Project Details	
Project Code	MRCPHS24Ba Hines
Title	Parental transmission of substance use: exploring mechanisms and informing intervention
Research Theme	Population Health Sciences
Summary	Reducing substance use is a key goal within public health. Recent work has shown that a strong predictor of adolescent substance use is the substance use of their parents. This project will explore whether substance use behaviours are passed from parents to children, and whether we can intervene to improve health in future generations. The student will develop skills in population and genetic epidemiology, longitudinal data analysis, and qualitative methodology.
Description	Understanding what causes mental health disorders is one of the key issues in health research. If we can understand the causes of problems, we can start to address them before they arise. People with mental health problems are likely to have poorer socioeconomic outcomes and are likely to have worse physical health in their lives. Consequently, reducing the development of mental health problems has the potential for wide-ranging effects.One risk factor for the development of mental health problems is substance use (particularly use of alcohol and cannabis) during adolescence. Reducing substance use is an important goal within public health, and there is focus on adolescence as we understand how critical this period is for brain development, social development, and education outcomes. Recent work has shown that a predictor of adolescent substance use is the substance use of their parents, which could indicate that working with parents is a viable route to reduce substance use in their offspring. However, we still don't fully understand the extent to which substance use may be affected directly by the genetic information we receive from our parents, or by aspects of our environment such as parenting behaviours. The key question in this project will be: are substance use behaviours passed from parents to their children? And could we intervene to reducesubstance use in future generations? We will use advanced statistical analysis of longitudinal cohort data (the Avon Longitudinal Study of Parents and Children – ALSPAC) and intergenerational design to understand how behaviour in one generation can impact health in the next generation, and qualitative interviews to understand the views of parents on acceptability of behaviour change interventions focussed on their substance use. In answering this question, the student will develop expertise in a broad of skills that are relevant for understanding health and behaviour, and that are translatable into future careers in clinical psychology, data analysis, research, and other health and data related careers: • Understanding of population health and epidemiology • Advanced longitudinal data analysis • Genetic analysis • Qualitative methodology • Use of statistical analysis programmes (Stata, R) • Participatory research and co-design The project will be based between the Department of Psychology at the University of Bath, and the Centre for Academic Mental Health at the University of Bristol. There is scope to develop the research question and focus of the work in different directions. For example, the student could select to focus on either parent substance use disorder, or non-disordered use at a general population level. There

	is choice in which substances to focus on, and opportunity to identify and include further datasets (beyond ALSPAC) in the work if the student is interested in replicating findings, or if they have new ideas to address the question. The student will be expected to design their own Patient and Participant Involvement work when developing the study and will be able to access participant advisory groups. In order to understand different mechanisms of transmission the student will be able to explore genetic transmission, using data on genetic variance to parse out the effects due to genes, and the effects due to environment (Dr Hannah Sallis, Bristol), and to explore the effect of parenting behaviours on adolescent substance use using negative control design and epidemiological methods (Dr Lindsey Hines, Bath/Dr Jon Heron, Bristol). The work will have a focus on utility for intervention, and there is a need to explore the acceptability of behaviour change amongst parents (Dr Charlotte Dack, Bath). The student will be supported to conduct a qualitative study to explore this question, and can further develop the topic guide to explore other questions that arise from the project (in collaboration with Dr Jo Kesten, Bristol).
Supervisory Team	
Lead Supervisor	
Name	Dr Lindsey Hines
Affiliation	Bath
College/Faculty	Health and Social Sciences
Department/School	Psychology
Email Address	lh2461@bath.ac.uk
Co-Supervisor 1	
Name	Dr Hannah Sallis
Affiliation	Bristol
College/Faculty	Medical School
Department/School	Population Health Sciences
Co-Supervisor 2	
Name	Dr Charlotte Dack
Affiliation	Bath
College/Faculty	Health and Social Sciences
Department/School	Psychology
Co-Supervisor 3	
Name	Dr Jon Heron
Affiliation	
College/Faculty	Medical School
Department/School	Health Sciences