

Traditional "EMA" studies



Typically active recruitment; study enrollment often in clinic or hospital



Self-reporting can be at a high frequency (experience sampling) or less frequent (daily diaries)



Typically smaller sample sizes, constrained by research staff and sites



Possible to integrate many types of wearable technology



Requires active involvement from researchers or healthcare providers. Adherence depends on self-reporting frequency required, study duration, and reminders/follow-up. Often combined with baseline or end-of-study questionnaires.

Smartphone- or tablet-based "self-tracking" studies



Passive recruitment; participants can enroll by downloading a smartphone app



Self-reporting can be as required (for instance, when symptoms arise), or when notified (at any frequency)



Larger sample sizes ($N > 1000$) achievable, possibly across different countries



Possible to incorporate objective data from smartphones and potentially from commercial wearable devices through connected smartphone apps



Active research involvement not necessary, leading to larger sample sizes but more variability in reporting durations and low retention. Difficult to validate inclusion criteria, such as diagnosis. Prone to selection bias.