on trial: Is cross-examination a safeguard against distorted analogue traumatic memories?

Segovia, Daisy A., et al.

Memory, Vol 25(1), Jan, 2017. pp. 95-106.

Abstract:

Trauma memories can feel more disorganised than more mundane memories. That may be problematic in legal contexts. Here we examined: (a) whether that disorganised feeling makes people more susceptible to suggestive questioning during direct examination; and (b) whether cross-examination is the safeguard it is purported to be: that is, we examined whether cross-examination can uncover and correct distorted trauma memories. We showed participants a film depicting a graphic car accident. For some participants, the film unfolded in a temporally disorganised way. We then interviewed participants immediately after the film regarding what they had seen: this 'direct examination' included free recall, cued recall and yes/no questions, some of which were misleading. Then, 48 hours later, a second interviewer cross-examined participants. Contrary to our predictions, neither manipulation of the film's temporal organisation, nor participants' self-reported feelings of event disorganisation significantly affected their accuracy of the film during direct or cross-examination nor their recognition memory of the film. Instead, we found that regardless of whether participants' memories were distorted by the direct examination, the suggestive nature of the cross-examination introduced sufficient doubt that participants were willing to change their answers. We conclude that traumatic memories are vulnerable to suggestive questioning and, unfortunately, cross-examination is not the legal system's fail-safe corrective influence.