

Project Details	
Project Code	MRCNMH24Ba Barry
Title	An ecological assessment of autobiographical memory problems within chronic pain
Research Theme	Neuroscience & Mental Health
Summary	More people suffer from chronic pain than any other health problem. Our understanding of the psychological processes that cause or exacerbate it is poor. Problems remembering past events play an important role in mental illness, however, their contribution to pain is under-investigated. This project will examine the role of autobiographical memory problems in pain severity and disability, considering how they manifest in the real world, outside of the lab or clinic.
Description	Chronic pain affects ~40% of the UK population (Public Health England, 2020). Psychological interventions are recommended but their effectiveness is poor (Williams et al., 2020). Our limited knowledge regarding the psychological correlates of pain impairs our ability to help people manage and overcome it. Difficulty retrieving specific autobiographical memories (events from our past less than 24 hours long; e.g., last week when I taught my son how to ride a bike) is associated with the presence of a range of mental health problems (Barry et al., 2021) and a worsening of these problems over time (Hallford et al., 2021) because of the important role these specific memories have in emotion regulation and problem solving. Effective and accessible methods for improving memory specificity exist (Barry et al., 2019). And yet, our understanding of how memory problems such as these can influence pain is severely limited (Van Ryckeghem et al., 2019). There is untapped benefit to conducting more research into autobiographical memory within pain. Cognitive biases such as problems recalling specific memories are dynamic and are influenced by contextual factors surrounding us every day. To advance our understanding of how biases influence pain, we must consider how they manifest in real life. Ecological Momentary Assessment (EMA), the sampling of data by surveying people during their day-to-day lives, is one way to achieve this. The way that pain fluctuates makes it suited to EMA (May et al., 2018), however, no studies have used EMA to examine the time course of the association between memory or other cognitive biases and changes in pain over time. The proposed project will develop and implement an EMA protocol for studying pain and autobiographical memory. This will be achieved through a review of existing literature and public patient involvement (PPI). Established procedures will be synthesised with the views of people affected by pain on their experience of autobiographical memory problems and how we can measure them. Study 1 will use this EMA protocol to assess autobiographical memory retrieval during a week among people affected by chronic pain (e.g., people with lower back pain) recruited through our partners in Royal United Hospitals Bath. We will examine whether fluctuations in pain throughout the week correspond with fluctuations in memory retrieval ability. Study 2 will examine whether the association between pain and memory is replicable in a larger sample and at a longer timescale using Avon Longitudinal Study of

	<p>Parents and Children (ALSPAC) data. ALSPAC includes pain frequency, severity and disability data and participants (n = 5,792) also completed a measure of autobiographical memory at several time points. We will assess the longitudinal association between pain prior to and following memory assessment. Following this, we will encourage the student to take further ownership of the project by choosing an area of focus whilst considering their knowledge, expertise, interests and ambitions as well as what is feasible and important to people affected by pain. For example, examining longitudinal effects (such as before and after a pain-related event, e.g., surgery) in greater detail, studying the social factors that influence memory and pain in naturalistic settings (e.g., Chiu et al., 2019) or translating an intervention to improve autobiographical memory (e.g., Barry et al., 2019) to an EMA format among people with pain. This will be the first investigation of how autobiographical memory problems manifest in real-world contexts and how they influence pain. The student will be at the forefront of developing EMA expertise and protocols for use by colleagues across The University of Bath's Centre for Pain Research (CPR). In addition, the student will create two web resources aimed at pain sufferers and clinicians to communicate the role of memory within pain and what this means for pain management.</p>
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