



**MRC/AHRC/ESRC ADOLESCENCE, MENTAL HEALTH AND THE DEVELOPING
MIND: Methodological Innovation projects**

MR/X002608/1: Loneliness in the digital world: Co-developing smartphone-based research to examine how online social experiences impact adolescent mental health

PI: Dr Heather Whalley, College of Medicine & Vet Medicine, University of Edinburgh.

Project funding: £273,554.19

Project summary:

Young people today are 'digital natives'. Using digital technologies like smartphones is commonplace and 'second nature' for young people. Young people increasingly communicate online, strengthening existing bonds and finding new ones. However, many fear the increasing time young people spend online may harm their mental health, particularly that online interactions may not offer the same opportunities for emotional growth and support as offline interactions, contributing to feelings of loneliness. Our study aims to investigate the impact of online and offline social interactions on feelings of loneliness using new methods of data collection and analysis, and at the same time develop best-practice guidelines for future research using these methods that suits the needs of young people and fits within their daily lives.

We will build on a new research method called Ecological Momentary Assessment (EMA). Despite mass take-up of digital technologies in young people, researchers have been slow to embed these into research, which is often still conducted using long questionnaires, are not always appealing to young people, and rarely offer opportunities to collect data on experiences as they happen. EMA is different - it collects brief snapshots of data several times a day through smartphone apps. We will use this technology to collect rich, real-time data over many time-points, while also making sure the tools used are appealing to young people.

There is currently insufficient work to ensure EMA suits the needs of young people, or that measures used are reliable and appropriate. There is still little understanding of what young people think about EMA research and how it can fit into their busy lives, especially in younger adolescents (12-15yrs); an important developmental period for the emergence of mental ill health. We will form a Young Person's Advisory Group (YPAG) of ~10 young people 12-15yrs from diverse backgrounds, recruited through an existing large group of research participants called 'Generation Scotland' and organisations such as SHINE and YouthLink Scotland. Working with these young people, we will establish best practice guidance for conducting EMA in this age group. We will also co-produce a research protocol for a new EMA study on how online and offline social acceptance and rejection impacts loneliness and wellbeing in young people. We will consult with other stakeholders, e.g. parents and educators, to ensure that this study is feasible, appropriate and doesn't conflict with school or family life. This work will be published as a formal scientific paper, co-written with members of the YPAG. We will also seek the YPAGs views on using digital tools for mental health treatments and interventions, informing future use of these methods in clinical practice.

We will then conduct a full study (N=200 young people, 12-15 years from Generation Scotland) using this protocol. While final details of the study will be decided through YPAG consultations, we anticipate participants will take part over 14 days, completing short surveys 3-4 times a day, considering their most notable social interaction since the last survey. They will answer questions like whether this was social acceptance or rejection; whether it was online or offline; and their relationship with this person (e.g., a peer, teacher, family member, stranger). They will then answer questions about their mood and feelings of loneliness. Through this, we will illuminate how online and offline social interaction impact loneliness, well-being, and mental health in young people.

At the end of the project, the data will become part of the Generation Scotland study, meaning it will be safely stored long-term and allow linkage of our data to other existing and future information on these young people, such as health records or genetic data. Finally, other researchers will be able to access and use the data through



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Generation Scotland's established access route



MR/X003256/1: Advancing measurement of gender and sexual dimensions of adolescent mental health and wellbeing: Addressing a missing link

PI: Professor Kirstin Mitchell, College of Medical, Veterinary, Life Sci, University of Glasgow

Project Funding: £301,106.67

Project Summary:

Why we are doing this project: Mental health problems are increasing among young people. There is lots of research being done to understand why this is happening, and to explore the factors that protect young people from poor mental health and support their wellbeing. This research usually focuses on things like school pressures, family and friendships, social media use and sleep, but rarely explores issues relating to gender/sexual identity and sexual feelings and experiences. The lack of attention to these issues in mental health research is worrying because young people say they are important. As they develop, young people explore new sexual feelings and curiosities about sex (or worry about their absence of feelings and experiences); they consider their own sense of having a particular gender and sexuality; and they learn to express sexual feelings and form intimate relationships. Sexuality development is normal and healthy but can also involve difficult and harmful experiences, thoughts and feelings including shame and stigma. So far, research has mainly focused on understanding how risky and difficult experiences (such as forced sex) can lead to problems like depression and anxiety. Much less is known about how anxiety and depression affects sexual feelings and behaviour, or how healthy and positive sexual experiences contribute to feelings of wellbeing. Reluctance to ask about sex in mental health research may be based on concerns about getting funding to do the research; worries about backlash from parents and the media; fears that such questions might upset young people; and lack of confidence about which questions to ask and how. A lack of research into sexual matters in mental wellbeing research influences the support that is given to young people, which means that young people can feel their sexual concerns are not being acknowledged or addressed. This needs to change.

What we will do: We create tools and resources to help mental health researchers and those who provide mental health services to ask the right questions to understand links between mental health and sexual wellbeing, and to ensure that young people's concerns are properly understood.

How we will do it: We will begin by holding workshops with young people, parents, researchers, policy makers and practitioners to understand priorities and challenges of researching gender and sexual issues in mental health. Next, we will add to those understandings by reviewing existing research on the topic. We will then collect existing survey questions that cover these priority topics and review those questions so that we can recommend the most trustworthy ones to researchers and give advice on how to use them. It is very likely that some priority topics are not covered by existing questions, so we will fill the most important gaps by creating and testing some new questions. One gap we have already identified is for a set of questions on adolescent sexual wellbeing. We will fill that gap by designing a new set of questions (known as a measure) using group discussion and interviews with young people. We will check how well the measure works by testing it in an online survey of 1500 young people aged 14-19. We will bring all our work together into a website of resources for researchers, ethics committees (who review and approve research plans), and schools. We will train these stakeholders on research on young people's gender and sexual development, and we will share our findings with researchers, policy makers, mental health practitioners, and young people.

What we hope to achieve: We aim for better understanding of the links between sexuality and mental health in adolescence by bringing greater attention to the issues and producing excellent research tools and guidance focused on young people's priorities.



MR/X002721/1 The automated coding of expressed emotion to enhance clinical and epidemiological mental health research in adolescence

PI: Dr Johnny Downs, Child and Adolescent Psychiatry, King's College London

Project Funding: £303,678.51

Project Summary:

As little as five minutes listening to a parent talk can reveal a significant amount of information about their child's future psychopathology. Analyses of the words and tone used in parents' speech, provides a detailed picture about the parents, the child, and interactions within the family. An interview technique called the five-minute speech sample (FMSS) has operationalised this process. There is good evidence the FMSS can provide an index of a child's home environment and help profile their risk of developing, and recovering from, adolescent-onset mental health disorders. FMSS are easy to collect - all you need is 5 minutes and a dictaphone/smartphone - yet they are rarely used in research or clinical settings, because the coding of speech is laborious, bias-prone, and requires highly trained raters. If these issues could be overcome, FMSS presents tremendous opportunity to be used across research, mental health and social care settings to rapidly assess key modifiable drivers of mental health problems among adolescents.

This project will bring together an interdisciplinary team of developmental psychopathologists, creative writers, plus computer, clinical and social scientists to automate the coding of the FMSS. Using recent developments in computational linguistics and affective computing, we will create a pipeline which combines automatic translation, speech valence and natural language analysis. We will use a unique collection of researcher-rated FMSS audio recordings of mothers from the UK E-Risk Longitudinal Twin Study, which were obtained on 2031 children at 10 years of age. The children in this cohort have been followed to age 18 years, undergoing multiple waves of comprehensive assessments. Building on an existing feasibility study, we will develop and train an automated approach to FMSS coding - exploiting both the size and socio-economic representativeness of the sample. We will then examine whether the automated ratings generated from age-10 maternal speech samples show the same ability to predict mental health problems at 12 and 18 years as well as costly human ratings.

We will conduct creative workshops with key stakeholders (young people, parents, healthcare/social-work practitioners, research policymakers, governance leads, and educators) throughout the project to determine the main ethical, social and practical challenges to using and sharing parental speech data and developing and implementing the automated models in practice to inform future work.

Crucially, all this work will help us understand how to share this methodology, and as a final output we will develop open-source materials and a clear blueprint of what is required to build a secure digital platform that enables other research groups to rapidly code expression emotion from FMSS in an accurate and cost-effective manner.



MR/X003108/1: A new methodology linking interactional and experiential approaches, and involving young people as co-analysts of mental health encounters.

PI: Dr Michael Larkin, College of Health and Life Sciences, Aston University

Project Funding: £300,223.35

Project Summary:

Imagine that you are a researcher working on youth mental health. You know that adolescence and early adulthood are a critical period for intervention to prevent mental health problems continuing into adulthood. You want to understand why a substantial number of young people don't engage with, or don't benefit from, mental health interventions and services.

You might want to use 'qualitative' methods, because they are often better suited to capturing meaning, context and complexity. If you were curious about how interactions with services can sometimes go wrong for young people, this would be a good approach. You could record what happens when young people do meet with professionals. You could analyse those conversations using an 'interactional' method. This focuses on how a particular social interaction unfolds - who says what, and where does that lead? But you would be lacking important contextual information about the meetings you recorded. For example, you wouldn't know how these events fitted into the broader story of the young person's attempts to get help, or how the young person felt about the event that you had just observed.

You could interview the young person instead, to find out about this context, and how they were feeling about their attempts to get help - what was it like for them? You could analyse these interviews using a 'phenomenological' method. This focuses on how people make sense of their experiences. But then you wouldn't be able to be very precise about what professionals should do differently, because you hadn't observed it. There are two important and new features to the methodology which we propose to develop in this project. The first of those features is that we will combine these the approaches above, in order to show how a more powerful and insightful analysis of young people's experiences can be developed when we examine both what happens to young people when they seek help, and what they think and feel about that, in the context of their mental health needs. This may seem obvious, but these two methods are rarely - if ever - combined, and there is no methodological framework available for researchers to help them to think about how to combine them. We will do this, and then show how it can be done by others.

The second feature of our proposed new methodology is equally important. If you were a researcher preparing a new project, we hope that you would also be thinking about how to involve young people in planning, conducting, evaluating and sharing that project. You would find that there is plentiful guidance available about the general principles underlying this kind of collaboration. But there is no guidance (and there are very few published examples) which would help you to involve young people in analysing and interpreting data. This is the stage where researchers decide what they have found, and what it means, so it is very important.

We have found in our previous work, talking with young people about video data, that with appropriate preparation and support, young people will contribute very important analytic insights. We have shown already that the principles of this co-analysis are acceptable to young people, feasible for researchers, and produce valuable research. We want to expand on this and develop it, to meet the needs of the youth mental health research community.

By bringing other data sources (interviews) into the process, and showing how young people can engage with more than one form of analysis (phenomenological and interactional), we will develop a methodology that other researchers can use, in order that they can also co-analyse data with young people, and benefit from young people's expertise. These methodological developments will be transformative for the field of youth mental health research, enabling qualitative researchers to capture a much fuller picture of young people's experiences, and to work much more equitably alongside young people.



MR/X002640/1: MEN-MINDs Project: Co-producing change for better mental health for adolescent young men at the margins

PI: Ms Nina Vaswani, Social Work and Social Policy, University of Strathclyde.

Project Funding: £299,967.12

Project summary:

The mental health and wellbeing of adolescents has been getting worse over time and the COVID-19 pandemic has also had a negative impact on young people's mental health. The mental health of adolescents has been described as being at a crisis point. While adolescent females are often perceived to be at higher rates of internalising disorders such as anxiety and depression, males are more likely to be diagnosed with behavioural disorders. These diagnosis rates reflect not only underlying mental health issues, but also other factors such as help-seeking behaviours, the availability of mental health support and how services work with young people. Young males are at greater risk of poor mental health and wellbeing outcomes in key health and wellbeing areas such as suicide and substance use. This might be because young men are less likely to seek help for emotional, psychological or other distressing problems, or it might be that the symptoms of distress in young men are different and are less recognised by young people, parents or professionals. Young men are also less likely to take part in mental health research, so it is difficult for researchers and mental health professionals to fully understand why these differences exist.

Certain groups of young men are also more likely to be excluded or discriminated against in society, such as young men who get in to conflict with the law, who identify as LGBTQ+, or who have migrated to the UK. These young men are at greater risk of poor mental health outcomes because of their life experiences, and are even less likely to have their mental health needs addressed or to participate in research. The primary aim of MEN-MINDs project is to advance adolescent mental health research by improving understanding of how we can effectively engage marginalised adolescent males in research on mental health and how services can improve support available to them.

The MEN-MINDs project aims to address this gap in knowledge over three stages of work. A Young People's Forum (YPF) will have a central role in producing the research and sharing the findings with other audiences. The YPF will consist of 9-12 adolescent males who will work with our team as co-researchers to design new ways of doing research that are more interesting, relevant, or easier for young males to take part in. We will share these research tools with other researchers so that they can also use the methods in their own research. We will then use the research tools created by our co-researchers to carry out research with 60-80 young males who are in one of the vulnerable groups we identified: in conflict with the law; LGBTQ+ (including transgender men); or migrants. This will allow us to find out how they think about their masculine identities, what mental health and wellbeing means to them and what changes to policies or services would encourage them to seek help for mental health. We will work with mental health or other support organisations to implement these changes with the aim of improving both young males' experiences of service provision and the outcomes of mental health support.

The project is innovative because it seeks to understand the impact of young people's complex identities on their mental health and help-seeking behaviours and because new methods of research will be co-produced with young people from the three groups affected. The study will fill a gap in information about adolescents' help-seeking behaviours and the methods of research they are comfortable with when discussing mental health. It will produce evidence to help other researchers and service providers to evaluate and understand masculine identities and help-seeking behaviours among three of the most marginalised groups. This will also lead to improvements in mental health research, services and policy for adolescent males.



MR/X002896/1: Developing a measure of social understanding for 15- 24-year-olds that is appropriate, fair, valid, and theoretically motivated.

PI: Professor I A Apperly, School of Psychology, University of Birmingham

Project funding: £694,946.45

Project Summary:

In adolescence the social lives of young people become increasingly complex. There is already good evidence from middle childhood that variation in the ability to build, manage and maintain social relationships (or 'social competence') matters: poor social competence in this age range predicts loneliness, later mental health difficulties, poorer academic outcomes, and even difficulties in work. Significant recent progress has been made in identifying understanding of others' mental states (sometimes called "mindreading") as an important underlying mechanism that provides a viable target for support and intervention.

There is every reason to expect that mindreading will also be an important basis of social competence in later adolescence and early adulthood, but it is likely that the nature of mindreading and its causes and consequences will change along with the dramatically changing social world of young people. For example, the period from 15-24 involves major social transitions between places of education and work, and between family, peer and romantic relationships. It is also a period of acute risk for mental ill-health, often with lifelong consequences. Understanding the relationships between mindreading and these social and mental health outcomes has important implications for mental health and wellbeing of young people, and will suggest ways in which environments for education and work might better support these outcomes.

This potential is currently difficult to fulfil, firstly because we lack robust measures of mindreading that are sensitive and meaningful for young people.

We will apply gold-standard psychometric approaches to develop a new measure of mindreading that is appropriate, valid, and sensitive in mid-adolescence to early adulthood. We will work with young people in story-exchange workshops to ensure that the mindreading scenarios and questions are relevant and meaningful. We will examine the measure's performance in 3000 young people aged 15-24, and check that measurements are stable, and fair across different demographic groups. We will test prediction of mental health (e.g., depression, anxiety) and social wellbeing (e.g., loneliness, and social support).

To maximise benefits of the new measure we will work with computer scientists to develop a reliable, open system for automated coding of participant's responses. Researchers using the new task will be relieved of hundreds of hours of manual coding, and will instead be able to upload participant responses to a secure remote server, and receive accurately coded responses within minutes. These steps will maximise the benefits to research capacity by enabling a wide range of researchers in psychology, psychiatry, and education, to adopt our methods for their own research.

The development of a new measure of mindreading will enable a wide range of potential benefits to research programmes seeking to advance the wellbeing of young people. Within the proposed work we will lay groundwork for understanding the causes and consequences of mindreading within places of education and work, and how these institutions and organisations can play a role in supporting mindreading and related benefits for wellbeing and mental health. To pursue this objective we have planned a series of workshops that will bring our researchers together with educators, mental health professionals, and employers, with young people with a particular interest in mental health. These will help us interpret our findings in relation to the real systems that young people encounter, and lay groundwork for identifying points of particular concern, examples of best practice and opportunities for improved practice that would be pursued in future work.



**MR/X003094/1: Development and validation of the Social Media Experience measure:
Using objective assessment and adolescents' experience to inform its development**

PI: Dr Margarita Panayiotou, Environment, Education and Development, The University of Manchester

Project Funding: £898,848.49

Project Summary:

The increased use of social media among young people has attracted the attention of the public, the media and the government, and has led to growing concerns about its impact on young people's mental health, wellbeing and levels of loneliness. This concern stems from reported increase in mental health difficulties and increased social media use among this population. Research on this area is however relatively new and with mixed evidence. While some of the experiences with social media can be challenging, there is not sufficient evidence to support that social media is fundamentally bad. Indeed, recent evidence challenges this and suggests that the connection between social media and mental health might be a weak one, and its benefits, that have been largely overlooked, should also be considered.

This area of research has suffered the consequences of a rapidly changing field, resulting in quick, but methodologically flawed self-report measures of social media experience, that hinders progress. We have identified three potential problems in the self-report measurement of social media engagement and experience:

1) Most measures were developed without asking young people's experiences. This means that social media measures are being developed for young people without young people having any input. How can we be sure we are asking the right things if we do not consider their views?; 2) Many measures focus on "addictive social media", however this term is based largely on anecdotal evidence. In fact, the questions they use in these measures are based on nicotine dependence and gambling addiction criteria. Assuming these are the same can lead to misleading conclusions; 3) Many of the existing measures were not developed using rigorous and robust theoretical and statistical (psychometric) methods. Their validity is therefore questionable; 4) Even though the engagement with social media includes objective digital behaviours, this kind of information and data have not been considered during the development of measures. We cannot capture however the full picture of social media experience without assessing both, because they each offer unique information.

To address these challenges and limitations reported in the current literature we propose a 3-year project to co-develop, with young people, a comprehensive and freely available self-report social media experience measure that will be appropriate for young people. This will take into account existing research, objective social media data, and the views of social media experts, clinicians, parents/carers, teachers, and policy makers. Importantly, the development of the measure will be guided by the views and experiences of young people.

The proposed project will follow a novel method that combines traditional methods of scale development and a novel approach that triangulates objective (e.g. online social media comments) and subjective (e.g. self-report) assessment. The current project has a strong focus on the voices of young people and it will be based on a co-production model with young people. We will draw from different disciplines including digital behaviour and social media, mental health, loneliness, psychometrics, and computer science. The project has the potential to improve the way we measure, and therefore understand, young people's social media experience and how that influences their mental health, wellbeing, and loneliness. It will also provide a meaningful and productive engagement and partnership with young people to advance this area of work and share their views to key stakeholders.



MR/X002381/1: Capturing loneliness across youth: Co-production of a new developmentally sensitive scale

PI: Professor Jennifer Lau, Wolfson Institute of Population Health, Queen Mary University of London

Project Funding: £883,222.47

Project Summary:

Loneliness is the uncomfortable feelings that arise when a person is not satisfied with the number of social contacts they have or the quality of their social relationships. Loneliness is not the same as social isolation: a person can feel socially disconnected even when they are surrounded by others, conversely, a person can be alone and feel contented. Over the last decade, loneliness has become a public health concern. The COVID-19 pandemic with its various phases of lockdown and social restrictions has only magnified that concern. This is worrying because loneliness can be linked to poorer mental health in the long term, which affects other health outcomes, quality of life, use of health care services, and employment. It is, therefore, crucial to develop ways to help people to manage loneliness before it becomes linked with these poorer outcomes. Past research has looked at the why loneliness occurs and how it can be managed, primarily focussing on older adults, even though loneliness is as common in young people. A key reason for why youth loneliness has been neglected is that our current questionnaires of youth loneliness are limited in capturing the authentic experiences of young people. Existing measures were developed largely without input from young people so they may not include real-life features and characteristics of loneliness. Stigma could also affect reporting on these measures.

We propose to develop and assess a new questionnaire of youth loneliness through a rigorous development process. We will invite young people aged 10-24 years to tell us about their experiences of loneliness. For this and other stages of measure development, we aim to recruit young people who are diverse in gender, ethnicity, sexuality, and family income, and with a range of loneliness experiences. Half of the participants will be from London and the other half, Manchester, to ensure the results are applicable to two distinct UK regions. We will use methods to encourage group discussion using both structured topic guides and different creative art activities that enable us to gain a better picture of what loneliness means to young people. From these discussions, we will create questionnaire items that reflect loneliness as it is experienced across youth from early adolescence to early adulthood. These items will be sent out to academic experts and experts by experience for feedback on their clarify and narrow down the item pool. Next, we will ask a pilot sample of young people to complete ratings of these items, while verbalising their thoughts about each item (e.g., does it reflect loneliness) out loud. This feedback will be used to refine the items before they are distributed as a questionnaire to 1800 young people, twice over a 3-month period. This data will allow us to carry out formal statistical analysis to see if the items fit well together and collectively reflect loneliness.

We are committed to developing this measure with young people. Two of the proposal's applicants are Young people. We will offer young people from marginalised backgrounds in London and Manchester the opportunity to be paid and trained co-researchers. Working with the McPin Foundation, we will create a Young Person Advisory Group to give advice and provide oversight of our research and communication strategy. We will also communicate our work beyond academic audiences, organising workshops for those interested in applying our questionnaire to their client groups or to evaluate loneliness interventions and programs within their organisations. With the Campaign to End Loneliness, we will organise roundtable discussions, producing infographics and animations for practitioners and policy-makers. To ensure young people have a voice in communicating findings, we will work with People's Palace Projects to deliver high-profile multi-audience public events, which will also contribute to national conversations about youth loneliness.



MR/X002810/1: The time of their lives? Developing Concepts and Methods to Understand Loneliness in Students

PI: Dr Nicola Byrom, Psychology, King's College London

Project Funding: £843,959.56

Project Summary:

Loneliness is linked to poor mental health and reduced educational achievement and social mobility. It is often thought of as something experienced by the elderly. However, loneliness is a growing concern among university students. Recent studies have found that young people report high levels of loneliness. This seems puzzling. University students are surrounded by peers. They often live with friends and have many opportunities to socialise. Why would they feel lonely?

Addressing this question, we will develop the concept of loneliness. We will work with young people to represent the adolescent experience accurately and sensitively. We will work with students across the project, making co-creation a priority.

We will identify opportunities to reduce loneliness in university students. There are 1.7million adolescents in UK universities. As many in 2 in 5 students may meet criteria for mental illness. Increasingly, this is a cause for concern. Universities are looking for ways to support student mental health. Students are at a developmental transition and experience dramatic changes in social networks, creating risk for loneliness. However, if properly understood, loneliness may be reduced, providing a target to boost mental health and educational achievement. New interventions depend on a strong theoretical framework and researchers need suitable tools to measure loneliness.

We can all describe loneliness. The COVID-19 lockdowns gave many people new insights into the experience of loneliness. However, understanding of the concept, especially in young people, is limited. Historical analysis can help. We will explore when and how the idea of university as a social experience emerged. This will provide a broader social and cultural context to understand loneliness.

We will make it easier to measure loneliness sensitively. Loneliness is often assessed using a single question: "how often do you feel lonely?" This cannot identify differences in origin or experience. It does not capture how loneliness relates to social connection, sense of belonging or expectations. We will investigate these links and develop new tools to allow differences in loneliness to be understood.

We will look at how social contacts change as young people move to university and ask if these changes cause loneliness. To do this, we will make use of the rich, but under-used, Social Network Analysis. Because this approach is under-used, we will develop simplified resources to help the others capture key insights in surveys. We will develop a new measurement tool to assess expectations of social connection. We will use this to identify differences in student's expectations for social connection and ask how these expectations impact the experience of loneliness.

Students often describe belonging as the opposite of loneliness. Do students lack a of sense of belonging? Does this drive loneliness? We will test whether a sense of belonging helps us understand loneliness, over and above social networks and expectations for social connection. We will explore how the group dynamics that support a sense of belonging, especially for minority groups, may influence loneliness.

Social identity influences our sense of belonging. Therefore, in looking at belonging, as well as social connection and expectations, the diversity of the student population is key. Across our research we aim to understand the broad diversity of student experience and how this shapes differences in the experience of loneliness.

We will develop a rich and detailed theoretical framework for loneliness. We will test whether there are different types of loneliness and examine how diverse social identities shape the experience of loneliness. The project will develop new tools to facilitate future research into loneliness. Through prioritising co-creation, we will address barriers to engagement and create resources and guidance to accelerate student involvement in research.



**MR/X002837/1: Long-Term Modelling Tools for Adolescent Mental Health and Wellbeing
Research**

PI: Professor Richard Cookson, Centre for Health Economics, University of York

Project Funding: £766,718.24

Project Summary:

Adolescents often experience mental health and wellbeing difficulties. When such difficulties persist or escalate over time, they cause misery to adolescents and their families, impose substantial costs on education, health and welfare services, and have lifelong effects on increasing the risk of numerous other bad outcomes including unemployment, crime, physical illness and premature death. They are also linked to adverse experiences in early childhood such as poverty and neglect that can perpetuate intergenerational transmission of inequalities in income, health and wellbeing.

Intervening to prevent and manage adolescent mental health problems is challenging, however. Research can help by using trials to evaluate the effects of different interventions on mental health. Unfortunately, however, trials typically only have one to three years of follow-up data. It is thus hard to know how far effects will persist in the long-term and how this will vary between different adolescents in different circumstances. Standard research methods for extrapolating long-term effects do not take into account emerging scientific knowledge about how the long-term persistence and consequences of mental health difficulties may vary for different adolescents in different circumstances. For some adolescents, short-term improvements in mental health fade out rapidly over time, ultimately yielding little or no benefit. But for others, improvements persist and accumulate into large lifelong benefits and public cost savings.

We propose to develop a better approach to long-term modelling of intervention effects on adolescent mental health and wellbeing. We will develop a versatile and reusable computer programme for predicting how adolescent health and wellbeing will develop from age 11 to 17 for different kinds of adolescents in different family, neighbourhood and school environments, known as a "microsimulation model". This model will be based on detailed data about the lives of more than 10,000 adolescents in the Millennium Cohort Study of children born in the year 2000, supplemented with further data where necessary. We will also link the new model to existing microsimulation models of childhood (age 0 to 11) and adulthood (age 17+) that capture the main early childhood causes and lifelong consequences of adolescent mental health and wellbeing difficulties. We will then test how well the integrated model can address a diverse range of research questions that cannot be answered using standard long-term modelling approaches, by conducting example studies of (i) the long-term effects of whole-school anti-bullying programmes, (ii) the long-term effects on adolescent mental health and wellbeing of tax-benefit reform options for reducing poverty in childhood, and (iii) the lifelong consequences of adolescent mental health problems for income, health, wellbeing and public cost in adulthood.

We will engage young people to ensure that our computer model meaningfully captures adolescent experiences and produces information relevant to young people. We will collaborate with youth social work apprentices and sixth formers in Bradford, a deprived area with relatively high rates of adolescent mental health problems, in a series of workshops throughout the project. We will also ensure scientific credibility and policy relevance by consulting experts from multiple disciplines across the adolescent mental health and wellbeing research field and with education, welfare and health policymakers across government. To help adolescent mental health and wellbeing researchers use and refine our approach in future, we will collaborate across research teams at five different UK universities and make our tool readily accessible via user-friendly web-based platforms.



MR/X003078/1: Co-producing a framework of guiding principles for engaging representative and diverse cohorts of young people in biological research in mental health

PI: Professor Paola Dazzan, Psychological Medicine, King's College London

Project Funding: £908,695.74

Project Summary:

Adolescence is a crucial time when the whole body, including the brain, is growing and developing, and when many mental health problems, like anxiety and depression, start. We already know quite a lot about how the environment can affect mental health, but we need to find out more about how the things we experience in the world can make physical changes to the biology of our mind, brain and body. Researchers can do this by studying, for example blood, saliva or brain scans (taking pictures of the brain).

THE NEED WE WANT TO ADDRESS: Biological research in adolescent mental health conducted so far needs improving, as many young people do not participate or drop out of such studies, especially young people from disadvantaged or minority groups, which means that results do not represent all the young people in the UK. This happens for many reasons, including adults (parents, carers, teachers, health professionals) sometimes assuming young people are not interested or have fears about taking part. Also, even if young people are invited to advise on research studies, this happens too late, once a lot of decisions have been already made.

WHAT WE WILL DO: This 2-year project is co-led by researchers and young people from 3 different UK locations (London, Birmingham and Bradford), which are very diverse in terms of population ethnicities, backgrounds and geography. Each location has groups of young people expert in advising researchers, and we have worked with them for many years. Together, we will develop a tool, called a "Framework of Guiding Principles", a document that tells researchers interested in studying biology and mental health in young people how young people prefer to be approached about research, what would make them interested to stay involved, what roles they would like to play in the research team, and what benefits they would like to see from taking part. We will also ask parents and teachers for their perspectives, as they often make decisions for young people under 18 years.

HOW WE WILL INVOLVE YOUNG PEOPLE: During every stage of the project, young people will be co-leaders, researchers, and active participants. Representatives from the expert young people groups will co-manage the project by forming a Youth Expert Working Group (YEWG) and by being co-chair and members of the Project Management Group, which makes key decisions about the project.

THE TASKS (WORK-PACKAGES, WP) OF THE PROJECT: Young people will co-lead the Work-packages with researchers. First, we will look at what works and does not work when researchers have tried to collect biological data in young people (Scoping review, WP1). What we find out in WP1 will help get the views of young people, parents and teachers on biological research in mental health, using small-group discussions ('focus groups') (WP2). The findings will be discussed with the expert young people in small online workshops, where they will develop the content and recommendations for a first draft of the Framework (WP3). The draft will then be sent round to more young people, parents, teachers, research funders and researchers, seeking their opinions and comments through online meetings and email correspondence to produce a final version of the Framework (WP4). Finally, we will let researchers, stakeholders (those interested in the project) and the public know about the Framework and ensure is used by researchers, during the project and beyond.

THE OUTPUT: The Framework will be a publicly-available tool with guidelines on how to conduct better, more inclusive research to understand how the biology of the mind, the brain and the body interacts with the environment to influence mental health during adolescence.



MR/X003116/1: Creating Research Ecologies to Advance Transdisciplinary Learning (CREATE) on arts-based programs through the study of adolescent loneliness

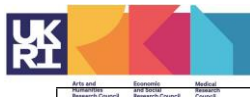
PI: Professor Paul Cooke, Sch of Languages, Cultures and Societies, University of Leeds.

Project Funding: £1,016,283.77

Project Summary:

Arts-based mental health research, using creative practices like music, theatre, dance, drawing, poetry is enjoyed by many young people and can bring new insights and understanding about adolescent mental health in ways that traditional, often adult-led, research methods cannot. There is untapped potential to improve understanding of mental health if we could bring arts-approaches together with science and youth perspectives. However, this potential is held back by many research barriers. Scientists can find it hard to understand the processes and outcomes of arts-based research, meaning art-science collaborations face challenges. Youth, scientists and artists also have different vocabularies and research values. We are also without a shared view, across youth, scientists and artists, on how to interpret the meaning of the art produced by young people about their mental health. An understanding of exactly how and why arts-based approaches can be helpful to youth mental health is also lacking. Finally, arts researchers and youth can find the use of standardized measures of mental health, which are popular in science, difficult.

Project CREATE will address each barrier by bringing youth, scientists and arts researchers together. We first conduct reviews of the main barriers and potential solutions and take these ideas into Living Labs. These bring youth lived experience into exploration around methods and interpretation with researchers. We focus our methods development in relation to adolescent loneliness as stimulus. Our ambition is to create a large resource hub, for anyone working at the intersection of arts, science and youth voice, presenting teaching tools, frameworks, glossaries, analysis methods and good practice guides to improve and optimise the learning we can glean from youth-informed, science friendly, arts-based research. Wide dissemination will be supported by the National Centre for Research Methods, and other networks, to both academic and non-academic research users.



MR/X003264/1: SOCITS: A SOCIAL sITUational Systems approach to measuring and modelling influences on adolescent mental health

PI: Dr Mark McCann, College of Medical, Veterinary, Life Sci, University of Glasgow.

Project Funding: £643,361.39

Project summary:

This project will create a new method for researchers, counsellors, teachers, and young people to do research about adolescent mental health. It will also study how the method works, what training you need to use it, and how easy it is for researchers to learn the method.

Most mental health survey research asks questions about how individual young people feel in general, asking people if they feel stressed or lonely 'all of the time', 'most of the time' or 'none of the time', but without asking what the different times are like, or what other people are doing at the times where they feel stressed or lonely.

We think that research spends too much time looking at individual young people, and too much time asking general questions about mental health. Instead, we should look at the important situations in young people's lives, we should look at different social interactions that take place in those situations, and we should think about the connections between people. Looking at connections between people is thinking about a system of people, so we call our approach the SOCIAL sITUational Systems or SOCITS approach.

SOCITS will help to understand the reasons for things like loneliness, stress and mental health. And change how we improve mental health. Instead of only looking at what goes on inside people's heads, SOCITS will look at the social situations and places around individuals that affect mental health.

In the project, we will train young people to be researchers, so they can interview secondary school students to find out about the situations in their school and how they might affect stress, loneliness, mental health, and holding negative attitudes about other people with mental illness.

We will take what we find out from these interviews, and have a group discussion with young people, teachers, and mental health researchers to find out what the group thinks are the reasons for poor mental health. We will use the final decisions of the group to do two things: design a survey to find out what actually happens in schools, and build a computer program to create an artificial school that we can use to study what would happen if we changed some of the situations in school.

After this, we will test out the survey we designed to see what young people think about filling out the survey, and we will come up with plans on how to analyse the surveys. We will also do studies with the computer programme artificial school, and compare the artificial school to what we know about the real school from the survey information.

After we do the study, we will write instructions on how other research teams can use the SOCITS approach to do a study of their own looking at different topics. For example, instead of stress and loneliness, other researchers might look at social media use, self-harm or substance use. We will also study how easy our instructions are to understand, and if there are difficulties, this will help us improve our guidance documents.

From day 1, we will make information about the project plans freely available for everyone to read. We will also organise six online meetings for people to find out more about the ideas behind SOCITS and decide how they could be used for their own work.

By the end of the study, we hope that we will have added some new ways to do mental health research that can help improve how adolescents feel, help prevent poor mental health, and improve the quality of life for people with mental illness.