

Suicide prevention—reacting to the tell-tale signs

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Can search engines save lives? Ludwig-Maximilians-Universitaet (LMU) in Munich researchers are working on an approach which would enable search engines to more effectively identify users who are at risk of suicide and provide them with information on where to find help.

Search engine queries not only reveal a lot about the user's interests and predilections, they also contain information relating to their mood or state of health. In response to recommendations by the World Health Organization (WHO), search engines like Google are already responding to [search queries](#) containing terms which imply that the user might be contemplating suicide by specifically drawing attention to counseling and other suicide prevention services. "The Internet is playing an increasingly significant role in suicide prevention," says Dr. Florian Arendt of LMU's Department of Communication Science and Media Research (IfKW). Indeed, several studies indicate that suicidal persons can be deterred from taking their lives when reminded of available help resources. In collaboration with his colleague Dr. Sebastian Scherr at the IfKW, Arendt has carried out a study on how the algorithms that search engines use to parse queries might be modified so as to ensure that they more effectively target remedial information to those at risk. The findings of the study recently appeared in the journal *Health Communication*.

In an earlier study, Arendt and Scherr showed that only 25% of the queries classified by Google as potentially suicide-related lead to the presentation of the Google "suicide prevention result" as recommended

by the WHO. "In other words, search engines are not optimally using their potential to help those who are at risk," says Sebastian Scherr. In their latest paper, the two researchers develop an approach which seeks to make better use of the context in which potentially suicide-related search terms appear.

Epidemiological studies repeatedly have shown that suicidal behavior is strongly influenced by environmental factors. This is reflected, for example, by the fact that suicide numbers peak at particular times – for example, on certain family holidays as well as on particular weekdays. Taking the word 'poisoning' as a representative "suicide-related" search term, Arendt and Scherr analyzed temporal patterns of its use in queries submitted to Google. Strikingly, they found that the fraction of queries containing the term peaked exactly on days on which the actual incidence of suicide was particularly high.

"This suggests that, on these peak days at least, the thresholds for the dispatch of information related to suicide prevention should be reset," says Scherr. The authors go on to propose that the corresponding algorithms should be regularly updated in response to new research findings, in order to take objective factors that increase the risk of suicide more effectively into account. By modifying their settings accordingly, Google and other search engines could make an even greater contribution to [suicide prevention](#), the researchers conclude. "In this context, providers of search engines have a specific social responsibility," says Arendt.

More information: Florian Arendt et al. Optimizing Online Suicide Prevention: A Search Engine-Based Tailored Approach, *Health Communication* (2016). [DOI: 10.1080/10410236.2016.1224451](https://doi.org/10.1080/10410236.2016.1224451)

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