

## Intrusive memories in daily life and psychopathology: a special form of memory challenging mainstream theories?

S0044 session

Thursday, 21 July 2016 | 15:30 - 17:30 | Room 1

Chair/Organizer: Alex Lau-Zhu

Discussant: Emily A. Holmes

### A-0380 Using diary methods to study participants' spontaneous and film-induced intrusive memories

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Intrusive memories of real traumatic events have been typically studied via interview/questionnaire methods, whereas research on non-repetitive involuntary autobiographical memories (IAMs) has used predominantly diary methods. In two studies, we adopted a structured, event-contingent diary method to study participants' own intrusive memories over a 7-day period (Study 1), or non-personal intrusions over a 3-day period after watching a traumatic film of road traffic accidents (Study 2). In addition to studying the intrusion frequency, on-going activities and triggers, Study 2 also examined the effects of initial intrusions on the number of intrusions recorded in diaries and individual differences in imagery. Results show that a structured diary method can be successfully employed to study personal and film-induced intrusive memories in general population.

### A-0381 Can we capture intrusive memories in the lab? The role of personalised cues

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Intrusive memories (IM) of past traumatic events have often been studied via interviews/questionnaires, though more recently a diary has been used. The aim of the present research was to capture participants' own currently intrusive memories in the lab using a modified version of the vigilance task developed to study ordinary (non-repetitive) involuntary autobiographical memories (Plimpton et al., 2015). Participants are probed eight times for current thoughts during a monotonous vigilance task in which they are exposed to a stream of verbal cues, some of which relate to the content of their IM. The frequency of reported IM, the identified triggers, and associated characteristics was examined, with results suggesting the viability of this method for studying IM under controlled laboratory conditions.

### A-0382 Involuntary intrusions versus voluntary memory of trauma films: dissociable consolidation processes?

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Introduction: Involuntary intrusive memories of psychological trauma are the hallmark symptom of post-traumatic stress. Involuntary intrusions -but not voluntary recognition- of trauma films have shown to be selectively disrupted by a cognitive task procedure applied during the time window of memory consolidation of the trauma films, challenging standard consolidation theories which would expect a general disruption effect. Methods & Results: In unpublished experiments, we investigated the mechanisms of such selective disruption by devising novel trauma film memory measures, and found that the cognitive task procedure disrupted self-reported intrusions both outside and within the laboratory. Conclusion: The modulation of memory 'intrusiveness' without compromising voluntary memory of trauma is ethically desirable. Do standard consolidation theories need revision to accommodate intrusive emotional phenomena?

### A-0383 Does dual-tasking neutralize emotional memory and reduce conditioned responses?

Iris Engelhard, Angelos-Miltiadis Kryptos, Arne Leer, Evi-Anne van Dis

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This experiment tested whether dual-tasking (i.e., recalling the emotional memory while performing a visuospatial dual-task) neutralizes emotional memory, thereby decreasing conditioned responses. Undergraduates completed a differential conditioning paradigm with pictures of food items as conditioned stimulus (CS) and an aversive film clip (someone vomiting) as unconditioned stimulus (US). Following acquisition, there were three conditions: dual-tasking, recall only, or a filler task. Next, in the test phase, CSs and actual food items were presented. We expected that dual-tasking, relative to control conditions, would decrease vividness/emotionality of the US memory, reduce CRs and increase willingness to eat the actual food items. Results and theoretical and clinical implications of the findings are discussed.

### A-0384 Opposing effects of negative emotion on associative and item memory and its relation to intrusive memory

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Experiencing a negative event can enhance memory for individual items, whilst disrupting associative memory processes, and in some situations can lead to intrusive imagery re-experiences as in posttraumatic stress disorder (PTSD). Little is known about the specific mechanisms that underpin these memory disturbances and unwanted intrusions. We will present data showing that negative events can down-regulate hippocampal function to disrupt associative/contextual memory representations. In contrast, we show that emotional events up-regulate the amygdala to enhance item memory. In addition, using results from trauma paradigm studies, we will discuss how this imbalance between reduced associative/contextual memory and enhanced item/sensory representations, and their neural correlates, contribute to intrusive memories, and how these results relate to dual-representation theories of PTSD.

### A-0385 Neural mechanisms of conditioned intrusive memory formation revealed by fMRI and sleep recording

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Using a novel fear conditioning procedure with aversive films ("conditioned intrusion paradigm"), previous studies from our laboratory (Wegerer et al., 2013, 2014) demonstrated that intrusions are conditioned emotional responses. Since we have not addressed the neural mechanisms underlying intrusive memory formation, we implement an adaptation of the paradigm in fMRI and record one polysomnographic night of sleep at