

CCTV at metro stations could be used to identify people at risk of attempting suicide

December 14 2016

Nearly a quarter of attempted suicides at metro stations could be identified using real-time CCTV to spot certain behaviours for prevention, according to new research published in the open access journal *BMC Public Health*. This study is the first to examine the behaviours of people at metro stations using CCTV footage, and their association with suicide risk. Suicides occur in all urban transit systems where there are no physical barriers to block access to the tracks, and although most attempters do not die, they often suffer serious injuries as a result.

Pacing back and forth from the yellow line at the platform edge and leaving an object such as a bag on the platform were both independent indicators of a suicide attempt that were not seen in other people on the platform. According to the researchers, 24% of attempters could have been spotted and possibly prevented by people looking for these two behaviours on CCTV footage.

Professor Brian Mishara, lead author and Director of the Centre for Research and Intervention on Suicide and Euthanasia at the University of Quebec in Montreal, said: "We conducted a two stage study to first, identify behaviours associated with attempted suicide and second, to test if these behaviours could be used to spot people who go on to attempt suicide with minimum false identification of people who were not going to attempt."

"We found that the presence of two or more of following behaviours

may indicate [suicide risk](#): leaving objects on the platform, frequently looking down the tunnel, standing for long periods of time on the yellow line or continually walking on the yellow line, looking physically agitated, staring at the tracks or the tunnel for long periods of time and seeming depressed. Several of these behaviours have the potential to be detected automatically using computer technology so our study provides ground work for research to develop novel ways to prevent suicide attempts at metro stations."

In the first part of the study the researchers were given access to multiple camera CCTV footage of 66 previous suicide attempts from a metro station in Montreal, Canada. The captured time-frame included, where possible, from the moment the person entered the station up until after the suicide attempt was made. Fourteen attempts were randomly selected and used to draw up a list of associated behaviours which were then validated and agreed by four independent observers, who then proceeded to analyse all the cases. Several behaviours were obvious to spot but others, such as intoxication, physical agitation, anxiety and depression may have required interpretation by the observer.

Professor Mishara explained: "Identifying these behaviours was difficult not just because of the issue with interpretation of certain behaviours but also because of the emotional challenge from watching the CCTV footage. We observed that 37% of the time other people at the station tried to save the person attempting suicide. We also noted that in 75% of attempts there were clear indications that the person might be changing their mind such as hesitation, trying to protect themselves from the train or trying to stop their jump after it was too late".

In the second part of the study the researchers showed 33 independent observers single-camera footage, from 63 previous suicide attempts, of the five minutes leading up to but not including the attempt itself and asked them to note which of the behaviours from a list that they could

spot. These video clips were randomly mixed with CCTV footage from 56 events where no future suicide attempt was made, but the observers were not told which footage they were viewing. No training was given to the observers apart from an explanation of the indicating behaviours on the list and CCTV footage was only shown once to reflect what it might be like in real life for someone to spot a potential [suicide attempt](#).

Professor Mishara said: "In our experiment the observers only spotted indicating behaviours from our list in 53% of the videos they viewed where actual suicide attempts took place. We believe this is probably due to the fact that they were watching single camera footage and did not have the benefits we did when viewing the [footage](#). This highlights the need for training so that observers are skilled at spotting the right [behaviours](#) in real-time situations."

For best practice on reporting on suicide and suicide methods please see guidance from WHO available here: [suicide/resource_media.pdf](#)"
target="_blank">[www.who.int/mental_health/prev ...](http://www.who.int/mental_health/prev...)
[f/resource_media.pdf](#)

More information: Brian L. Mishara et al, Can CCTV identify people in public transit stations who are at risk of attempting suicide? An analysis of CCTV video recordings of attempters and a comparative investigation, *BMC Public Health* (2016). [DOI: 10.1186/s12889-016-3888-x](#)

Provided by BioMed Central

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