

Texting research could improve counseling on crisis help lines

August 10 2016, by Marina Krakovsky

Crisis hotlines have been around for years, but until recently there's been very little data on which counseling strategies seemed most effective at helping people cope. The recent emergence of text-based crisis help lines is changing that.

Designed for people who prefer texting to talking, these services generate large datasets of anonymous counseling sessions, raw material that computer scientists can study to identify the words and techniques that seem to improve outcomes.

"Until now, most research on counseling has remained small-scale, looking at voice transcripts of only a few dozen sessions," said Jure Leskovec, an associate professor of computer science at Stanford.

Working with graduate students Tim Althoff and Kevin Clark, Leskovec analyzed 660,000 text messages from 15,000 crisis counseling sessions. In a recent scholarly paper the researchers identified several techniques associated with successful sessions, such as personalizing exchanges, quickly getting to the root of the problem, and using words and phrases to steer conversations onto a positive track.

Leskovec said he believes such findings could be used to train counselors how to respond most effectively when a person in the midst of a crisis reaches out for help.

"We can look at orders of magnitude more data than previous studies

allowed, to gain new insights and precisely quantify which counseling strategies worked," he said.

5 phases of conversation

For this study, the researchers developed new methods of natural language analysis to determine how the words and phrases that counselors used influenced whether distressed texters reported feeling better at the end of the conversation.

In particular, they contrasted the language used by counselors who are very successful at getting texters to report feeling better with the language of those counselors who were generally less successful.

Researchers discovered that all counseling conversations followed five stages: introduction, problem setting, problem exploration, problem solving, and wrap-up.

Each stage can be characterized by the words counselors as well as texters use. For example, the introduction stage was marked by greetings on both sides and the wrap-up stage showed texters expressing appreciation and counselors using words like "any time."

Key to success

These stages were independent of the topic, which could be anything from relationship troubles to thoughts of suicide. But by analyzing and comparing how the most successful and least successful counselors progressed through the stages, the researchers discovered one key difference.

"Successful counselors quickly got to the heart of the issue and spent

more of the conversation dealing with the problem," Althoff said. "The less successful counselors took a lot more time to get to know the problem."

This finding is related to another interesting pattern: successful counselors tend to respond more effectively to ambiguous messages. Presented with exactly the same situation – a breakup with a boyfriend or girlfriend, for example – a successful counselor typically asks more clarifying questions. They paraphrase responses to make sure they understand, and they thank the texter for reaching out.

In short, successful counselors do more to draw out the terse texter and get to the crux of the person's problem. As Althoff explained, this means that successful counselors tend to talk more. They personalize their messages to the specific texter and situation so their comments sound natural. The study showed that texters tended to talk more about certain topics once counselors broached those topics. So counselors can put texters in a better frame of mind by making subtle changes to their own language.

"If you talk about the future, I will be more likely to talk about the future," as Althoff said. "If I talk positively, you'll be more likely to talk positively."

This type of analysis can be applied to training crisis counselors in the short run and, as the language analysis techniques improve, perhaps even lead to the development of automated conversational agents that support counselors during training and actual conversations.

"These sorts of applications become possible when we bring the power of natural [language analysis](#) and artificial intelligence to bear on extremely large datasets of real crisis conversations," Leskovec said.

Provided by Stanford University

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