

Using Passive Behavioral Data to Support Mental Health Monitoring

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Why Traditional Monitoring Is Limited?

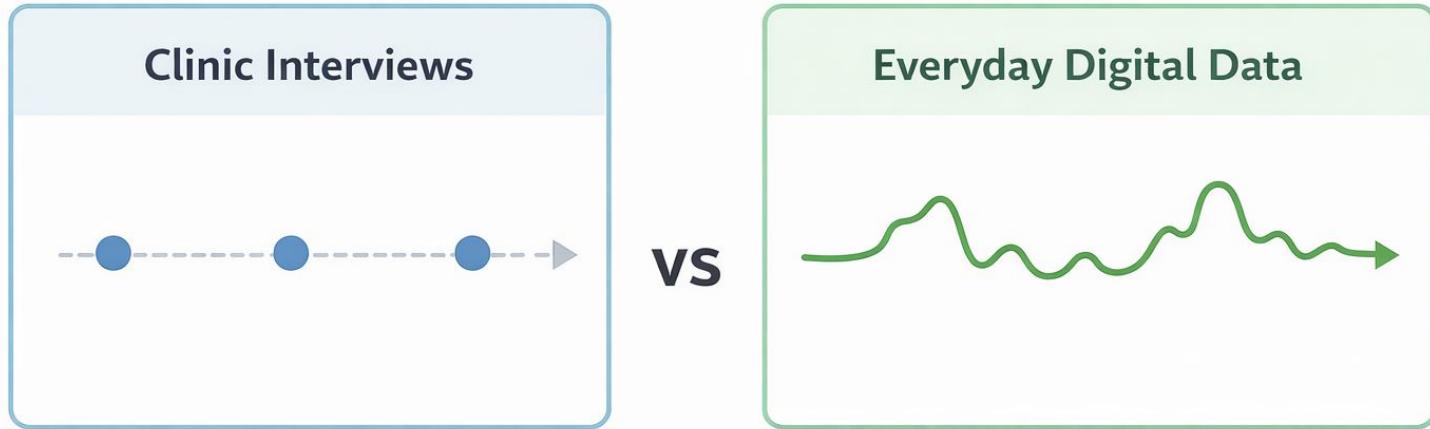


Image Source: ChatGPT

- **Episodic**
- **Recall-based**

- **Continuous**
- **Behavior-based**

What Is Passive Behavioral Data?



**Behavioral signals collected
without active surveys**

How Machine Learning Helps: Random Forest

- Many simple decisions
- Vote together
- More reliable



Image Source: ChatGPT

Random Forest Findings: Signals That Matter

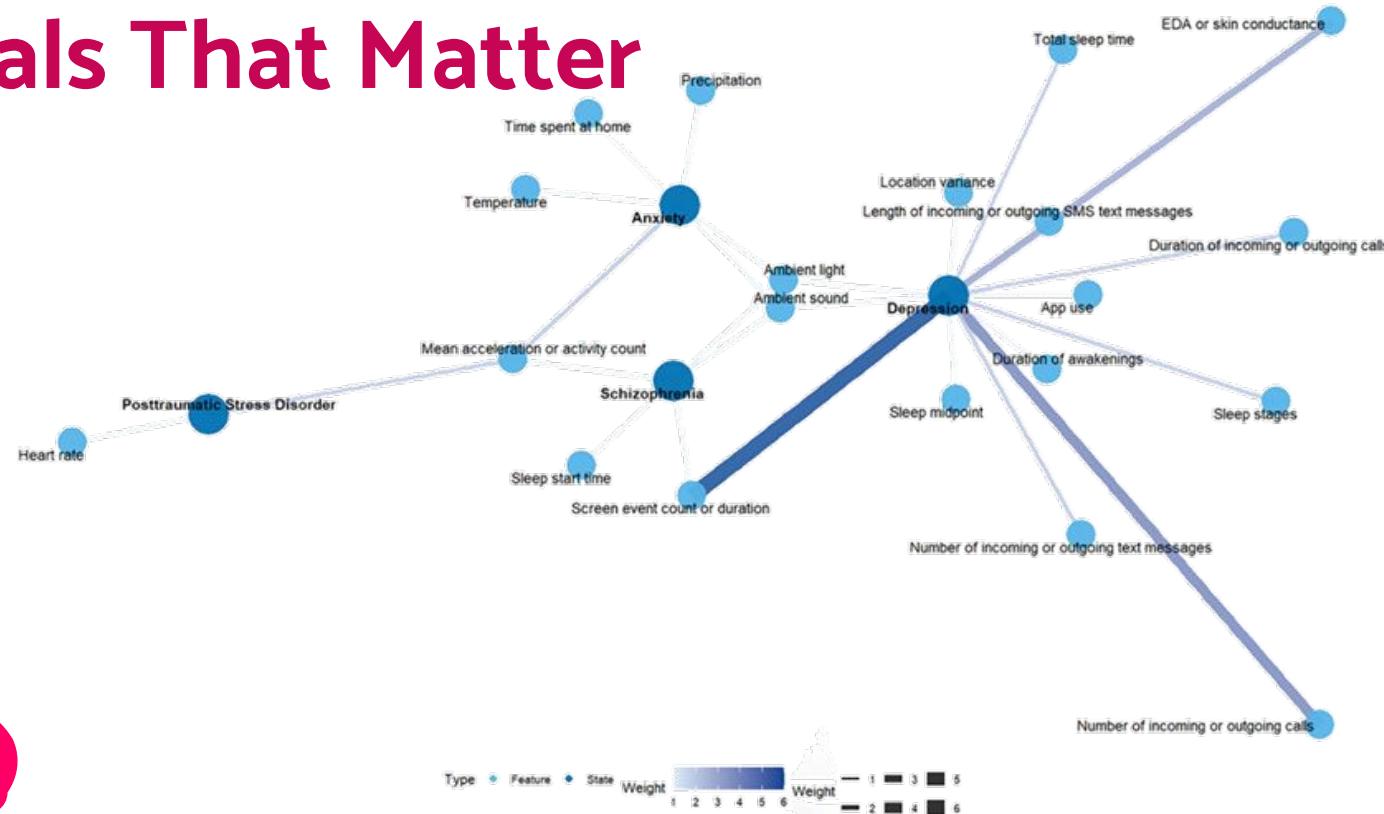


Figure adapted from Shen et al. (2025), *J Med Internet Res*,
27:e77066.

Pros & Cons



- Continuous
- Early Signals
- Support Clinicians



- Privacy
- Bias
- Over-interpreting

Wrapping Up