

Objectives

1. What are the underlying social media user types found in a sample of adolescents (based on patterns of engagement with different social media activities)?
2. What is the relationship between social media user types at age 13 and mental health outcomes (self-harm, anxiety, depression and well-being) one year later?

Methods

- Y9 UK students (N=1,425) completed an online survey measuring 13 social media activities and 4 mental health outcomes:
 - **Past year Self-harm¹; Anxiety²; Depression²; Poor Well-being³**
- Data collected at age 13 (Oct 2019) and repeated a year later (Oct 2020; age 14);
- LCA using Mplus identified four distinct classes of social media user;
- Bias-adjusted three-step model used to test associations between class membership at baseline and mental health at follow-up.

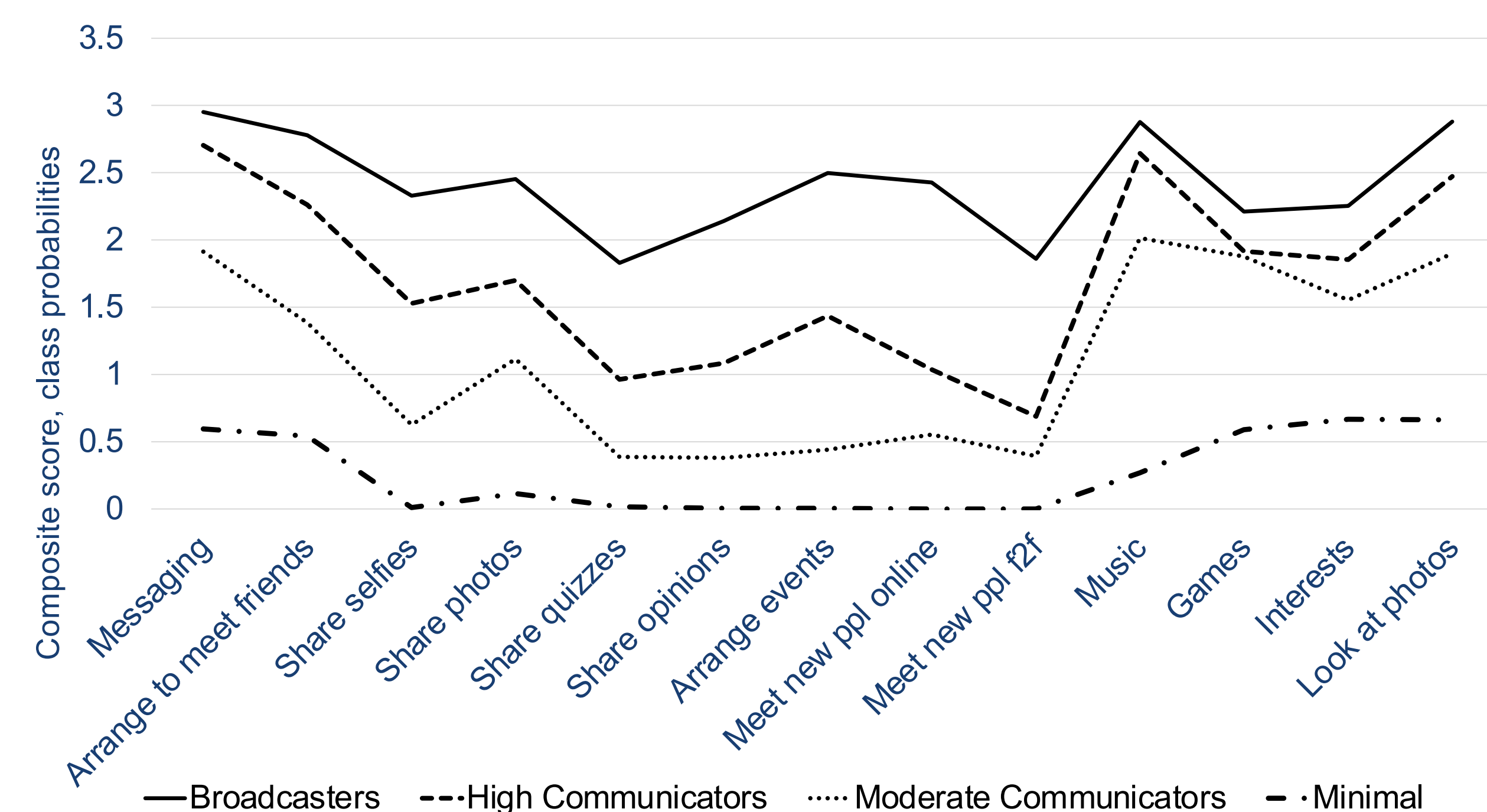
Four-class social media user typology age 13

High Communicators (47.8% of the sample): frequent communication, moderate content sharing & browsing;

Moderate Communicators (33.1%): moderate communication & browsing but minimal content sharing;

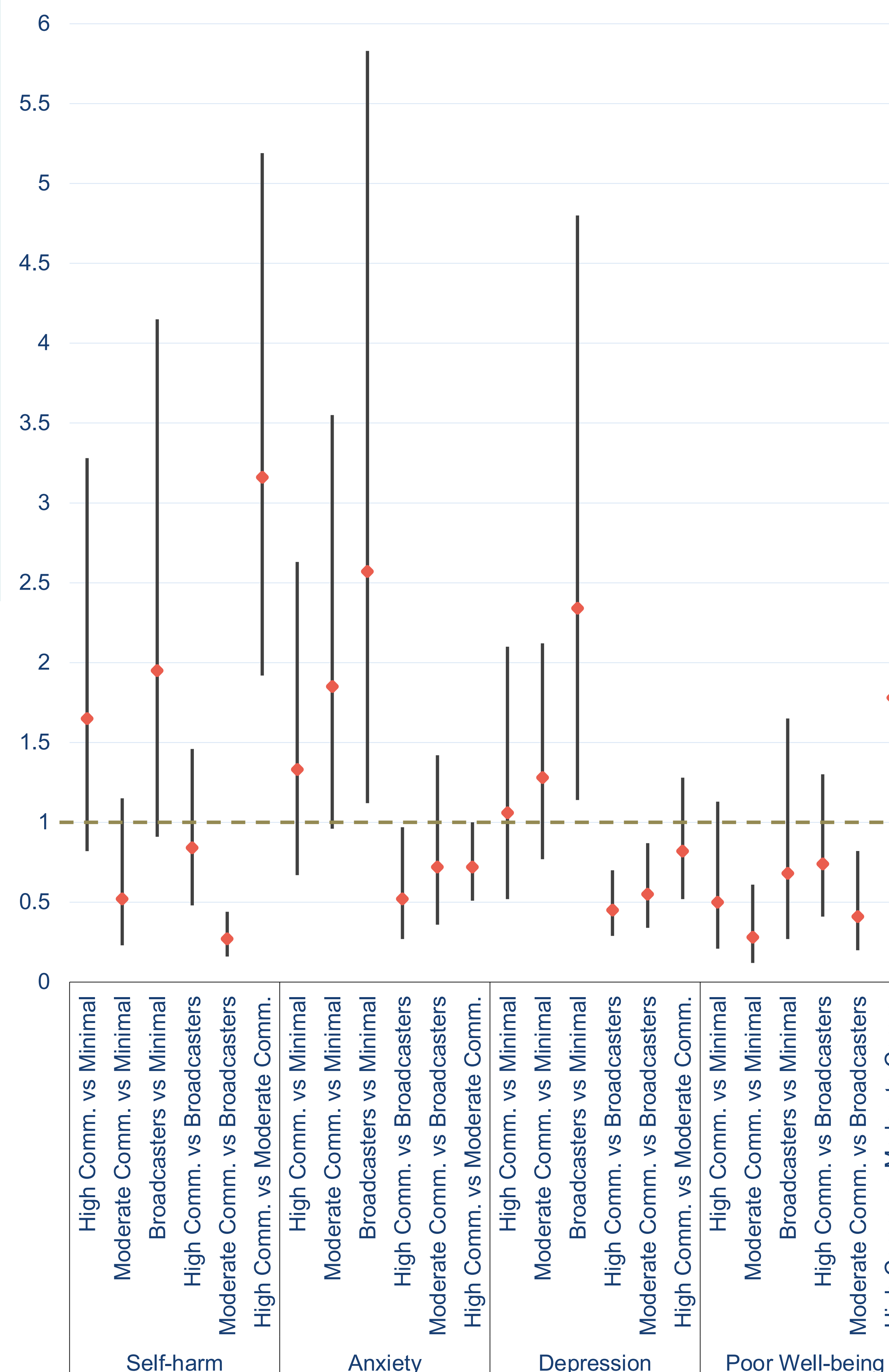
Broadcasters (12.6%): frequent posting of content, communication & browsing;

Minimal (6.5%): non-users or infrequent communication and browsing.



Composite probability score for frequency of engagement with 13 generic social media activities for four classes of social media user at age 13 (baseline). Response scale: never, rarely, fairly often and very often. Where a response category was selected by fewer than 10% of respondents at either time point, two categories were merged. N=2,456

Odds of poor mental health (AOR) for each social media user type, paired comparisons



Odds ratios (vertical lines represent 95% confidence intervals) for associations with four mental health outcomes at age 14, adjusted for gender, ethnicity, disability, socioeconomic status, sexual orientation, weekday and weekend social media screen-time, and mental health at baseline (age 13)

Different user types at age 13 have different mental health outcomes at age 14

- Odds of self-harm lower in moderate communicators than broadcasters or high communicators;
- Odds of anxiety higher in broadcasters than minimal users or high communicators, and lower in high communicators than moderate communicators;
- Odds of depression higher in broadcasters compared to all other groups;
- Odds of poor well-being lower in moderate communicators than all other groups.

Adolescents who are **moderate** but **social users** of social media – those who engage in moderate but not excessive levels of online socialising and minimal sharing of self-focused content – are generally least likely to be experiencing poor mental health a year later.

Those engaging in most **intensive broadcasting of content** in addition to other activities are most likely to experience subsequent poor mental health.

Added value of the study

We extend previous research in this area by i) including a broad range of social media activities **not restricted to specific platforms**, ii) using a **person-centred approach** to identify subgroups of adolescents characterised by distinct patterns of SMU (as opposed to grouping together similar activities in a variable-centred approach), and iii) investigating relative associations with **self-harm, anxiety, depression and wellbeing**.

All user types reported frequent engagement with passive activities (with the exception of minimal users), suggesting separation of social media user into passive or active types may be inappropriate.

We find new evidence that those who frequently share content via social media (broadcasting) may be most in need of mental health focused interventions.

1 Madge, N., Hewitt, A., Hawton, K., Wilde, E. J. D., Corcoran, P., Fekete, S., ... & Ystgaard, M. (2008). Deliberate self-harm within an international community sample of young people: comparative findings from the Child & Adolescent Self-harm in Europe (CASE) Study. *Journal of child Psychology and Psychiatry*, 49(6), 667-677.

2 White D, Leach C, Sims R, Atkinson M, Cottrell D. Validation of the Hospital Anxiety and Depression Scale for use with adolescents. *The British Journal of Psychiatry*. 1999 Nov 1;175(5):452-454.

3 Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., ... & Stewart-Brown, S. (2007). The Warwick-Edinburgh mental well-being scale (WEMWBS): development and UK validation. *Health and Quality of life Outcomes*, 5(1), 1-13.