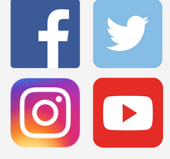


# Prediction of Mental Health Components Using Social Media

Previous work showed that youth can talk about their suicidal thoughts on social media platforms. Specialists can use tools, such as machine learning (ML) and natural language processing (NLP), on social media text to generate methods to predict suicide risk.

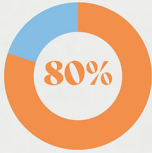


## SAIPH

We are using a tool named Suicide Artificial Intelligence Prediction Heuristic (SAIPH), which is designed to predict the future risk of suicidal thoughts and behavior of the individual who is writing the Tweets and of their region.

## WHAT CAN SAIPH DO?

With the social media data collected **14 days prior** to the completion of the survey, the SAIPH score could predict high suicidal ideation scores up to 8 days from the last SAIPH data, with an accuracy of **80%**.



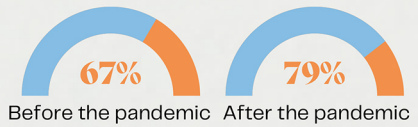
The SAIPH scores can reflect the changes in both **suicidal ideation** and **perceived stress** over time.



The regional stress proxy scores are associated with the likely stress levels in **individuals not on social media**.



The SAIPH scores can change in response to a **major disruption of normal living** like social distancing mandates, in individuals with suicidal ideations.



## WHY SHOULD WE USE SAIPH?



We could determine an individual's mood using proxy scores from individuals on Twitter located in the same area.



We could offer a method to rapidly detect suicide risk that may be integrated as a tool to aid clinician decisions.



We could offer non-invasive psychosocial intervention rapidly and before periods of acute distress.

Kaminsky, Z., et al. (Under preparation). Novel Applications and Validation of a Machine Learning Approach to Suicide Risk Prediction using Social Media Data.

[c19survey@theroyal.ca](mailto:c19survey@theroyal.ca)