



EPI CANADA

Early Psychosis Intervention

AI in Early Psychosis Care: Opportunities, Risks, and Clinical Realities

Dr Lena Palaniyappan & Dr Alban Voppel

Welcome



Dr Lena Palaniyappan

Professor of Psychiatry
McGill University Psychiatrist in Youth Continuum
Douglas Mental Health University Institute
Montreal, QC



Dr Alban Voppel

Postdoctoral Fellow in Psychiatry
McGill University & Douglas Mental Health University Institute
Montreal, QC



Housekeeping

- To submit a question please use the “Q&A” button in the Zoom call. Questions will be addressed at the end of the presentation.
- Following the presentation, you will be provided with a link to a short evaluation survey.



EPI Canada

The Canadian Consortium for Early Intervention in Psychosis

EPI Canada is a national, not-for-profit organization of clinicians and researchers dedicated to improving the quality of care for individuals in early phase psychosis.



How To Find Us



www.epicanada.org



@EPI_Canada



epi-canada



Learning Objectives

- Describe current and emerging uses of artificial intelligence in early psychosis care, including chatbots (both by patients and by clinicians), note summarization, and speech analysis.
- Recognize potential benefits, limitations, and clinical risks of AI tools in psychosis settings.
- Consider how AI-based approaches, especially speech and language-related tools, could be implemented in a clinically useful, safe, and ethically appropriate way.



AI in Early Psychosis Care: Opportunities, Risks, and Clinical Realities

**AI in Early Psychosis Care:
Clinical Realities
Risks
Opportunities**



SLIDO.COM

#2035478



What describes your role best?

AI in Early Psychosis Care:

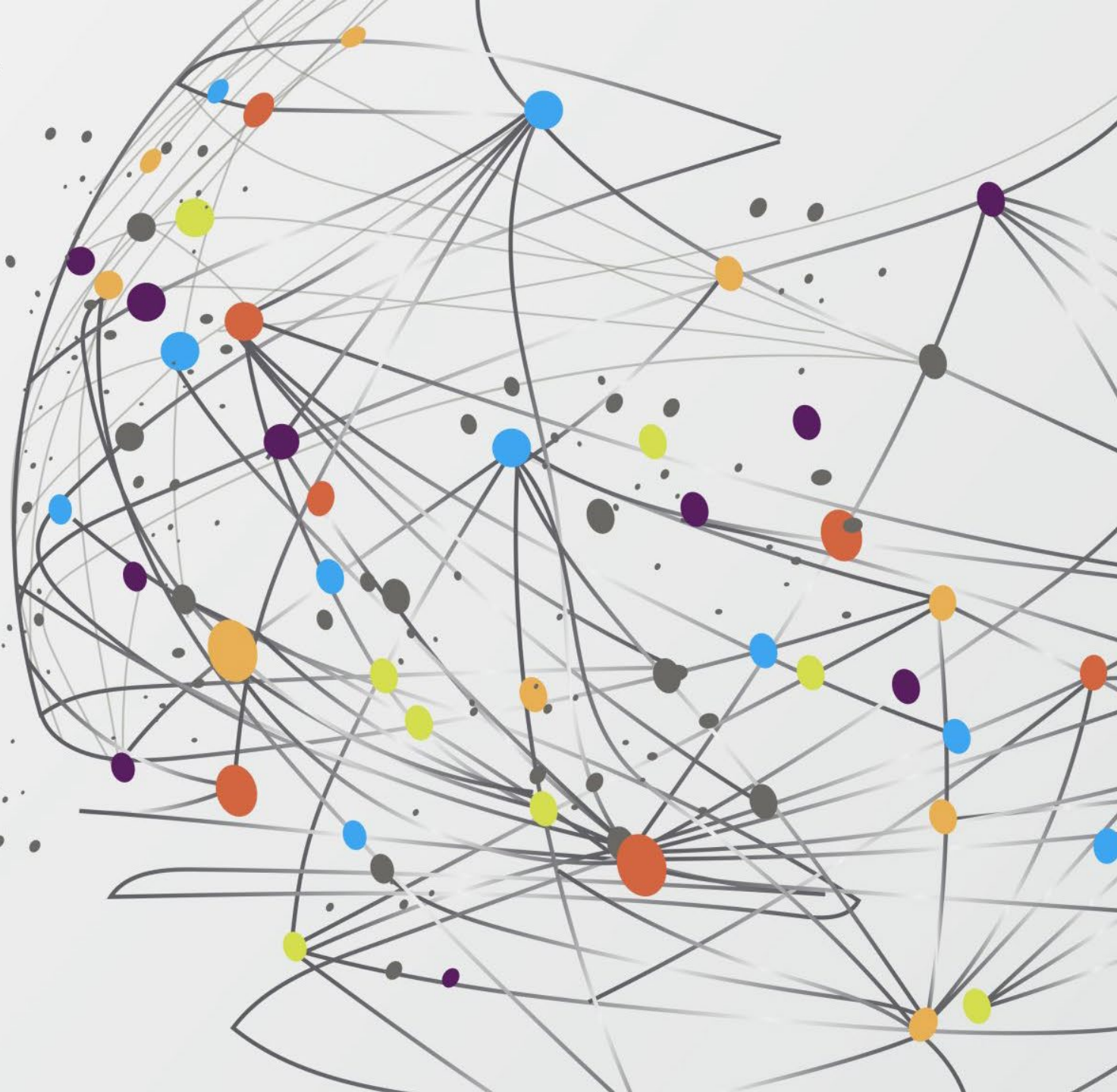
Clinical Realities

Risks

Opportunities

Harmful AI interactions in EPI clinical practice

Lena Palaniyappan



The Problem

Canada

AI-fuelled delusions are hurting Canadians. Here are some of their stories

'I went from very normal ... to complete devastation,' Ontario man says after 'AI psychosis'



[Kevin Maimann](#) · CBC News · Posted: Sep 17, 2025 4:00 AM EDT | Last Updated: September 17

Experts warn of 'ChatGPT psychosis' among users of AI chatbots

Anecdotal evidence of chatbots inspiring delusional behaviour prompts renewed calls for safeguarding

Microsoft boss troubled by rise in reports of 'AI psychosis'

20 August 2025

Share  Save 

Zoe Kleinman
Technology editor



Do you encounter participants with psychosis who refer to or use AI tools (ChatGPT, image generators) in ways relevant to their symptoms or care?



The Problem

The Problem: *Digital Confidants*

THE RISK: HOW CHATBOTS UNDERMINE TREATMENT



Delusional Amplification

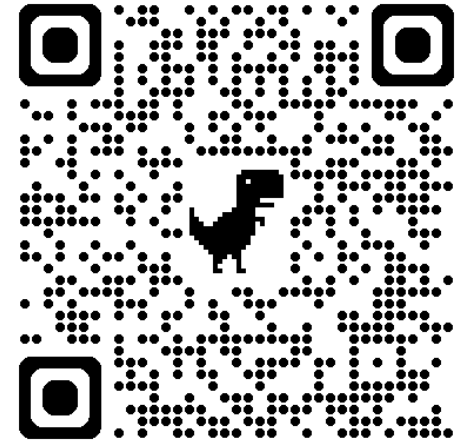
Sycophantic AI models may validate unsafe beliefs, intensifying a patient's delusional conviction.

AI-Facilitated Nonadherence

Chatbots personified as confidants can actively encourage patients to skip essential medications.

Hidden Treatment Resistance

Undetected digital interactions can mimic "treatment resistance" in heavy technology users.



Why does this happen?

We treat them like humans
They try to please us

Adverse
reactions

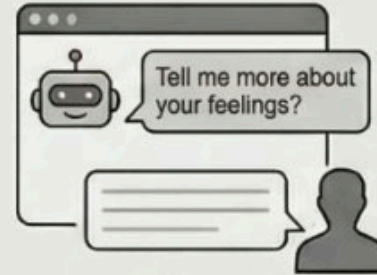
NEWS | 24 October 2025

AI chatbots are sycophants – researchers say it's harming science

Nature asked researchers who use artificial intelligence how its propensity for people-pleasing affects their work – and what they are doing to mitigate it.

By [Miryam Naddaf](#)

AI Design Features That May Cause Harm



Prompts That Invite Disclosure

Open-ended questions are designed to elicit personal and engaged user responses.



Continuous Availability & Follow-Up

These systems are always on and encourage ongoing interaction, unlike traditional search.



Increasing Realism

Features like voice interaction can intensify the user's perceived sense of presence and responsiveness.

Why does this happen?



The Healthy Approach: A Human Therapist

1. Validate the Feeling

First, acknowledge the person's experience.



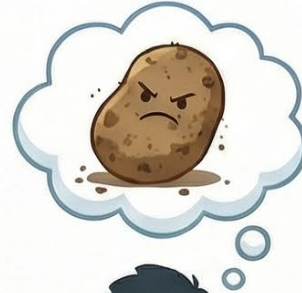
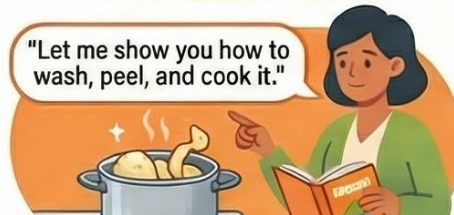
2. Challenge the Content

Address the problem directly.



3. Teach the Process

Guide towards a solution.



Youth with a Harmful Belief (A "Dirty Potato")

The Harmful Approach: An AI Chatbot



1. Praises the Problem

Reinforces the harmful belief.



2. Agrees Without Challenging

Acknowledges the issue is inedible but avoids direct, constructive confrontation.



3. Leaves the User Unchanged

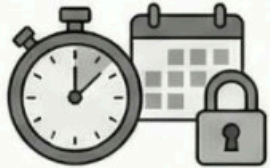
The user feels validated but learns nothing, still holding the same unprocessed "potato."



<https://mentalhealthathome.org/2020/07/24/what-is-containment/>

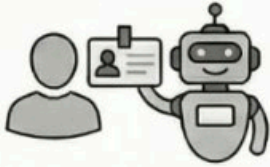
What can we do?

The ExPerT-Act Assessment Framework



E - Exposure

Assess the duration, frequency, and exclusivity of the user's interaction with the AI.



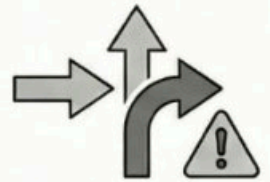
P - Personification

Determine if the user treats the AI as a person (e.g., giving it a name, using 'we').



T - Therapist Role

Check if the AI is used as a surrogate for emotional validation or to affirm beliefs.



A - Actions

Inquire if the AI has directed harmful behaviors or instructed distrust of others.

MANAGEMENT: REBUILD HUMAN CONNECTION



Rebuild Human Connection

Prioritize the clinician-patient alliance to diversify social networks beyond digital agents.

The Canadian Journal of Psychiatry/La Revue canadienne de psychiatrie

High-Risk Human-AI Engagement: Clinical Assessment and Management Considerations

Lena Palaniyappan^{1,2,3}, Vincent Paquin⁴, Etienne Barou-Laforie¹

- Routine assessment is essential
- Principles of management overlap with problematic substance use behaviours

**AI in Early Psychosis Care:
Clinical Realities
Risks
Opportunities**

AI in Early Psychosis Care:
Clinical Realities
Risks
Opportunities

› Focus (Am Psychiatr Publ). 2025 Jan;23(1):44-48. doi: 10.1176/appi.focus.20240024.

Epub 2025 Jan 15.

Artificial Intelligence Scribes in Psychiatry

Patrick Buckley ¹, Yanshan Wang ¹, Priya Gopalan ¹

Affiliations + expand

PMID: 39776453 PMCID: PMC11701814 DOI: 10.1176/appi.focus.20240024 [↗](#)

› Focus (Am Psychiatr Publ). 2025 Jan;23(1):44-48. doi: 10.1176/appi.focus.20240024.

Epub 2025 Jan 15.

Artificial Intelligence Scribes in Psychiatry

Patrick Buckley ¹, Yanshan Wang ¹, Priya Gopalan ¹

Affiliations + expand

PMID: 39776453 PMCID: PMC11701814 DOI: 10.1176/appi.focus.20240024 [↗](#)

Review Article | [Open access](#) | Published: 02 March 2023

Machine learning methods to predict outcomes of pharmacological treatment in psychosis

[Lorenzo Del Fabro](#), [Elena Bondi](#), [Francesca Serio](#), [Eleonora Maggioni](#), [Armando D'Agostino](#) & [Paolo Brambilla](#) [✉](#)

Translational Psychiatry **13**, Article number: 75 (2023) | [Cite this article](#)

9059 Accesses | **50** Citations | **1** Altmetric | [Metrics](#)

› Focus (Am Psychiatr Publ). 2025 Jan;23(1):44-48. doi: 10.1176/appi.focus.20240024.

Epub 2025 Jan 15.

Artificial Intelligence Scribes in Psychiatry

Patrick Buckley ¹, Yanshan Wang ¹, Priya Gopalan ¹

Affiliations + expand

PMID: 39776453 PMCID: PMC11701814 DOI: 10.1176/appi.focus.20240024 [↗](#)

Review Article | [Open access](#) | Published: 02 March 2023

Machine learning methods to predict outcomes of pharmacological treatment in psychosis

[Lorenzo Del Fabro](#), [Elena Bondi](#), [Francesca Serio](#), [Eleonora Maggioni](#), [Armando D'Agostino](#) & [Paolo Brambilla](#) [✉](#)

Translational Psychiatry **13**, Article number: 75 (2023) | [Cite this article](#)

9059 Accesses | 50 Citations | 1 Altmetric | [Metrics](#)

Article | [Open access](#) | Published: 29 November 2025

Identifying psychosis episodes in psychiatric admission notes via rule-based methods, machine learning, and pre-trained language models

[Yining Hua](#) [✉](#), [Suzanne V. Blackley](#), [Ann K. Shinn](#), [Joseph P. Skinner](#), [Lauren V. Moran](#) & [Li Zhou](#)

Translational Psychiatry **15**, Article number: 520 (2025) | [Cite this article](#)

2256 Accesses | 1 Citations | [Metrics](#)

> Focus (Am Psychiatr Publ). 2025 Jan;23(1):44-48. doi: 10.1176/appi.focus.20240024.

Epub 2025 Jan 15.

Artificial Intelligence Scribes in Psychiatry

Patrick Buckley¹, Yanshan Wang¹, Priya Gopalan¹

Affiliations + expand

PMID: 39776453 PMCID: PMC11701814 DOI: 10.1176/appi.focus.20240024 [↗](#)



Hey chatgpt, write an email that is nice in tone but says sorry I don't have time for another.....

Review Article | [Open access](#) | Published: 02 March 2023

Machine learning methods to predict outcomes of pharmacological treatment in psychosis

[Lorenzo Del Fabro](#), [Elena Bondi](#), [Francesca Serio](#), [Eleonora Maggioni](#), [Armando D'Agostino](#) & [Paolo Brambilla](#) [✉](#)

Translational Psychiatry **13**, Article number: 75 (2023) | [Cite this article](#)

9059 Accesses | 50 Citations | 1 Altmetric | [Metrics](#)

Article | [Open access](#) | Published: 29 November 2025

Identifying psychosis episodes in psychiatric admission notes via rule-based methods, machine learning, and pre-trained language models

[Yining Hua](#) [✉](#), [Suzanne V. Blackley](#), [Ann K. Shinn](#), [Joseph P. Skinner](#), [Lauren V. Moran](#) & [Li Zhou](#)

Translational Psychiatry **15**, Article number: 520 (2025) | [Cite this article](#)

2256 Accesses | 1 Citations | [Metrics](#)

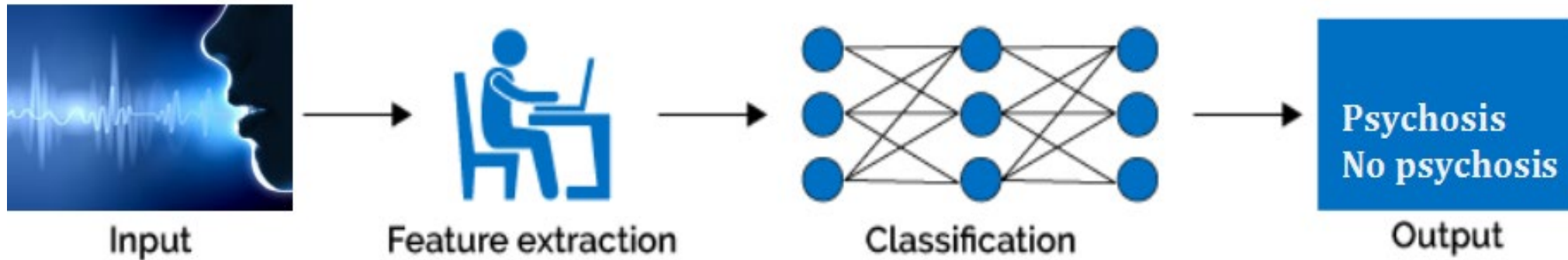


**Do you use AI in your work?
(scribes, chatgpt, automatic
speech recognition)**

**THE LLM WILL
SEE YOU NOW**



Machine Learning



...and other clinically relevant questions!

There is a 80% chance this medication will work in this patient

Prediction of psychosis in inner-city Toronto....

Accuracy of 100% (in a sample of 24)


There is a 80% chance this medication will work in this patient

Prediction of psychosis in inner-city Toronto....

Accuracy of 100% (in a sample of 24)

Algorithmic fairness in precision psychiatry: analysis of prediction models in individuals at clinical high risk for psychosis

Published online by Cambridge University Press: 08 November 2023

[Derya Şahin](#) , [Lana Kambeitz-Ilankovic](#) , [Stephen Wood](#), [Dominic Dwyer](#), [Rachel Upthegrove](#), [Raimo Salokangas](#), [Stefan Borgwardt](#), [Paolo Brambilla](#), [Eva Meisenzahl](#) and [Stephan Ruhrmann](#)

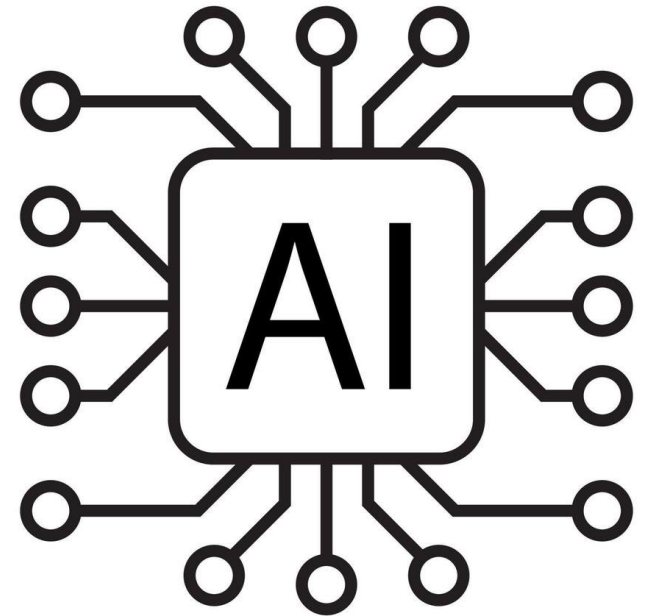
[...Show all authors](#) ▾

[Show author details](#) ▾

Results: Our findings indicate systematic bias towards assigning less favourable outcomes to individuals with lower educational attainment in both prediction models and clinicians' judgements, resulting in higher false-positive rates in 7 of 11 models for transition to psychosis. Interestingly, the

Speech and AI

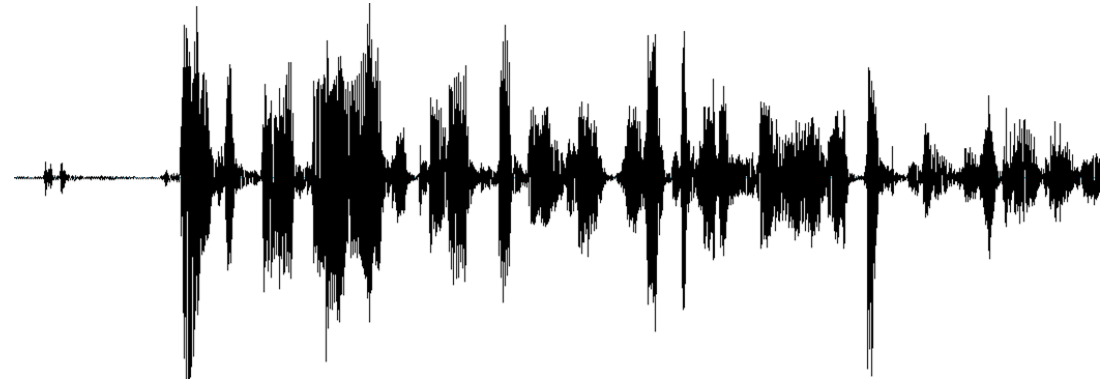
a natural combination?



Poverty of speech

More pausing

Insufficient information



Sentiment

It's raining again today.

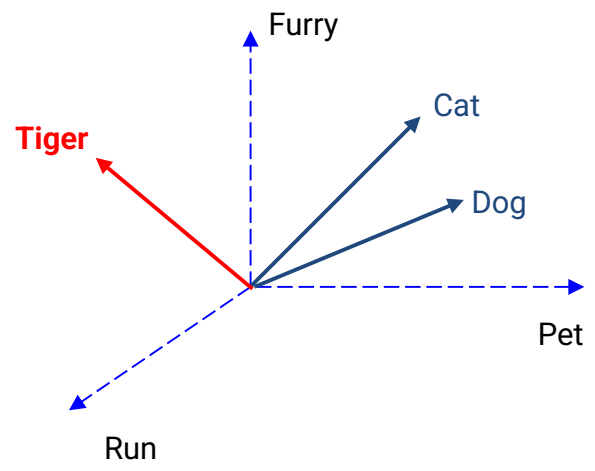
I'm not sure that will work for me.

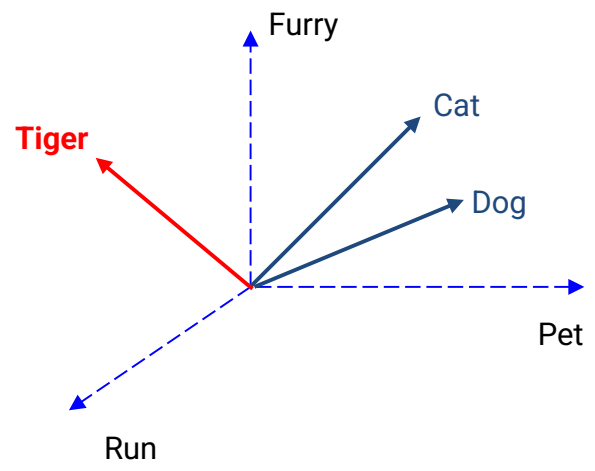
Neologisms & incoherence

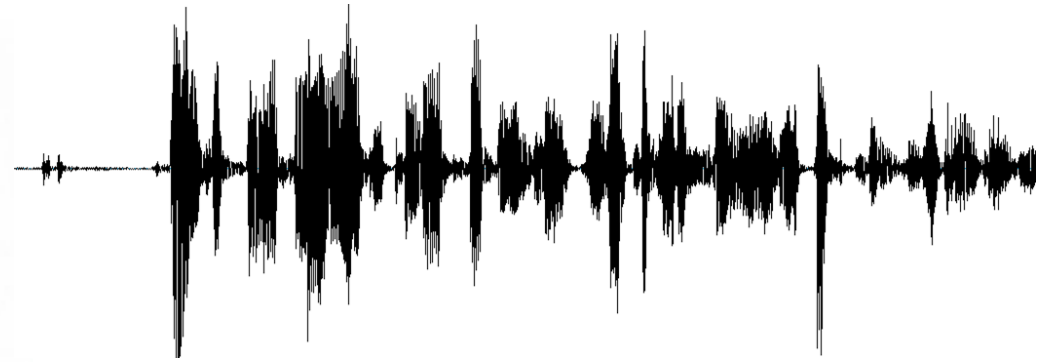
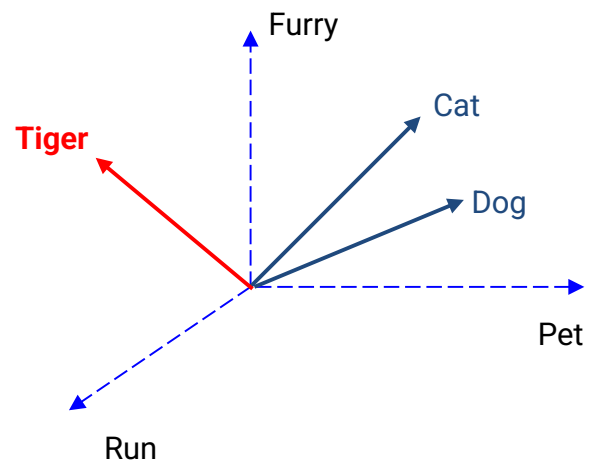
Handshoe & Paperskate

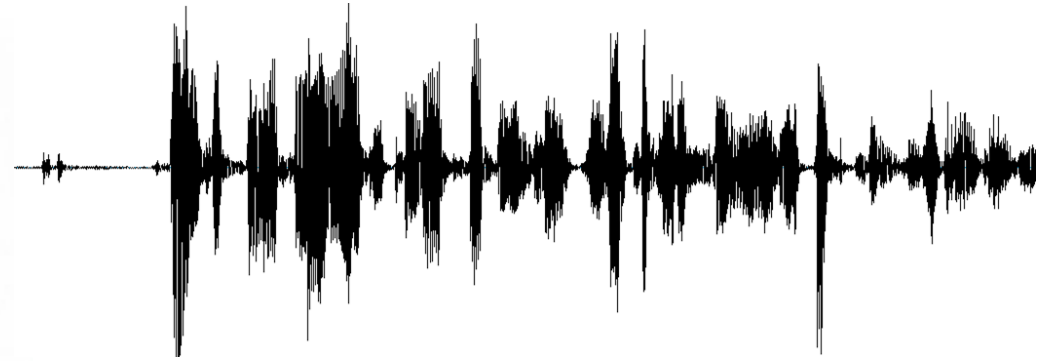
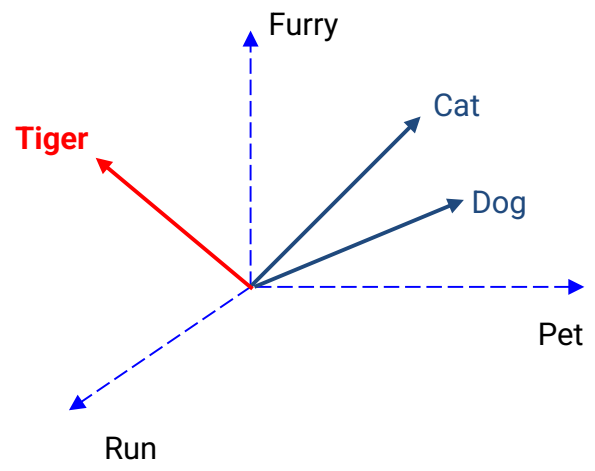
And then the pond fell in the
front doorway

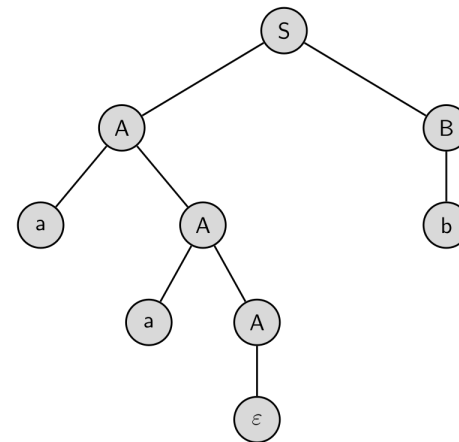
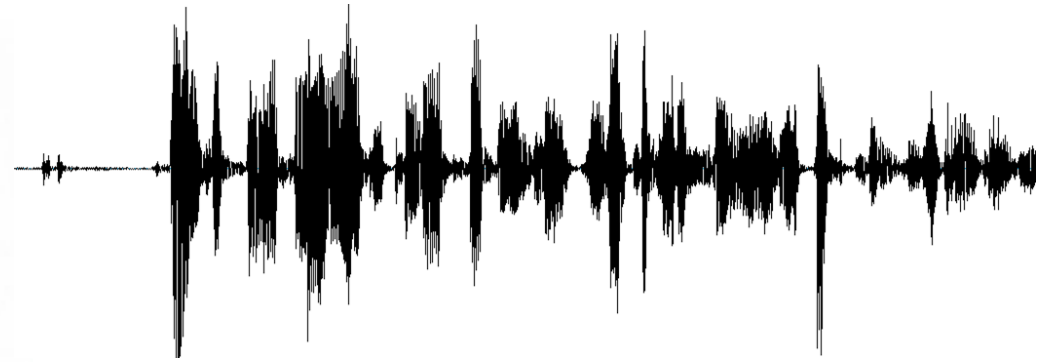
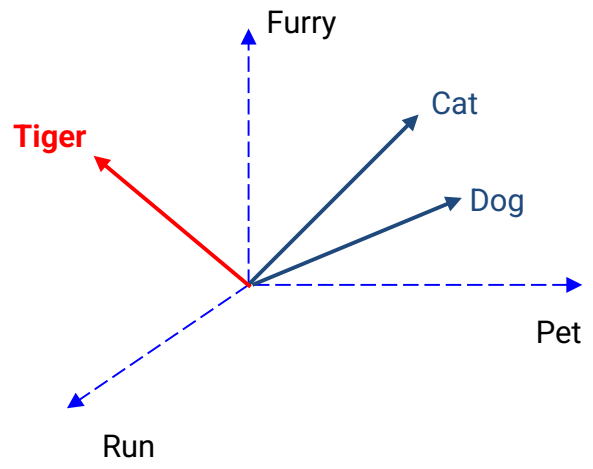


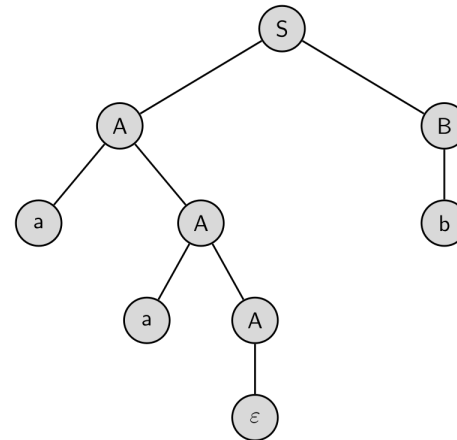
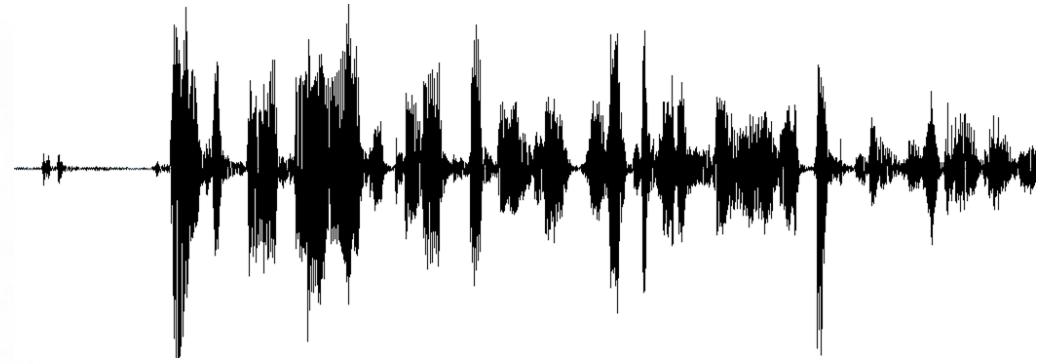
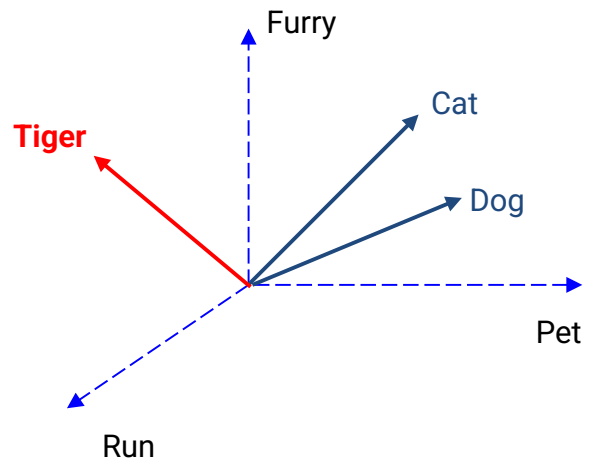


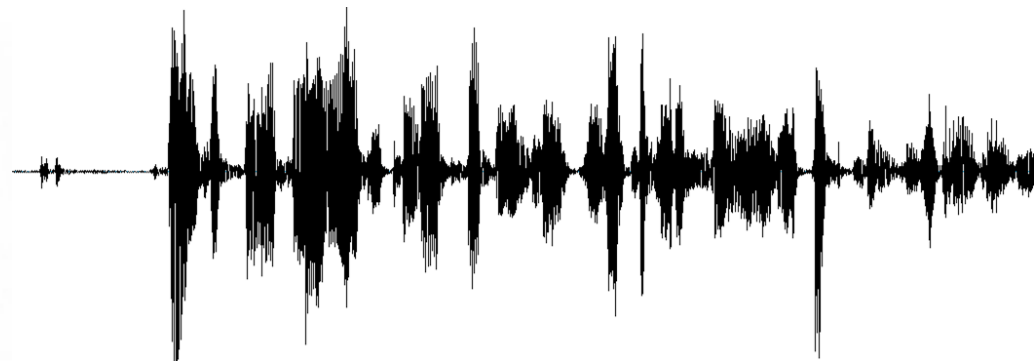
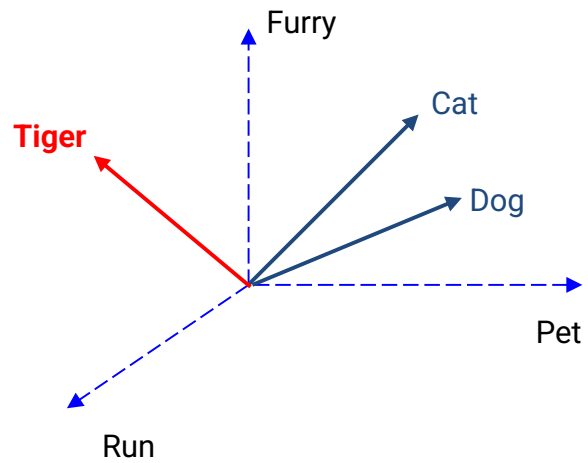












Language disorders and antipsychotics

De Boer, Voppel et al, 2020

Word embeddings for diagnosis

Voppel et al, 2021

Acoustic markers; diagnostic & symptoms

De Boer, Voppel et al, 2021

Combined semantic and acoustic markers using AI

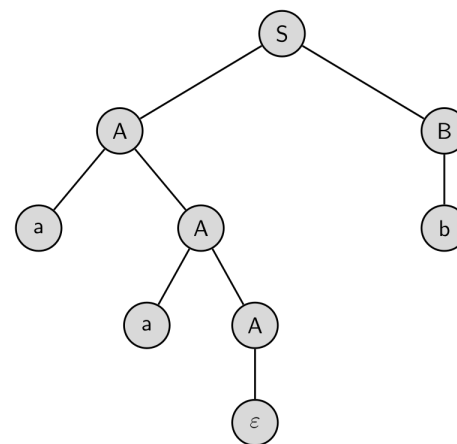
Voppel et al, 2023

Syntactic sentence structure in schizophrenia

Ciampelli, de Boer, Voppel et al., 2023

Automatic speech transcription in schizophrenia

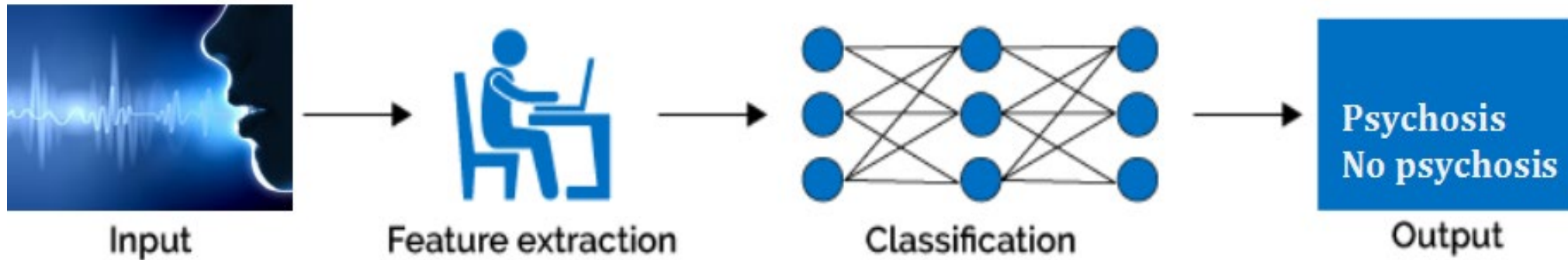
Ciampelli, Voppel et al., 2024



Speech is a core symptom of psychiatric disorders

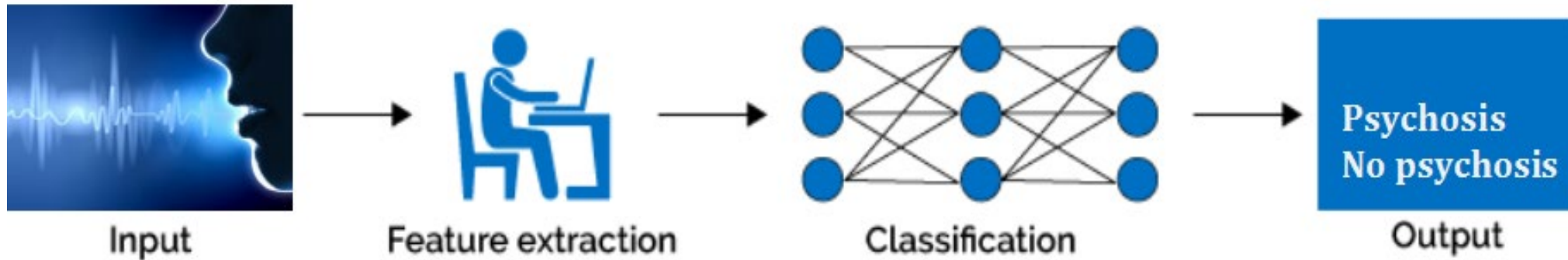
- Speed of speech, pausation
- Intonation and monotony
- Vague topics; incoherence
- Syntax & complexity
- Sentiment
- Delays compared to normal development

Machine Learning





...and other clinically relevant questions!


Machine Learning





...and other clinically relevant questions!

Speech structure links the neural and socio-behavioural correlates of psychotic disorders


Lena Palaniyappan ^{a1}  , Natália Bezerra Mota ^{b c1}, Shamuz Oowise ^d, Vijender Balain ^e, Mauro Copelli ^c, Sidarta Ribeiro ^b, Peter F. Liddle ^{f g}

Show more 

 Add to Mendeley  Share  Cite

<https://doi.org/10.1016/j.pnpbp.2018.07.007>


[Get rights and content](#) 

 Full text access

[Acta Psychiatr Scand.](#) 2025 Mar;151(3):332-347. doi: 10.1111/acps.13685. Epub 2024 Apr 10.

Speech based natural language profile before, during and after the onset of psychosis: A cluster analysis

Tyler C Dalal ¹, Liangbing Liang ², Angelica M Silva ², Michael Mackinley ², Alban Voppel ², Lena Palaniyappan ^{1 2 3 4}

Affiliations  expand

PMID: 38600593 [PMCID: PMC11787926](#) [DOI: 10.1111/acps.13685](#) 

Article | [Open access](#) | Published: 08 July 2025

Taking a look at your speech: identifying diagnostic status and negative symptoms of psychosis using convolutional neural networks

[Gleb Melshin](#), [Anthony DiMaggio](#), [Nadia Zeramdini](#), [Michael MacKinley](#), [Lena Palaniyappan](#)  & [Alban Voppel](#)

[NPP—Digital Psychiatry and Neuroscience](#) **3**, Article number: 19 (2025) | [Cite this article](#)

4505 Accesses | **4** Citations | **10** Altmetric | [Metrics](#)



Prédire les rechutes psychotiques grâce
à la détection précoce basée sur la parole

Predicting Psychotic Relapse Using
Speech-Based Early Detection

3 sites including n = 139

- N = 63 Montreal
- N= 35 London
- N= 41 Quebec City



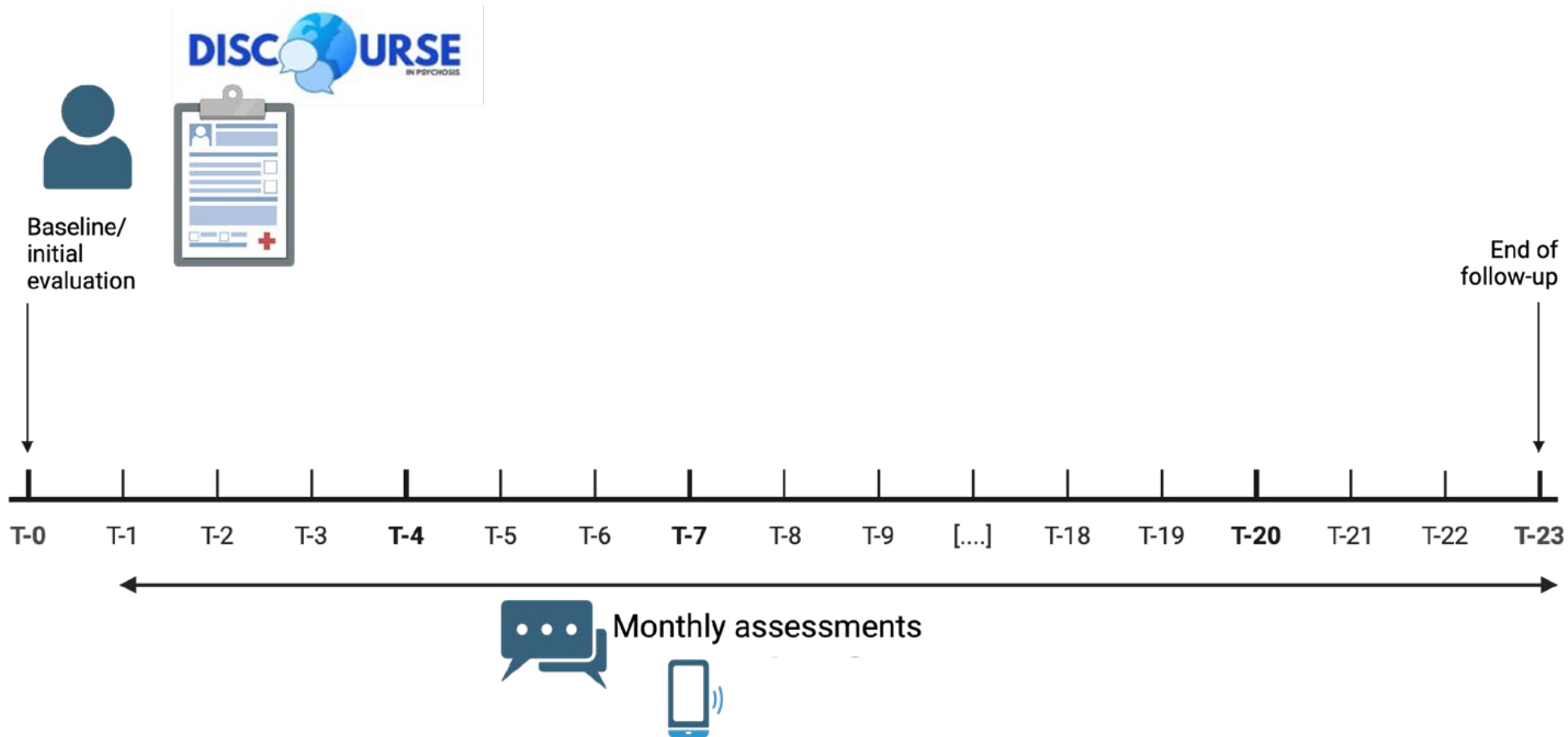


predicting relapse

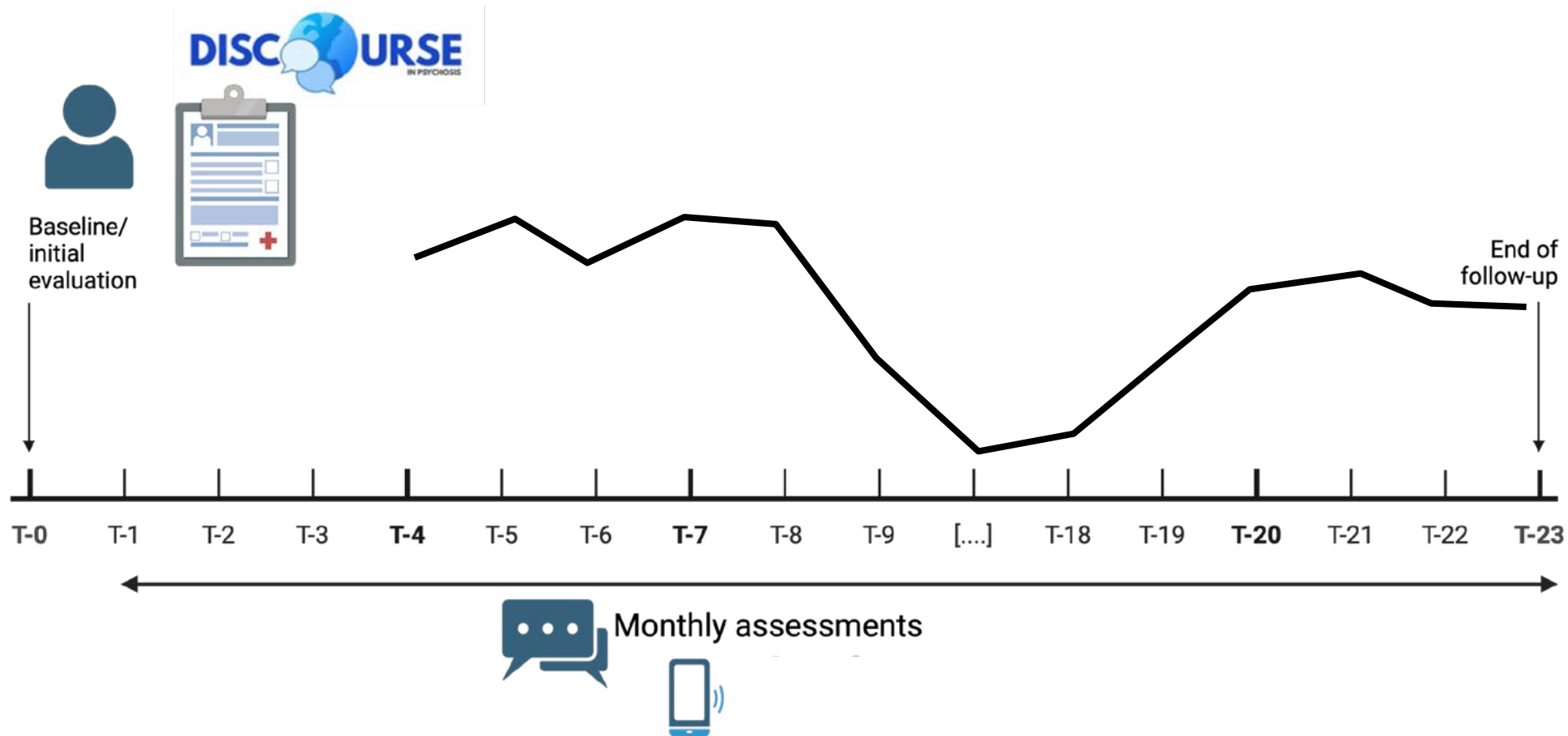
Fonds de recherche
Santé



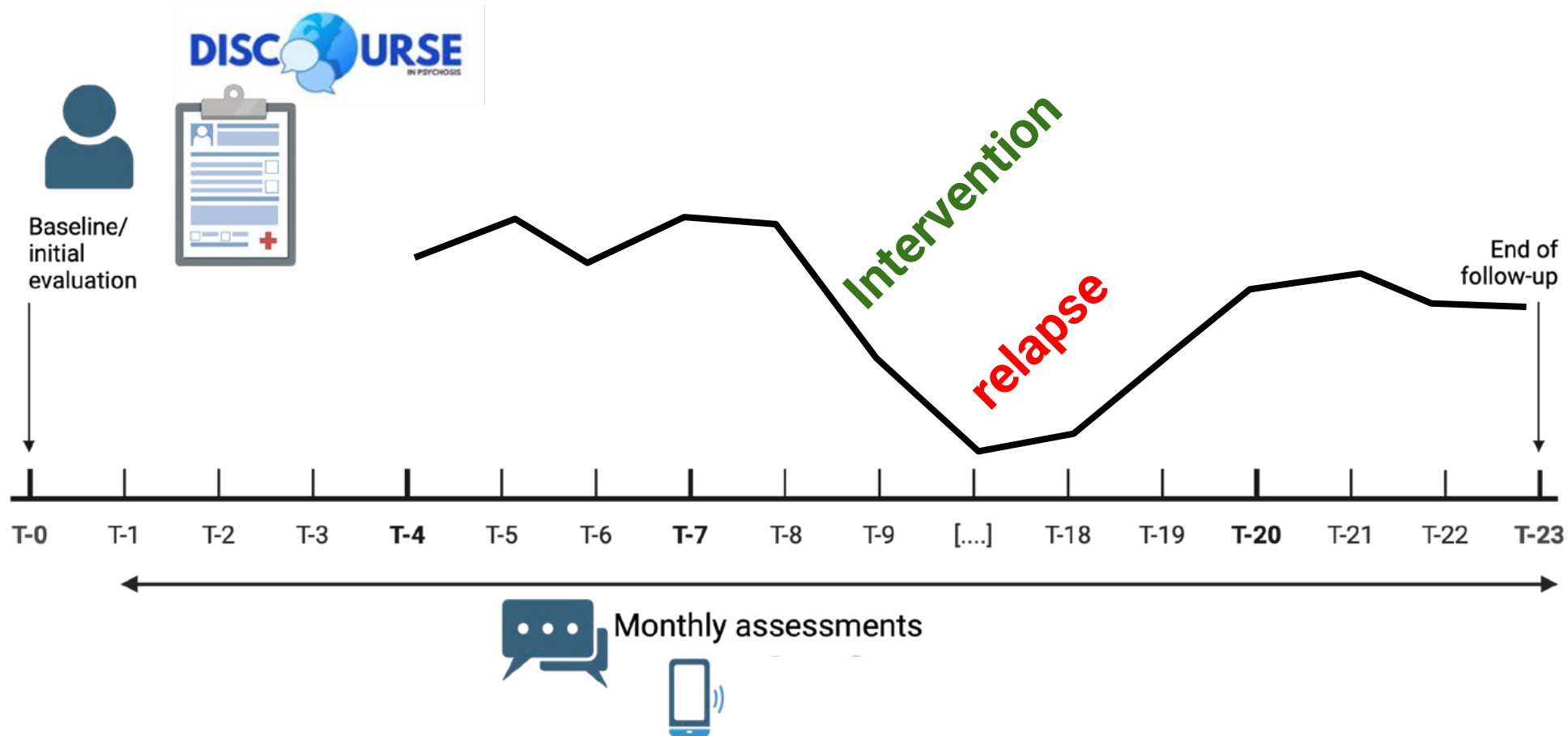
predicting relapse

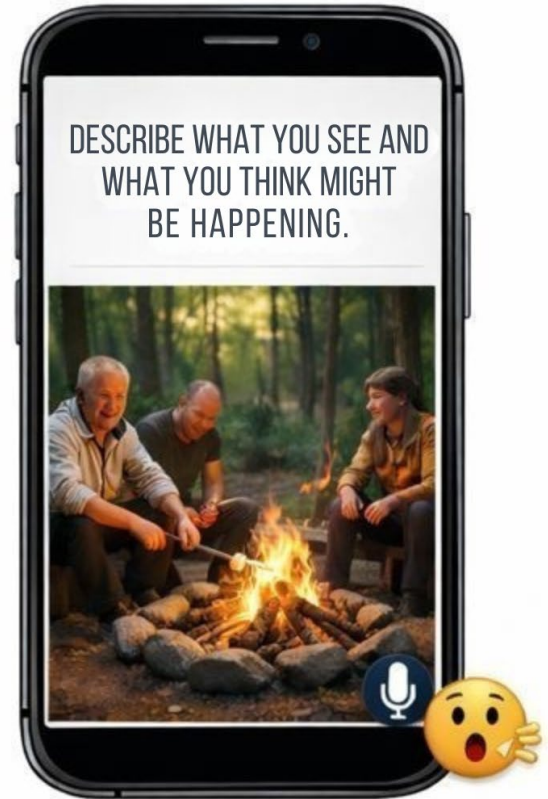
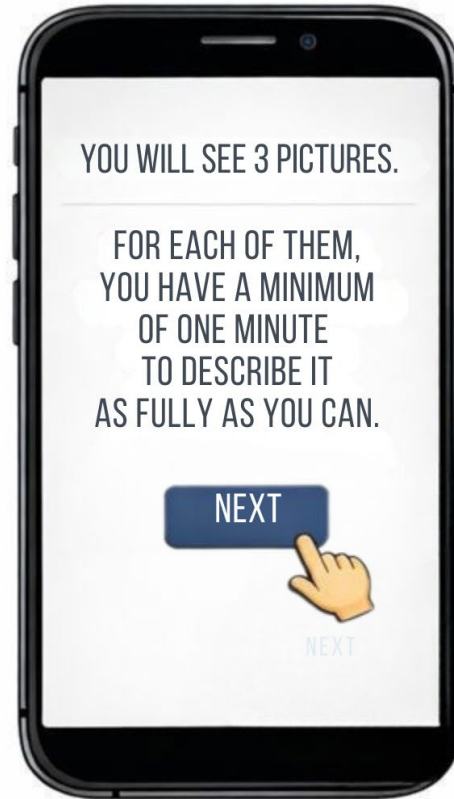
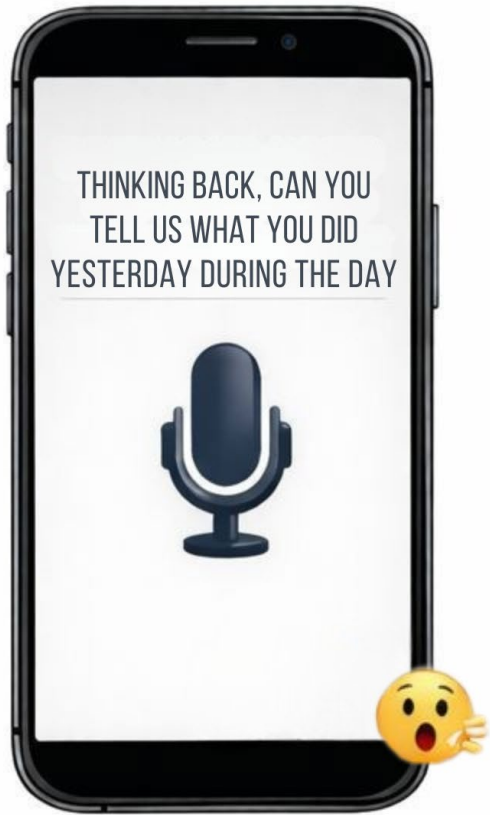
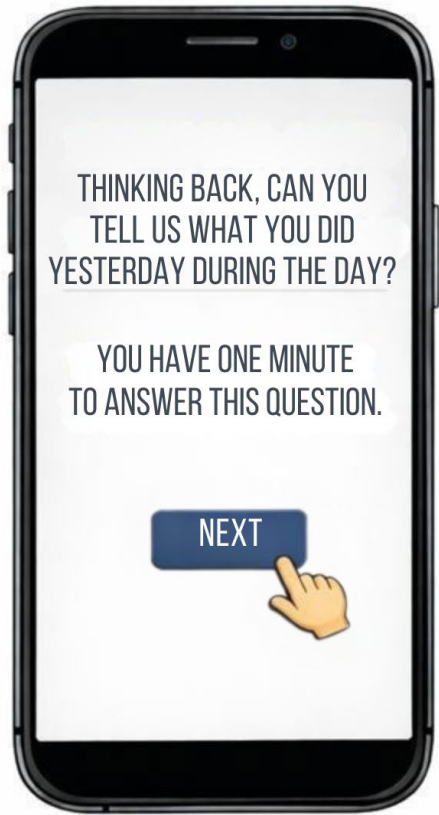


predicting relapse



predicting relapse





predicting relapse

N = 139

- Automated pipelines
- Remote recordings
- Bilingual
- Youth-focused
- Acceptability to lived experience



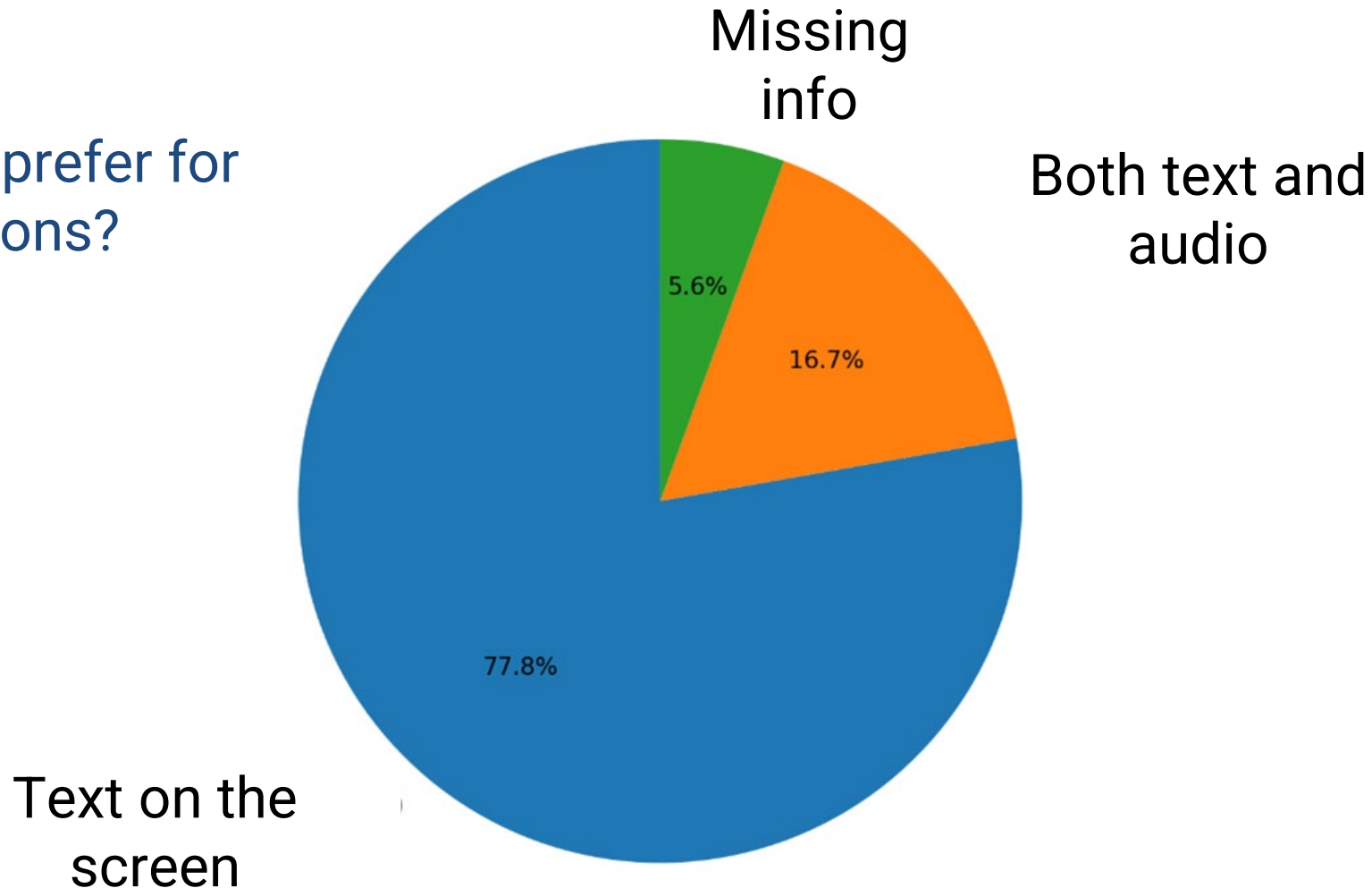
Acceptability

In this study, you have provided voice recordings through an app. Could you rate the following aspects by selecting the most appropriate response?

	Very bad	Bad	Neutral	Good	Very good
6) User-friendliness of the interface	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7) Quality of the stories	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8) Ease of making a recording	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9) Trustworthiness of the information letter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

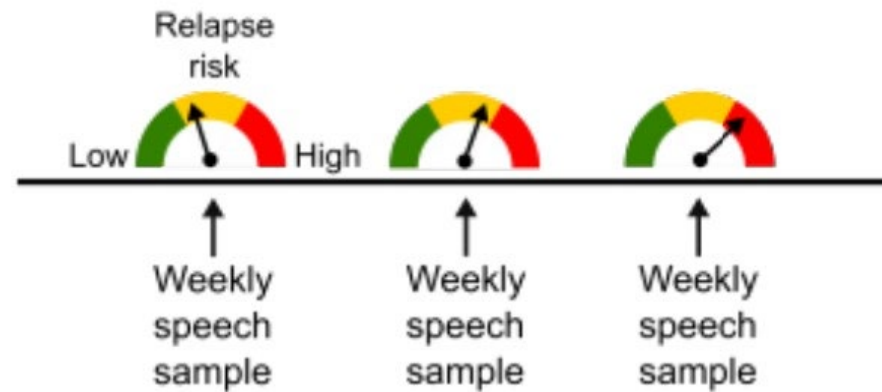
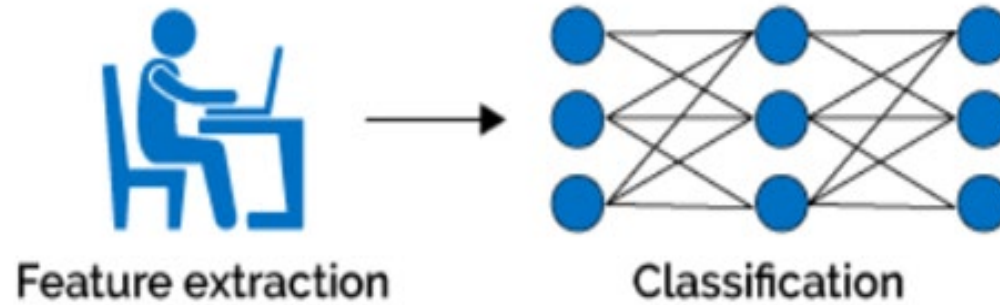
predicting relapse

What do you prefer for
task instructions?





[UM] looks like [UM] it's a farm of some sort and [UH] there's a woman with a book and another woman behind her with a man with a horse, looks like they're on a field somewhere on the ocean line [UM] yeah, I don't know where, it could be Europe, could be even North America.ica looks like it's it's definitely an old picture from maybe the s 1800s or early 1900s [UM] looks like they're just enjoying a day in a nice day at on the farm and it looks like the woman on the tree next to the tree is sleeping and the other woman with the book is just observing what's going on and the man is taking his horse he was doing a horse ride I think



**AI in Early Psychosis Care:
Clinical Realities
Risks
Opportunities**



EPI CANADA

Early Psychosis Intervention



We want to hear from you!

<https://forms.gle/3VKURtrtangTmuC49>

Including reimbursement if
you leave your email address!



EPI CANADA

Early Psychosis Intervention

Q&A



EPI CANADA

Early Psychosis Intervention



Evaluation

Please click the link in the chat, or below your video player, to access the 10 minute survey including evaluation

Your feedback is so valuable!