

Preact Digital: Feature Database Documentation

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Introduction

Design

Methods

EMA Data

Introduction

This section outlines the eight EMA constructs and provides an item-level overview.

Methods

1. Level 1: Measurements (Observations)

- Each person records data 8x/day over 14 days
- This results in 112 measurements per wave (8x14)

2. Level 2: Days

- Measurements (Level 1) are nested within days (Level 2)
- Each wave has 14 days

3. Level 3: Waves (Measurement points)

- Each person goes through three waves (long version)
- Days (Level 2) are nested within waves (Level 3)

4. Level 4: Individuals (Participants)

- Waves (Level 3) are nested within participants (Level 4)

The EMA measurement includes the following constructs:

1. [Affect](#)
2. [Emotion regulation](#)
3. [Situational context](#)
4. [Significant events](#)
5. [Social context](#)
6. Therapeutic agency
7. Physical fitness
8. ECG control

Affect

- Description: At each beep, participants were asked about their current affective state
- Construct: PANAS-X subscales [Haney et al. \(2023\)](#)
- 17 Items

Show Items

Variable	Item	Scale	Scale Endpoints	Measurement Time
	How ... do you feel right now?			
anxious	anxious	1-2-3-4-5- 6-7	not at all - very much	all beeps
nervous	nervous	1-2-3-4-5- 6-7	not at all - very much	all beeps
attentive	attentive	1-2-3-4-5- 6-7	not at all - very much	all beeps
relaxed	relaxed	1-2-3-4-5- 6-7	not at all - very much	all beeps
calm	calm	1-2-3-4-5- 6-7	not at all - very much	all beeps
irritable	irritable	1-2-3-4-5- 6-7	not at all - very much	all beeps

Variable	Item	Scale	Scale Endpoints	Measurement Time
angry	angry	1-2-3-4-5-6-7	not at all - very much	all beeps
fatigue	fatigue	1-2-3-4-5-6-7	not at all - very much	all beeps
cheerful	cheerful	1-2-3-4-5-6-7	not at all - very much	all beeps
happy	happy	1-2-3-4-5-6-7	not at all - very much	all beeps
ashamed	ashamed	1-2-3-4-5-6-7	not at all - very much	all beeps
dissatisfied	dissatisfied with myself	1-2-3-4-5-6-7	not at all - very much	all beeps
self_confident	self-confident	1-2-3-4-5-6-7	not at all - very much	all beeps
shy	shy	1-2-3-4-5-6-7	not at all - very much	all beeps
downcast	downcast	1-2-3-4-5-6-7	not at all - very much	all beeps
sad	sad	1-2-3-4-5-6-7	not at all - very much	all beeps
lonely	lonely	1-2-3-4-5-6-7	not at all - very much	all beeps

Emotion regulation

- Description: At each beep, participants were asked to rate the intensity and controllability of their most negative thought since the last beep. Then, we assessed the use of different ER strategies since the last beep
- Construct: RESS-EMA scale [Medland et al. \(2020\)](#)
- 6 Items (covering reappraisal, rumination, suppression, distraction, relaxation, acceptance)

Show Items

Variable	Item	Scale	Scale Endpoints	Measurement Time
	Think about the strongest negative feeling since the last beep [since waking up].			
er_intensity	How intense was this feeling?	1-2-3-4-5-6-7 (1 = neutral)	not at all - very much	all beeps (except the first of the day)
er_intensity	How intense was this feeling?	1-2-3-4-5-6-7 (1 = neutral)	not at all - very much	first beep of the day
er_control	How controllable was the situation that triggered this feeling?	1-2-3-4-5-6-7 (4 = neutral)	not at all - very much	all beeps (except the first of the day)
er_control	How controllable was the situation that triggered this feeling?	1-2-3-4-5-6-7 (4 = neutral)	not at all - very much	first beep of the day
	As a reaction to the negative feeling ...			

Variable	Item	Scale	Scale Endpoints	Measurement Time
er_relaxation	I tried to breathe deeply	1-2-3-4-5-6-7	not at all - very much	all beeps
er_rumination	I kept thinking about what was bothering me	1-2-3-4-5-6-7	not at all - very much	all beeps
er_reappraisal	I considered the situation from different perspectives	1-2-3-4-5-6-7	not at all - very much	all beeps
er_distraction	I tried to distract myself	1-2-3-4-5-6-7	not at all - very much	all beeps
er_suppression	I tried to hide my feelings	1-2-3-4-5-6-7	not at all - very much	all beeps
er_acceptance	I tried to accept the situation	1-2-3-4-5-6-7	not at all - very much	all beeps

Situational Context

- Description: At each beep, participants were asked to specify activities they had pursued in the preceding 2 hours from a given set of 9 common activities. Participants were able to select multiple options simultaneously. Subsequently, they were asked to evaluate how much they enjoyed the respective activities
- Construct: Self-constructed, based on the DIAMONDS scale [Rauthmann & Sherman \(2016\)](#) and the WARN-D study protocol [Fried et al. \(2022\)](#), a similar longitudinal digital phenotyping study. We aimed to find a balance between sparsity of items and high degree of situational coverage.
- 2 Items

Show Items

Variable	Item	Scale	Scale Endpoints	Measurement Time
	How did you spent the time since the last beep [since waking up]? (Multiple answers possible)			

Variable	Item	Scale	Scale Endpoints	Measurement Time
situation_1	<input type="checkbox"/> Work or study <input type="checkbox"/> House-work or errands <input type="checkbox"/> Caring for children/relatives <input type="checkbox"/> Eating/drinking/personal hygiene <input type="checkbox"/> On the move (e.g., in the subway) <input type="checkbox"/> Smartphone/social media <input type="checkbox"/> Leisure activity, rather passive (e.g., watching a movie, reading) <input type="checkbox"/> Leisure activity, rather active (e.g., sports, outings) <input type="checkbox"/> Something else			all beeps (except the first of the day)
situation_1_morale	morale			first beep of the day

Variable	Item	Scale	Scale Endpoints	Measurement Time
situation_2	How much did you enjoy this activity?	-2, -1, 0, 1, 2	not at all - very much	all beeps (except the first of the day)
situation_2_morale	How much do you enjoy this activity?	-2, -1, 0, 1, 2	not at all - very much	first beep of the day

Significant Events

- Description: Participants were asked to think about the most important event since the last beep and how pleasant they perceived it
- Construct: Self-constructed
- 1 Items

Show Items

Variable	Item	Scale	Scale Endpoints	Measurement Time
event_general	I think of the most significant moment (situation/experience) since the last survey. How did you perceive it?	-2, -1, 0, 1, 2	very unpleasant - very pleasant	all beeps (except the first of the day)

Variable	Item	Scale	Scale Endpoints	Measurement Time
event_general	Thinking the most significant moment (situation/experience) since waking up. How did you perceive it?	-2, -1, 0, 1, 2	very unpleasant - very pleasant	first beep of the day

Social context

- Description: Self-constructed. Participants were asked if they had social contacts since the last beep, how (online/ in person/ phone) and how agreeable the contact was.
- 3 Items

Show Items

Variable	Item	Scale	Scale Endpoints	Measurement Time
event_social	Have you had social contacts since the last survey?	binary: yes/no		all beeps (except the first of the day)
event_social	Have you had social contacts since waking up	binary: yes/no		first beep of the day

Variable	Item	Scale	Scale Endpoints	Measurement Time
event_social_1	How did the social contact take place?	multiple choice: [] online [] by phone [] in person		all beeps

Passive Sensor Data

Activity

Heartrate

Sleep

GPS

ECG Data