An Investigation of the Associations of Social Media Use with Anxiety and Depression: A Cross-Sectional Study of Youth in Hong Kong

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Abstract:

Background: The pervasive use of social media among youth has raised concerns about its psychological impact, particularly in the wake of the COVID-19 pandemic, which exacerbated mental health challenges globally. In Hong Kong, studies indicated rising rates of anxiety and depression among youth, alongside increased social media engagement. However, the association of social media use with poor mental health remains unclear, particularly in post-pandemic contexts.

Method: This cross-sectional study examines associations between social media use patterns and mental health outcomes among 106 secondary and tertiary students in Hong Kong. Convenience sampling was employed to invite participants completed an online survey assessing (1) Problematic Social Media Use by Bergen Social Media Addiction Scale (BSMAS), (2) Anxiety by Generalized Anxiety Disorder-7, (GAD-7), (3) Depression by Patient Health Questionnaire-9, (PHQ-9), (4) Behavioral predictors by daily social media use hours, checking frequency, profile editing (5) Psychological predictors by social comparison and rumination, and (6) Health-related factors by sleep quality. Statistical analyses included Point-Biserial correlations and multivariate logistic regression.

Result: Six factors were identified as influencing the GAD-7. BSMAS score had the strongest correlation ($r = 0.482$; OR = 1.33; $p < 0.001$), followed by social comparison ($r = 0.402$; OR = 2.10; $p < 0.001$), rumination ($r = 0.264$; OR = 1.88; $p < 0.005$), social media check frequency ($r = 0.245$; OR = 1.59; $p < 0.01$), profile editing ($r = 0.195$; OR = 1.40; $p < 0.05$), and daily social media use hours ($r = -0.296$; OR = 0.56; $p < 0.05$). Five factors were identified as influencing PHQ-9. BSMAS score had the strongest correlation ($r = 0.506$, OR = 1.34; $p < 0.001$), followed by social comparison ($r = 0.389$; OR = 1.94; $p < 0.001$), social media check frequency ($r = 0.256$; OR = 1.58; $p < 0.01$), rumination ($r = 0.200$; OR = 1.51; $p < 0.05$), and sleep quality ($r = -0.216$; OR = 0.66; $p < 0.05$).

Conclusion: Problematic Social Media Use, particularly driven by addiction-like behaviors and social comparison, significantly elevates risks of anxiety and depression among Hong Kong youth. However, the relationship is complex, with time spent on social media not uniformly harmful. These findings

highlight the need for targeted interventions—such as digital literacy programs and sleep hygiene education—to mitigate adverse effects while preserving social media's benefits for social connectivity.