

Web creates snowball effects in real life

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To understand how information spreads among people, Swedish physicists and sociologists have studied a Brazilian Web forum for discussing escorts, high-end prostitutes. The study is probably the first to demonstrate that feedback in Net-based communication impacts events in reality. This in turn has an effect on the Net.

The findings are published in the prestigious journal *Proceedings of the National Academy of Sciences* by the physicists Luis Rocha and Petter Holme of Umel' University and the sociologist Fredrik Liljeros of Stockholm University (Sweden). They have analyzed a Brazilian Web forum where sex-buyers anonymously discuss escorts.

"Most economic phenomena are based on the sellers spreading information to buyers via marketing. Prostitution is one of the few phenomena that are organized through social networks among both buyers and sellers. This is why it's interesting to people like us, who study social dissemination of <u>information</u>," says Luis Rocha.

Through sex-buyers' remarks about their encounters with escorts, the researchers have been able to observe how the discussion in the forum affects how many contacts the escorts have with sex-buyers.

Positive reviews increases the number of future contacts. High activity levels and experience also enhance the reputations of escorts. This feedback can have something like a snowball effect for certain escorts and in that way creates a skewed distribution of how many contacts different escorts have.



The study may also be of interest in understanding how sexually transmitted diseases spread. The transmission of disease is strongly influenced by how the sexual network is built up. In spite of this, there are very few large-scale studies of sexual networks, as it is difficult to gather the relevant data. In this study Rocha, Liljeros, and Holme investigated a special type of sexual contacts that, to be sure, do not tell the whole truth about the individuals' sexual contacts. On the other hand, the network is extremely large.

"Even though we have only studied contacts between escorts and sexbuyers, the entire network is pretty much connected. This is somewhat surprising, since the escorts work in twelve cities, some of them rather remote from each other," says Petter Holme.

In the future these researchers plan to complement these data with other knowledge in order to get a better grasp of the transmission of disease.

From an economic perspective the researchers were also able to observe an interesting relationship between the number of escorts and the size of the cities. Normally economic phenomena that require that people meet in reality increase faster than linearly. In this case that would mean that a city that is twice as big as another should have more than twice as many prostitutes. On the other hand, in this study the number of escorts increases more slowly than linearly, despite the fact that the prostitutes and their customers ultimately have to meet.

"Since the prostitution we are studying is coordinated via the Internet, it's not as important to set up meetings in reality. Moreover, Web-based prostitution is facing growing competition from other forms of prostitution that stand to gain more from the proximity of people in cities," explains Luis Rocha.



Provided by Umea University

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