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## The Association between Affective States and Sexual/Health-Related Status among Men Who Have Sex with Men in China: An Exploration Study Using Social Media Data

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Abstract: Objectives: The purpose of this study was to understand and examine the association between diurnal mood variation and sexual/health-related status among men who have sex with men (MSM) using data from MSM Chinese Twitter messages. The study consists of 843,745 postings of 377,610 MSM users located in Guangdong that were culled from the MSM Chinese Twitter App. Positive affect, negative affect, sexual related behaviors, and health-related status were measured using the Simplified Chinese Linguistic Inquiry and Word Count. Emotions, including joy, sadness, anger, fear, and disgust were measured using the Weibo Basic Mood Lexicon. A positive sentiment score and a positive emotions score were also calculated. Linear regression models based on a permutation test were used to assess associations between affective states and sexual/health-related status. In the results, 5,871 active MSM users and their 477,374 postings were finally selected. MSM expressed positive affect and joy at 8 a.m. and expressed negative affect and negative emotions between 2 a.m. and 4 a.m. In addition, 25.1% of negative postings were directly related to health and 13.4% reported seeking social support during that sensitive period. MSM who were senior, educated, overweight or obese, self-identified as performing a versatile sex role, and with less followers, more followers, and less chat groups mainly expressed more negative affect and negative emotions. MSM who talked more about sexual-related behaviors had a higher positive sentiment score (β=0.29, p < 0.001) and a higher positive emotions score (β = 0.16, p < 0.001). MSM who reported more on their health status had a lower positive sentiment score (β = -0.83, p < 0.001) and a lower positive emotions score (&beta; = -0.37, p &lt; 0.001). The study concluded that psychological intervention based on an app for MSM should be conducted, as it may improve mental health.

Keywords: affect, men who have sex with men, sexual related behavior, health-related status, social media

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