



## The effect of burn injury on adolescents autobiographical memory

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### Abstract

Autobiographical memory recall was investigated in two female adolescent groups; one group who had experienced a burn injury and a matched control group. The Burn group was not currently depressed or anxious, but scored significantly higher on the intrusion subscale of the impact of event scale compared to controls. Two autobiographical memory tasks, the autobiographical memory cueing task and the Children's Autobiographical Memory Inventory (CAMI), were used. For the cueing task, the Burn group was significantly slower to recall specific memories. This group also recalled significantly fewer specific memories and significantly more extended overgeneral memories. For the CAMI, the burns group produced significantly lower semantic and episodic recall. The Burn group also produced significant correlations between sub-scales of the impact of event scale and selected measures on the autobiographical memory tasks. Higher intrusion scores were associated with less detailed episodic recall. Higher avoidance scores were associated with longer latencies to recall memories to negative cue words and fewer specific memories to all cue words. These results are discussed from the perspective that the Burn group experienced intrusive thoughts which interfered with normal autobiographical functioning.

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## 1. Introduction

There is now established evidence that trauma influences the recall of autobiographical memory. [Kuyken and Brewin \(1995\)](#) found that the recall of specific autobiographical memories was impaired for the Child Sexual Abuse (CSA) group as compared to the controls such that significantly more overgeneral memories were recalled in response to emotional cue words. In contrast, participants who reported physical abuse did not differ significantly from the controls. This tendency to produce overgeneral memories was correlated with the avoidance sub-scale on the Impact of Event Scale (IES) but not the intrusive subscale, suggesting that the strategy to avoid trauma memories interferes with either encoding or retrieval of other non-threatening memories. [Parks and Balon \(1995\)](#) assessed autobiographical memory in a group of allegedly abused adult psychiatric patients. On an early memory task, the abused group gave significantly later early memories than the patient and non-patient control groups. On a cueing task, the abuse group had significantly greater retrieval failure, response latency and more errors in the form of overgeneral memories on the emotional cue words as opposed to the object and action words. When [Parks and Balon \(1995\)](#) classified autobiographical memories into those aged 0–9 and 10–15 years, they found that the distant autobiographical memories were significantly less remembered for the abused group but not the controls. However, [Parks and Balon \(1995\)](#) failed to record when the abuse occurred, thus restricting explanations of the relationship between onset of memory deficits and abuse time.

[Hunter and Andrews \(2002\)](#) using the Autobiographical Memory Inventory (AMI) ([Kopelman, Wilson, & Baddeley, 1989](#)) found that women reporting CSA scored lower on semantic recall. Similarly, [Meesters, Merkelbach, Muris, and Wessel \(2000\)](#) found significantly poorer semantic recall in abused adolescents. However, despite the findings from previous studies that episodic recall to cue words is impaired, [Hunter and Andrews \(2002\)](#) found the specificity of autobiographical event recall was not different to controls. They offer several potential explanations for this discrepancy in episodic recall. Firstly, the AMI does not cue memories that are directly emotional. Secondly, the majority of the CSA group had received therapy which enables rehearsal and re-evaluation of childhood memories in a manner not available to controls.

Whilst much of the research examining autobiographical memory deficits resulting from trauma has focused on sexual abuse, it is probably inadvisable to generalise from the effects of abuse to other traumatic experiences. Sexual abuse is secretive, generally there are no visible physical symptoms. Thus, the deficits in autobiographical recall found in previous studies with abused populations may result from a particular component of sexual abuse. The present study uses an event, a burn injury, with different characteristics from abuse to examine the effect of an invasive, obvious physical injury on adolescents' autobiographical memory. One previous study looked at cognitive functioning in recovered burn injured adults on the 'Stroop' task and on an autobiographical memory cueing test ([Willebrand et al., 2002](#)). They found a moderate 'stroop' effect with the Burn group for burn-related words. For the cueing task, burn injured participants were slower to recall memories to negative cue words, but these memories recalled were not less specific than controls.

If the nature of the trauma makes no difference to the pattern of autobiographical memory deficits observed, then autobiographical memory recall of burn injured participants should be comparable to previous studies with abuse populations. That is, the recall of autobiographical

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