

Measurement in OBM practice

- pragmatic perspectives on data collection and intervention design

OBM Network/SWABA conference, Stockholm 2018-08-18

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Introduction

Participant contributions?

- ▶ How many have prepared something to present?
- ▶ How many have prepared specific questions?

Me, myself and I

- ▶ Lic. psychologist (Uppsala, Sweden)
- ▶ CEO in private care
- ▶ Consulting in OBM, leadership/organizations, sustainability, etc.
- ▶ PAX Good Behavior Game (Public Health Agency, Karolinska Institutet, PAXIS Institute)
- ▶ PROSOCIAL initiative (David Sloan Wilson, Paul Atkins)
- ▶ PhD candidate at OsloMet since September 2017 (Ingunn Sandaker, Tony Biglan)





Brief checkup

- ▶ How many have 2+ years experience working primarily as a consultant in business/management?
- How many of you have had a **client that asked you to collect, analyze and report behavioral data?**
- ▶ Everyone: how many have done any kind of measurement to evaluate an intervention you delivered?

Agenda

- ▶ **Why** measure?
- ▶ **What** to measure?
- ▶ **How** to measure?
- ▶ **When** to measure?
- ▶ **Designs** that allow for good enough evaluation of interventions delivered
- ▶ Practical examples + a bit extra on Ecological Momentary Assessment

PAX Lyssna

-  Pausa det du gör
-  0 cm-rösten
-  Gör V-tecknet
-  Titta på den vuxna

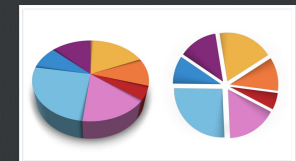


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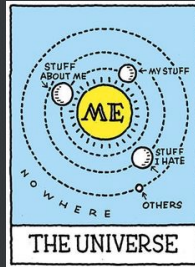
Generic distal outcomes

- ▶ Revenue, profit/costs
- ▶ Sick-leave, short/long term
- ▶ Personnel turnover
- ▶ Incidents/near-incidents
- ▶ Client's KPI already in place
- (this data is usually already collected = baseline data is available)*



WHY and WHAT to measure

- ▶ Perspectives
 - You
 - Your client
 - The subjects

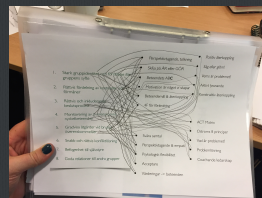


HOW to collect data

- ▶ Behavioral data
 - self-registration (excel sheet, EMA/ESM)
 - observation (momentary time-sampling, whole-interval recording, partial interval)
 - automated (collected by data systems, often already in place)

HOW to collect data, pt 2

- ▶ Self-rated forms - usually focused on inner experiences and/or observed behavior
- ▶ Subjectivity - good or bad?
 - Stress
 - Job control
 - Social support



WHEN to collect data?

- ▶ How often should we do measurements?
 - What's good enough? Why?
- ▶ Difference intervals for self-ratings and observations?

Ecological Momentary Assessment

WHAT IS EMA?

- ▶ Many methods...
 - ▶ Diaries (on paper or smartphone/computer)
 - ▶ Physiological monitoring (step counter, GPS, heart rate)
 - ▶ Collection of medication compliance via instrumented pill bottles
 - ▶ SMS or smartphone apps for prompting action and asking questions
- ▶ **Focus on collecting data repeatedly, in close to real time, and in subjects' natural environments**

Shiffman, S., Stone, A. A., & Hufford, M. R. (2008). Ecological Momentary Assessment. *Annual Review of Clinical Psychology*, 4(1), 1-32. <https://doi.org/10.1146/annurev.clinpsy.1.072006.091415>

PROBLEMS WITH SELF-REPORT MEASURES

- ▶ There is strong evidence that retrospective reports are subject to biases that challenge both their reliability and validity.
- ▶ Studies have revealed significant discrepancies between real-time assessments and retrospective self-reports of mood, symptoms, and behaviors across a range of clinical problems
- ▶ Individuals are more likely to recall or report experiences
 - ▶ that seem more personally relevant (*personal heuristics effect*),
 - ▶ that occurred more recently (*recency effect*),
 - ▶ that stand out as significant or unusual (*salience or novelty effect*) or
 - ▶ that are consistent with their current mood state (*mood-congruent memory effect*)

Troll, T. J., & Eher-Pierner, U. W. (2009). Using experience sampling methods/ecological momentary assessment (ESM/EMA) in clinical assessment and clinical research: Introduction to the special section. *Psychological Assessment*, 21(4), 457-462. <https://doi.org/10.1037/a0017653>

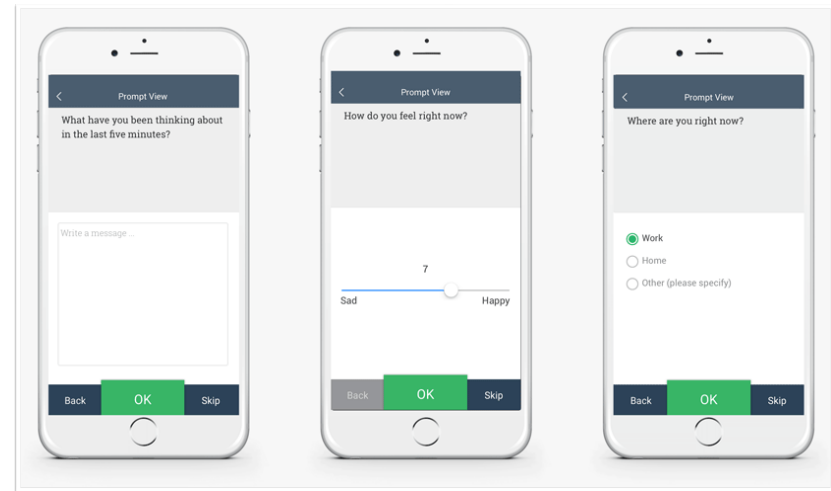
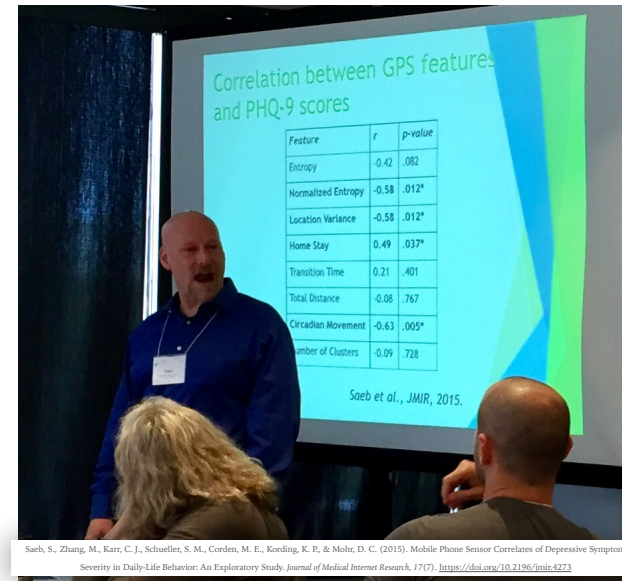
EMA IS CHARACTERIZED BY

- ▶ (a) collection of data in real-world environments
- ▶ (b) assessments that focus on individuals' current or very recent states or behaviors
- ▶ (c) assessments that may be event-based, time-based, or randomly prompted (depending on the research question); and
- ▶ (d) completion of multiple assessments over time.

Troll, T. J., & Eher-Pierner, U. W. (2009). Using experience sampling methods/ecological momentary assessment (ESM/EMA) in clinical assessment and clinical research: Introduction to the special section. *Psychological Assessment*, 21(4), 457-462. <https://doi.org/10.1037/a0017653>

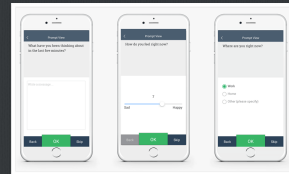
EMA, EMI, ESM, JITAI, ...

- Ecological Momentary Assessment (Stone & Shiffman, 1994)
- Ecological Momentary Intervention
- Experience Sampling Methods (Csikszentmihalyi & Larson, 1987)
- Just-In-Time Adaptive Interventions (Spruijt-Metz & Nilsen, 2014)
- Telemetric monitoring (Goodwin et al., 2008)
- Ambulatory Assessment
- Ecobehavioral Assessment Systems Software (EBASS, Greenwood et al., 2004)



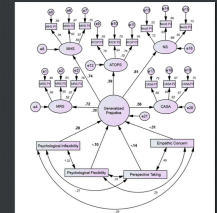
Ecological Momentary Intervention

- ▶ Getting frequent, real time behavior data
- ▶ Functioning both as measure and prompt
- ▶ Flexible



Feedback and presentation of data?

- ▶ Feedback to subjects and client
 - Reinforcement for data collection/answering forms?



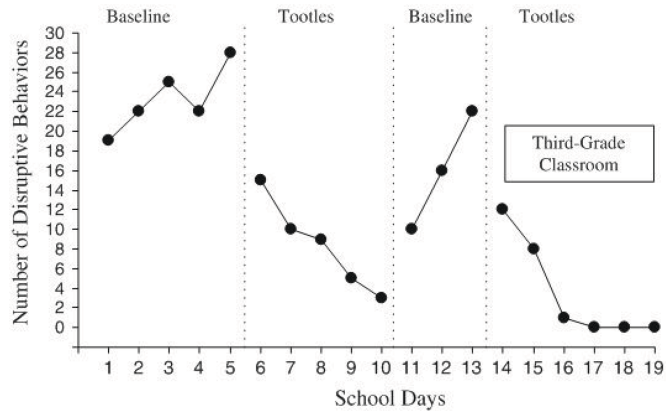
WHO collects data?

- ▶ And who monitors the data collection?



Designs for evaluation

- ▶ Pre/post
- ▶ Control group (how to motivate them?)
 - Passive/active?
- ▶ Interrupted time-series
- ▶ Multiple baseline
- ▶ Randomization? At which level?

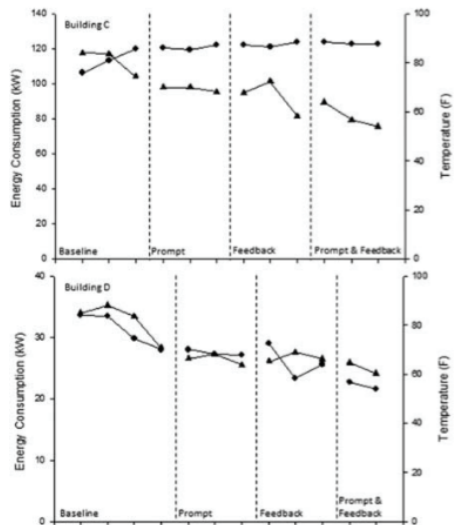
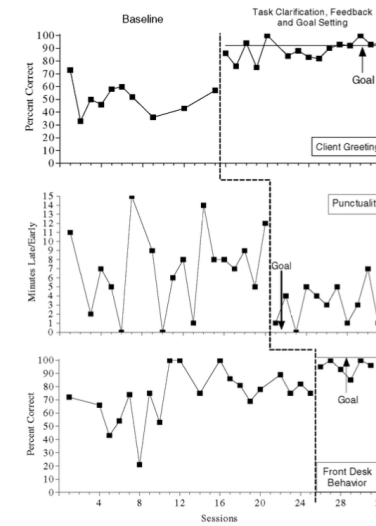


Number of disruptive behaviors in a third-grade classroom with and without the use of tootling



Using Evidence-Based Kernels for Psychological Flexibility and Prosocial Behavior in Multiple Contexts
 • ACBS World Conference Contexts • Sevilla, ES • 2017

FIGURE 1. Average performance across participants during the baseline and first intervention phases for three different target behaviors (punctuality, client greeting, and front-desk behaviors).



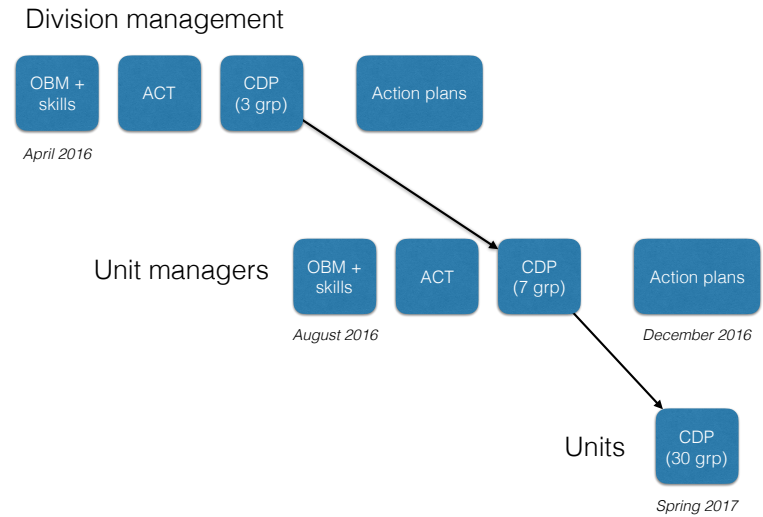
A Swedish Leadership Training Study

- ▶ ProSocial + OBM + communication skills
- ▶ Swedens largest private health care provider
- ▶ One division as intervention group
- ▶ Another division as control group



Design

- Two levels of intervention
 - 1.Division management & support staff
 - 2.Unit managers (divided by regions)
- 3+1 days training with homework (email+phone follow-up)
- Spring 2016 - group 1, days 1-3
- Fall 2016 - group 1 day 4 + group 2, days 1-4



Outcomes

- Perceived Stress Scale (14 items)
- The Swedish Demand–Control–Support Questionnaire (16 items)
- Work Action and Acceptance Questionnaire (7 items)
- Sick leave
- Turnover
- Revenue
- (Employee satisfaction, measured internally)
- **Measurements made at beginning and 6/9/12-months from start**

**Improving surgical pre-exam
customer conversion rate**

**Thanks for participating and
contributing!**

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