The concept of an interactive bot/app designed to monitor and assess users’ with mental health problems using cloud service from Microsoft Azure with Artificial Intelligence. Based on the result returned from the AI having analysed a user’s textual and visual data, we engage private online professional counsellor or psychologist services to provide first point of contact to offer help for young website users with mental health conditions as anxiety, depression or suicidal thoughts.

Today I will ask the following questions to a psychologist who completed a Masters of Counselling Psychology at Swinburne University of Technology. She has an interest in educational and developmental psychology, working with children and young people, as well as their families. She is currently working as a school counsellor.

This discussion will provide a perspective into understanding behaviour/ performance of website users who fall under the category of children and young people (0-25).

1. Are psychologists or counsellors able to recognise early stage symptoms based on young website users’ written information indicating that they may struggle with mental health conditions as anxiety, depression, suicidal thoughts? If yes, how?

* It is possible for psychologists and/or counsellors to recognise symptoms related to mental health disorders based on the language that the child/young person uses. This could be inferred from searching key words that range from identifying specific symptoms related to mental health disorders (e.g. “What are the physiological symptoms of anxiety?) to treatment for anxiety or depression, as well as the websites that they are accessing (e.g. Headspace and BeyondBlue). Researching risky or dangerous activities could also provide signs of emotional distress.
* Whilst the language that the child/young person provides important clues into the way that they are feeling, it would be beneficial for this to be accompanied by behavioural observations and detailed background information. Follow up questions could also ascertain the intensity, frequency and duration of symptoms.

1. What language do they usually use and how might a vulnerable/distressed person express their emotions?

* The language used will vary upon the person, context, risk and protective factors, as well as situation. It will also be dependent upon the symptoms that they are experiencing. As an example, a child/young person who is experiencing symptoms of depression, might talk in absolutist language, especially since depression frequently leads to distortion of thought patterns (e.g. black and white thinking: I am never going to be able to get through this”). The child/young person might also use negative emotion words such as “helpless”, “hopeless”, “worthless”, “useless”, “alone”, “lonely”, “blue”, “stressed” or “upset”. In addition, depression might bring feelings of guilt and self-blame, so language surrounding them being a “burden” will also be important to consider. A loss of motivation and concentration, as well as changes in sleeping and eating patterns, play a big part in depression, and so changes in these areas of daily functioning might provide clues as to how the child/young person is feeling.
* The language used will also need to be considered as part of a wider mental health state exam. Consideration would need to be given to the tone of voice, rate of speech and content of discussion.

1. What is the best way to offer them first aid mental health support?

* The level of mental health support will vary upon the degree of urgency regarding the situation. The urgency of taking action will be based on recognising specific warning signs related to a mental health disorder. It is important to not dismiss their thoughts and emotions and instead validating their feelings. For example, in high risk situations, contact will need to be made with an emergency hospital service or mental health triage service.
* In other situations, the best way to offer support is to gently and sensitively approach the child/young person and have a conversation about specific concerns. Having a discussion is very important and simply offering support is very important. However, it is very important for the person giving the help to be aware of their own limitations and triggers, as to protect themselves from any possible problems.
* Support can be provided in many ways, but the following website has very helpful resources on how to provide first aid mental health support across different mental health problems: <https://mhfa.com.au/>

1. From a psychological perspective, would a user’s conscious / awareness of applied analysis across submitted requests change their way of interacting to avoid the usage of certain keywords or sentences that would raise alerts?

* The foundation of an ethical and professional psychological service is largely dependent upon the confidentiality and privacy of a client. In the instance of internet usage, especially through the use of online counselling services, children/young people want to remain anonymous. Their openness and readiness for treatment and support ranges on a wide spectrum, and so, they might not be ready to seek support yet but are curious to find out specific information. By being conscious that their thoughts and emotions are tracked, it is possible that some children/young people be resistant and hesitant to ask for help or use the internet for specific information.

1. Would they feel limited in using the app or chat tool knowing it’s analysed to determine need for mental help via sms, communication platforms or email?

* Refer to answer above.

1. Are psychologists using technology or online services to provide professional service? What sort of tools do they use?

* Yes, there are many online services that provide psychological support and counselling. There are websites and applications that have been created by specific organisations (e.g. Australian Psychological Society, BeyondBlue, eHeadspace, Mind, Counselling Online). There are also other psychological applications that could be used (e.g. *Calm* for relaxation and mindfulness practice, creating safety plans relating to suicide on the BeyondBlue application or tracking mood/eating/sleeping patterns). There are also different resources such as the *Centre for Clinical Interventions* that provide resources and psychoeducation about specific problems.

1. Can you please recommend the most important/helpful Australian or English-speaking websites and institution as a first point of contact and information providing professional service for children and young people looking for help with mental health conditions?

* Refer to answer above.

1. Do you think that the direct question “ARE YOU OK?” from non-judgemental app would help the young user to open up and allow the professional services to contact them directly of via parent consent to offer the help? If yes, how might this be helpful?

* A wide range of questions can be asked to determine mental state of a child/young person. Direct, close-ended questions could be helpful in sparking a conversation, but this might need to be followed by more open-ended questions and rating scales (e.g. On a scale of 1 to 5, how *sad/depressed/angry/suicidal* are you feeling?). The question might also need to be followed by a question if the child/young person is prepared to receive support and what this might need to look like (e.g. phone call, email or messenger).

1. Are there any further specific/ leading questions we can ask the user what won’t be as obvious what AI is trying to determine/analyse?

* Refer to answer above.

1. Are there specific groups that may be more vulnerable than others, in reference to socio economic, age, gender group or past experience/history?

* There are a wide range of risk factors that often contribute to the vulnerability of a child/young person. Previous family history of mental health disorders are a key predisposing factor, as well as history of attachment and developmental history. Socio-economic status, drug/alcohol use, access to support networks are also key factors that influence mental state. Cultural background of a child/young person might deter them from seeking support, as there is a stigma surrounding mental health support. Personal experiences of the child/young person such as number of transitions, adjustments, changes and trauma might contribute to vulnerability of the child/young person. Other factors involved drug/alcohol use, as well as criminal and legal history.

1. Do you think 5 step questionnaire before accessing the website would help an Artificial Intelligence to identify high risk group? If yes, how?

* A questionnaire will provide demographic information about the person, however, further information that would be gathered through a comprehensive psychological assessment including interview (e.g. questions relating to personal history, family dynamics, social and educational history, developmental history), assessment tools (e.g. depression, anxiety and stress scale), as well as behavioural observations. Once information is gathered, a formulation would be created that generally follows the *4P model*, which considers predisposing, precipitating, perpetuating and protective factors. Once all of this is taken into consideration, it would help identify the risk status of the child/young person.

1. What are the limitations of conducted AI web page users’ analysis? Are there any significant areas where AI is not able to provide detailed verification and diagnosis may occur faulty?

* As emphasised in the answers above, there is a possibly that important information relating to behaviours and non-verbal cues will be missed.
* Confidentiality and privacy might be compromised.
* Experience of support might not be what they need given that a comprehensive formulation and treatment plan has not been created (however, this is related to long term treatment rather than first aid support).
* Takes language at face value without opportunity to explain or expand.

1. How do you know that AI will not make a faulty judgement/analysis? Does it need a series of behavioural signs to make an expertise or singular text message or keyword could be sufficient source of information? Or misleading and false positive?

* This is an interesting question, as it is tricky to determine if it will make a faulty judgement/analysis. A large part of a psychologists’ job is to make hypotheses and assumptions and test them out with the client. The client would then work collectively with the psychologist to either agree or challenge the assumptions. AI might not offer the opportunity for the child/young person to reframe the word or work together to find out the child/young person is experiencing, which might result in making judgements that are not in line with the child/young persons narrative and current presentation.
* It might need to provide a platform to summarise or clarify specific questions to get a better insight into current problems and concerns.

*I hope that these answers are helpful. They are also personal opinion and are not exhaustive or completely inclusive. But I hope they provide important information. GOOD LUCK GUYS!*