Project Details	
Project Code	MRCNMH25Ba Button
Title	Can young people's cognitive style explain associations between social media use and mental health?
Research Theme	Neuroscience & Mental Health
Summary	In public discourse, social media is often claimed to be bad for young people's mental health. This simple view is not supported by science, where the evidence is mixed. This project will provide a more nuanced understanding of how social media use might impact mental health, and investigate how a person's cognitive style (e.g., interpreting feedback pessimistically or optimistically) and style of using social media (e.g. passive viewing, active posting) affect their mood and well-being. This will be accomplished by triangulating evidence from self-report and passive measures of social media use, neurocognitive assessments, and both observational and experimental designs.
Description	Depression and anxiety in young people have increased by 70% in the past 25 years, with social media often touted as a contributing factor. While some studies have demonstrated that time spent on social media is correlated with poorer outcomes, recent meta-analyses show mixed results that may not be clinically meaningful.

A major problem is that the social media evidence is often based on cross-sectional studies and self-report measures of screen time, which fail to capture the intricacies of social media use. Social media now permeates almost all aspects of life, and young people's reasons for engaging with social media (and the ways they do this) are varied. Focusing merely on time spent on social media assumes a dose-response relationship, failing to differentiate between types of social media use or to acknowledge the potential benefits of social media use. Furthermore, it ignores individual differences in ways of thinking and processing information.
Cognitive models of depression and anxiety posit that information is processed according to cognitive schemas which influence how an individual interprets information. For example, depression has been linked to differences in responses to emotional content and social feedback. Applying this theory to the online sphere could help explain the mixed findings in the literature: social media could have differential effects depending on individual differences in cognitive style and interpretation.
This studentship will address these issues by assessing individual differences in cognitive styles and using a combination of longitudinal and experimental designs, collecting self-report data at several points in the day using ecological momentary assessment (EMA), objectively tracking social media use through data donation, and conducting mechanistic lab-based studies. This will provide richer and more accurate data allowing the use of more powerful, time-varying statistical analyses and causal inferences.

Aim |

To investigate whether individual differences in cognitive styles modulate the relationship between social media use and mental health in young people.

This will be achieved through the following program of research:

Patient and Public Involvement (PPI)

A young person's advisory group (YPAG) will be set up to meet regularly to advise on and co-produce each stage of the research. For example, advising on how young people engage with social media (e.g., which apps they use, how they use them, and how they make them feel) will be instrumental to designing the study to maximise its impact on policy and practice.

Study 1a – Longitudinal Ecological Momentary Assessment (EMA)

Young people (18-24 years) will be followed over the course of a month, collecting data on social media use and mood in everyday life using an EMA app downloaded to participants' mobile phones. The schedule and questions will be co-designed with the advisory group, but participants might receive 3-4 prompts a day asking about their social media use since the last survey (e.g., apps, time spent, people interacted with, passive viewing or active posting, and tone/valence of feedback), and current mood, anxiety, and self-esteem.

A battery of tasks assessing cognitive style (e.g., Social Evaluation Learning Task) and mental health outcomes (depression (PHQ-9), anxiety (BFNE and GAD-7), and well-being (WMWBS)) will be administered at baseline to assess whether individual differences in cognitive style moderate relationships between social media use and mental health. Mental health outcomes will also be assessed at 4-weeks. This will provide the first evidence of social cognitive style as a putative risk factor for harmful social media use using an objective measure, which could be applied to identify "at-risk" individuals in the future.

Study 1b – Data donation

Participants can opt into Study 1b which will use a novel methodological approach involving TikTok data donation . General Data Protection Regulation (GDPR) gives individuals the right to access a copy of the personal data held by social media companies, who are legally mandated to provide it to them in data download packages (DPPs). Once downloaded participants are free to donate this data for research. TikTok's DPPs provide a comprehensive breakdown of passive and active SMU data, including links to each video the user has seen, the time spent on each video, behavioural interactions, and all associated metadata. This project will investigate how user behaviours and content exposure influence measures of mental well-being.

Study 1c – Experimental Manipulation

As studies 1ab are observational, it is difficult to establish whether biased interpretations cause low mood, or whether the content certain people are exposed to is genuinely more negative. Study 1c will overcome this limitation and provide complimentary mechanistic evidence by experimentally controlling the content participants are exposed to and assessing impact on mood. This novel triangulation provides more robust support for causal inferences.

	Using a customizable social media platform, participants from Study 1a will be asked to engage in different types of usage (e.g., posting content, passive viewing) and will receive controlled responses (e.g., positive, neutral, and negative evaluations), whilst measuring mood.

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