

Project Details	
Project Code	PHS27Br Mars
Title	Substance Use and Self-Harm: Uncovering the Hidden Links Through Multi-Method Research
Research Theme	Population Health Sciences
Project Type	Dry lab
Summary	This interdisciplinary PhD offers a unique opportunity to gain advanced, transferable skills in epidemiology, statistical methods, study design, qualitative interviewing, and real-time data collection. You'll explore the complex relationship between substance use and self-harm across both long-term (adolescence to adulthood) and short-term (hours to weeks) timescales. The project uses rich data from a globally renowned birth cohort study and cutting-edge digital diary methods (Ecological Momentary Assessment) via smartphones. You'll also conduct interviews to capture personal insights, helping shape impactful interventions. Ideal for motivated candidates seeking to make a real-world difference through innovative, data-driven mental health research.
Description	Self-harm is one of the leading public health challenges today, with increasing rates among young people and a strong association with suicide risk. Substance use is a key risk factor for the development of self-harm in adolescents, and studies have shown that young people who engage in self-harm are more likely to develop substance use disorders in adulthood. However, it is unclear how this connection evolves as individuals grow older. The transition from adolescence to adulthood represents a critical period in life. As individuals gain independence, their brains develop, relationships evolve, and they begin to navigate education and employment. This period of change is pivotal in shaping mental health and behaviours, yet the mechanisms behind self-harm and substance use—and how these two intertwine—during this developmental period remain under-explored. Moreover, shifting societal attitudes and generational differences may also affect these behaviours, as recent research shows today's youth engage in self-harm more frequently but are less likely to use substances like alcohol and cigarettes than their predecessors. Why this Research Matters: Understanding the 'why', 'how' and 'when' behind these connections is essential for designing effective interventions that can prevent or reduce self-harm and substance misuse, especially among vulnerable youth populations. This PhD opportunity offers you the chance to conduct pioneering research that addresses these crucial knowledge gaps. What You Will Do: This interdisciplinary PhD will combine advanced statistical analysis, cutting-edge data collection methods, and qualitative interviews to examine the relationship between substance use and self-harm in depth. You will investigate both long-term and short-term dynamics, offering a unique opportunity to contribute to the understanding of this critical public health issue. Research Objectives: Objective 1: Long-Term Relationship Between Substance Use and Self-Harm

	Using data from the Avon Longitudinal Study of Parents and Children (ALSPAC)—one of the world’s leading birth cohort studies—you’ll explore how substance use affects the persistence of self-harm into adulthood. You’ll examine potential reasons for this link (mechanisms) and identify factors that might increase or reduce risk (moderators). You’ll apply advanced statistical techniques, such as structural equation modelling and multiple imputation for missing data, to uncover nuanced insights that could inform future interventions. This objective can be adapted to your own interests, e.g. through your choice of mediators and moderators. Objective 2: Short-Term Relationship Between Substance Use and Self-Harm thoughts and behaviours Using Ecological Momentary Assessment (EMA) EMA is an exciting new method which allows you to capture real-time data on self-harm and substance use in participants’ natural environments using their smartphones. It thereby offers crucial insights into the short-term triggers and patterns, which can inform ‘just in time’ interventions. You will explore how the use of (and urge to use) substances fluctuates throughout the day amongst individuals with a history of self-harm. You will look at how these thoughts and behaviours are related to each other over short periods of time and identify other immediate risk factors, which you can select based on your own interests. This objective involves designing your own EMA survey, recruiting participants, and analysing the data using multi-level modelling. Objective 3: Qualitative Interviews to Explore Personal Insights To complement the quantitative data, you’ll conduct qualitative interviews with participants in the EMA study, offering a deeper understanding of the personal experiences behind substance use and self-harm. You will have flexibility to tailor the research to your interests, such as exploring generational differences, gender, ethnicity, or the role of mental health. You will analyse interview data through thematic analysis, producing rich insights into the lived experiences of those with substance use and self-harm. What You Will Gain: • Interdisciplinary Expertise: This PhD combines advanced statistical analysis, real-time data collection, and qualitative research, offering a well-rounded skillset that is highly sought after in academia, healthcare, and policy. • Hands-On Experience: You will design your own study, recruit participants, and conduct original research that could have significant real-world impact. • Career Flexibility: The expertise gained will open doors to a wide range of career options, including research/academia, clinical psychology as well as other health and data related careers.
Can be completed part time?	Yes

Supervisory Team	
Lead Supervisor	
Name	Dr Becky Mars
Affiliation	Bristol
College/Faculty	Faculty of Health and Life Sciences
Department/School	Population Health Sciences
Email Address	Becky.Mars@bristol.ac.uk
Co-Supervisor 1	
Name	Professor Jon Heron
Affiliation	Bristol
College/Faculty	Faculty of Health and Life Sciences
Department/School	Population Health Sciences
Co-Supervisor 2	
Name	Dr Lizzy Winstone
Affiliation	Bristol
College/Faculty	Faculty of Health and Life Sciences
Department/School	Population Health Sciences
Co-Supervisor 3	
Name	Dr Lindsey Hines
Affiliation	Bath
College/Faculty	Faculty of Humanities and Social Sciences
Department/School	Department of Psychology