PAPER REVIEW NR 4

Paper:

S. Janssen, B. R. Schadenberg, "A Psychological Need-Fulfillment Perspective for Designing Social Robots that Support Well-Being", International Journal of Social Robotics, 2024, doi: 10.1007/s12369-024-01102-8.

Reviewer:

Giovanni Filomeno

I confirm that I have read the paper and written the following texts myself ☒

1. Thematic focus

The paper aims to provide a designing approach for social robots with psychological need-fulfillment to support human well-being. It integrates the Self-Determination-Theory (SDT) principle and the Motivation, Engagement, Thriving in User Experience (METUX) model into the social robot design. The paper proposes that social robots should be designed to fulfill users' basic psychological needs: autonomy, competence, and relatedness, as these are crucial for motivation, engagement, and overall well-being.

2. Foundations

- Self-Determination-Theory
- Motivation, Engagement, Thriving in User Experience (METUX)
- Social Robots

3. Method

The paper proposes a new conceptual model as a new methodological approach. To increase the robustness of this approach, the paper synthesizes existing literature, identifying gaps and lacks in the original models, and explains how the new approach can fill them. Additionally, potential applications are identified.

4. Key results

Since the paper presents a theoretical rather than an empirical model, this section is not valid for assignment 4.

5. Practical implications for AI or robotics

The practical implications of making a guideline about the development of social robots leads to the fact that developer5s can create robots that not only interact with humans but also support and encourage intrinsic motivation and psychological health, having more sustainable and positive human-robot interactions.

6. Strengths of the paper

The paper's strengths lie in its interdisciplinary approach, which combines psychology, UE design, and robots.

7. Weaknesses of the paper

As explained in Section 4, the main weakness of the paper is its leak on empirical validation which leaves the practical effectiveness of the proposed design basically untested. Additionally, the theoretical nature might be limited by the actual success of robotic implementations, which may not be mature enough.

8. Personal learnings

I learned the importance of psychological needs and well-being in the design of robots.