Rhythms of social interaction: messaging within a massive online network

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Abstract

We have analyzed the fully-anonymized headers of 362 million messages exchanged by 4.2 million users of Facebook, an online social network of college students, during a 26 month interval. The data reveal a number of strong daily and weekly regularities and seasonal variations which provide insights into the time use and social lives of college students. We also examined how factors such as school affiliation and informal online "friend" lists affect the observed behavior and temporal patterns. Finally, we show that Facebook users appear to be clustered by school with respect to their temporal messaging patterns. Our results identify previously undetected patterns — and provide large-scale, quantitative evidence in support of existing claims — regarding messaging, studying and socializing among college students.