Measuring impact of 'likes' by users on Facebook being targeted by sellers

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(Phys.org)—A small team of researchers from Columbia Business School, Stanford University and the Wharton School of Business all in the U.S. and the University of Cambridge in the U.K. has found a way to show that sellers targeting ads at users based on their profiles on Facebook can have a dramatic impact on sales. In their paper published in *Proceedings of the National Academy of Sciences*, the group describes

the experiment they carried out, what they found, and some possible implications of their findings.

Most people who use Facebook know that the people behind the social behemoth collect data regarding everything users do on the site and then sell that data to companies who use it to create targeted ads on the same site. But until now, what has not been clear is if there are ways to manipulate the model in a way that may not be as obvious. In this new effort, the researchers looked at the impact of targeting users based on nothing more than "likes" they made for two given entities.

In a prior effort, researchers at Cambridge had created a massive database by combing information available from user profiles on Facebook. Part of that data included "likes" made by users for other users or entities such as corporate pages. In this new effort, the researchers looked at "likes" given for just two of those: Lady Gaga and Stargate. The team at Cambridge had found some evidence suggesting that girls or women who "liked" Lady Gaga's page tend to be more extroverted than average. In contrast, girls or women "liking" Stargate's page tend to be more introverted.

The researchers then worked with an online beauty product maker who used the data from Cambridge to create and buy ads on Facebook targeted at women based on whether they were deemed more extroverted or introverted as determined solely on their decision to click on a "like" for one or the other chosen pages.

After running the ads for a period of time (which reached a total of 3.1 million people), the unnamed beauty product maker reported back to the researchers that the scheme had resulted in a clear increase in both clicks on their ads (1.4 times as many) and in sales (1.5 times as many) as compared to untargeted advertising on the same site. This, the researchers note, could have far reaching implications, because the same

technique could also be used for other purposes, such as influencing elections.

More information: S. C. Matz et al. Psychological targeting as an effective approach to digital mass persuasion, *Proceedings of the National Academy of Sciences* (2017). DOI: 10.1073/pnas.1710966114

Abstract

People are exposed to persuasive communication across many different contexts: Governments, companies, and political parties use persuasive appeals to encourage people to eat healthier, purchase a particular product, or vote for a specific candidate. Laboratory studies show that such persuasive appeals are more effective in influencing behavior when they are tailored to individuals' unique psychological characteristics. However, the investigation of large-scale psychological persuasion in the real world has been hindered by the questionnaire-based nature of psychological assessment. Recent research, however, shows that people's psychological characteristics can be accurately predicted from their digital footprints, such as their Facebook Likes or Tweets. Capitalizing on this form of psychological assessment from digital footprints, we test the effects of psychological persuasion on people's actual behavior in an ecologically valid setting. In three field experiments that reached over 3.5 million individuals with psychologically tailored advertising, we find that matching the content of persuasive appeals to individuals' psychological characteristics significantly altered their behavior as measured by clicks and purchases. Persuasive appeals that were matched to people's extraversion or openness-to-experience level resulted in up to 40% more clicks and up to 50% more purchases than their mismatching or unpersonalized counterparts. Our findings suggest that the application of psychological targeting makes it possible to influence the behavior of large groups of people by tailoring persuasive appeals to the psychological needs of the target audiences. We discuss both the potential benefits of this method for helping individuals make better

decisions and the potential pitfalls related to manipulation and privacy.