ISSN 2309-8287; E-ISSN 2706-9672

Scientific Studios on Social and Political Psychology

1 | 2026
Vol. 32

Journal homepage: https://sppstudios.com.ua/

UDC 159.922.27:004.8
DOI: 10.61727/sssppj/1.2026.06

Features of social perception of an algorithmised psychotherapist by Ukrainian large language models (LLMs) users

Olesia Prokopenko*
Master
National Aerospace University "Kharkiv Aviation Institute"
61070, 1 Vadym Manko Str., Kharkiv, Ukraine
Kharkiv National University of Radio Electronics
61166, 14 Nauky Ave., Kharkiv, Ukraine
https://orcid.org/0009-0009-8571-1488

Maksym Zhydko
PhD in Psychology, Associate Professor
National Aerospace University "Kharkiv Aviation Institute"
61070, 1 Vadym Manko Str., Kharkiv, Ukraine
https://orcid.org/0000-0003-1181-4774

Yuriy Guliy
PhD in Psychology, Associate Professor
National Aerospace University "Kharkiv Aviation Institute"
61070, 1 Vadym Manko Str., Kharkiv, Ukraine
https://orcid.org/0000-0001-6035-8811

Abstract. The growing demand for mental health support, along with the development of artificial intelligence technologies, has led to the increasing use of large language models (LLMs) for obtaining psychological assistance. The aim of this study was to examine the social perception of generative artificial intelligence in the role of a psychotherapist among Ukrainian users of large language models. The survey questionnaire included a socio-demographic section as well as questions regarding respondents' experience of receiving psychological assistance through generative artificial intelligence (AI). In addition, a projective colour association technique and a projective method of selecting an associative image were employed in order to identify how users of an algorithmised psychotherapist perceive it. The final sample consisted of 85 participants aged between 17 and 54, including 22 men and 58 women. The study showed that generative artificial intelligence in the role of a psychotherapist is perceived as calm, unemotional, genderless, and cold. It was also found that an algorithmised psychotherapist based on LLMs is simultaneously perceived as a coherent structure and as something mysterious and hidden. At the same time, generative AI in the role of a psychologist is not associated with evil or deceit, which may indicate a potential vulnerability to confident error and therefore requires further investigation. It was determined that perceptions of generative artificial intelligence do not depend on age or prior experience of receiving professional psychological assistance. The visual representation of generative AI is influenced by mass media in terms of colour, but not in terms of anthropomorphisation, provided that usage remains moderate. The results may be used by psychologists, AI developers, and policymakers to design ethically grounded and socially sensitive AI-based mental health tools

Keywords: generative artificial intelligence; archetypal representations; digital psychotherapy; projective methods; anthropomorphisation

Article's History: Received: 09.01.2026.Revised: 01.05.2026 Accepted: 28.05.2026 Published: 30.06.2026

Suggested Citation:
Prokopenko, O., Zhydko, M., & Guliy, Yu. (2026). Features of social perception of an algorithmised psychotherapist by Ukrainian large language models (LLMs) users. *Scientific Studios on Social and Political Psychology*, 32(1), 6-16. doi: 10.61727/sssppj/1.2026.06.

*Corresponding author (mrs.prole.ua@gmail.com)

INTRODUCTION

The development and widespread dissemination of generative artificial intelligence have led to its active use across a wide range of domains. In the field of mental health, large language models are increasingly used as tools for psychological assistance, often replacing or supplementing human interaction. However, there is limited empirical evidence on how users perceive such systems in the role of a psychotherapist.

Since perceptions of empathy, competence, and neutrality directly influence trust and self-disclosure, studying the social representation of an algorithmised psychotherapist is necessary for assessing potential risks, including overtrust and unrealistic expectations.

According to M. Zao-Sanders (2025) generative AI was used for personal and professional support, content creation and editing, learning and education, technical assistance and troubleshooting, creativity and recreation, research, analysis, and decision-making. Notably, emotional support emerged as the most popular use case for gen AI. Therefore, the features of the social perception of artificial intelligence are particularly important when it comes to obtaining psychological assistance through generative AI. Given the growing demand for psychological assistance, as reported by the World Health Organization (2025), artificial intelligence is increasingly incorporated into mental health support in two principal formats. The first involves specialised applications – such as Wysa, ZuriHealth, Friend, and AI PSY HELP – which offer structured and task-oriented forms of digital support. The second format concerns the use of large language models, whose potential for psychological dialogue and emotional assistance has been analysed by Z. Guo *et al*. (2024). To denote artificial intelligence technologies used for providing psychological assistance, a new term – algorithmised psychotherapist – was proposed.

An algorithmised psychotherapist is software based on rule-based systems, machine learning, or large language models (LLMs) that is either explicitly designed to support or improve mental health and assist in resolving personal problems (specialised applications and chatbots), or is used for this purpose at the user's request (generative artificial intelligence services). A. Clarke & L. Tyler (2015) concluded that the visual representation of an object is of particular importance. During the initial perception of an object, its perceptual characteristics are immediately mapped onto semantic knowledge, enabling rapid inferences about its purpose and potential modes of use. Consequently, semantic expectations begin to guide subsequent cognitive interpretation and interaction with the object practically from the moment it enters the visual field. Visual representations of artificial intelligence significantly influence how people understand and evaluate this technology. A. Romele & M. Severo (2025) demonstrated that the type of illustration used in a scientific article about AI – whether a realistic photograph of a researcher at work or a stock image of a robot with binary code – affects content comprehension. Participants who viewed the realistic photograph showed better understanding of the technical details of the text, whereas those who saw the stock image exhibited weaker rational comprehension but a stronger emotional response.

P. Brauner *et al*. (2025a) highlighted the influence of cultural factors on the evaluation of expectations, benefits, and risks associated with artificial intelligence. Given that Ukrainian culture is considerably closer to German (European) culture than to Chinese culture, it can be assumed that Ukrainians' perceptions of artificial intelligence will be more similar to those of Germans, who demonstrated greater scepticism and a stronger focus on risks and ethical implications, particularly with regard to privacy, autonomy, and control. Accordingly, it could be expected that Ukrainians would perceive generative artificial intelligence as suspicious or potentially dangerous. This was further supported by P. Brauner *et al*. (2025b) involving both artificial intelligence development experts and members of the general public, which found that experts assessed the development of AI as less risky and more beneficial than did the public.

In Ukrainian context Yu. Typtyuk & T. Ivanova (2025) analysed the use of AI systems in psychological counselling, focusing on chatbot-based tools such as Woebot and Wysa. The author noted their accessibility and structured support functions but emphasised the need to assess their methodological validity and compliance with professional standards. The study highlights potential risks of overreliance and insufficient personalisation, underscoring the importance of examining users' perceptions of AI-based psychological assistance. O. Starovoitenko *et al*. (2025) outlined criteria for evaluating digital mental health tools, emphasising not only technical effectiveness but also safety, ethics, and user experience. The authors highlighted that trust and perceived reliability directly influence the real-world impact of such technologies, which underscores the importance of studying users' perceptions of an algorithmised psychotherapist. Thus, numerous scientific studies have examined AI in mental health, visual representations of AI, and cultural differences in risk perception. However, insufficient attention has been paid to the social perception of LLM-based systems specifically in the role of a psychotherapist, particularly in the Ukrainian cultural context and with regard to archetypal and visual associations. The aim of this study was to identify the features of social perception of an LLM-based algorithmised psychotherapist among Ukrainian users and to determine the factors influencing these perceptions.

MATERIALS AND METHODS

The study was conducted on the online platform LimeSurvey from October 21, 2025, to November 15, 2025. The survey was administered in Ukrainian. A total of 85 Ukrainian participants took part in the study. After removing the responses of participants who failed the attention check (i.e., selected the same answer for oppositely worded questions), 80 validated responses remained, comprising 22 men (27.5%) and 58 women (72.5%) aged between 17 and 54 years. The demographic data and characteristics of the respondents obtained in the first block of the survey are presented in Table 1.

Table 1. Socio-demographic characteristics of the respondents

		N	%
Gender	Man	22	27.5%
	Female	58	72.5%
Age	<30	46	57.5%
	30+	34	42.5%
Experience of receiving professional psychological help	Yes	46	57.5%
	No	34	42.5%
Last year country of residence	Ukraine	63	77.8%
	Other (Germany, Poland, Sweden, Switzerland, Hungary, Italy, Latvia, The Netherlands)	17	22.2%

Source: developed by the authors

The study consisted of three stages. At the first stage, respondents sequentially answered survey questions aimed at identifying the participants' socio-demographic characteristics and the specifics of their experience using generative AI in the role of a psychologist. At the second stage, a projective colour association method was applied. Respondents were presented with eight colour cards (white #ffffff, black #000000, green #008001, red #ff0000, yellow #f7d917, purple #7f00ff, blue #0000ff, and orange #ff6600) and were asked to first select the colour that most strongly associates with generative AI in the role of a psychotherapist, and then the colour that associates with it the least. At the third stage, a projective image selection method was employed. For this study, 15 images were developed (Table 2), drawing on C.G. Jung's archetypes – shadow, self, persona, and anima/animus (Jung, 1990). Respondents were asked to first select three images that most strongly associate with generative AI in the role of a psychotherapist, and then three that associate with it the least.

Table 2. Jungian archetypes and images for the projective image selection method

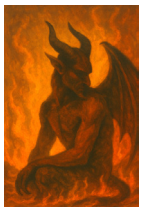
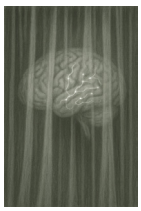
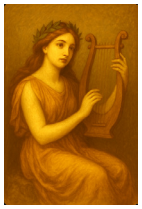
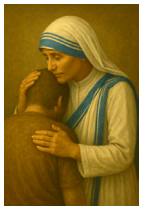
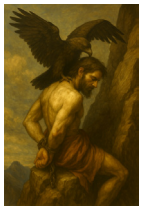
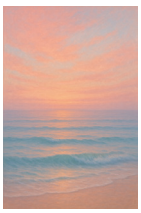
Archetype	Image 1	Image 2	Image 3
Shadow	 The Devil	 The Joker	 The brain behind the veil
Anima	 A muse	 Mother Teresa	 Seductive woman
Animus	 Wise man	 Prometheus, whose brain is pecked by an eagle	 The sword in the stone

Table 2, Continued

Archetype	Image 1	Image 2	Image 3
Self	 Eastern culture temple	 An oak	 Ocean at dawn
Persona	 Alice in Wonderland	 A dancer in a mirror	 Masks

Source: developed by the authors

Respondents were asked to indicate which specific software they used and how frequently they used it for psychological support, as well as to select which colours and images, in their view, most and least correspond to generative AI in the role of a psychotherapist. The use of projective methods made it possible to examine the qualities and metaphorical images that participants subconsciously attribute to generative artificial intelligence in the role of a psychotherapist. The Fisher angular transformation method and the Mann-Whitney U test were used to analyse the results. Statistical analyses were conducted using BM SPSS Statistics, v31. The level of statistical significance was set at $\alpha = 0.05$. Each participant has reviewed the informed consent form before agreeing to participate in the study. When reporting research involving human participants, the authors state that the study was conducted in accordance with the principles of the Declaration of Helsinki (2013).

RESULTS

Empirical data reveal distinct patterns in the use of generative artificial intelligence in the role of a psychologist. The findings reflect both the frequency and character of using AI-based support, as well as differences between respondent groups. According to the survey results, the majority of respondents (96.25%) use ChatGPT to engage in discussions on psychological topics. Some respondents reported using multiple large language models as a psychologist (Fig. 1).

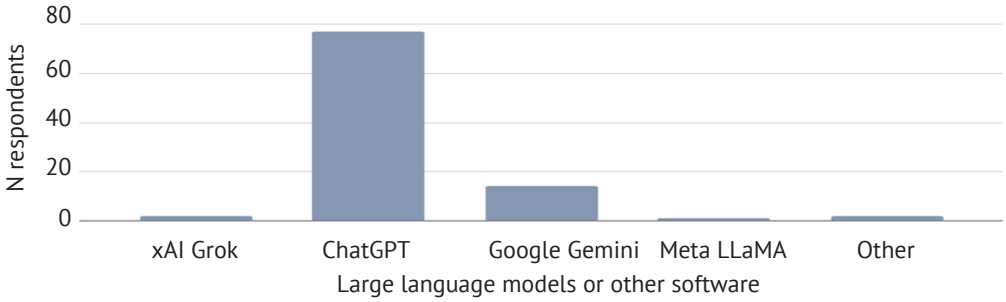


Figure 1. Use of large language models as an algorithmised psychotherapist

Source: developed by the authors

The survey results also showed that the majority of respondents (42.5%) use generative AI as a psychologist only in isolated cases. The frequency of using generative AI as a psychologist is presented in Figure 2.

The survey showed that 81.25% of respondents spend up to 30 minutes communicating with AI on psychological topics. Most frequently, users turn to AI with questions related to personal development (65%), emotional difficulties (52.50%), and relationship issues (45%), while topics related to the sexual sphere (13.75%), relationships with children (13.75%), and traumatic experiences (15%) are addressed least often. At the same time, 48.75% of respondents indicated that they would never turn to AI for sexual issues, and 38.75% reported that they are not willing to discuss traumatic experiences with an algorithmised psychotherapist.

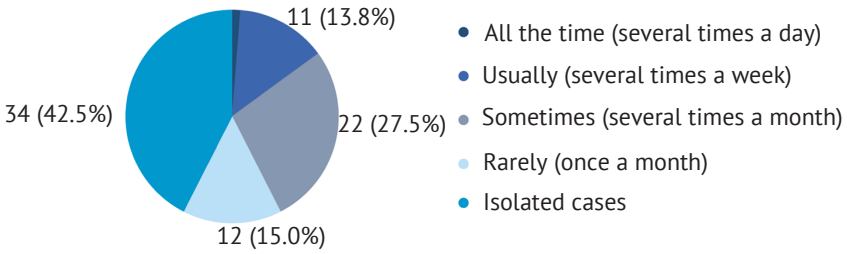


Figure 2. Frequency of using generative AI as a psychologist
Source: developed by the authors

In addition, within the group that had experience receiving professional psychological assistance, 12 respondents (26.09%) indicated that there are no topics they consider inappropriate for addressing with AI. By comparison, in the group without experience of professional psychotherapy, only one respondent (2.94%) reported this view. Overall, 57.50% of respondents reported that they usually feel better after a session with an algorithmised psychotherapist; however, this proportion is lower than the percentage of those who feel better after a session with a professional psychotherapist (Table 3). As part of the survey, respondents were asked to evaluate the effectiveness of using generative AI on a 10-point scale, where 0 indicated that interaction with AI did not help at all, and 10 indicated that it completely resolved the issue for which the respondent sought help. The mean effectiveness ratings are presented in Table 4.

Table 3. Well-being after psychotherapeutic interaction with AI and a psychologist

Response	N AI	% AI	N psychologist	% psychologist
Better	46	57.50%	34	73.91%
Worse	0	0.00%	1	2.17%
The same	21	26.25%	5	10.87%
Not defined	13	16.25%	6	13.04%

Source: developed by the authors

Table 4. Mean effectiveness rating of generative AI in the role of a psychologist

Overall	Group with experience	No experience group	< 30 years old group	30+ years old group
5.81	5.87	5.74	6.06	5.47

Source: developed by the authors

The application of the Mann-Whitney U test yielded an Asymptotic Sig. (2-sided test) value of 0.894 when comparing effectiveness ratings between groups with and without experience of receiving professional psychological assistance, and an Asymptotic Sig. (2-sided test) value of 0.220 when comparing ratings between participants under 30 years of age and those aged 30 and above. In both tests, the Asymptotic Sig. (2-sided test) exceeded the threshold value of 0.05, indicating the absence of a statistically significant difference between the groups. The group with experience of attending professional psychotherapy rated the effectiveness of real psychotherapy at an average of 7.5 out of 10, which is higher than the effectiveness of interaction with an algorithmised psychotherapist. Figure 3 presents the ranking of colours that were selected as the most and least associated with generative AI in the role of a psychotherapist.

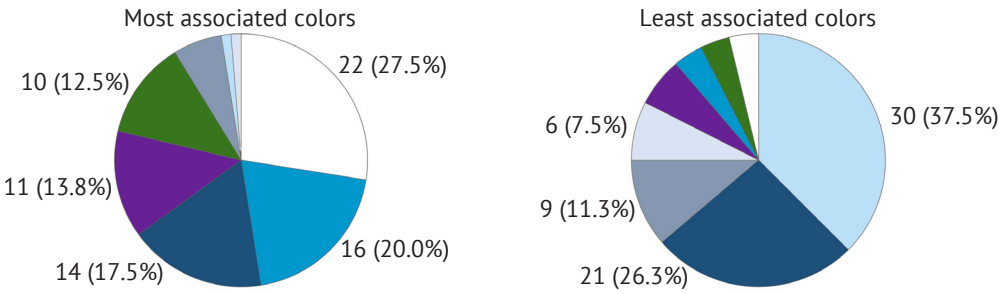


Figure 3. Frequency of colour choices most and least associated with generative AI in the role of a psychotherapist
Source: developed by the authors

Thus, the colours most strongly associated with an LLM-based algorithmised psychotherapist are white (27.50%), blue (20%), and black (17.50%), whereas the least associated colours are red (37.50%), black (26.25%), and yellow (11.25%). The frequency of selection of images that are most and least associated with generative AI in the role of a psychologist is presented in Table 5.

Table 5. Frequency of selection of archetypal images associated with generative ai in the role of a psychologist

Image (Archetype)	N most associated	% most associated	N least associated	% least associated
The brain behind the veil (Shadow)	48	60.00%	3	3.75%
An oak (Self)	33	41.25%	9	11.25%
Alice in Wonderland (Persona)	28	35.00%	14	17.50%
Ocean at dawn (Self)	27	33.75%	7	8.75%
Wise man (Animus)	18	22.50%	23	28.75%
The Joker (Shadow)	18	22.50%	13	16.25%
A dancer in a mirror (Persona)	16	20.00%	4	5.00%
Eastern culture temple (Self)	10	12.50%	8	10.00%
Seductive woman (Anima)	10	12.50%	21	26.25%
A muse (Anima)	9	11.25%	24	30.00%
Masks (Persona)	7	8.75%	16	20.00%
The sword in the stone (Animus)	6	7.50%	16	20.00%
Mother Teresa (Anima)	6	7.50%	14	17.50%
The Devil (Shadow)	3	3.75%	54	67.50%
Prometheus, whose Wbrain is pecked by an eagle (Animus)	1	1.25%	14	17.50%

Source: developed by the authors

Thus, the archetypes most strongly associated with an LLM-based algorithmised psychotherapist are the Self (corresponding images were selected a total of 70 times, 29.16%) and the Shadow (corresponding images were selected a total of 69 times, 28.75%). Anima and Animus were the least frequently selected as images most associated with generative AI in the role of a psychotherapist (25 selections each, 10.42%). The Shadow archetype was most frequently selected as the least associated with an LLM-based algorithmised psychotherapist (70 selections, 29.16%), whereas images corresponding to the Self archetype were least frequently chosen as least associated with generative AI in the role of a psychologist (24 selections, 10.00%). A comparison of the results of the method across groups using Fisher's angular transformation showed no statistically significant differences between participants with and without experience of receiving professional psychological assistance in the selection of images most or least associated with an algorithmised psychotherapist. However, a statistically significant difference was found between participants under 30 years of age and those aged 30 and above in the selection of images corresponding to the Persona archetype.

Respondents under the age of 30 were statistically less likely ($\varphi_{emp.} = 1.689$; $p \leqslant 0.05$) to select images corresponding to the Persona archetype as the most associated with an LLM-based algorithmised psychotherapist compared to respondents aged over 30. At the same time, respondents under 30 were statistically more likely ($\varphi_{emp.} = 1.711$; $p \leqslant 0.05$) to select images corresponding to the Persona archetype as the least associated with an LLM-based algorithmised psychotherapist. Thus, the Persona archetype – which ranks third among those most associated with generative AI in the role of a psychotherapist and fourth among those least associated – appears to be more congruent with an LLM-based algorithmised psychotherapist for an older audience.

The results of the study show that ChatGPT is the most frequently used tool for discussing psychological issues (96.25%). The popularity of ChatGPT can be explained both by the overall versatility of this large language model and by its significant prevalence of use in Ukraine. The majority of respondents (42.50%) turn to AI for help only in isolated cases, indicating that at present respondents do not view an algorithmised psychotherapist as a stable source of psychological assistance. The majority of respondents (81.25%) spend up to 30 minutes communicating with AI on psychological topics, which can be more accurately characterised as psychological counselling rather than a full-fledged psychotherapeutic session. This highlights the importance of informality in terms of interaction duration as an advantage of LLM-based algorithmised psychotherapists (Naik, Thomas, Mandawa, & Reddy, 2025). Such interaction length may indicate the superficial nature of the assistance received by respondents. It can be assumed that respondents approach AI with a specific query, obtain an answer or material for reflection, and then terminate the interaction without delving into deeper exploration. The analysis of the popularity of AI

query domains showed a clear predominance of the following areas: personal development (65%), emotional problems (52.5%), and relationship issues (45%). This distribution may indicate a greater awareness of the need for assistance in these domains or a higher prevalence of problems in these areas compared to others.

Twelve respondents from the group with experience of receiving professional psychological assistance (26.09%) indicated that they are willing to turn to AI with any type of question, whereas only one respondent from the group without psychotherapy experience shared this view. This difference may be explained by a greater sense of control over interactions with generative AI among those with prior experience of professional psychological support, or by a generally higher openness to discussing any topics. In the group under 30 years of age, respondents rated the effectiveness of generative AI in the role of a psychologist at 6.06 points, which is more than 0.5 points higher than the rating in the group aged over 30. This suggests greater effectiveness in addressing psychological issues among the younger group. This difference may be explained by a lower complexity of the problems addressed or by lower expectations of AI.

Red was the colour least associated with an LLM-based algorithmised psychotherapist, selected by 37.50% of respondents. This colour was also among the two least popular choices among those most associated with generative AI in the role of a psychologist. Red is typically associated with passion, love, and often anger. Selecting this colour as the least appropriate for generative AI in the role of a psychologist indicates that respondents do not associate artificial intelligence with strong emotions or intense feelings. The second most popular colour least associated with an LLM-based algorithmised psychotherapist was black, selected by 21 respondents (26.25%), which is approximately one third more than the number of respondents who selected it as the most appropriate colour for AI (14). Given that this colour appears in both selections, it can be concluded that respondents either attribute different associations to the colour itself or hold ambivalent perceptions of generative AI in the role of a psychologist. The third most popular colour was yellow, which is typically associated with joy, curiosity, and happiness according to K. Milutina *et al.* (2024). This colour was also selected by only 6.25% of respondents as the most appropriate for artificial intelligence in the role of a psychologist. This choice further indicates that respondents do not associate an LLM-based algorithmised psychotherapist with colours that are characteristic of emotional expression.

The image selected most frequently (60%) depicted a brain concealed by a veil, corresponding to the Shadow archetype. This finding indicates a social perception of AI in the role of a psychologist as mysterious and hidden, which also resonates with the selection of black during the colour association stage. The high frequency of this image choice may be related to the common association of intelligence with the brain – an association likely shaped by mass media representations of AI rather than by a direct perception of an LLM-based algorithmised psychotherapist as something negative. The second most frequently selected image (41.25%) depicted a strong oak tree against a purple background, corresponding to the Self archetype. This may be related to the fact that the majority of respondents (65%) reported turning to AI for purposes of personal development, with the LLM-based algorithmised psychotherapist functioning as part of a self-exploration process that integrates the conscious and unconscious components of the personality.

The third most frequently selected image (35%) depicted Alice in Wonderland wandering through a forest filled with clocks and playing cards, corresponding to the Persona archetype. This choice may indicate a social perception of generative artificial intelligence in the role of a psychologist as adaptive to the client (user), not possessing ready-made answers, but instead searching for them together with the client within a confusing and ambiguous informational space. It is important to note that in the absence of cards dominated by white or blue colours, respondents selected metaphorical images in accordance with the frequency of colour choices at the previous stage of the study (black, purple, green; see Figure 3), which may indicate a connection between the results obtained using the different methods. Slightly less frequently than the Alice in Wonderland image, respondents selected the image of an ocean at dawn (33.75%), which also corresponds to the Self archetype. The image itself conveys calmness, which aligns with the interpretation of white as the colour most associated with generative artificial intelligence in the role of a psychologist.

The image least associated with generative artificial intelligence in the role of a psychologist was that of the devil, corresponding to the Shadow archetype, selected by 67.50% of respondents. This indicates that an LLM-based algorithmised psychotherapist is not perceived as something that tempts individuals toward sin or misguided decisions. This choice also corresponds with the selection of red as the colour least associated with generative AI in the role of a psychologist (see Figure 3), as the devil in the metaphorical image is depicted in red tones. The next most frequently selected images were the Muse (Anima), the Wise Man (Animus), and the Seductive Woman (Anima), chosen by 30%, 28.75%, and 26.25% of respondents, respectively. Thus, the LLM-based algorithmised psychotherapist is not perceived as inspiring or creative, nor as a wise figure possessing all the answers, nor as seductive. Overall, this suggests that generative AI in the role of a psychologist is generally not anthropomorphised, at least when considering the archetypes underlying the images.

Images corresponding to the Shadow archetype were selected most frequently; however, as with the choice of black in the previous stage of the study, this is likely related to the attribution of different qualities of the Shadow as an archetype. Generative AI in the role of a psychotherapist is associated with hiddenness, unconsciousness, and mystery, but not with temptation, negativity, or unacceptability. Older respondents are more likely than younger ones to perceive an LLM-based algorithmised psychotherapist as seeking to be liked and to appear more acceptable to the user, which is likely related to a more developed ability to recognise "masks", given that generative AI often adapts to users' requests and communication styles. Overall, the results of the projective image selection method are consistent with those of the colour association method: metaphorical images were selected in accordance with the popularity or unpopularity of their dominant colours.

DISCUSSION

The unwillingness to discuss traumatic experiences and issues related to the sexual domain may be explained by the general taboo surrounding these topics due to upbringing or prior negative experiences, by a reluctance to engage deeply in addressing problems that fall within these areas, or by a lack of trust in artificial intelligence when it comes to sensitive matters. This interpretation aligns with the findings of cross-cultural research by P. Brauner *et al.* (2025a), who demonstrated that evaluations of AI systems vary depending on perceived risk and cultural context. While their study focused on general expectations and risk perception, the present findings extend this perspective to the specific domain of psychological disclosure. Z. Guo *et al.* (2024) noted that large language models can produce confident errors, creating an illusion of reliability. Therefore, the absence of perceived malicious intent in the present study should not be interpreted as evidence of safety, but rather as a potential indicator of users' unawareness of AI's persuasive limitations. The generally positive perception of generative AI may thus reflect not only trust but also a risk of overreliance.

A. Naik *et al.* (2025) emphasised that the accessibility and informality of AI-based psychological tools constitute one of their primary advantages. The present findings support this position, as 81.25% of respondents reported spending no more than 30 minutes communicating with AI on psychological topics. Such interaction duration is more characteristic of brief psychological counselling than of a structured psychotherapeutic process. This suggests that generative AI is perceived as a convenient, situational support tool rather than as a replacement for long-term professional psychotherapy. More than half of the respondents reported improved well-being after interacting with an algorithmised psychotherapist. The absence of reports of deterioration after AI-based interaction corresponds with the conclusions of H. Li *et al.* (2023), who identified short-term positive emotional effects associated with AI-supported psychological tools. However, in line with H. Li *et al.* (2023) and L. Spytska (2025), the present study also demonstrates that professional psychotherapy is perceived as more effective than AI-based support. The higher mean effectiveness rating of professional psychotherapy (7.5 points) compared to generative AI (5.87 points in the experienced group and 5.74 in the non-experienced group) suggests that algorithmised psychotherapists are currently perceived as supplementary rather than equivalent to professional care. The slightly higher effectiveness rating among respondents with prior psychotherapy experience may indicate greater competence in articulating psychological requests or interpreting reflective responses. This observation does not contradict previous research but rather complements it, suggesting that user experience and psychological literacy may moderate the perceived usefulness of AI systems.

D. Jonauskaite *et al.* (2020) demonstrated the relative stability of color-emotion associations across cultures, which allows the present findings to be interpreted within a broader perceptual framework. The predominance of white (27.50%) among respondents suggests that generative AI in the role of a psychologist is perceived as calm, neutral, and emotionally restrained. This interpretation is consistent with K. Milutina *et al.* (2024), who noted that white is typically characterised by low emotional intensity. At the same time, as indicated by T. Clarke & A. Costall (2008), visual perception is shaped by socially shared representations, which implies that the association of AI with white may also reflect mass media imagery rather than solely individual evaluative experience. The selection of black among the most associated colours may reflect the attribute of "mystery", as suggested by P. Brauner *et al.* (2025b), who noted that opacity in AI functioning influences perception. Rather than indicating negativity, black appears to symbolise the incomprehensibility of algorithmic processes. At the same time, red was most frequently selected as the least associated colour, reinforcing the interpretation that generative AI is not perceived as emotionally intense or impulsive.

The archetypal image analysis further supports this interpretation. The simultaneous association with the Self and the Shadow suggests that generative AI is perceived both as a tool for self-exploration and as something opaque or partially hidden. Unlike classical psychotherapy, where therapist gender plays a significant role in transference processes, the low frequency of Anima and Animus selections indicates that the algorithmised psychotherapist is largely perceived as gender-neutral. This observation is noteworthy, as it suggests limited anthropomorphisation in the specific context of psychotherapy, even though anthropomorphic representations of AI are prevalent in mass media.

W. Zhong *et al*. (2024) found that AI chatbots can alleviate depressive and anxiety symptoms in short-course contexts, indicating potential for provisional psychological relief while highlighting limitations in long-term therapeutic impact. This supports the interpretation of generative AI as a source of brief, situational assistance rather than a substitute for professional psychotherapy, and underscores the need to recognise both utility and constraint in users' perceptions. Scientists L. Hawke *et al*. (2025) reported high acceptability of digital agents alongside ongoing concerns regarding safety, accuracy, and ethical boundaries. The findings of current indicated that generative AI in the role of a psychotherapist is perceived as emotionally neutral, moderately effective, and generally non-threatening. Respondents tend to attribute cognitive competence rather than emotional depth to the algorithmised psychotherapist, while professional psychotherapy remains evaluated as more effective. The associative and archetypal patterns identified in the study suggest that AI is viewed simultaneously as a tool for self-exploration and as a system characterised by opacity and symbolic ambiguity.

CONCLUSIONS

The survey showed that, despite the popularity of using generative AI as a psychologist, the frequency of such use is relatively low, and interactions are brief and tend to be superficial. The analysis of archetypal images, narratives, and colours associated with LLM-based algorithmised psychotherapists showed that AI is perceived simultaneously as whole, calm, cold, and detached – corresponding to the Self archetype – and as mysterious and unconscious, corresponding to the Shadow archetype. Importantly, the social perception of generative AI in the role of a psychologist is not negative: it is not viewed as deceitful, seductive, or evil. Thus, the Shadow archetype manifested primarily in the context of hiddenness, which is likely related to a limited understanding of how the neural networks underlying AI function. Attributing characteristics of the Self archetype to artificial intelligence may be associated both with the popularity of its use for personal development and self-exploration and with its perception as a coherent structure lacking concealed components. Female and male archetypes were identified as the least associated with artificial intelligence, which likely indicates the perception of an LLM-based algorithmised psychotherapist as genderless.

It can also be concluded that mass media shape representations of AI through the colours used in visual imagery; however, this does not appear to influence the anthropomorphisation of AI. Overall, perceptions of generative AI in the role of a psychotherapist do not depend on age or prior experience of professional psychotherapy. However, one statistically significant difference was identified: respondents aged over 30 were significantly more likely to conceptualise an LLM-based algorithmised psychotherapist in terms of the Persona archetype. This may indicate a greater ability to recognise the adaptive, user-oriented behaviour of generative AI and, consequently, suggests the need for more controlled and cautious use of the technology among younger users. The study demonstrated that generative artificial intelligence in the role of a psychologist is perceived as impersonal, cold, and calm. Perceptions of generative artificial intelligence in the role of a psychotherapist do not substantially differ from general representations of AI shaped by mass media. At present, the question remains open as to whether perceptions of an LLM-based algorithmised psychotherapist change with more prolonged interactions over time. Further research is needed to examine perceptions of generative artificial intelligence in the role of a psychologist under conditions of prolonged use, as well as gender-based differences in perceptions of an LLM-based algorithmised psychotherapist.

ACKNOWLEDGEMENTS

None.

FUNDING

None.

CONFLICT OF INTEREST

None.

REFERENCES

[1] Brauner, P., Glawe, F., Liehner, G. L., Vervier, L., & Ziefle, M. (2025). Cultural dimensions of AI perception: Charting expectations, risks, benefits, tradeoffs, and value in Germany and China. *ArXiv*. doi: 10.48550/arXiv.2412.13841.
[2] Brauner, P., Glawe, F., Liehner, G. L., Vervier, L., & Ziefle, M. (2025). Perception gaps in risk, benefit, and value between experts and public challenge socially accepted AI. *ArXiv*. doi: 10.48550/arXiv.2412.01459.
[3] Clarke, A., & Tyler, L.K. (2015). Understanding what we see: How we derive meaning from vision. *Trends in Cognitive Sciences*, 19(11), 677-687. doi: 10.1016/j.tics.2015.08.008.
[4] Clarke, T., & Costall, A. (2008). The emotional connotations of color: A qualitative investigation. *Colour Research and Application*, 33(5), 406-410. doi: 10.1002/col.20435.
[5] Guo, Z., Lai, A., Thygesen, J.H., Farrington, J., Keen, T., & Li, K. (2024). Large language models for mental health applications: Systematic review. *JMIR Mental Health*, 11, article number e57400. doi: 10.2196/57400.

[6] Hawke, L.D., Hou, J., Nguyen, A.T.P, Phi, T., Gibson, J., Ritchie, B., Strudwick, G., Rodak, T., & Gallagher, L. (2025). Digital conversational agents for the mental health of treatment-seeking youth: Scoping review. *JMIR Mental Health*, 12, article number e77098 doi: 10.2196/77098.
[7] Jonauskaite, D., *et al*. (2020). Universal patterns in color-emotion associations are further shaped by linguistic and geographic proximity. *Psychological Science*, 31(10), 1245-1260. doi: 10.1177/0956797620948810.
[8] Jung, C.G. (1990). *The archetypes and the collective unconscious* (Vol. 9, Part 1). Princeton: Princeton University Press.
[9] Karpyus, V. (2025). *ChatGPT dominates AI chatbots: Over 80% of sessions worldwide and over 90% in Ukraine*. Retrieved from https://www.itc.ua/ua/novini/chatgpt-dominuye-sered-shi-chatbotiv-ponad-80-seansiv-u-sviti-ponad-90-v-ukrayini/.
[10] Ladak, A., Wilks, M., Loughnan, S., & Anthis, J.R. (2025). Robots, chatbots, self-driving cars: Perceptions of mind and morality across artificial intelligences. In *Proceedings of the 2025 CHI conference on human factors in computing systems* (pp. 1-19). New York: Association for Computing Machinery. doi: 10.1145/3706598.3713130.
[11] Li, H., Zhang, R., Lee, Y.-C., Kraut, R.E., & Mohr, D.C. (2023). Systematic review and meta-analysis of AI-based conversational agents for promoting mental health and well-being. *NPJ Digital Medicine*, 6, article number 236. doi: 10.1038/s41746-023-00979-5.
[12] Milutina, K., Balashevych, O., & Zarubin, I. (2024). How Ukrainians perceive emotions and colours: An analysis of specific features. *Salud, Ciencia y Tecnología – Serie de Conferencias*, 3, article number 1224. doi: 10.56294/sctconf2024.1224.
[13] Naik, A., Thomas, J., Mandawa, T.S., & Reddy, H. (2025). Artificial empathy: AI based mental health. *ArXiv*. doi: 10.48550/arXiv.2506.00081.
[14] Romele, A., & Severo, M. (2025). How effective are depictions of AI? Reflections from an experimental study in science communication. *AI and Society*, 40(7), 5127-5138. doi: 10.1007/s00146-025-02283-0.
[15] Spytska, L. (2025). The use of artificial intelligence in psychotherapy: Development of intelligent therapeutic systems. *BMC Psychology*, 13, article number 175. doi: 10.1186/s40359-025-02491-9.
[16] Starovoitenko, O., Sliusarevskyi, M., & Chorna, L. (2025). Mental health: Criteria for evaluation of the digital applications as facilitative tools of public psychoeducation. *Insight: The Psychological Dimensions of Society*, 13, 485-518. doi: 10.32999/2663-970X/2025-13-20.
[17] The Declaration of Helsinki. (2013). Retrieved from https://www.wma.net/what-we-do/medical-ethics/declaration-of-helsinki/.
[18] Typtiuk, Yu., & Ivanova, T. (2025). The use of artificial intelligence systems for psychological support under martial law conditions in Ukraine. *Journal of Social and Practical Psychology*, 6, 171-177. doi: 10.32782/psy-2025-6-24.
[19] World Health Organization. (2025). *Over a billion people living with mental health conditions – services require urgent scale-up*. Retrieved from https://www.who.int/news/item/02-09-2025-over-a-billion-people-living-with-mental-health-conditions-services-require-urgent-scale-up.
[20] Zao-Sanders, M. (2025). *How people are really using generative AI now*. Retrieved from https://hbr.org/2025/04/how-people-are-really-using-gen-ai-in-2025.
[21] Zhong, W., Luo, J., & Zhang, H. (2024). The therapeutic effectiveness of artificial intelligence-based chatbots in alleviation of depressive and anxiety symptoms in short-course treatments: A systematic review and meta-analysis. *Journal of Affective Disorders*, 356, 459-469. doi: 10.1016/j.jad.2024.04.057.

Особливості соціальної перцепції алгоритмізованого психотерапевта українськими користувачами великих мовних моделей (LLMs)

Олеся Прокопенко
Магістр
Національний аерокосмічний університет «Харківський авіаційний інститут»
61070, вул. Вадима Манька, 1, м. Харків, Україна
Харківський національний університет радіоелектроніки
61166, просп. Науки, 14, м. Харків, Україна
https://orcid.org/0009-0009-8571-1488
Максим Жидко
Кандидат психологічних наук, доцент
Національний аерокосмічний університет «Харківський авіаційний інститут»
61070, вул. Вадима Манька, 1, м. Харків, Україна
https://orcid.org/0000-0003-1181-4774
Юрій Гулий
Кандидат психологічних наук, доцент
Національний аерокосмічний університет «Харківський авіаційний інститут»
61070, вул. Вадима Манька, 1, м. Харків, Україна
https://orcid.org/0000-0001-6035-8811

Анотація. Зростаюча потреба в підтримці ментального здоров'я, а також розвиток технологій штучного інтелекту призвели до популяризації використання великих мовних моделей для отримання психологічної допомоги. Метою цього дослідження було вивчення соціального сприйняття генеративного штучного інтелекту в ролі психотерапевта серед українських користувачів великих мовних моделей. Опитувальник включав соціально-демографічну секцію, а також питання щодо досвіду отримання психологічної допомоги засобами генеративного штучного інтелекту (ШІ). Також застосовувались проективна методика кольорових асоціацій та проективна методика вибору асоціативного зображення з метою виявити, як користувачі послуг алгоритмізованого психотерапевта його сприймають. Фінальна вибірка склала 85 учасників віком між 17 та 54, серед яких 22 чоловіки та 58 жінок. Дослідження показало, що генеративний штучний інтелект в ролі психотерапевта уявляють як спокійного, беземоційного, безстатевого, холодного. Було також встановлено, що алгоритмізований психотерапевт на основі великих мовних моделей одночасно сприймається як цілісна структурована система і як щось загадкове та приховане. Водночас генеративний штучний інтелект у ролі психолога не асоціюється зі злом або обманом, що може свідчити про потенційну вразливість до впевненої помилки та потребує подальшого дослідження. Визначено, що сприйняття генеративного штучного інтелекту не залежить від віку респондентів або їхнього попереднього досвіду отримання професійної психологічної допомоги. Візуальне уявлення про генеративний ШІ навіяне мас-медіа в контексті кольору, проте не в контексті антропоморфізації за умови помірного використання. Результати можуть бути використані психологами, розробниками систем штучного інтелекту та суб'єктами формування державної політики для створення етично обґрунтованих і соціально чутливих інструментів психічного здоров'я на основі ШІ

Ключові слова: генеративний штучний інтелект; архетипічні образи; цифрова психотерапія; проєктивні методи; антропоморфізація