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TRANSHUMANISM IN PSYCHOLOGY: THE ATTITUDE TOWARDS THE USE OF CHATBOTS IN PSYCHOTHERAPY AND ETHICAL IMPLICATIONS

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Abstract

Transhumanism touches all areas of life, psychology included. In this research, we examined public attitudes towards the use of chatbots in the psychotherapeutic process. This study was conducted on 135 people (convenience sampling) from Romania, aged 18–65 years (M = 23.58; SD = 7.04) between November 1 and 14, 2022. Our results highlighted a variety of important issues regarding the attitudes of the studied population towards initiating a therapeutic approach with a chatbot rather instead of a human psychotherapist. Ethical implications were also discussed, and our findings and results support the literature with practical utility and provide insight into future research.

Keywords: chatbots, psychotherapy, transhumanism, bioethics, attitudes

Introduction

We are aware that transhumanism is a movement that encourages the improvement of the human condition through access to innovative technologies, both through their development and their widespread availability (Bostrom, 2005). The use of technology to improve mental health has an extensive history (Stones, 2019) This history had a sad beginning during World War II, when scientists of questionable moral standing used technology to intervene in those with mental health problems (see Alexander, 1949). It was evident that the dictatorship had a negative impact on how transhumanism manifested itself in the field of mental health (Stones, 2019). For the general public, it is perfectly normal for a person with an amputated limb to be able to have it fitted, but the same public would look askance at or be reluctant when it comes to improving mental health (Stones, 2019). It is precisely this situation that should also make us think. Can we engage innovative technologies to improve mental health, or should we be circumspect? However, technology has brought us to where we are today: life expectancy is higher than ever - in fact, the Earth's population has just surpassed 8 billion (European Commission EU [@EU_Commission], 2022), healthcare is better than ever, and the whole planet is growing. What does it mean to be human? Doesn't being human mean striving for new advances in science and technology for the good of all people and of all unfortunate conditions we may encounter (Stones, 2019)? If the answer is yes, then we should promote the use of technology in all disciplines, including mental health and implicitly psychotherapy.

Robots and artificial intelligence in psychotherapy

The use of robots and artificial intelligence is not so new in mental health. For example, the Paro Robot Seal, one of the best-known robots to work in this area, was designed as early as 1993 by Takanori Shibata. Paro was first introduced to the public in 2001 (‘Paro (Robot)’, 2022) and has since been used in the treatment of dementia patients (Johnston, 2015). Kaspar, another robot, has also demonstrated its potential to be integrated into current education and therapy interventions (Huijnen et al., 2016). Robots have also been found to benefit children with autism spectrum disorders: the study by Huijnen et al. (2016)

found that "encouraging effects such as increased engagement, increased levels of attention and novel social behaviours, for example joint attention and imitation were found, when the children interact with robots". In addition, Fiske et al. (2019) mention that a lot of research (Wada & Shibata, 2007; Yu et al., 2015) studied the role of robots in reducing stress and loneliness, but also improving social connections, and the results were more than promising (Bemelmans et al., 2012; Griffiths, 2014). However, despite their efficacy, robots may not be extensively employed to improve mental health due to a number of factors, ranging from the high production costs to the shortage of qualified personnel who could operate them.

Nevertheless, robots are not the only "weapon" of artificial intelligence, which, along with technological progress, is becoming increasingly integrated into psychotherapeutic practise with each passing day (Fiske et al., 2019). Another tool of artificial intelligence is represented by chatbots. These are based on software that stimulates human conversation via text messages or even voice (Brush & Scardina, 2022). Chatbots are programmed in such a way that, based on the messages provided by a human user, they may promptly produce a relevant response. For example, in a therapeutic context, when a person writes to a chatbot, *"I'm sad"* the chatbot can reply, *"I'm sorry to hear that. What happened?"* and then, depending on the response received from the human, the chatbot can offer a range of solutions, such as instructions for mindfulness, relaxation, or breathing techniques, or other words of advice (e.g., *"go for a walk for 10 minutes"*, *"call your best friend now"* etc.). Research in recent years has indicated that chatbots can play a beneficial role in healthcare (Palanica et al., 2019).

Chatbots in psychotherapy: advantages and disadvantages

It should come as no surprise that the psychotherapy services offered by a chatbot represent an area that has not been exhaustively studied (Lim et al., 2022). Even so, the meta-analysis conducted by Lim et al. (2022) demonstrated that chatbot-delivered psychotherapy can be employed in healthcare institutions as an alternate treatment for disorders such as depression and anxiety. It is evident that the advantages of chatbots are manifold. Among the most important advantages are the preservation of anonymity for the person using the chatbot and the alleviation of concerns that the client may have about stigmatisation regarding sensitive topics discussed (Schnyder et al., 2017). In terms of disadvantages, it is important to point out that if the therapeutic approach takes place alongside a psychotherapist, the latter is able to refocus the content of the session (or the whole therapeutic approach) according to the information provided by the client, while the chatbot's responses are limited only to programmed scripts, which restricts the adaptability of chatbot-to-user responses (Rahman et al., 2017).

Ethical aspects of using chatbots in psychotherapy

Since there is extremely little research in the field on chatbots in psychotherapy, their influence cannot be unequivocally stated (Bendig et al., 2019). Until such research is conducted, preferably in longitudinal studies observing the effects of psychotherapy delivered by a chatbot compared to the effects of psychotherapy delivered by a psychotherapist, we need to answer a number of ethical questions:

1. Can the chatbot be used only for "mild" issues? What happens if a person's hardships (e.g., suicide attempts) exceed the capacity of a chatbot (Bendig et al., 2019)?
2. We know that therapy conversations can be extremely intimate. How can the data protection of the person using a chatbot for therapeutic purposes be guaranteed, as long as the conversation can be stored by the developers?
3. Assume that a person accepts the terms and conditions which stipulate that the company supplying the software will have access to their personal data and the

conversation they have had with the chatbot. What would happen to the person's data if the company that owns the chatbot was later sold?

4. Chatbots can create the opportunity for therapy whenever a person wants it - what would happen and how ethical would it be for people to become "overattached or even codependent, causing distress when the chatbot is not present or distracting users from in-person relationships" (Vaidyam et al., 2019)?
5. Narynov et al. (2021) address the fact that when we rely on technologies for awareness and empathy, our real-world social activities may suffer. What would happen if, by using chatbots, we remained confined to the virtual world and forgot to turn our attention to the empathy of humans as well?
6. We know from the literature that it can sometimes be difficult to figure out which apps can be really helpful for the therapeutic approach, and which can't (Rubeis & Steger, 2019). If medical devices receive the "CE" (Conformité Européenne) label, should this label also exist for psychotherapy chatbots, so that people interested in using such a service can distinguish verified chatbots from those that offer no benefit (Rubeis & Steger, 2019)?

We believe that the aforementioned ethical dilemmas are more than worthy of consideration. Given that this is an emerging field, any such analysis is supported and encouraged (Fiske et al., 2019).

The present study

The aim of the study was to evaluate attitudes and intentions about the use of a chatbot in a psychotherapeutic context, taking into account the participants' field of activity (students or professionals in the mental health field), gender, and background.

Method

Participants and procedure

This research involved 135 participants (convenience sampling) from Romania, aged 18–65 years (M = 23.58; SD = 7.04). All participants were voluntary and were informed about data anonymity, data protection, and that they could withdraw from the research at any time. After reading the informed consent, they filled in an online questionnaire. Participants were recruited via social media (Facebook and Telegram). The instrument was administered between November 1 and 14 (2022), and the research protocol was developed in accordance with the ethical guidelines from "Alexandru Ioan Cuza" University (where the authors are affiliated), respecting the 2013 Declaration of Helsinki (the study was approved by the Ethics Committee of the Faculty of Psychology and Educational Sciences, "Alexandru Ioan Cuza" University, Iași, Romania, Approval No. 2524 of 2022). The average time to complete the survey was approximately 7 minutes.

Of all participants, 63 are not in a relationship, 56 are in a relationship, 15 are married, and 1 is divorced. In terms of living area, 55 participants live in rural areas and 80 in urban areas. In terms of education, 5 graduated from secondary school, 64 from high school, 7 from post-secondary school, 38 from university with a bachelor's degree, 20 from university with a master's degree, and 1 with a doctorate. In terms of participants' income, 35 people had an income below 1000 RON per month, 22 participants had an income between 1000 and 2000 RON per month, 28 participants had an income between 2000 and 5000 RON per month, and 14 participants had an income between 5000 and 10000 RON per month. 7 participants with incomes above 10000 RON per month as well as 29 other participants did not want to provide information on their monthly incomes. The majority of the participants were Orthodox Christians (102 participants: Orthodox Christians, six people identified as

Roman Catholic Christians, two as Neo-Protestant Christians, one as Muslim, one as Islamic, eight as Agnostic, six as Atheist, and nine as unaffiliated).

Among the 135 participants, 58 worked or studied in the field of mental health (such as psychology, psychiatry etc.), whereas 77 did not. In addition, 65 participants had seen a psychotherapist, 65 participants had not visited a psychotherapist but want to do so, and 5 participants had not visited a psychotherapist and did not wish to do so.

Measures

To measure attitudes towards the employment of chatbots in psychotherapy, we used four items, measured on a 7-point Likert scale, adapted by us from Moon & Kim (2001): "Using chatbots in psychotherapy is a good/bad idea", "Using chatbots in psychotherapy is a wise/poor idea", "Using chatbots in psychotherapy is a pleasant/unpleasant idea", and "Using chatbots in psychotherapy is a positive/negative idea".

To measure the intentions of using a chatbot in psychotherapy, we utilised three items, measured on a 7-point Likert scale, adapted by us from Moon & Kim, (2001): "I will use chatbots in psychotherapy regularly", "I will use Chatbots in psychotherapy in the future", "I will recommend other people try chatbots in psychotherapy".

The tools were translated from English into Romanian using the backward method. The recommendations for translation and adaptation of the scales were followed (Hambleton & Zenisky, 2010; Maneesriwongul & Dixon, 2004).

Results

Overview of the statistical Analysis

After performing preliminary analyses, we computed zero-order correlations between the variables and used independent T-tests to look for differences based on the professional status (in the mental health field vs. outside the mental health field), the level of use of psychotherapy services (I have undergone a therapeutic process vs. I have not, but would like to vs. I have not and would not like to), and two socio-demographic variables (gender and background).

Preliminary analyses

For the analysis, we used IBM SPSS 26 statistical software. Prior to any analyses, data cleaning procedures and normality checks were carried out. The distributions' normality was then determined by computing the Skewness and Kurtosis values, and all of the results fell within the 2/-2 range recommended by George and Mallery (2010).

Hypothesis testing

H1. There were significant differences between people who worked in mental health or studied mental health and those who did not work in or study mental health in terms of attitudes towards chatbots.

To analyse this hypothesis, we used the t-test for independent samples (Table 1). According to the results, there were no significant differences between people who worked in mental health or studied mental health and those who did not work in or study mental health in terms of attitude towards chatbots ($t(132,3) = -1.02$; $p = 0.30$).

Table 1. Differences depending on the work environment in terms of attitudes towards chatbots

Variables	N	M	SD	t	df	P
Attitudes towards chatbots				-1.02	132.30	0.30
People who worked in mental health or studied mental health	58	13.44	6.12			

People who did not work in or study mental health	77	14.66	7.57

H2. There were significant differences between people who had been to therapy, those who had not been but wanted to go, and those who had not been but did not want to go to therapy in terms of attitude towards chatbots.

To analyse this hypothesis, we used the One-Way Anova test. According to the results, there were considerable differences in the three groups in terms of attitude towards chatbots ($p = 0.04$). There were significant variations between people who had not been to therapy but wanted to go and those who had neither been nor wanted to go to therapy in terms of attitude towards chatbots ($p = 0.04$), in the sense that people who had not been to therapy but wanted to go had on average a more positive attitude ($M = 15.03$) towards chatbots than those who had neither been to therapy nor wanted to ($M = 7.20$).

H3. There were significant differences between people working in mental health or studying mental health and those not working in or studying mental health in terms of their intention to use a chatbot.

To analyse this hypothesis, we used the t-test for independent samples (Table 2). According to the results obtained, there were no significant differences between the two groups in terms of intention to use a chatbot ($t(133) = -0.85$; $p = 0.39$).

Table 2. Differences depending on the work environment in terms of their intention to use a chatbot.

Variables	N	M	SD	T	df	p
Intention to use a chatbot				-0.85	133	0.39
People who worked in mental health or studied mental health	58	8.67	5.06			
People who did not work in or study mental health	77	9.45	5.42			

H4. There were significant differences between people who had been to therapy, those who had not but wanted to go, and those who had not but did not want to go to therapy in terms of their intention to use the chatbot.

To analyse this hypothesis, we used the One-Way Anova test. According to the results, there were considerable variations in the three groups in terms of intention to use a chatbot ($p = 0.04$). In terms of intention to use a chatbot, there were significant differences between people who had never been to therapy but wanted to go and those who had neither been nor wanted to go to therapy ($p = 0.04$). On average, people who had never been to therapy but wanted to go had a higher intention to use a chatbot ($M = 10.07$) than those who had neither been nor wanted to go to therapy ($M = 5.00$).

H5. There were gender differences in attitudes towards chatbots.

To test this hypothesis, we used the independent samples t-test (Table 3). According to the results obtained, there were no gender differences in attitudes towards chatbots ($t_{(130)} = 0.64$; $p = 0.51$).

Table 3. Gender differences in attitudes towards chatbots

Variables	N	M	SD	t	df	p
Attitudes towards chatbots				-0.64	130	0.51
Male	31	13.29	7.49			
Female	101	14.21	6.80			

H6. There were gender differences in the intention to use chatbots.

To test this hypothesis, we used the independent samples t-test (Table 4). According to the results, there were no gender differences in the intention to use chatbots ($t_{(130)} = 0.59$; $p = 0.58$).

Table 4. Gender differences in the intention to use chatbots.

Variables	N	M	SD	t	df	p
Intention to use a chatbot				0.54	130	0.58
Male	31	9.41	5.21			
Female	101	8.83	5.21			

H7. There were differences in attitudes towards chatbots depending on their background.

To test this hypothesis, we used the independent samples t-test (Table 5). According to the results obtained, there were no differences depending on the background in terms of attitude toward chatbots. ($t_{(133)} = 1.64$; $p = 0.10$).

Table 5. Differences depending on the background in terms of attitudes towards chatbots.

Variables	N	M	SD	t	df	p
Attitudes towards chatbots				1.64	133	0.10
Rural	55	15.32	7.21			
Urban	80	13.32	6.75			

H8. There were differences depending on the background in terms of intent to use chatbots.

To test this hypothesis, we used the independent samples t-test (Table 6). According to the results obtained, there were differences depending on the background in terms of the intention to use chatbots ($t_{(133)} = 2.06$; $p = 0.04$), in the sense that people from rural areas had on average a higher intention to use chatbots ($M = 10.23$) compared to people from urban areas.

Table 6. Differences depending on the background in terms of intent to use chatbots.

Variables	N	M	SD	t	df	p
Intention to use a chatbot				2.06	133	0.04
Rural	55	10.23	5.79			
Urban	80	8.35	4.76			

Discussions

While many questions concerning chatbots persist, our results revealed that a significant number of people, particularly those who had never gone to psychotherapy but desired to do so, are likely to engage and interact with such software. This is also consistent with previous research in the field, which demonstrated that individuals would likely use a chatbot (Vaidyam et al., 2019). In addition, regardless of whether participants were employed, in school, or unaffiliated with mental health, their plans to utilise a chatbot in psychotherapy were similar. A potential argument is that chatbots can play a beneficial role in healthcare (Palanica et al., 2019). As for professionals, it is known from the literature that the perceived importance of chatbots is significant. Sweeney et al. (2021) showed that more than three-quarters of their respondents agreed that chatbot software for mental health could help their clients better manage their own health.

Not surprisingly, people who had never been to therapy but wanted to go generally had a more positive attitude towards chatbots compared to people who had neither been to therapy nor wanted to do so. People's reluctance to engage in therapy of any kind can be a decisive factor in this. As with attitudes, there are significant differences between people who had not been to therapy but wanted to and those who had neither been nor wanted to, in the sense that people who had not been to therapy but wanted to do so had on average a higher intention to use a chatbot in psychotherapy than people who had neither been to therapy nor wanted to. To explain this result, we need to consider the reasons why people had never been to a psychological practice. Among the most common reasons are the high cost of a session, limited time, or the difficulty of talking to a stranger Soeiro, 2017). The importance of these reasons decreases in intensity when considering a chatbot: the cost is lower, and the stigma is diminished as the person takes part in psychotherapy in their own privacy.

We mention that there were no gender differences either in attitudes toward chatbots or in intentions to use a chatbot. This result can be explained by the fact that most people, regardless of gender, agreed that there were benefits associated with mental healthcare chatbots (Sweeney et al., 2021).

When it came to attitudes toward a chatbot, there were no significant differences based on their backgrounds. The argument for this result may be that such technologies are being promoted in various areas, such as healthcare, education, business etc. (Maroengsit et al., 2019), to both rural and urban populations. However, our results revealed disparities by background regarding the intention to use a chatbot, with rural individuals having a greater intention to utilise a chatbot than urban individuals. This conclusion may appear unexpected, but it can be explained by the fact that there are less mental health specialists in rural areas than in urban ones, and that gaining access to these services can be quite challenging. Therefore, rural residents may have a more positive attitude of chatbots in psychotherapy.

Regarding the limitations of our study, the sample number is relatively small (N = 135), but there is also the fact that the instruments used to measure the variables are self-report, which displays a high degree of subjectivity. Future research should also test other psychological variables that may influence attitudes towards chatbots in psychotherapy, such as attachment style, coping style, and self-esteem, as well as aspects that facilitate or do not facilitate engagement between a human person and artificial intelligence, such as anthropomorphism or people's engagement with technology or the internet etc. Taking into account variables such as those mentioned above, there would be a possibility to predict people's behaviour when engaging in a psychotherapeutic approach with a chatbot. Further research is needed both in the Romanian context as well as in other socio-cultural contexts.

In conclusion, it is important that this niche of the domain continue to be studied, as technology is advancing rapidly and the use of chatbots in psychotherapy could become much more common than it is today. Our results are useful both from a theoretical point of view, since we have improved the knowledge about chatbots in psychotherapy, and from a practical point of view, since based on our discussions we can develop research strategies to further develop this field.

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