Affective Self-Regulation in Day-to-Day Life: Applying Mobile Technology as a Research Instrument

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Purposes

1. **Development** of a technology that makes micro-longitudinal components feasible in heterogeneous samples (e.g., large-scale household panels)

   Requirements:
   - **Manageability** in large and widely distributed samples (i.e., mobility, management facilities for data collection and storage)
   - **Flexibility** (i.e., easy study setup, accommodation of various item and task formats, implementation of complex assessment schedules)
   - **Ecological validity**

2. **First application** of technology in a study on the development of day-to-day affective self-regulation

Working Model
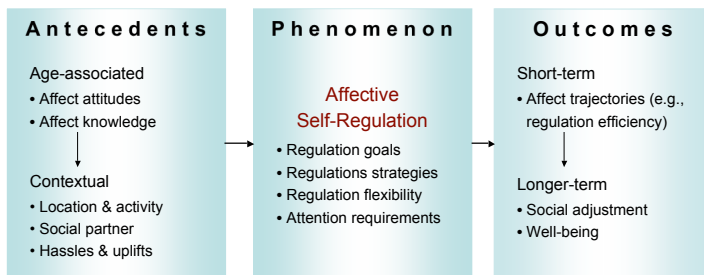
Technology Development: Experience Sampling with Mobile Phones
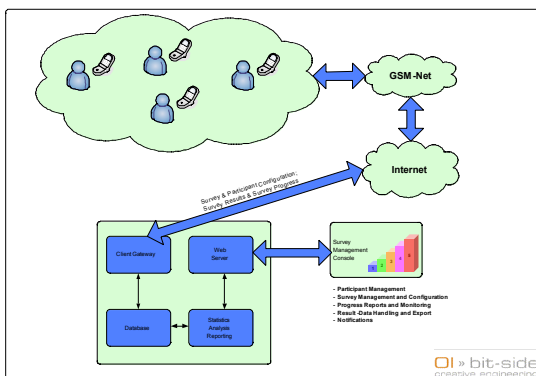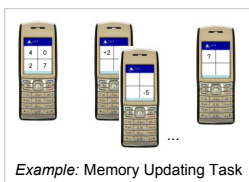

- **Java-client** on mobile phones
  - Control of assessment schedule
  - Display of items and tasks
  - Input of responses
  - Immediate data upload to server
- **Server**
  - Data storage
  - Web interface
    - Study setup and modification
    - Display of individualized assessment schedules
    - Visualization of response compliance

Example: Memory Updating Task

- **Possible extensions**
  - Porting to many different cell phones (i.e., use of participants' own phones as study devices)
  - Event-contingent ("interactive") experience sampling
    - Example: Response in one person triggers measurement in another person (e.g., investigation of emotion knowledge)

Study in Progress: Day-to-Day Affective Self-Regulation Across the Lifespan

Background

- Affective self-regulation: Ability to influence **which** affective states to have, **when** to have them, and how to **experience** and **express** them (e.g., Gross, 1999).
- Affect regulation competence may improve throughout adulthood (e.g., Gross et al., 1997, Lawton et al., 1993; but see Kunzmann et al., 2005).
- Little evidence on age-related changes in affective self-regulation as it occurs in people's day-to-day lives and natural environments (but see Carstensen et al., 2000).
- ➔ **This study:** How do **phenomenology**, **effectiveness**, and **attentional requirements** of day-to-day affective self-regulation develop from adolescence to older adulthood?

Central Predictions

- Deliberate affective self-regulation varies **within** persons. It is more likely **(a)** when affect intensity is high, **(b)** in the presence of strangers or not-so-close persons, and **(c)** when public self-awareness is high.
- The majority of affect-regulation attempts follow the hedonic principle. **Exceptions** may be more likely for some affects than for others (e.g., down-regulation of pride versus interest). Adolescents may be most likely, and older adults, least likely to show exceptions to the hedonic principle (e.g., to dwell on negative affects).
- The more **flexibly** individuals tailor affect-regulatory attempts to situational demands, the more effective they are, on the average, in regulating their affect, and the better is their social adjustment.
- Affect regulation **effectiveness** increases from adolescence to older adulthood. This is not not only due to differences in exposure to affect-eliciting events, but also to differences in affect attitudes, affect knowledge, and affect-regulation flexibility.
- **Attentional** demands of affect-regulatory attempts are stronger the more intense the to-be-regulated affect is, and increase with age from adolescence to older adulthood.

Method

- *N* = 360; age range = 14 to 75+ years, stratified by age, gender, education
- T1 (Questionnaires) ➔ Experience Sampling ➔ T2 (Questionnaires)
- 54 experience samples
- 3 x 3 days, 6 daily assessments, additional days when missings
- Assessment of momentary context, hassles and uplifts, affect, regulation goals and strategies, and numerical memory updating

Planned Extension

- Combination with ambulatory psychophysiological monitoring in daily life (Co-PI: Viktor Müller)
- Assessment of:
  - Physical activity (accelerometry)
  - Respiration
  - Cardiovascular activation (e.g., additional heart rate, vagal tone)