Eases and Difficulties of Talking to a Virtual Coach for Quitting Smoking and Becoming More Physically Active: A Mixed-Methods Analysis

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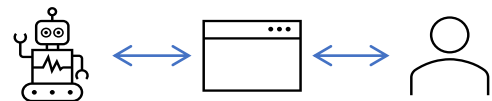
Supervised by N. Albers and W.P.Brinkman

1. Background

- **mHealth** applications
- **Quitting smoking** and becoming more **physically active**
- **Users** commonly **quit**
- Sam, a virtual coach [1]
- Five sessions of chatting
- **Data** collected from participants
- Improve **acceptance** of Sam
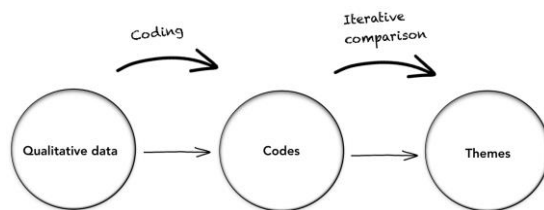- **Eases** and **difficulties** of talking

2. Aim

Identifying reasons for finding it easy/difficult to talk to the virtual coach.

3. Methodology

- Qualitative analysis, quantitative analysis and literature study
- **Qualitative analysis** of the post-questionnaire data
- Identify themes using **thematic analysis**

- **Quantitative analysis**
- **Literature study**
- Recommendations to improve Sam
  - Possible changes
  - Leave unchanged

4. Results

- Six themes, figure 1
- Emotional and practical
- **Motivation** and **ease** of assigned activities
- Correlation between rating and unnaturalness

"I loved that there were a wide range of fixed responses to most of the questions, this made it very easy." [2], P274

"... Ideally, I'd like to be able to say something more about my current situation, what my goals were etc. and just have it more personalised." [2], P481
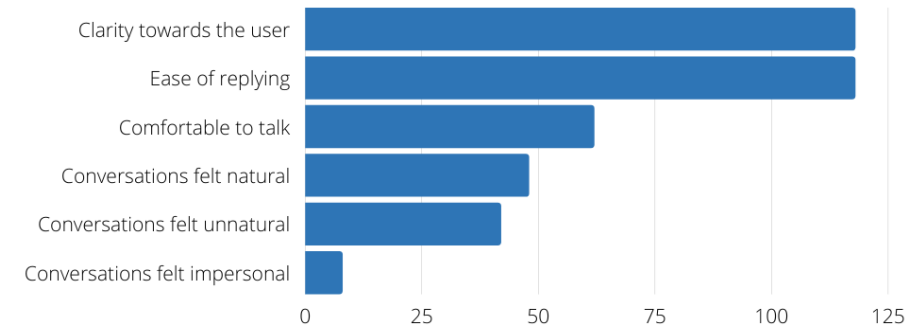

Figure 1. An overview of all identified themes and their number of occurences.

	Correlation
Ease of the assigned activities	0.30
Motivation of the assigned activities	0.30
Conversations felt unnatural	-0.35

Figure 2. Correlations with the rating of the ease of talking to Sam ($p < 0.05$).

5. Recommendations

Clarity towards the user	Keep Sam's clear, simple and informal way of talking.
Ease of replying	Extend the currently provided answers
Comfortable to talk	Allow people to vent their problems and struggles.
Conversations felt unnatural/natural	Keep balance between bot- and human-like in mind. Make Sam a more natural.
Conversations felt impersonal	Allow Sam to talk about itself. Allow Sam to tailor to users.

Figure 3. A summary of the recommendations given to improve Sam.

[1] N. Albers and W.-P. Brinkman, "Perfect fit - experiment to gather data for and test a reinforcement learning-approach for motivating people," May 2021. DOI: 10.17605/OSF.IO/K2UAC. [Online]. Available: osf.io/k2uac.
[2] A. Ekinci, Analysis of the ease and difficulty of talking to the virtual coach. Version v1.4, If you use this software and/or data, please cite it as below., 2022. DOI: 10.5281/zenodo.6647544. [Online]. Available: https: //doi.org/10.5281/zenodo.6647544.