

The Truth of Memory and the Memory of Truth

Blue Knot Foundation fact sheet about memory, types of memory, and trauma

Different types of memory

- Neuroscientific and other research confirm that memory is not a single entity and that different kinds of memory are stored in different parts of the brain.
- In broad terms there are two types of memory. *Explicit* memory is conscious and can be expressed verbally, while *implicit* memory is largely *unconscious* and non-verbal.
- *Explicit* memory requires focused attention to consolidate while *implicit* memory is encoded outside of awareness.
- Both explicit and implicit memory also include subcategories. For explicit memory, these include *declarative* (also called 'semantic') and *episodic* (also called 'autobiographical' or 'narrative') memory.
- *Declarative* memory (i.e. explicit memory type 1) is the only subcategory of memory that can be deliberately called up, i.e. consciously remembered. It conveys pieces of information to others and has been described as 'cold' for this reason (Levine, *ibid*: 15-16).
- By contrast, *episodic* (i.e. explicit memory type 2, also called 'autobiographical' and 'narrative') memory can be described as 'warm' and textured (Levine, 2015: 16). Episodic memory 'emerges somewhat spontaneously', and can be 'infused with feeling tones and vitality' (Levine, *ibid*: 16-17). E.g. 'I remember when I first saw the lake...' It is less conscious than the 'shopping list' type of declarative memories but 'more conscious...than implicit memories'. It forms 'a dynamic interface between the 'rational' (explicit/declarative) and 'irrational' (implicit/emotional) realms' (Levine, *ibid*: 16-17).
- The subcategories of *implicit* memory can be described as 'emotional' and 'procedural'. Emotional memory (i.e. implicit memory type 1) puts us in touch with what we are feeling, helps us signal our feelings and needs to others, and is '*experienced in the body as physical sensations*' (Levine, 2015: 22; emphasis added). It may also be elicited by an environmental cue such as a smell, sight or sound.

- *Procedural* memories (i.e. implicit memory type 2.) are the impulses, movements, and internal body sensations that guide us through the how to of our various actions, skills, attractions, and repulsions' (Levine, 2015: 25). They help us carry out tasks automatically. Procedural memories may be further subdivided into three groupings of *learned motor actions, hardwired emergency responses, and response tendencies of approach or avoidance and attraction or repulsion.*
- Everyday use of the word 'memory' (but also in psychology textbooks; Brand & McEwen, 2014) generally refers only to conscious, explicit memory which ignores the ongoing importance and various forms of *implicit* memories (Levine, 2015).

Memory, Brain Development, And Processes

- *Implicit* memory develops before *explicit* memory, as conscious recall depends on development of the hippocampus in the second year of life.
- Conscious (*explicit*) memory, conscious thought and verbalisation are privileged both by health professions and by society in general (Levine, 2015).
- *Implicit*, pre-verbal memories do not 'disappear' when the hippocampus develops but are stored in different neural networks and can manifest across the life cycle.
- Memory is not 'a discrete phenomenon, a fixed construction, cemented permanently onto a stone foundation' (Levine, 2015: 2). Rather it is complex and involves different types and subcategories which function in different ways.
- Memory is impacted by the processes of *encoding, consolidation, and retrieval.* *Encoding (or formation)* describes the original neural laying down of memory. *Consolidation (or retention)* describes the stabilisation and storage of memory (a process involving the hippocampus) after encoding. *Retrieval (or recall)* describes the remembering, revival or restoration to consciousness of memory first encoded and then consolidated.
- 'When memories are retrieved, they are susceptible to change, such that future retrievals call upon the changed information' (Rydberg, 2017:94). Research substantiates that '[m]emory is a reconstructive process', and that 'no memory is a literal account, nor an exact replica, of an experience or event' (Goodman-Delahunty et al., 2017: 46).



Traumatic memory

- The term 'traumatic memory' generally refers to memories which are *implicit*, stored as physical sensations rather than as narrative memory of the past, and 'experienced as immediate life threats – right now' (van der Kolk, 2015; xi-xii).
- '[T]raumatic memories tend to arise as fragmented splinters of inchoate and indigestible sensations, emotions, images, smells, tastes, thoughts...' (Levine, 2015:7). Because they are implicit, they can be evoked ('triggered') by a range of situational cues including birthdays, anniversaries, developmental milestones, and so on.
- 'Trauma can lead....to the profile of blocked explicit processing and enhanced implicit processing' (Siegel, 2012: 30-4). Traumatic experience limits hippocampal function (due to increased cortisol production), impedes consolidation of *explicit* memory, and activates the amygdala (leading to release of adrenaline which intensifies *implicit* memory).
- 'Flashbacks, intrusive bodily sensations... and images of traumatic events that 'seem to come out of nowhere' are all elements of this blocked explicit/enhanced implicit processing' (Siegel, 2012: 30-5).

Remembering by reliving

- Current neuroscientific research confirms that trauma is often remembered through behavioural enactment (van der Kolk, *ibid*). Traumatized people are frequently unable to speak about their experiences and are 'compelled to re-enact them, often remaining unaware of what their behaviour is saying' (Howell, 2005: 56-57).
- Remembering 'in the form of physical sensations, automatic responses, and involuntary movements' (Ogden et al, 2006: 165) is characteristic of trauma: 'Traumatic memories may also take the form of unconscious 'acting-out' behaviours' (Levine, 2015: 8).
- The need to resolve traumatic experience can fuel repetitive and compulsive actions and behaviours ('Unresolved experiences tend to haunt us until they can be finished'; van der Hart et al, 2006: 246).
- The relationship between repetitive, problematic behaviour and unresolved trauma needs to be recognised so that trauma survivors can be better supported towards recovery.



Remembering and 'forgetting'

- While our brains are wired to remember experiences important to survival, under some circumstances survival may be assisted by 'forgetting' (Levine, 2015; Freyd & Birrell, 2013; Silberg, 2013).
- As children depend on adult caregivers, 'forgetting' traumatic experiences can have survival value in preserving the attachment bond: '[F]orgetting abuse is a way to preserve the attachment relationship when the abuser is someone the victim is dependent on' (Freyd & Birrell, 2013: 58); *'Disruptions in memory may be adaptive... if trauma and caregiving emanate from the same source'* (Silberg, 2013: 12).
- The impacts of stress on the brain, the different neural networks in which memory is stored, the differences between conscious, *explicit* and *unconscious, implicit* memory, and the capacity of the mind to compartmentalise and/or detach from experience ('dissociate') help explain the phenomenon of 'recovered' memory (i.e. delayed onset memory recall).

Recovered memory (delayed onset memory recall)

- The term 'recovered memory' describes sudden intrusion of memories which were previously unavailable: '[r]ecovered memories are those memories that have been forgotten for a period and then remembered' (Barlow et al, 2017: 322).
- Research confirms that trauma can disrupt memory in numerous ways and at any one or more of its various stages (*'If recovered memory experiences appear counter-intuitive, this is in part due to misconceptions about trauma and memory'*; Brewin, 2012:149).
- Delayed recall of traumatic, implicit memory usually occurs spontaneously, without warning, triggered by a prompt or cue. In trauma, these recovered memories were previously dissociated (i.e. unassimilated and unintegrated) because they were too overwhelming to process.
- The phenomenon of traumatic amnesia and subsequent delayed conscious recall of traumatic events is well documented in diverse populations (e.g. war veterans, Holocaust survivors, and survivors of natural disasters) as well as adult survivors of childhood trauma (van der Hart et al, 1999; Elliott, 1999).
- Largely because of the founding of the so-called False Memory Syndrome Foundation in 1990 -on the premise that people were wrongly accused of sexual abuse on the basis of recovered memories - the term 'false memory' has come to apply solely to the context of recovered memories of child sexual abuse rather than other contexts as well.



- Research establishes that recovered memories are no less likely to be reliable than explicit consciously recalled memories which were never forgotten (Barlow et al, 2017,ref. Chu et al, 1999; Williams, 1995; Dalenberg, 2006).
- In the current period there is a contrast between the 'fantasy' or 'sociocognitive model' (which proposes that recovered memories result from cultural/ environmental influence and/or therapist suggestion) and 'the trauma model' (which notes the intrusion of memories unable to be assimilated because the experiences were too overwhelming (Vissia, Giesen., et al. 2016). The 'trauma model' contends that traumatic implicit memory/ies were dissociated or 'split off' from conscious memory and are recovered when they intrude.
- Memories recovered in therapy represent a small proportion of the total recovered memory reports (Elliott, 1997; Wilsnack, Wonderlich, Kristjanson, Vogeltanz-Holm, & Wilsnack, 2002 cited in Dalenberg et al, 2012) Recovered memories tend to occur without warning and can certainly occur outside of psychotherapy or in its absence.
- Strong, recurrent, and/or disabling, traumatic memories, including delayed onset recall (recovered) memories, may lead the person to become conscious of what they signify. While this experience can be destabilising at first, it can subsequently enable integration of the previously split off (dissociated) memory and pave the way for trauma recovery.

'Betrayal blindness'

- 'Betrayal blindness', or 'unawareness and forgetting' has survival value. It stems from the concept of 'betrayal trauma', which assists understanding of how the 'forgetting' of early life abuse serves to preserve the attachment bond to caregivers on which children depend (Freyd, 1991) It also has wide application to a range of contexts: *'Although there are various ways to remain blind to betrayal, perhaps the most effective way is to forget the event entirely'* (Freyd & Birrell, 2013: 58).
- The 'survival strategy' of betrayal blindness applies to relationships in which dependence of some kind fosters the need to preserve the relationship and can 'trump the need to take protective action' (Freyd & Birrell, 2103, p.56)
- 'Not seeing', 'not knowing' and 'not remembering' traumatic experience is not confined to children (*'Adults are also prone to a kind of magical thinking ...to gain a sense of control over overwhelming events'* (Chu, 2011: 34).
- While 'forgetting' the trauma of betrayal (i.e. conscious *explicit* absence of recall as distinct from *implicit* memory of traumatic experience) potentially assists survival it can also threaten health if the trauma is not resolved.

The dynamics of disclosure

- The process of disclosing traumatic memory (i.e. when able to be spoken about, which involves a different area of the brain and depends on a number of contingencies) 'is highly dependent on the reactions of others' (Freyd & Birrell, 2013: 126).
- '[M]ost people who experience childhood sexual abuse do not disclose it until adulthood, and many may never tell at all' (Freyd & Birrell, 2013, p.123).
- Disclosure is often not a single event, but rather a process affected by social context, issues of safety and the potential for adverse repercussions.
- '*Nondisclosure, delayed disclosure, and retraction are particularly likely in cases in which the perpetrator is close to the victim*' (Freyd & Birrell, 2013, p.123).

The reliability of memory and the role of social context

- Depending on the context and conditions, both remembering and 'forgetting' (i.e. in the explicit, conscious sense because 'the body remembers' [Rothschild, 2000] at an implicit level) can be healing and/or destructive
- Social contexts and power disparities, as well as neurological factors, affect the encoding, retrieval, and reliability of memory: '*[s]ocial power not only dictates what is appropriate to say out loud, but even what it is appropriate to remember*' (Barlow et al, 2017: 320).
- '*Both internal and external processes operate to keep us unaware*' (Freyd & Birrell, 2013: 95); '*To the extent that it is not safe to disclose externally, it is not safe to know, or disclose internally, to oneself*' (ibid: 116).
- 'Contrary to the widespread myth that traumatic events are seldom if ever forgotten, much trauma is not remembered until something happens to bring it to mind' (Brewin, 2012: 165).
- Current research establishes that memory is not fixed and unchanging and that all memory - implicit *and* explicit - undergoes a degree of reconstruction. This does not mean that either is necessarily unreliable.
- Research has shown that recovered (implicit) memory can be as accurate as continuous i.e. (explicit, conscious) memory (Dalenberg et al. 2012): '*Memories that are recovered – those that were forgotten and subsequently*



recalled- can often be corroborated and are no more likely to be confabulated than are continuous memories' (Chu, 2011, p.80 citing Dalenberg, 1996; Kluft, 1995; Lewis, Yeager, Swiza, Pincus & Lewis, 1997); also Dalenberg et al, 2012).

- Numerous legal cases in various parts of the world have demonstrated that recovered memories have been verified and corroborated by independent evidence, admissions of guilt by perpetrators, or findings of guilt by courts. <https://blogs.brown.edu/recoveredmemory/case-archive/legal-cases/>
- 'The cognitive processes that underlie everyday memory are the same processes that lead to errors in processing traumatic memories...Like any memory, the availability of memory for traumatic events depends on how it is assessed' (Barlow, 2017: 323, referencing Sivers, 2002).
- Assessment of the reliability of memory must take account of a range of factors. These include the social context of memory, the possibility of betrayal trauma, the survival value of (explicit, conscious) 'forgetting', the impact of power disparities, and the centrality of emotional and physical safety around recall and disclosure.

To read the full paper *The Memory of Truth and the Truth of Memory – Different Types of Memory and the Significance of Trauma*; click here: <https://blueknot.org.au/resources/blue-knot-publications/the-truth-of-memory-and-the-memory-of-truth-different-types-of-memory-and-significance-of-trauma/>

To read our four summary Fact Sheets on Memory – Classification, Understanding Memory, Understanding Traumatic Memory, Recovered memory, click here <http://blueknot.org.au/category-fact-sheet/trauma-and-memory-fact-sheets/>

