

# Wearables at Work: Preferences from an Employee's Perspective



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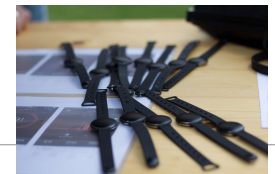
## Introduction

- **Health promotion** effective to **decrease** absenteeism.
- **Self-tracking** via wearables **promising** approach: a first step towards **self-management**.
- **Wishes and needs** from employees unknown → **Important to inform future design** and improve usage of wearables in future interventions.

**Objective: To obtain a preliminary impression of the needs on the use of wearable technology for workplace health promotion**

## Methods

Employees from the University of Twente were invited to **try a wearable** during lunch walks around the campus. **After the walk**, 76 employees with a mean age of 40 years (SD ± 11.7) **filled in a survey** concerning their needs. **Analysis** were of **descriptive** nature.



Misfit Shine wearables.  
Source: Jellien Tigelaar [UT News]

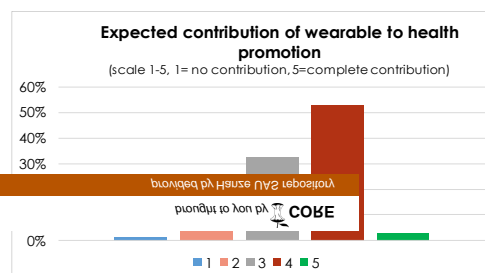
## Results

Positive aspects	Negative aspects
Wearables in general	
<ul style="list-style-type: none"> <li>• <b>Insights</b> in own lifestyle pattern</li> <li>• <b>Pleasant design</b> of the Misfit Shine</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Poor visualisation</b> of the data</li> <li>• <b>Unpleasant</b> to wear</li> <li>• Need for <b>observing more</b> than just steps</li> </ul>
Wearables at work	
<ul style="list-style-type: none"> <li>• <b>Improve the health</b> of employees</li> <li>• <b>Awareness</b> about health behaviour at work</li> <li>• Increase <b>fellowship</b> by supporting each other</li> <li>• <b>Engagement</b> of employer</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Privacy issues</b> due to collection of personal data</li> <li>• Feeling of <b>being check-up on</b> (by employer)</li> <li>• An <b>extra task</b> for the employee</li> <li>• <b>Obligation</b> of use</li> </ul>

Access to self-tracking data	No access to self-tracking data
<ul style="list-style-type: none"> <li>• Only employee</li> <li>• Physicians other health care professionals</li> <li>• Researchers</li> <li>• Others but only when access is provided by employee</li> </ul>	<ul style="list-style-type: none"> <li>• Employers and supervisors</li> </ul>

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Needs wearable use	%
<b>Preferred method for monitoring</b>	
A smartphone application	33
Sensors in smartphone	40
Wearable for continuous monitoring	37
Wearable for interval monitoring	15
Other	7
<b>Obstructions daily monitoring</b>	
Keeping track of additional data	53
Uncomfortable	34
Unattractive design	23
Continuous wearing	51
<b>Open to long-term wearable use</b>	59
<b>Usage of private smartphone</b>	64



## Discussion

**Most employees see potential:** obtain insights into lifestyle pattern

### Recommendations

- **Diminish the burden of wearing:** use smartphone sensors for self-tracking [1,2] or fit sensors into everyday jewelry/clothing
- **Visualization** should be appealing [1] and understandable [2]
- Employee is manager of own data to reduce **privacy issues**

Results will be used in further research into the development of a workplace stress management intervention combining self-tracking and eCoaching (project "Quantified Self @Work").



Lunch Walks at the University of Twente.  
Source: Jellien Tigelaar [UT News]

### References

1. Lentferink A, Oldenhuis H, De Groot M, Polstra L, Velthuisen H, Van Gemert-Pijnen L. Key Components in eHealth Interventions Combining Self-Tracking and Persuasive eCoaching to Promote a Healthier Lifestyle: a Scoping Review. *Submitted to: Journal of Medical Information Research.*
2. Patel MS, Asch DA, Volpp KG. Wearable devices as facilitators, not drivers, of health behavior change. *Jama.* 2015;313(5):459-460. re