Introduction

You are invited to participate in exploratory experiments conducted by Larissa Finsler, a master's student in the Business Information Systems program at FHNW. Before starting the experiments, you will receive information about the study, its purpose, the collection and use of your data, as well as your rights as a participant. It is important that you read this information carefully and only give your consent if you have understood all aspects and agree with them. Please always follow the described instructions and steps during the experiments.

Purpose of the Study:

The purpose of this study is to examine interactions between autonomous social robots and humans. Today, you will interact with the autonomous social robot Pepper in three short experiments. The total duration of the study will be approximately 45 minutes. The goal of this study is to record attitudes towards Pepper before and after the interaction and thus determine how Pepper affects study participants.

Data Collected:

The following data will be collected from you as part of the study: demographic data, survey responses, audio recordings of your answers. These data will be anonymized and treated confidentially.

Use and Publication of Data:

The collected data will be used exclusively for scientific purposes. The results of this study will be included in a master's thesis and may later be published in further scientific publications. All published data will be anonymized so that no conclusions can be drawn about your identity.

Voluntary Participation:

Your participation in this study is completely voluntary. You can withdraw your participation at any time and without providing reasons, without any disadvantages resulting from this. If you decide to discontinue the study, your data collected up to that point will only continue to be used with your consent.

Confidentiality and Data Protection:

All collected data will be treated confidentially. Your data will be anonymized. Only the persons working on the master's thesis will have access to the non-anonymized data.

Consent:

With your agreement, you confirm that you have been informed about the purpose and

execution of the study, that all your questions have been answered, and that you voluntarily participate in the study. You consent to the use of your anonymized data for scientific publications.

Contact for Further Information:
If you have any questions about the study or need further information, you can contact [contact details].

Are you willing to have your data collected and used for scientific purposes under the above conditions?

- Yes

Important Notes on the Experiments

In the following experiments, you will be conversing with Pepper. Please take note of the following points:

- All interactions should take place in High German, as Pepper does not understand other languages.

- Pepper is still learning. Therefore, statements may be misunderstood or not recognized. Pepper will then ask again; please repeat your previous statement.

- In general, pay attention to clear and distinct pronunciation. To simplify the course of the experiments, it is best to sit close to the robot, turn towards it, and do not speak too fast.

Preliminary Questions

Before the experiments begin, we would like to ask you a few questions. Once you have answered all the questions, please click "Next" and follow the described steps.

F1 How old are you?
[Age in years]

F2 What is your gender?

- Male

- Female

- Diverse

F3 What is your highest level of education?

- Secondary education

- Bachelor's degree

- Master's degree

- Doctorate

F4 Have you ever interacted with robots before?

- Yes

- No

[If F4 = "Yes"]
F5 In what form have you previously interacted with social robots?

F6 How important is it for you to donate to charitable causes?
[1 "not important at all" to 7 "very important"]

F7 To which type of charity would you be most likely to donate?

- Health

- Education

- Environment

F8 Do you have experience as a teacher?

- Yes

- No

[If F8 = "Yes"]
F9 At which level and in what role have you taught? (e.g., "Primary school - Homeroom teacher")

F10 How well do you know about nutrition?
[1 "not well at all" to 7 "very well"]

F11 How important is a balanced and healthy diet to you?
[1 "not important at all" to 7 "very important"]

Please respond to the following statements.

[1 "strongly disagree" to 7 "strongly agree"]

F12 I think robots are trustworthy.

F13 I trust that robots perform tasks correctly.

F14 I like robots.

F15 I am generally willing to accept a robot's help in completing a task.

Scenario 1 - Introduction

In the first scenario, you will have a conversation with Pepper about three different fictional charitable organizations and distribute a donation of 100 CHF among them. Below, you will find the descriptions of the organizations. Please read the descriptions carefully and try to remember the key points.

Organization 1: Good Health

Mission Statement: Good Health (G) is committed to improving access to healthcare and health outcomes for vulnerable populations worldwide. Its mission is to combat health inequalities, promote disease prevention, and ensure that everyone has access to high-quality healthcare, regardless of socioeconomic status or geographic location.

Key Programs and Initiatives:

1. **Medical Assistance and Support:**
   G provides emergency medical aid and long-term healthcare for communities affected by conflicts, natural disasters, and public health crises.

2. **Disease Prevention and Vaccination Programs:**
   G conducts vaccination campaigns, health education initiatives, and disease monitoring programs to prevent the spread of infectious diseases and reduce mortality rates.

3. **Development of Health Infrastructure:**
   G invests in building sustainable healthcare infrastructures, training medical personnel, and strengthening health systems to improve access to essential services and enhance community resilience.

Arguments:

1. **Life-Saving Impact:**
   By donating to Good Health (G), you can directly contribute to saving lives and alleviating suffering in some of the world's most vulnerable communities.

2. **Global Reach and Expertise:**
   G operates in regions facing significant health challenges, leveraging decades of experience, partnerships with local organizations, and evidence-based interventions to achieve measurable success.

3. **Long-Term Sustainability:**
   Your support for G goes beyond immediate relief efforts. It helps build resilient health systems that can withstand future crises and promote sustainable development for future generations.

Organization 2: Education Horizon

Mission Statement: Education Horizon (B) empowers disadvantaged youth in various regions around the world by providing access to quality education and holistic development opportunities. Its mission is to break the cycle of poverty, unlock human potential, and create pathways to success for every child.

Key Programs and Initiatives:

1. **Scholarship Programs:**
   B provides scholarships, educational grants, and financial assistance to students from low-income families, enabling them to pursue higher education and achieve their academic goals.

2. **Mentorship and Career Counseling:**
   B offers mentorship programs, career guidance, and skills development workshops to help students explore career paths, develop essential skills, and succeed in professional life.

3. **Community Engagement and Advocacy:**
   B advocates for policies that promote equal access to education, mobilizes the community to support educational initiatives, and fosters partnerships with schools, universities, and local stakeholders.

Arguments:

1. **Transformative Impact:**
   By donating to Education Horizon (B), you can change the lives of disadvantaged youth by providing them with the tools, resources, and opportunities they need to overcome barriers, tackle challenges, and achieve their dreams.

2. **Empowerment and Equity:**
   B promotes educational fairness and social justice by addressing systemic educational barriers, empowering marginalized communities, and creating inclusive learning environments.

3. **Investment in Future Leaders:**
   Your support for B benefits not only individual students but also contributes to building a well-educated, skilled, and resilient workforce that drives economic growth and social progress.

Organization 3: Environmental Alliance

Mission Statement: Environmental Alliance (U) is dedicated to protecting biodiversity, preserving natural habitats, and combating climate change for the benefit of present and future generations. Its goal is to promote environmental awareness, sustainable development, and collective action to safeguard the planet's ecosystems.

Key Programs and Initiatives:

1. **Wildlife Conservation and Habitat Restoration:**
   U works to protect endangered species, conserve natural habitats, and restore ecosystems damaged by human activity, climate change, and habitat fragmentation.

2. **Climate Protection and Advocacy:**
   U advocates for policies and practices that reduce greenhouse gas emissions, promote renewable energy sources, and mitigate the impacts of climate change on vulnerable communities and ecosystems.

3. **Community Engagement and Education:**
   U collaborates with local communities, schools, and businesses to raise awareness about environmental issues, inspire action, and empower individuals to adopt sustainable lifestyles and conservation practices.

Arguments:

1. **Preservation of Biodiversity:**
   By donating to U, you contribute to preserving the Earth's rich biodiversity, protecting endangered species, and conserving ecosystems that provide essential services such as clean air, fresh water, and fertile soil.

2. **Climate Change Mitigation:**
   U's efforts to combat climate change have far-reaching benefits. They help mitigate the effects of global warming, extreme weather events, and ecological disruptions that threaten human health, livelihoods, and biodiversity.

3. **Conservation Legacy:**
   Your support for U leaves a lasting legacy of environmental protection, ensuring that future generations inherit a planet that is healthy, thriving, and resilient to environmental challenges.

Scenario 1 – Initial Decision

Please now welcome Pepper. Pepper will once again explain the exact task to you. Then enter your donation allocation below. Only share your distribution with Pepper when prompted to do so.

Amount CHF for Good Health (G):

Amount CHF for Education Horizon (B):

Amount CHF for Environmental Alliance (U):

Note: The total must add up to 100 francs.

Now share your decision on the donation distribution with Pepper, wait for Pepper's response. Then click on "Continue".

Scenario 1 – Second Decision

Pepper has now discussed your donation with you. If you have any questions about Pepper's statements, you can ask Pepper. Only proceed with the questionnaire after the conversation and wait before sharing your decision on a possible donation redistribution with Pepper. Do this only when prompted at the end of the page.

After the conversation with Pepper, your opinion may have changed. If so, please enter your adjusted donation distribution below (without sharing it with Pepper). Otherwise, leave the fields empty. Then answer the following questions.

Note: Your original distribution was [show original distribution]

Amount CHF for Good Health (G):

Amount CHF for Education Horizon (B):

Amount CHF for Environmental Alliance (U):

Note: The total must add up to 100 francs.

Scenario 1 – Evaluation

S1 Please rate your impression of Pepper on the following scales.

Note: Do not share your answers with Pepper.

[1 "strongly disagree" to 7 "strongly agree"]

S1 I find Pepper likeable.

S2 I find Pepper friendly.

S3 I find Pepper competent.

S4 I find Pepper trustworthy.

Please answer the following questions regarding the interaction with Pepper.

Note: Do not share your answers with Pepper.

S5 I felt comfortable in the conversation with Pepper.

[1 "strongly disagree" to 7 "strongly agree"]

S6 To what extent did you follow the robot's suggestions during the task?

[1 "not at all" to 7 "completely"]

[If S6 > 3]

S7 I felt comfortable following the robot's suggestions.

[1 "strongly disagree" to 7 "strongly agree"]

S8 How convincing did you find the robot's suggestions?

[1 "not convincing at all" to 7 "very convincing"]

S9 The robot was dominant during the interaction.

[1 "strongly disagree" to 7 "strongly agree"]

S10 The robot communicated its suggestions clearly and confidently.

[1 "strongly disagree" to 7 "strongly agree"]

S11 After the interaction, I trust the robot more than before.

[1 "strongly disagree" to 7 "strongly agree"]

S12 I like the robot more after the interaction.

[1 "strongly disagree" to 7 "strongly agree"]

Share your decision regarding the redistribution of donations with Pepper and follow Pepper's instructions. If the conversation moves on to the next task, click on "Continue".

Scenario 2 – Initial Decision

Pepper has just explained the second task to you. Enter your hourly schedule below. Only share your distribution with Pepper when prompted to do so. Then continue with the questionnaire.

Number of hours Mathematics:

Number of hours Art:

Number of hours Music:

Number of hours Sports:

Number of hours Languages:

Note: The total must sum to 20 hours.

Now share your decision on the hour distribution with Pepper and wait for Pepper's response. Then click "Next."

Scenario 2 – Second Decision

Pepper has now discussed your schedule with you. If you have any questions regarding Pepper's statements, you may ask Pepper. Only continue with the questionnaire after the conversation and wait before informing Pepper of any possible rescheduling. Do so only when prompted at the end of the page.

After the conversation with Pepper, your opinion may have changed. If so, please enter your adjusted schedule below (without informing Pepper). Otherwise, leave the fields blank. Then answer the following questions.

Note: Your original distribution was: [Show original distribution]

Number of hours Mathematics: [in hours]

Number of hours Art: [in hours]

Number of hours Music: [in hours]

Number of hours Sports: [in hours]

Number of hours Languages: [in hours]

[Repeat Questions S1-S12]

Now inform Pepper of your decision regarding the rescheduling and follow Pepper's instructions. If the conversation transitions to the next task, click "Next."

Scenario 3 – Initial Decision

Pepper has just explained the final task to you. Enter below how you would like to fill your plate. Only share your selection with Pepper when prompted to do so.

Number of grams Protein (Chicken breast/vegan meat substitute):

Number of grams Healthy fats (Avocado or nuts):

Number of grams Vitamins (Bell pepper):

Number of grams Carbohydrates (Rice or quinoa):

Now share your decision on the salad buffet distribution with Pepper and wait for Pepper's response. Then click "Next."

Scenario 3 – Second Decision

Pepper has now discussed your selection at the salad buffet with you. If you have any questions regarding Pepper's statements, you may ask Pepper. Only continue with the questionnaire after the conversation and wait before informing Pepper of any possible rescheduling. Do so only when prompted at the end of the page.

After the conversation with Pepper, your opinion may have changed. If so, please enter your adjusted salad buffet distribution below (without informing Pepper). Otherwise, leave the fields blank. Then answer the following questions.

Note: Your original distribution was: [Show original distribution]

Number of grams Protein (Chicken breast/vegan meat substitute):

Number of grams Healthy fats (Avocado or nuts):

Number of grams Vitamins (Bell pepper):

Number of grams Carbohydrates (Rice or quinoa):

[Repeat Questions S1-S12]

Now inform Pepper of your decision regarding the redistribution of the salad plate. Then click "Next."

Follow-up Questions

You have now completed all experiments. Please answer the following questions and statements before submitting the questionnaire.

F16 The robot appeared to be aware of its appearance.
[1 "strongly disagree" to 7 "strongly agree"]

F17 After the experiments, I am more willing to accept help from a robot in the future.
[1 "strongly disagree" to 7 "strongly agree"]

[Repeat Questions F6, F7, F10, F11]

Thank you for your support! The survey is now complete. Please click "Submit Form." If you like, you may continue chatting with Pepper after submitting.