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The dynamic nature of psychopathology and the relevance of micro-level context

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How can we find the core essence of psychopathology?

Major
Depression

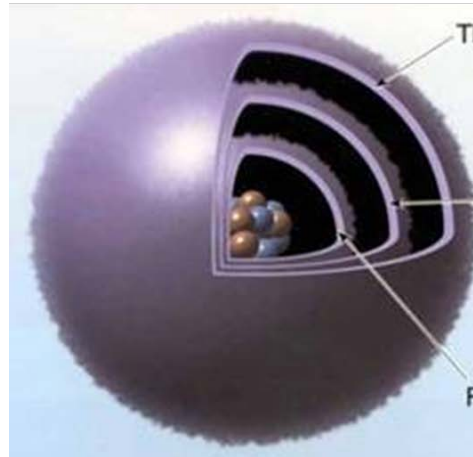
Dysthymia

Psychosis

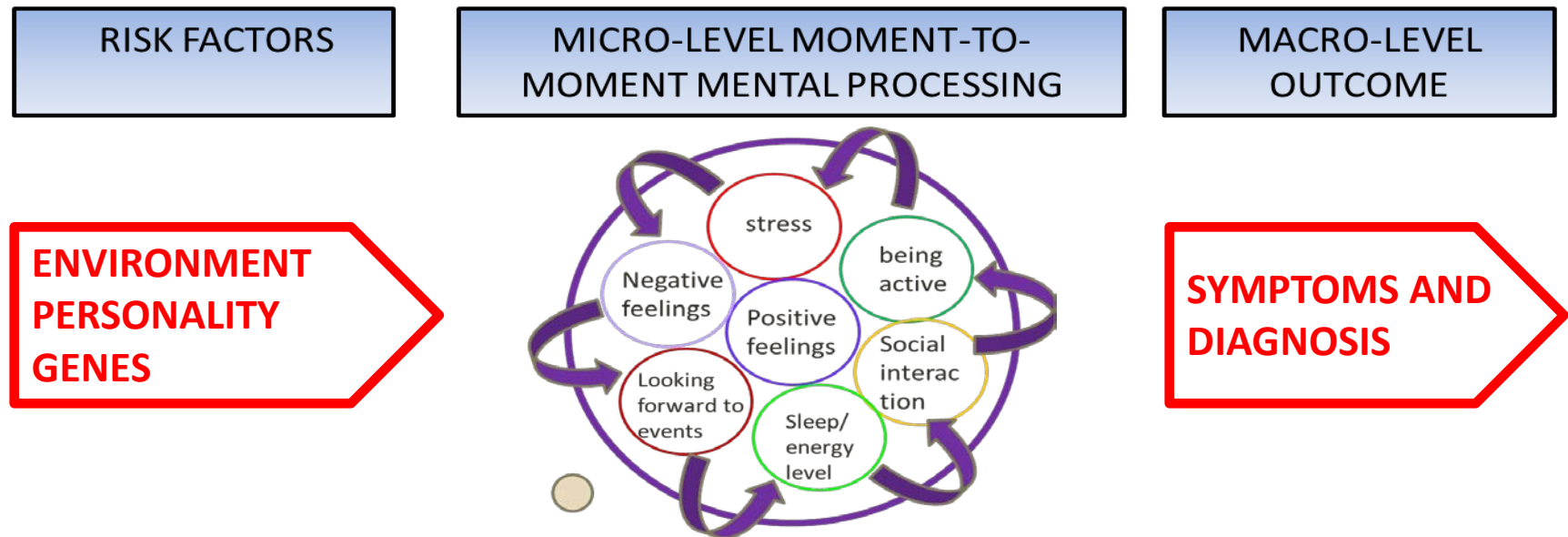
Bipolar
disorder

Schizoaffective
disorder

Anxiety disorder



Dynamics between the smallest units of experience



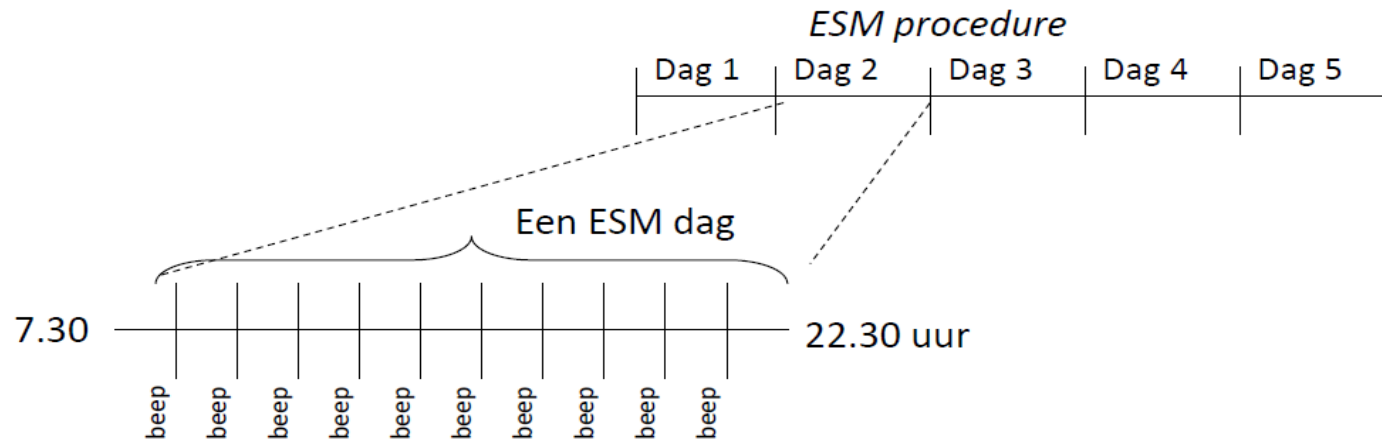
(Wichers et al, Br J Psychiatry 2009; Kramer et al, Schiz Bulletin, 2012; De Wild-Hartmann et al, Br J Psy, 2013; Wichers et al. Health Psychol 2011; Wichers. Psych Med. 2014 44(7):1349-60

Frequent prospective measurements

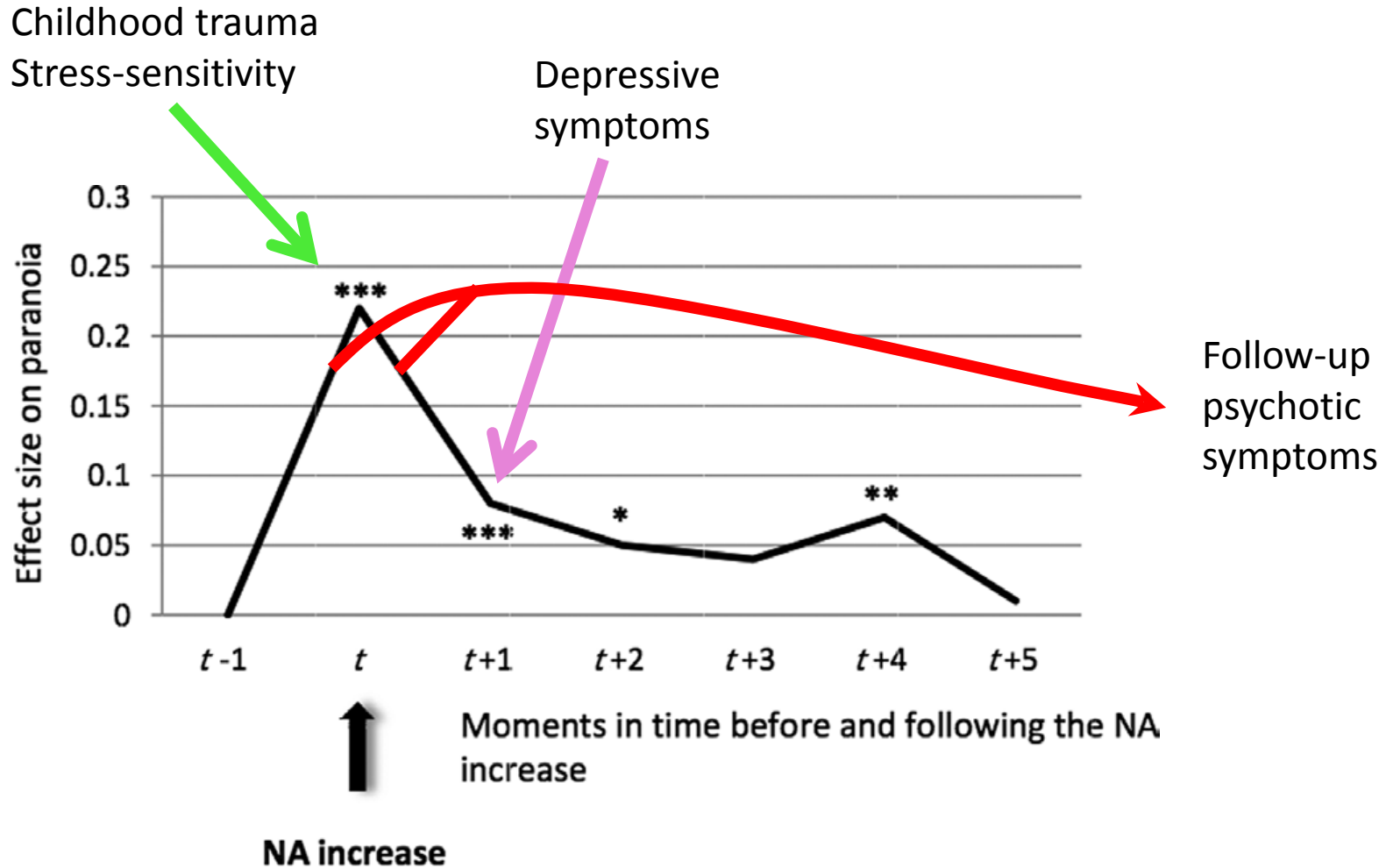
Experience Sampling Methodology



1. Multiple assessments
2. Real world
3. In het moment
4. Evaluation of context

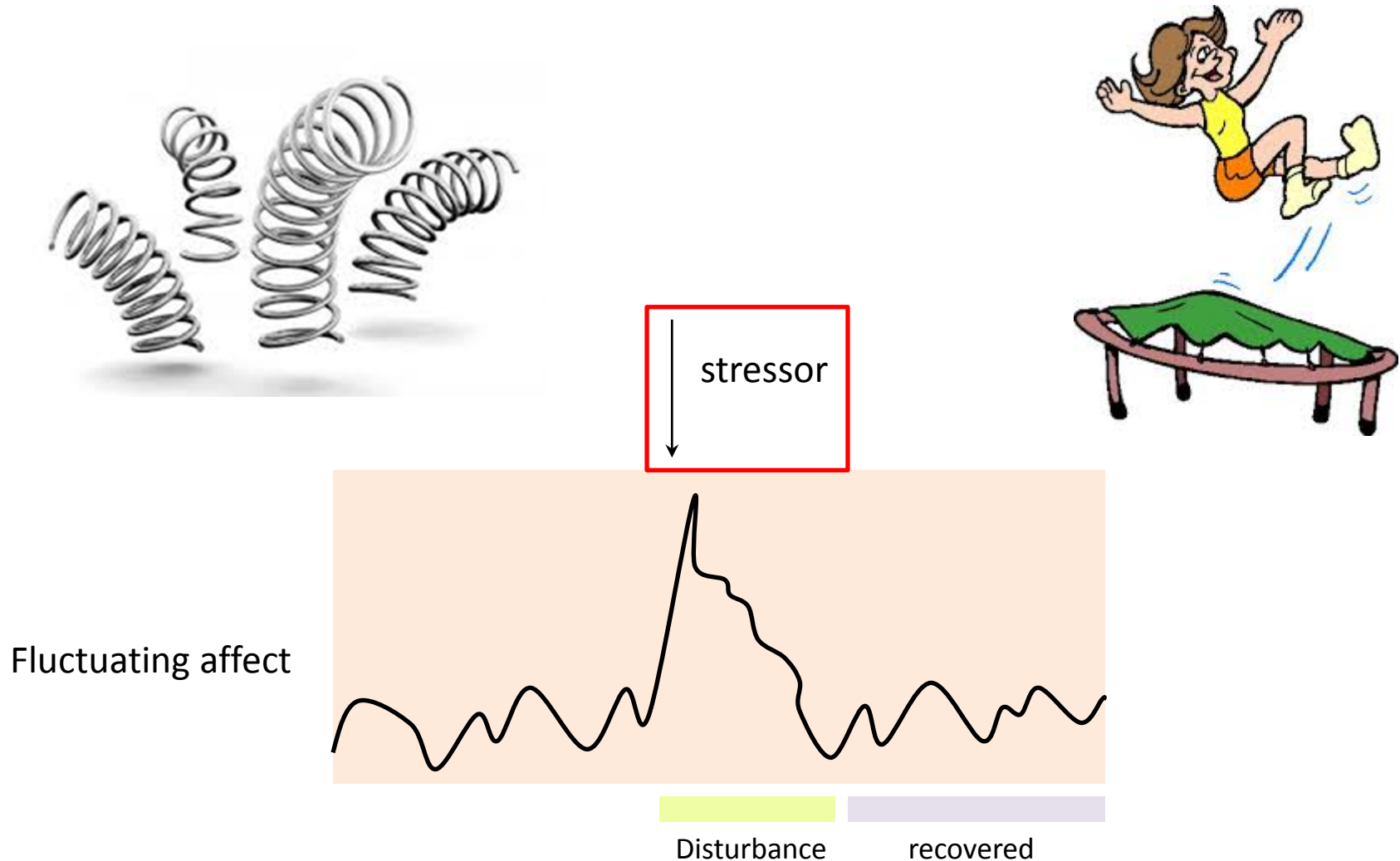


moment-to-moment interplay between negative affect and paranoia



*** $P \leq .001$, ** $P \leq .01$, * $P \leq .05$

Resilience state: context and dynamics



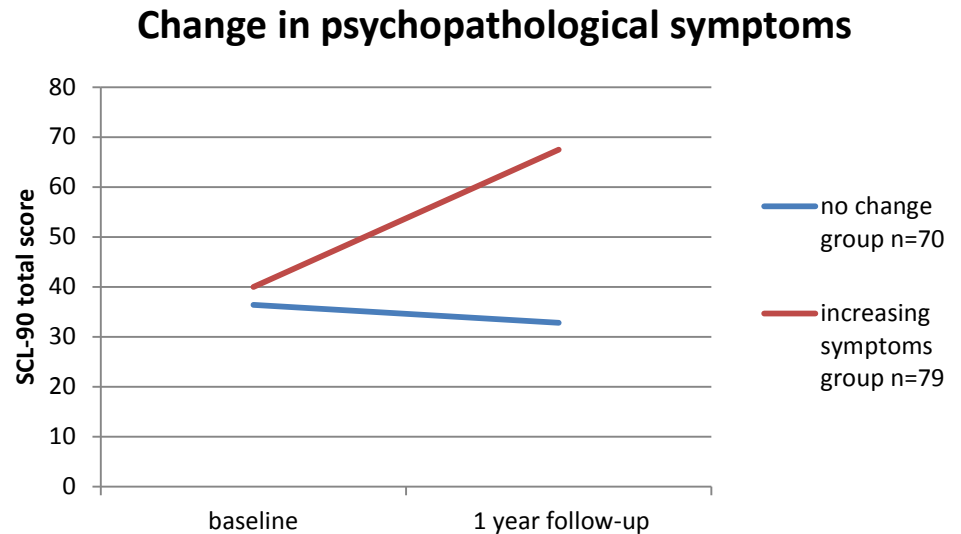
Resilience – as speed of recovery- in adolescents

1. Adolescents (n=70): no change in symptoms
 2. Adolescents (n=79): increase in symptoms
- Both groups: 15-18 yr; above average score on unpleasant youth



No difference between groups
in baseline

Can we see differences in
micro-level dynamics at
baseline?

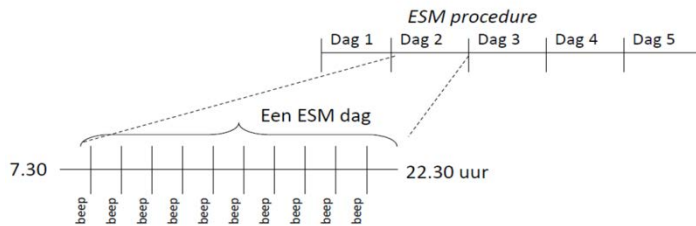


Resilience – as speed of recovery- in adolescents

Experience Sampling Methodology



1. Multiple assessments
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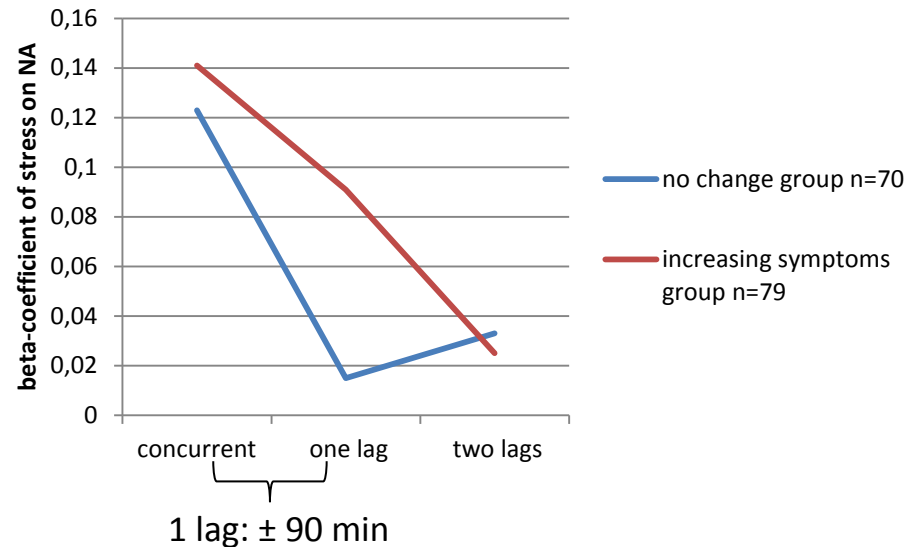
Average levels of stressor,
negative, positive affect are
equal between groups

At micro-level less resilience in
group that develops symptoms.

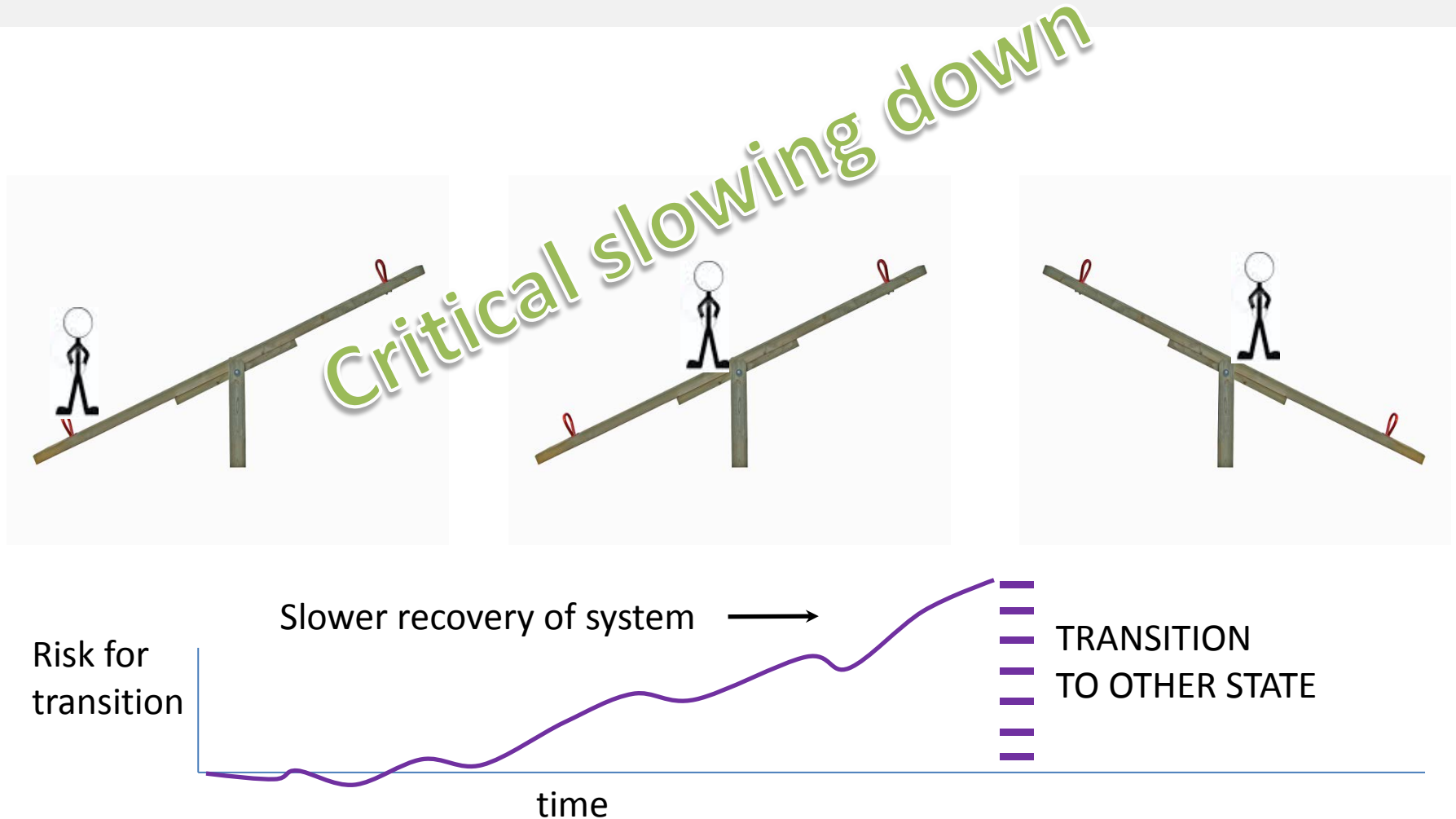


Unpleasant
situation

Impact of stressor on negative affect



Speed of recovery and complex systems

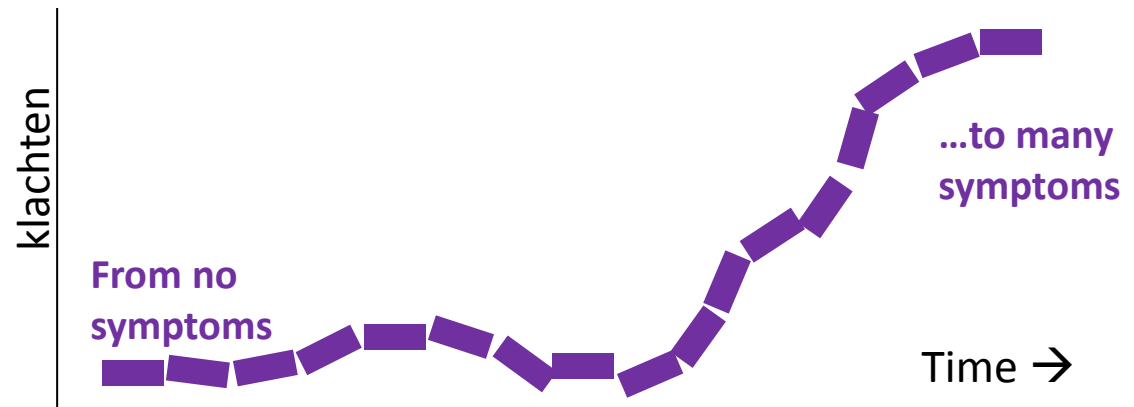


Context and dynamics

Dynamics: core questions relate to within-person changes



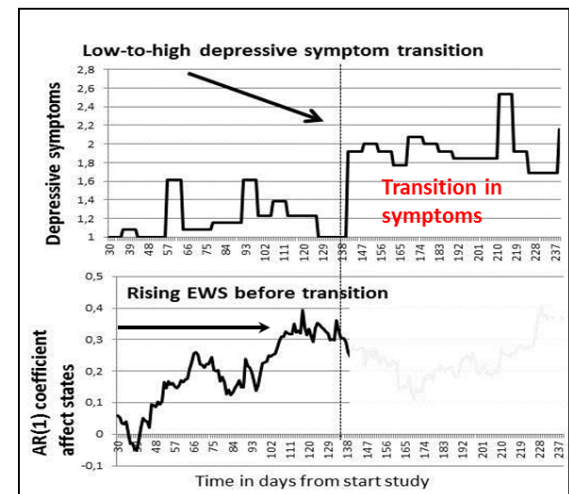
Complete *verander*process within an individual



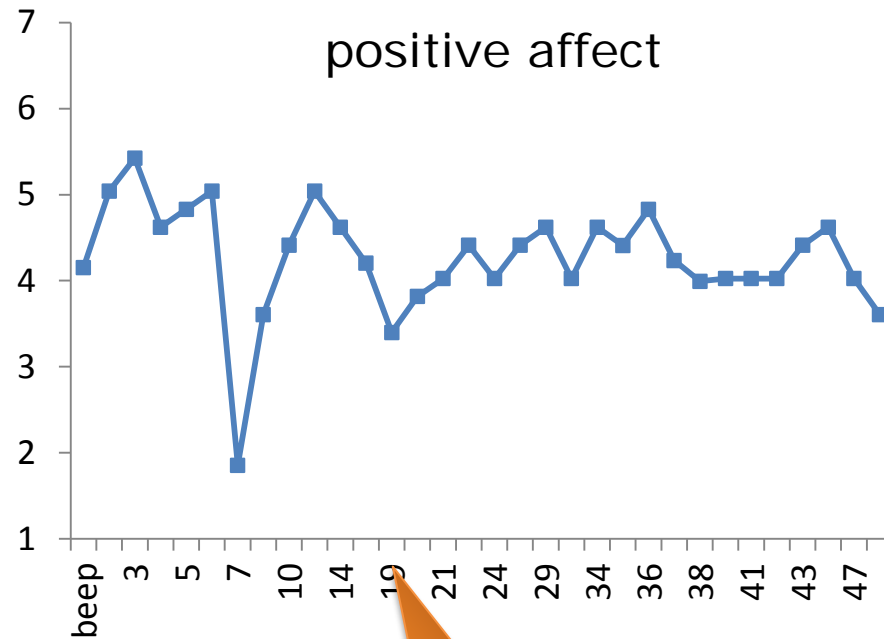
Wichers, M., Groot, P. C., et al. *Psychoth&Psychosom* 2016



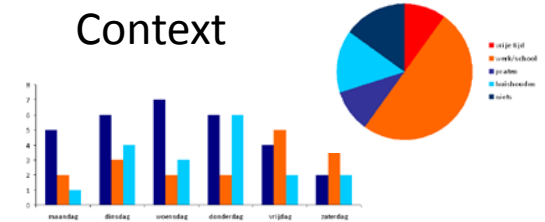
Context: 1) to assess responsiveness of the system
2) to provide insight into relevant patterns



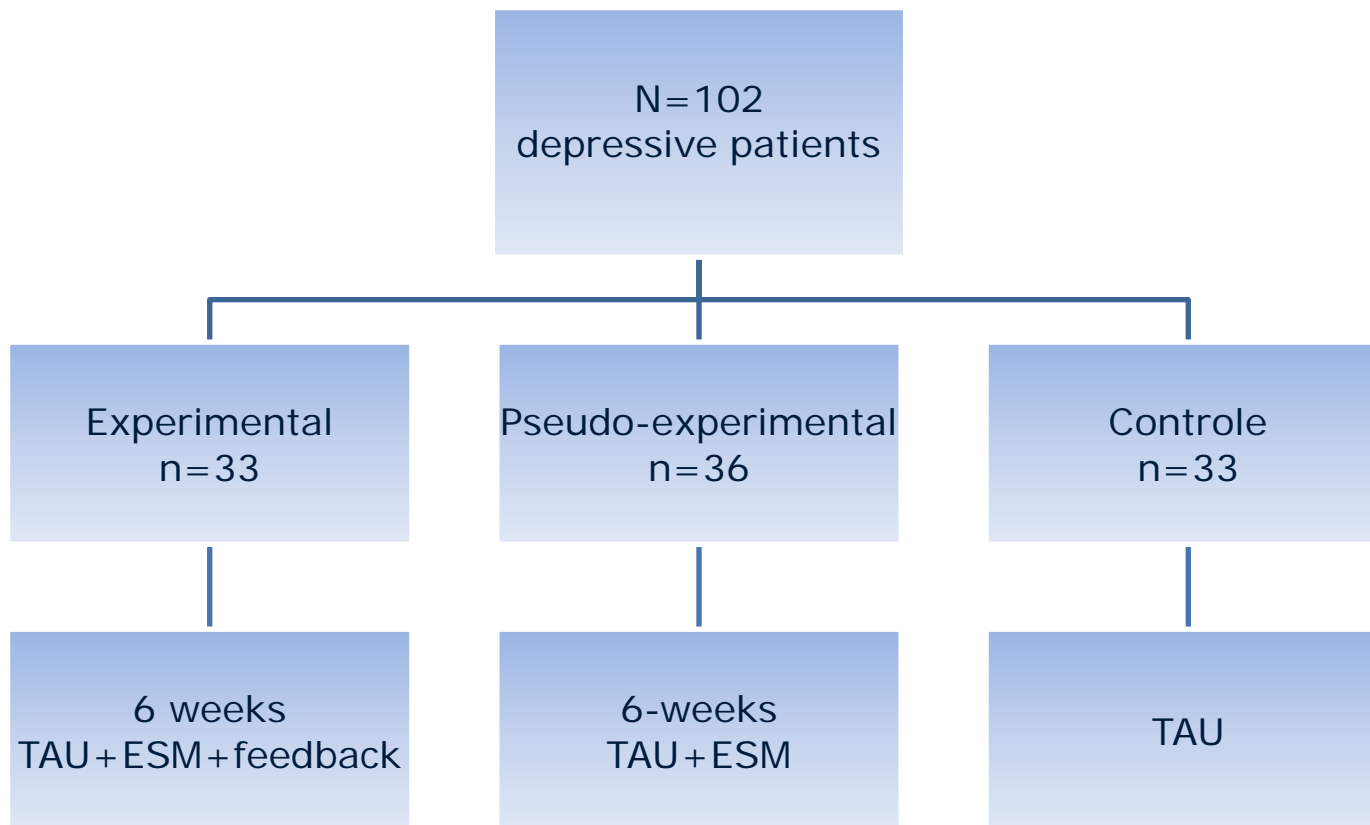
Using micro-context for interventions



Moments of resilience
against depression?



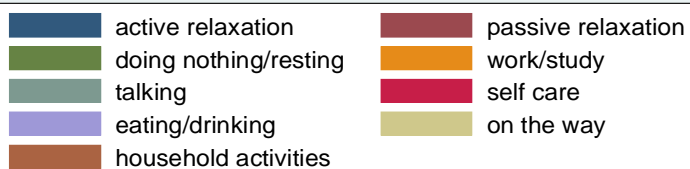
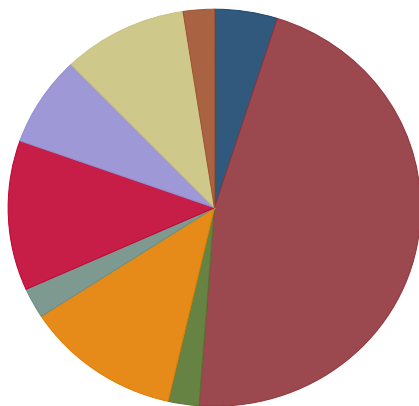
ESM intervention in depression: RCT



Depressive Symptoms
@ 1 week, 1,2,3 & 6 months

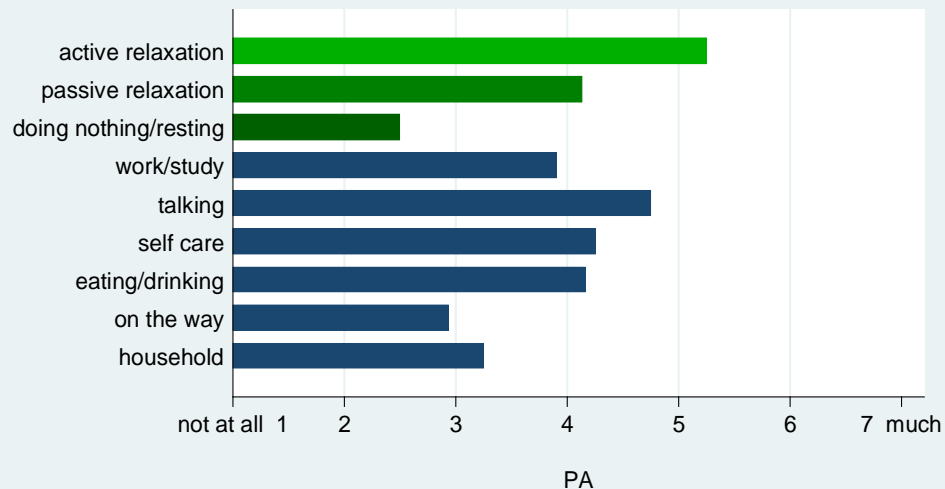
ESM intervention: feedback protocol

Type of Activities

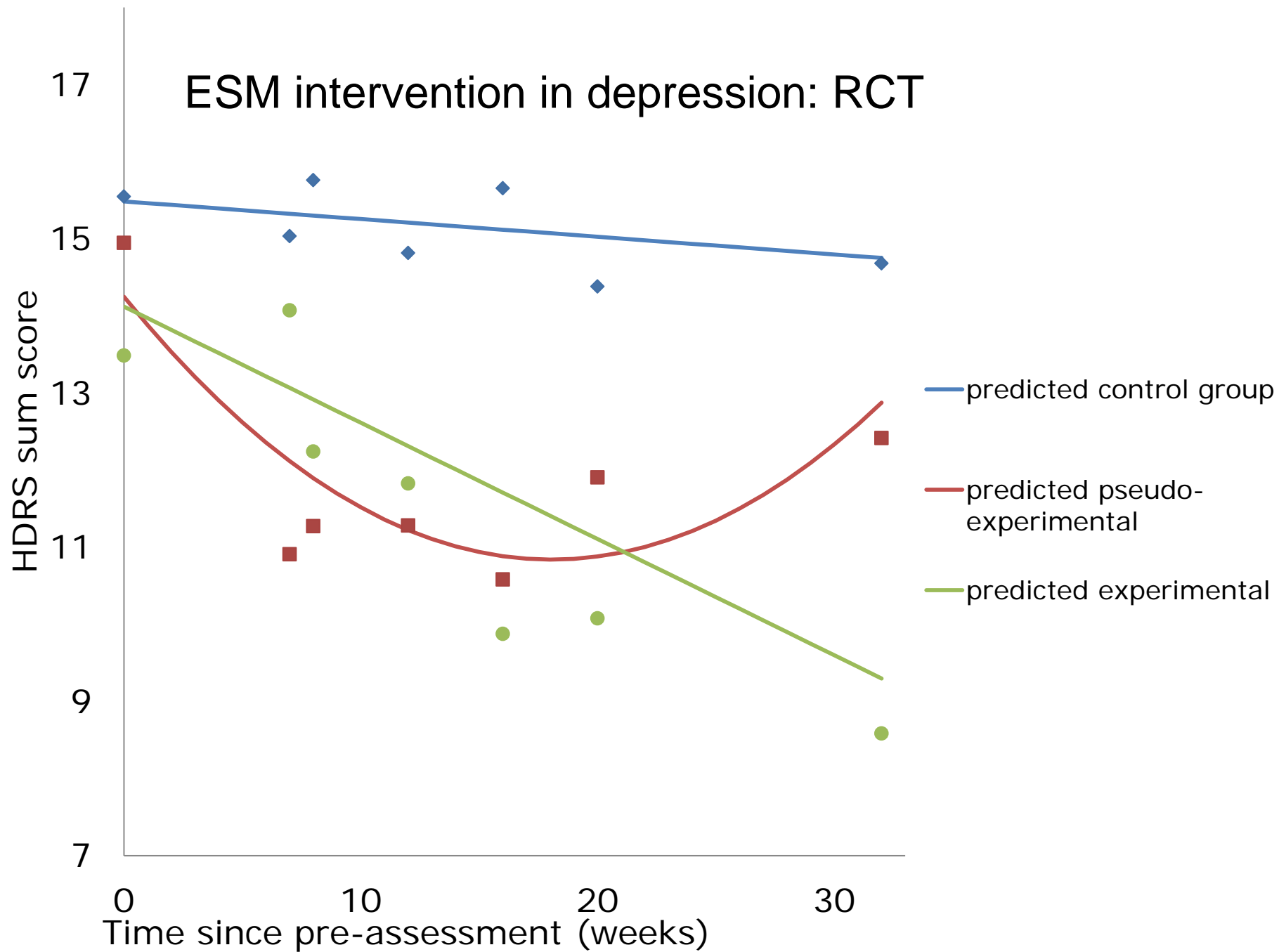


Activity & Positive Affect

PA per type of activity



ESM intervention in depression: RCT





Implementation experiments



Additional ESM diagnostics implemented in psychiatric care: psychosis

Psychiatrists can mark specific questions that they want to have examined; For example:

- How often does patient experience symptoms?
- Does daily context influence level of symptoms?
- How does daily life look like?
- How does patient deal with hallucinations?



DAGBOEKMETINGEN

Naam patiënt:
Naam behandelaar:
Datum:

Kruis in totaal **maximaal 5 hokjes aan**. Je kan dus per vraag meerdere klachten aanvinken, of dezelfde klacht bij meerdere vragen laten onderzoeken. Bij sommige vragen hoeft geen klacht gespecificeerd te worden.

VARIATIE IN KLACHTEN EN BELOOP

1. Hoe **ernstig** zijn de klachten en hoeveel **schommelen** ze?

☐ Stemmen horen
☐ Paranoïde wanen
☐ Negatief affect
☐ Spanning
☐ Negatieve symptomen

WAT GAAT VOORAF AAN KLACHTEN HEBBEN?

2. Wat gaat er vooraf aan klachten hebben?

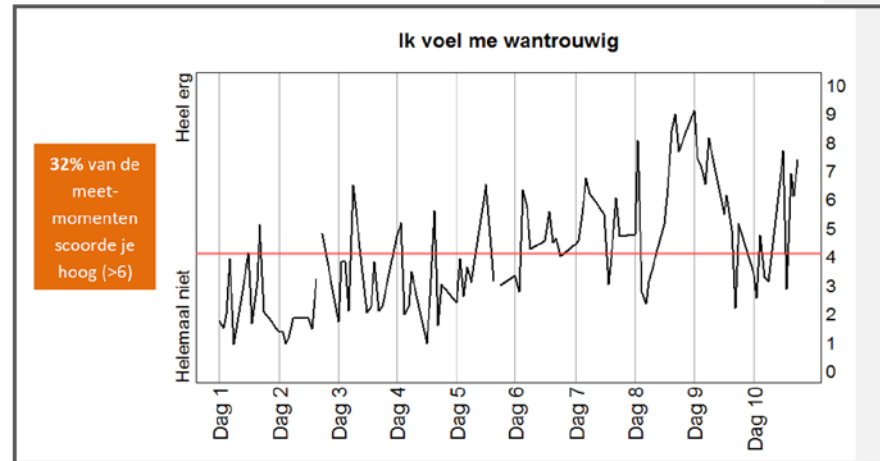
- Veranderingen in affect
- Overprikkeling
- Concentratieverlies
- Stressvolle gebeurtenissen
- Spanning voelen

☐ Stemmen horen
☐ Paranoïde wanen
☐ Negatief affect
☐ Spanning

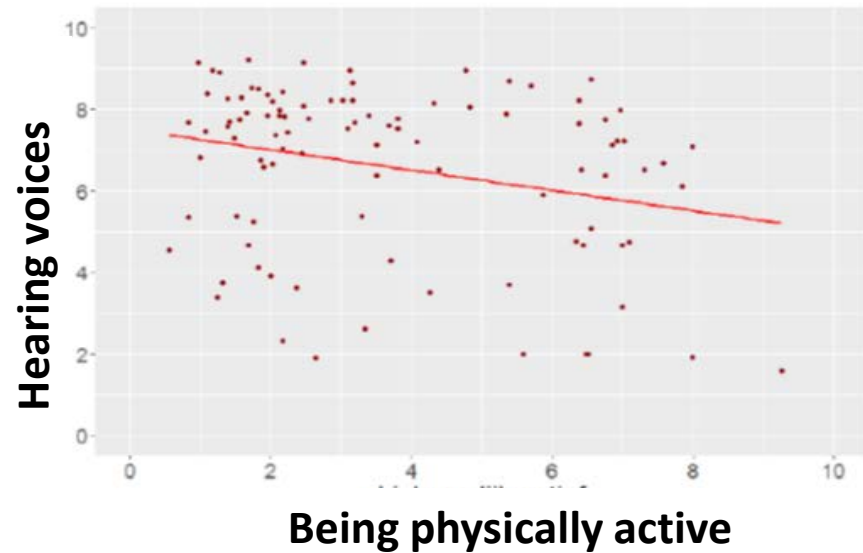


Psychosis diagnostics

How often and to what extent does patient feel suspicious?



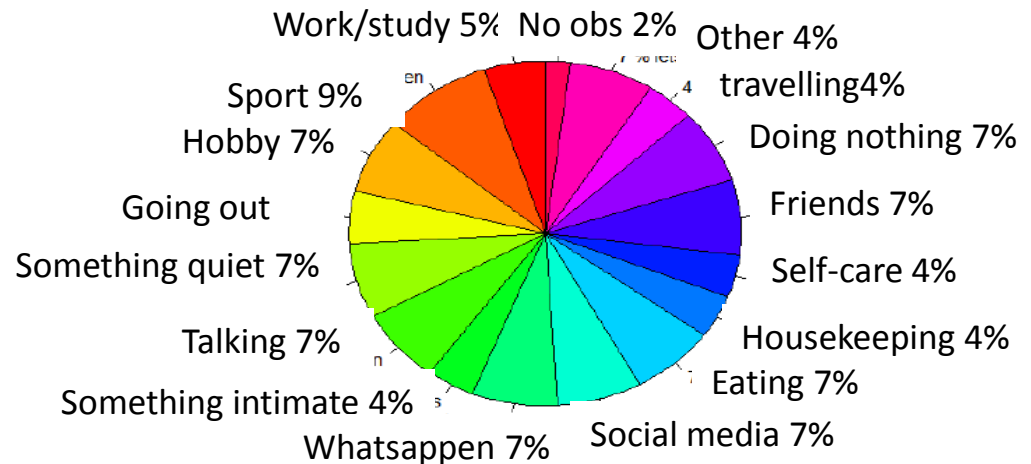
Is context associated with symptoms of patient?





Psychosis diagnostics

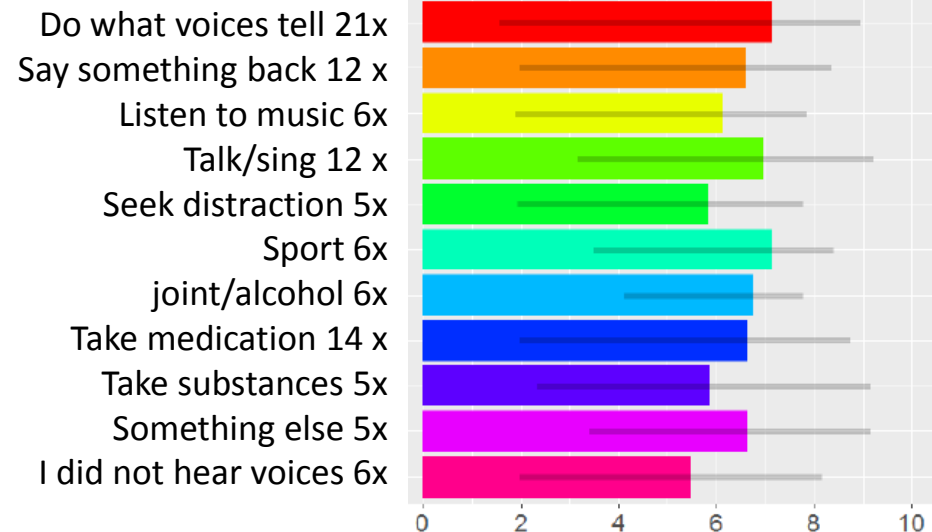
What activities are present in daily life of patient?



How does patient respond to voices and how does that relate to voice hearing a moment later?

What is the best strategy for this patient?

Voices one moment later





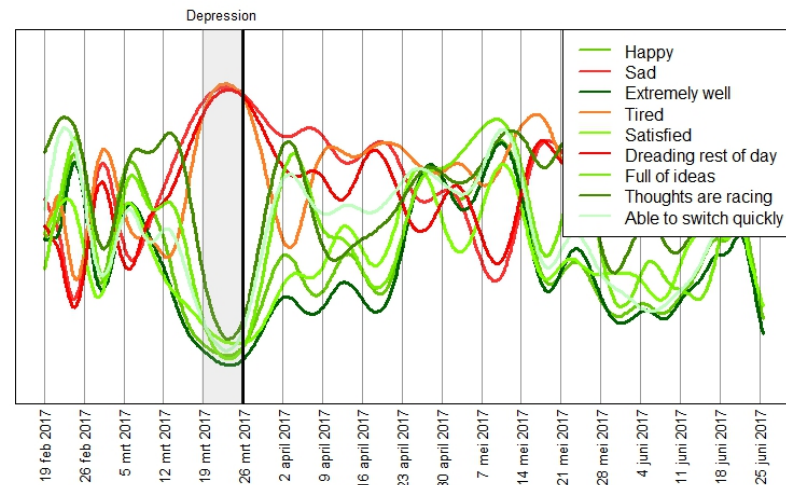
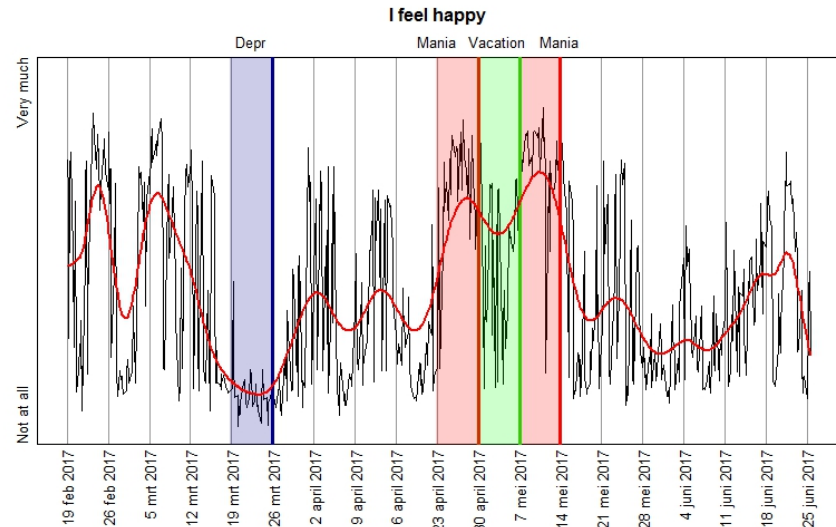
Bipolar diagnostics and monitoring



Design: 20 bipolar patients who monitored experiences for 4 months

They receive report on their changes in symptoms

....and a report on what precisely preceded episodes of depression or mania





What do patients and clinicians think?

- 6 focus groups and 15 personal interviews
- participation of 22 patients and 20 clinicians

May more rapidly signal problem areas of particular patient
May give more insight in behaviours/contexts influencing symptoms
May increase motivation for behavioral change
May facilitate conversation between clinician and patient: ESM as tool for communication
May add to personal control on treatment/recovery process
May help reducing biases in memory while reporting mood /problems

Clinician needs to take time to discuss results with patients
Patient needs access to own personal data
Data interpretation with caution
Is an extra tool, not holy grail

Flexible ESM interface for implementation



Design choice

- random beep design
- fixed beep design
- Daily questions
- Weekly/monthly questions



Details design

Number measurement moments
Duration
Start date



domains

Sleep
Mood
Somatic symptoms
Psychological symptoms
Contextual factors
Treatment factors



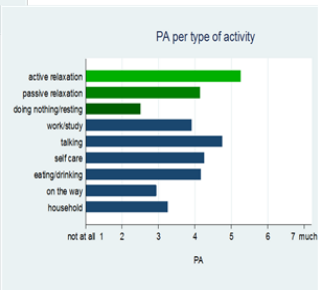
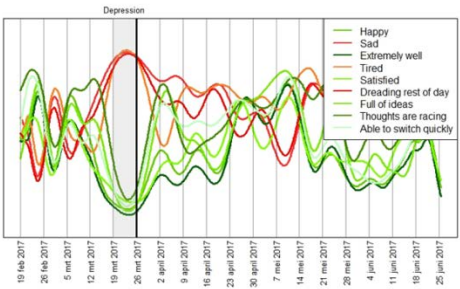
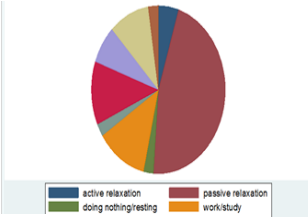
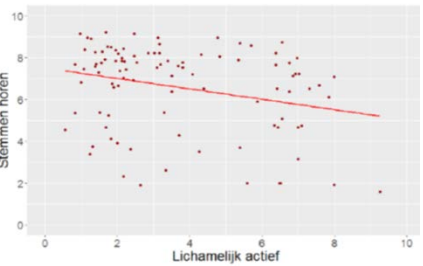
personalized diary

Valid design for purpose
Valid order of items
Possibility of personal items



Personal reports

Clinician patient choose
their type of feedback
and choose variables for
feedback
And combinations of
variables (e.g. context
and frq of specific
symptom in that
context)



Conclusions

Important to zoom into the micro-level dynamics and context in psychopathology

Relevant scientifically:

May expose important mechanisms

Can be used to assess resilience of system

Relevant clinically:

Can be used as extra tool in diagnostics or intervention

Future possibilities for personalized assessment of distance to transition point and application in clinic