| Project Details | |
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| Project Code | MRCNMH26Ex Zasiekina |
| Title | Unraveling Moral Injury in Eating Disorders in Young Adults |
| Research Theme | NMH |
| Project Type | Dry lab |
| Summary | Are you interested in how mental health, moral experiences, and brain function are connected? Join our exciting PhD project and develop advanced skills in neuroimaging and clinical psychology. This PhD investigates the role of moral injury in eating disorders (EDs) by examining neurocognitive mechanisms through fMRI, qualitative interviews and psychometric assessment. It aims to identify distinct brain activation patterns linked to morally injurious experiences and explore how these mechanisms operate in individuals with EDs. The project will build a framework to guide treatment and show how moral injury may be a hidden risk in EDs, helping improve care. |
| Description | **Background**<br>Eating disorders (EDs) are complex psychiatric conditions with serious physical and mental health consequences. Despite existing evidence-based treatments, many individuals remain treatment-resistant, experiencing only partial recovery or relapse (Byrne et al., 2017; Linardon & Wade, 2018). This highlights the urgent need to explore novel mechanisms that underlie the development and persistence of EDs to improve treatment outcomes.<br>One such underexplored factor is moral injury, defined as psychological distress resulting from the violation of deeply held moral beliefs, and often marked by feelings of guilt, shame, and betrayal (Litz et al., 2009; Farnsworth et al., 2017; Zasiekina et al., 2024). While moral injury has been explored in the context of posttraumatic stress disorder (PTSD), it remains largely absent from ED research. Guilt and shame, key components of moral injury, are well-documented affective drivers of ED symptoms (Bottera et al., 2020; Raffone et al., 2025). Similarly, betrayal, whether perceived as social stigma or emotional neglect from close others, may contribute to ED onset and maintenance by eroding trust and reinforcing feelings of unworthiness (Rossi et al., 2024).<br>This study targets young adults, as late adolescence and early adulthood represent a critical developmental period marked by psychological vulnerability and major life transitions (Costarelli & Patsai, 2012; Mills et al., 2012; Thompson et al., 2021; Walter et al., 2022). Despite this, young adults are underrepresented in ED research, which has traditionally focused on adolescents.<br>Interest in the “moral brain” has grown across psychiatric fields (Seara-Cardoso, 2023), but this work has yet to be extended to EDs. Neurobiological distinctions between PTSD and moral injury highlight the involvement of brain regions associated with moral reasoning and emotional self-awareness, such as the anterior cingulate cortex (ACC), insula, ventromedial prefrontal cortex (vmPFC), and the default mode network (DMN) (Barnes et al., 2019; Lloyd et al., 2021). While PTSD is characterised by precuneus hyperactivation linked to threat and memory processing, moral injury and potentially eating disorders shows altered ACC–precuneus connectivity, reflecting heightened self-referential and |

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| | moral-emotional processing (Terpou et al., 2022). The ACC, in particular, may play a key role in how unresolved guilt, shame and sense of betrayal contribute to disordered eating behaviors as attempts to regulate internal moral injury. However, the specific neurocognitive ACC pathways linking moral injury and EDs remain unclear.<br>This project aims to address this gap by investigating the role of moral injury in EDs. It seeks to identify the neurocognitive mechanisms underlying this relationship and to develop a novel, trauma-informed, moral injury-based clinical framework. Using a transdiagnostic model (Fairburn et al., 2003), the study will examine ED symptoms rather than focusing on specific diagnostic subtypes, acknowledging the fluidity of ED presentations (Fairburn et al., 2003).<br>**Research Questions**<br>RQ1: What morally injurious experiences related to food or relationships influence ED symptoms through guilt, shame, and betrayal?<br>RQ2: Do individuals with EDs show an association between functional ACC-precuneus connectivity during moral-emotional processing tasks (vignette-based scenarios eliciting guilt, shame, betrayal), and severity of moral injury symptoms?<br>**Methodology**<br>Years 1-2. The study will begin with systematic literature review and a qualitative phase, conducting semi-structured interviews with 20 young adults diagnosed with EDs to explore lived experiences of moral injury. Thematic analysis will identify potential moral injurious experience (situations) and inform the development of survey tools and the clinical framework.<br>Years 3-4. This will be followed by quantitative and neurocognitive substudies. A total of 40–60 participants with EDs will be assessed using the Eating Disorder Examination Questionnaire (EDE-Q 6.0; Fairburn & Beglin, 1994), applying clinical cut-off scores for adolescents and adults (Velkoff et al., 2023), and the Moral Injury and Distress Scale (MIDS), with clinically significant moral injury defined as MIDS ≥ 27 (Norman et al., 2024). Participants will undergo fMRI scanning.<br>During scanning, each participant will undergo both conditions in a counterbalanced order: (1) exposure to emotionally salient moral conflict vignettes (e.g., betrayal by healthcare providers) developed from the qualitative phase, and (2) exposure to morally neutral vignettes matched for complexity and length. The primary outcome will be differences in ACC-precuneus functional connectivity between the moral conflict and neutral conditions. We will assess if this neural measure correlates with moral injury symptom severity exploring how moral injury interacts with ED symptoms at the neurocognitive level.<br>Ethical considerations include participants' right to withdraw at any time. All participants will receive mental health resource information, and a psychologist will be available if further support is needed.<br>Student Involvement<br>The student will take full ownership of the project, with support from the supervisory team. They will lead the development of research questions, adapt methodological approaches, and synthesise data.<br>The student will receive comprehensive training in systematic reviews, qualitative and quantitative research methods, co-production, clinical |

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| | ethics, and neuroimaging analysis. This interdisciplinary training will support the integration of neurocognitive data and experiential knowledge to advance clinical understanding of moral injury in EDs. |
| Supervisory Team | |
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