HEALTH COMMUNICATION

Can Facebook Tell Us Something About Regional Health Indicators?

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A short study published in the December 2, 2011 issue of *Science* highlighted the value of social networks in promoting weight loss.[1] According to the study, participants, who were paired with "friends" with similar interests, were more likely to take part in healthy behaviors. Similar findings were suggested by a study[2] conducted with diabetic patients from rural Kansas engaged in dedicated social networks. Although social media has seen an explosive evolution over the last years, limited research has been done on its value as an indicator of community health or health outcomes. The introduction of Facebook Ads, as well as its targeting engine, provides a unique opportunity to extract data to explore possible correlations between regional Facebook use and major health indicators in which peer-to-peer interaction and support could play a significant role. Thus, the question was raised, does declared interest in health and well-being on Facebook, as well as in outdoor activities, correlate with obesity indicators at the state level?

Method

Facebook Ads were used to retrieve data regarding total number of Facebook users as well as the number of users that have a stated an interest in health and well-being (IHW), and in outdoor activities (IOA). Obesity prevalence data were retrieved from the US Center for Disease Control and Prevention.[3] Microsoft Map Point was used to map the data and IBM SPSS to perform the statistical analysis.

Results

On November 30, 2011, Facebook had over 139.5 million users in the United States. Of these, about 11.5 million users (8.19%) stated on their profile that they have an IHW and over 22 million (15.8%) stated that they have an interest in IOA. The state-level prevalence of IHW users in the Facebook population is presented in Figure 1. The minimum level recorded was 6.29% (Louisiana); the maximum level was 12.15% (Vermont), with a US mean of 8.82%. For IOA users, the average was 17.56%; minimum was 10.79% (District of Columbia), and maximum was 24.66% (Montana).
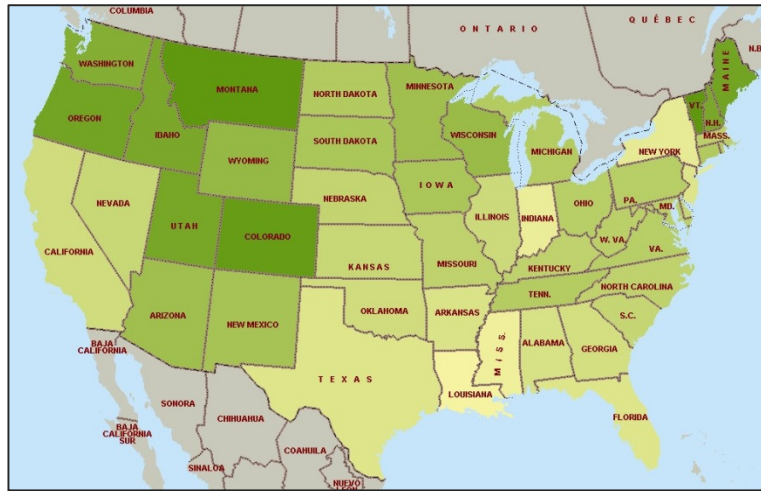
Figure 1. Percentage of Facebook users interested in Health and Well-being (green = high; yellow = low). Facebook Data, December 2011.

State-level obesity prevalence in adults 18 years and older, according to 2010 CDC data,[3] is mapped in Figure 2. The mean value for the United States was 27%; Colorado recorded the lowest level at 21%, while Mississippi recorded the highest level of obesity at 24% of the population. Percentage of IHW users was strongly correlated with obesity prevalence, $r(50) = -.460$, $p < 0.001$. No correlation was observed between percentage of IOA users and obesity rates: $r(50) = -.214$, $p > 0.05$.
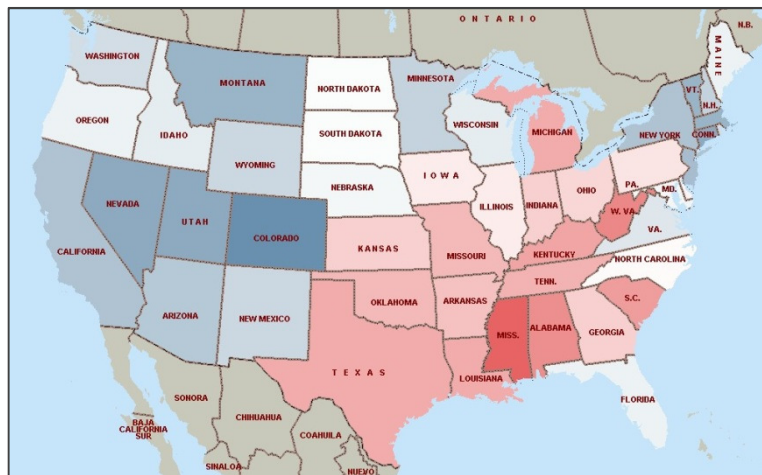

Figure 2. Obesity prevalence (red = high, blue = low).[3]

Discussion
    The correlation observed in the present analysis between declared IHW users and obesity rates at state level suggested that selected Facebook demographics may have the potential to become dynamic markers of health indicators at a macrosocial level. Further studies need to address the many limitations of this anecdotal finding.

References
[1] van der Leij MJ. Sociology. Experimenting with buddies. Science 2011; 334(6060): 1220-1221. PMID: 22144610.
[2] Osterlind SJ, Geana MV, Cameron GT. Novel statistical treatment of data in a tailored health environment. Presented at the 2012 EACH Conference, St. Andrews, Scotland, September 4-7, 2012.
[3] US Centers for Disease Control and Prevention. Overweight and Obesity. Accessed at: http://www.cdc.gov/obesity/data/adult.html.