LifeScope Methodology in Studying Everyday Life

matti.vartiainen@aalto.fi

tel. +358-505553380

http://www.vmwork.net

Work Psychology and Leadership, Department of Industrial Engineering and Management, Aalto University School of Science
RQ:
How to study everyday life in digital and multilocational mobile work?
Basic research settings

Crowd Platforms
Intermediaries
Market makers
ENABLING TECHNOLOGIES FOR RESEARCH
Digital technologies as enablers: Mixed Media Environments for different tasks and modes of working

(From Renate Fruchter 2009)
• **Sensors, smart grid, sustainability and quantified self**: smart phone with its embedded sensors that can tell much more about your health, fitness, movement and locations than you yourself.
• **Big data, analytics, cloud.** Data availability and access have grown. According to Eric Schmidt, Google's chief executive officer, the world creates 5 exabytes of data every two days. That is roughly the same amount created between the dawn of civilization and 2003.
Working in Virtual Worlds
Collecting data from everyday life
Experiences and objective data from activities in physical, virtual, social and mental spaces

<table>
<thead>
<tr>
<th>Human activities</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Perceived</strong></td>
<td></td>
</tr>
<tr>
<td>Goal and object</td>
<td>Tools in use</td>
</tr>
<tr>
<td>What are you doing? (CASS-Q: open question) → tasks</td>
<td>What tools you use? (CASS-Q: open question) → list of tools</td>
</tr>
<tr>
<td><strong>Sensed</strong></td>
<td>Task contents</td>
</tr>
</tbody>
</table>
LIFESCOPE —

Studying and Developing Health and Wellbeing with Mobile, Wearable and Mind Sensors

**DEVELOPED BY**
- Tools and application developers
  - Usability and functionality of applications
- Service providers
  - Added services for healthcare, workplace and product design

**USED BY**
- Citizens
  - Visible and reflected understanding on everyday routines and well-being for transforming activities
- Researchers
  - Instruments for analyzing and modeling activities across contexts and processes

For behavioral change in real life
Instruments for data collection by wearables and mobile (examples)

MindWave Brain activity -> Attention

CASS -> Customizable mobile queries

FirstBeat HRV -> Stress

Beddit -> Sleep & recovery

Position trackers -> Where activity takes place

Narrative camera -> Lifelogging

Wearable biosensors

The Angel Sensor

IndoorAtlas
Example: Measuring moods with Moodmetric ring

- Emotional intelligence development by understanding emotions and their causes.
- Measures autonomous nervous system signals, which can be used to understand emotional reactions.
- Increase productivity at work and reducing your stress levels.
- Improving your flexibility to deal with life’s challenges and maintaining better social relationships.
Potential health and wellbeing service providers:

Taltioni – a secure, Finnish Health Account

An online tool with mobile Apps:

[Health-e-living] [Moodzi] [eGluco]

Extensive Life Oy
Instruments and services for feedback (examples)

FOR WORKPLACES
Healthy employees are happier and more productive. On top of that, more productive employees are good for increasing revenue. Healthy employees also cost less in medical and absentee costs. With Motivade for Workplaces, health really is wealth.

Checkmylevel

Motivade Oy

MS Band

Apple Watch

Diabetes trends

Health Revolution

Wellmo

Polar M400 GPS watch with 24/7 activity tracking
Example: doing tasks in physical places

How complex was your task?
Place, stress and creativity

- Did you feel stress?
- Did you feel creative?
My ‘everyday’ stress
APPLICATION PROMISES
Example 1: Occupational healthcare

- One current occupational healthcare trend is to extend the work health to employees’ free time – a more holistic view.
- Sensors have appeared to measure, for example, sleep patterns, activities, and stress recovery.
- Smart devices allow collecting data also during free time, and from employees travelling or working regularly from multiple locations.
- By self-reflection employees can improve their well-being
Example 2: Workspace planning

- Experiences and feelings when using spaces. How to support work and creativity with spaces?
- Giving feedback to employees on energy use and reduce it.
- Savings in office costs by finding out what workplaces are used and what are underused by employees.
- Improvements in space use and task performance by finding out what tasks workers do and what needs they have in each space.
Example 3: People in a smart city

People moving and living in a city:

• What spaces and locations people use in a smart city?

• For what purpose different locations are used?

• What means of transportation people use when moving around?

• How people are socialized into a city life?
Challenges and needs
Dilemmas

• Ethicality: privacy, who owns the data
• Management control vs. self-reflection
• ”Belief” technology?
• Technology integration
• Usability, validity and reliability of technologies
DISCUSSION