The age of loneliness:
the use of chatbots against social isolation

7-papers assignment

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There is a growing interest in the research of chatbots, also known as artificial agents, and their use as social support for humans, especially in the field of addressing people in stressful situations or health improvements. However, not much research is available in the use of chatbots in the context of everyday social interaction to address social isolation and loneliness. [1] Examples include providing a safe space in which people can discuss anything without fear of judgment or retaliation by giving them positive messages, and providing helpful advice when other sources or communication are not available.

Loneliness, social connection, and health.

A third of the people in industrialized countries are affected by loneliness, which is the underlying cause for global health issues. Loneliness is referred to as a subjective state of social isolation in which the person perceives an imbalance between ideal and actual social relations. [2] This particular feeling of loneliness may act as an adaptive signal to look for social interaction. Chronic loneliness, however, can have negative consequences on health, and increases the mortality risk. In situations where social support or intervention are not always available, chatbots may provide support for coping with feelings of loneliness, anxiety, and interrelatedness by triggering social dialogue between humans that might not otherwise have occurred.[1]

Since the inception of Eliza in the 1960s and Parry in the 1970s, conversational systems have come a long way. Recent examples of such systems include the DARPA communicator program that started in the year 2000 and Apple's ‘intelligent’ personal assistant Siri, which was launched in 2010. Thus today, we have chatbots such as XiaoIce[3] and Replika[4], which are social chatbots that can do more than respond to users' diverse and natural requests, also being able to establish a more emotional connection with the user. This is achieved by pleasing the users’ need for affection, communication, and social belonging. Also, further improvements and variations of these social bots are focused on the design of user engagement and take both intellectual and emotional quotient into account. [3] For example, XiaoIce can recognize dynamic emotions and engage with appropriate responses in long interpersonal conversations.

Health chatbots have widely been used in the healthcare area, providing services supporting physicians and assisting patients, such as aiding the users to live independently and helping seniors fight against loneliness. To enhance trust and make users accept them socially, these health chatbots use positive reassuring cues, like responding with a comforting human voice. [5]

Social and relational purposes

Chatbots are perceived as a way to fulfil a desire for socialization and to avoid loneliness. In a study by Brandtzaeg published in 2017, participants reported that chatbots enhanced their social experiences, for example when included in a group chat, to improve one's conversational skills, or by using a chatbot with a child. However, it is remarkable that while chatbots can enhance interactions between humans, it is most notably a social and relational motivation of interacting with the chatbot. All in all, only a small percentage reports an increase in productivity. [2]

The Replika chatbot uses compliments as an emotive speech act to maintain, support, and improve the user by responding with expressions of praise, admiration, and approval. [4] The strategy used by Replika of giving compliments is realized in both an initiative and a reactive way. This means that initiative acts serve to open the conversation and to emphasize emotive speech acts, whereas giving compliments as a reactive act is used to maintain an interpersonal relationship. Being like a companion, Replika's skill to engage in and follow nuanced social behaviour, along with its ability to engage in multiple types of conversations and messages like text and images, results in a more human-like social connection. Additionally, the fear of not being judged by the chatbot buffers the feelings of the users as they can be more open about their problems, which in turn facilitates higher levels of self-disclosure. All of this indicates that these kinds of chatbots can be most helpful in providing some degree of companionship and help in curtailing the effects of loneliness, thereby helping to alleviate a widespread global health issue. [6]

Emora is another example of a chatbot capable of dialogue in a human-like social context. [7] It is designed to provide support beyond the opinion-oriented personal conversation. A distinction is made between personal dialogue, where people are sharing their thoughts, and an attitude towards individuals that is often present and has a high impact on everyday life.

Overall, chatbots hold great promise for everyday companionship, appraisal, informal, and emotional support. Future studies may determine further potential uses in everyday social support, to help against social isolation and improve well-being in everyday contexts. [6]

Reference

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