

How technology can influence people's emotions

May 7 2014, by Sorina Buzatu



Sharing emotions is a central part of human communication. Moreover, the internet is becoming an important medium to share them. And this has given rise to collective emotions in online groups. But emotions can also be emulated by some software to influence such e-communities. The EU-funded project, [Cyberemotions](#), completed in 2013, has examined the role of collective emotions in creating, forming and breaking-up e-communities.

Project coordinator Janusz Hołyst, professor of Physics, at the Warsaw University of Technology, in Poland and also affiliated with the

Netherlands Institute for Advanced Study in the Humanities and Social Sciences, in Wassenaar, talks to youris.com about the benefits and risks of using knowledge about emotions on the internet. And he also reflects on how this could lead, amongst other things, to robots that keep lonely senior or disabled people company.

Why were you interested in studying cyber emotions?

We anticipated an emergence of collective emotions in [online communities](#). We were not only interested to study how people showed their emotions but to notice how the emotions get collective. Nowadays more and more people use the internet, including blogs, forums, portals, Twitter etc., to exchange information. But, they use them especially to convey emotions. In fact, emotions are a very important component of [human communication](#). However, they are much more difficult to control and to quantify. The information can be assessed in terms of its quantity or whether it is true or false. It is not the same with the emotions.

What were the main findings of the research?

We found that members of many [communities](#) show easier negative emotions than positive ones. The [negative emotions](#) act sometimes as a fuel for the life of the online groups. But, when the level of emotions declines below some threshold, the group ceases to exist. We also observed that in consecutive comments, emotions are clustered in groups corresponding to similar emotional valences.

As a result, if there are several comments of the same emotional valence - no matter if they are positive or negative - then it is a higher probability that the next message contains a similar emotion. So it is a kind of emotional transfer from one member of the e-community to another. We

also monitored the role of the minor emotions and we found that such sentiments get more recognition in the community. People representing minor emotions attract each other stronger in comparison with those linked by a major emotion.

What emotionally manipulative risks are e-communities exposed to?

There is a risk that the online communities be manipulated or influenced. In my opinion it is a higher risk to be manipulated using emotions than by using information. Moreover, such manipulation can be carried out by a computer program that sends messages tailored for certain groups. Such programs could belong to the, so-called, bots. And their purpose is to influence people's behaviour, using information about their psychological profile. Over time, the computers have stored a lot of data about our habits and our possible weaknesses. A person that interferes in a discussion with another person can be very expensive. A computer program can be cheaper and it can influence millions of people.

Are you concerned about the negative influence that the emotions research could have?

Members of the project consortium were scientists working at the universities, using public funds. At least because of this reason, our study has therefore obeyed strict ethical standards. I am concerned however that similar research can be—or is—performed by private companies. And by a military sector, where ethical constraints are not controlled as in our case.

What are the potential applications of your research?

We found that the Sentistrength program that was developed in our project for automatic sentiments detection can be further extended to become a part of an emotional spell checker. As self-calibration of emotions is not easy, one could use an algorithm for the text analysis. It will be included in the existing text editors or mailing programs. It will show what kind of emotions you are about to send in an e-mail.

Another possibility is to produce a next generation of robots to help old or disabled people who live alone. The robots would be equipped with empathy and be used as companions for such persons.

Finally, one can develop artificial agents to assess [emotional](#) states of e-communities members. They will act as cyber advisers for the e-community project's partners whose tasks are coordinated through the internet. If their level of expressed emotions is too high, the cyber adviser will warn about the risk of the e-community project's collapse.

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