**Set-up experimental evaluation position feedback**

During the day, people have the tendency to slouch. Slouching means to take on a lazy posture that is characterized by excessive muscle relaxation and bent head and shoulders. This could either be in a sitting, standing or moving mode. Slouching could result in a headache, pain in the back or in the jaws. A better posture is recommended to prevent these health-related issues. This research aims to develop a textile reflexes vest that should improve individual's posture via tactile position feedback. A first experiment will be executed to determine the best position for tactile feedback on posture and to get an understanding of people’s willingness to wear a vest for position feedback.

**EXPERIMENT 1**

**AIM**: This first experiment aims to determine the best position for tactile feedback on posture using the textile reflexes vest. Besides, the experiment will result in a first evaluation on the quality of the tactile feedback. Quality of feedback includes comfort, noticeability, distraction, and effectiveness. Finally, the experiment aims to understand people’s willingness to wear a vest for position feedback.

**MATERIALS**: We will use a first prototype of the textile reflexes vest. This prototype will not have electronic actuators but will be operated manually. The vest will have strings that, once pulled, contract the vest for tactile feedback. The vest allows for tactile feedback at three different parts of the back: the upper part, the middle part, and the lower part. Besides the vest, the test set-up requires a table, a stool and a book for reading.

**PARTICIPANTS**: The textile reflexes vest will be designed for and worn by women. This experiment will therefore work with a female only participant pool. We will invite female students, of all sizes, at the Designlab to participate. At least twenty students should conduct the experiment.

**PROTOCOL**: The experiment will consist out of three phases: an introduction phase, a test phase, and an evaluation phase.

*Introduction:* This phase will introduce the participant into slouching and aims to obtain participant’s willingness to correct her posture. The participant will enter a room and will take place on a stool. The experimenter will explain the aim of the experiment: ‘evaluate coaching for slouching using a new wearable technology’. First questions on the participant’s awareness of slouching and willingness to correct her position will be asked. The participant will then be asked to put on the textile reflexes vest. The participant should wear the vest over a shirt. Own coats and vests should be taken off. The set-up of the experiment will now be explained in more detail to the participant.

*Test:* The three positions for posture feedback will be tested in this phase of the experiment. The participant will be asked to read the book in front of her. When she starts slouching, the experimenter will pull the upper strings of the vest, for upper back feedback. The participant should then rate the feedback on a scale from one to seven on comfort, noticeability, distraction, and effectiveness. General comments will be written down. This procedure will be repeated for the middle back feedback and the lower back feedback.

*Evaluation*: The participant can take off the vest. She will be asked to give feedback on her preference for one of the three positions for feedback. Again, participant’s willingness for posture correction will be examined.

**QUESTIONS**:

*Introduction:*

What is your age?

What is your body size?

Are you aware of your own slouching?

Do you experience pain due to slouching? (How often and where? Back, jaws, head,...?)

Would you use a technology to improve your posture?

How likely is it that you would use a posture correcting technology on a scale of one to seven?

*Test:*

How do you experience the upper back feedback?

How comfortable is the upper back feedback on a scale of one to seven?

How noticeable is the upper back feedback on a scale of one to seven?

How distracting is the upper back feedback on a scale of one to seven?

How effective is the upper back feedback on a scale of one to seven?

How do you experience the middle back feedback?

How comfortable is the middle back feedback on a scale of one to seven?

How noticeable is the middle back feedback on a scale of one to seven?

How distracting is the middle back feedback on a scale of one to seven?

How effective is the middle back feedback on a scale of one to seven?

How do you experience the lower back feedback?

How comfortable is the lower back feedback on a scale of one to seven?

How noticeable is the lower back feedback on a scale of one to seven?

How distracting is the lower back feedback on a scale of one to seven?

How effective is the lower back feedback on a scale of one to seven?

*Evaluation:*

Which of the three types of feedback do you prefer and why? (refer to the four criteria)

Would you use this textile reflexes vest to improve your posture and why?

How likely is it that you would use this textile reflexes vest on a scale of one to seven?

Do you have any additional comments?