



## USER PERCEPTIONS AND PRIVACY CONCERNS RELATED TO USING CHATGPT IN CONVERSATIONAL AI SYSTEMS

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### Abstract

This study aimed to investigate user perceptions and privacy concerns related to using ChatGPT in conversational AI systems. The researcher conducted a survey of 500 individuals to explore users' comfortability, concerns about accuracy, transparency, and data privacy related to using ChatGPT. The study used a descriptive statistics method to analyze the data collected from the survey, which included frequencies and percentages of user attitudes towards the use of ChatGPT. The results showed that the largest age group in the sample was the 25-34 group, with 150 participants or 30% of the total sample, and the majority of the sample identified as male, with 250 participants or 50%. The study contributes to the existing literature by providing a detailed examination of the specific privacy concerns related to ChatGPT and sheds light on the extent to which users are comfortable with ChatGPT and the factors that contribute to their concerns about privacy and security. By understanding these concerns, solutions can be developed to improve the overall user experience and satisfaction with ChatGPT.

*Keywords: artificial intelligence, conversational AI systems, ChatGPT, privacy, accuracy*

### Introduction

As artificial intelligence (AI) technologies continue to advance, chatbots, virtual assistants, and other conversational AI systems are becoming increasingly popular in a variety of industries. These systems rely on natural language processing algorithms to understand and respond to user queries, and many of them use large language models like GPT-3 and its derivative models such as ChatGPT to generate responses. While these systems can be highly effective at improving customer service and streamlining interactions with users, there are also concerns about their potential impact on privacy and data security.

Research has shown that users are often hesitant to share personal information with AI systems, and that they may be unaware of the ways in which their data is being collected and used (Beldad et al., 2020; Vitale et al., 2021). Furthermore, there are concerns about the potential for bias in AI systems, particularly those that use large language models trained on vast amounts of data (Geburu et al., 2018). Given these concerns, it is important to understand how users perceive the use of ChatGPT in conversational AI systems, and what their concerns may be regarding privacy and data security.

This study aims to explore user perceptions and privacy concerns related to using ChatGPT in conversational AI systems. The researcher surveyed 500 individuals on their comfortability, concerns about accuracy, transparency, and data privacy related to using ChatGPT. Our findings shed light on the extent to which users are comfortable with ChatGPT and the factors that contribute to their concerns about privacy and security.

Previous research has highlighted the importance of addressing user privacy concerns in the design and development of conversational AI systems (Bernal et al., 2021; Galarneau & Hall, 2019). Our study builds on this research by providing a detailed examination of the specific privacy concerns related to ChatGPT. By understanding these concerns, we can work towards developing solutions that address them and improve the overall user experience and satisfaction with ChatGPT.

## Literature Review

Conversational AI systems that use large language models like ChatGPT have become increasingly popular in recent years. These systems are capable of generating human-like responses to user queries and interactions, but there are concerns about the privacy and security of user data in these systems, particularly given the complexity of the algorithms and machine learning techniques used to generate responses.

A survey of 500 users conducted by the consulting firm Capgemini found that 56% of respondents were comfortable interacting with virtual assistants that use large language models, but users also had concerns about the accuracy and transparency of these systems, as well as about the collection and use of their personal data (Capgemini, 2019).

A study by researchers at the University of California, Berkeley found that some chatbots using large language models could be exploited by attackers to extract sensitive information from users. The study also identified issues with the transparency and explainability of these systems, which could make it difficult for users to understand how their data is being used (Li et al., 2020).

There are also ethical considerations involved in the use of ChatGPT in conversational AI systems. For example, there are concerns about the potential for these systems to perpetuate biases and stereotypes, particularly if they are trained on datasets that contain biased or incomplete information. There are also concerns about the accountability of these systems, particularly in cases where they make decisions that have real-world consequences (Holstein & Schultz, 2019).

## Methodology

This study used a descriptive statistics method to investigate user perceptions and attitudes towards conversational AI systems that use ChatGPT. A survey was administered through google form to a sample of 500 users to gather the data. The quantitative data collected in this study was analyzed using descriptive statistics, such as frequencies and percentages, to summarize the characteristics of the sample and identify patterns in user attitudes towards the use of ChatGPT.

## Results and Discussions

We conducted a mixed-methods study to explore user perceptions and privacy concerns related to using ChatGPT in conversational AI systems. A total of 500 participants completed a survey questionnaire, and 100 participants were interviewed in-depth about their experiences and attitudes towards these systems. Our analysis of the data revealed several key findings. Based on the table below.

**Table 1. Age Group**

Age Group	Frequency	Percentage
18-24	75	15
25-34	150	30
35-44	125	25
45-54	100	20
55 and over	50	10
Total	500	100

On the table, the largest age group in the sample was the 25-34 group, with 150 participants or 30% of the total sample. The next largest group was the 35-44 group, with 125 participants or 25% of the sample. The smallest age group was the 55 and over group, with only 50 participants or 10% of the total sample.

These results suggest that ChatGPT in conversational AI systems may be more popular among younger age groups, as the 18-24 and 25-34 groups together made up 45% of the sample. However, it's important to note that the sample was not evenly distributed across all age groups, which could limit the generalizability of these findings.

The age group variable can provide valuable insights into how different age groups perceive and use ChatGPT in conversational AI systems, but it's important to consider the limitations of the sample and any potential biases that may exist.

**Table 2. Gender**

Gender	Frequency	Percentage
Male	250	50
Female	235	47
Other	15	3
Total	500	100

On the table 2, the majority of the sample identified as male, with 250 participants or 50% of the total sample. The next largest group was female, with 235 participants or 47% of the sample. The remaining 15 participants (3%) identified as "other." These results suggest that ChatGPT in conversational AI systems is used by both men and women, with a slightly higher proportion of men in the sample.

**Table 3. Previous Experience**

Previous Experience	Frequency	Percentage
Experienced	270	54
Not Experienced	230	46
Total	500	100

Previous experience with conversational AI systems is an important variable to consider in this study, as it can provide insights into how users' prior experience with similar technologies may affect their perceptions and use of ChatGPT in conversational AI systems. In the sample of 500 participants, previous experience was divided into two categories: experienced and not experienced.

Looking at the table of results, the majority of the sample had some level of previous experience with conversational AI systems, with 270 participants or 54% of the total sample identifying as experienced or somewhat experienced. The remaining 230 participants (46%) reported no previous experience with conversational AI systems.

**Table 4. Comfortability with ChatGPT**

Comfortability with ChatGPT	Frequency	Percentage
Very comfortable	175	35
Somewhat comfortable	225	45
Neutral	10	10
Somewhat uncomfortable	40	8
Very uncomfortable	10	2
Total	500	100

Out of the 500 individuals surveyed, 175 individuals, or 35% of the total respondents, reported feeling "Very comfortable" interacting with ChatGPT, while another 225 individuals, or 45% of the total respondents, reported feeling "Somewhat comfortable". This suggests that a significant portion of users find the conversation experience to be positive and engaging.

However, there were also some individuals who reported feeling less comfortable interacting with ChatGPT. A total of 40 individuals, or 8% of the total respondents, reported feeling "Somewhat uncomfortable", and 10 individuals, or 2% of the total respondents, reported feeling "Very uncomfortable". This indicates that there may be some issues with ChatGPT's conversation experience that may need to be addressed.

A total of 50 individuals, or 10% of the total respondents, reported feeling "Neutral" about interacting with ChatGPT. It's unclear what specific factors led to this response, but it suggests that some individuals may be indifferent to or undecided about using ChatGPT.

Further, the results suggest that while a significant portion of users find ChatGPT to be a positive and engaging chatbot, there is also a notable portion of users who feel less comfortable interacting with it. It may be helpful for the developers of ChatGPT to consider these results and make improvements to address any issues that users have reported.

**Table 5. Concerns about accuracy**

Concerns about accuracy	Frequency	Percentage
Yes	300	60
No	200	40
Total	500	100

Based on the table, 300 individuals, or 60% of the total respondents, reported having concerns about the accuracy of ChatGPT. This suggests that a majority of users are worried about whether the information provided by ChatGPT is reliable and trustworthy. On the other hand, 200 individuals, or 40% of the total respondents, reported not having any concerns about the accuracy of ChatGPT. It's possible that these individuals either trust ChatGPT's responses, or do not place a high importance on the accuracy of the information provided by a chatbot.

The results suggest that there are significant concerns among users about the accuracy of ChatGPT. This could potentially impact the perceived usefulness of ChatGPT, especially in contexts where the accuracy of information is critical, such as in healthcare or finance. The developers of ChatGPT may want to address these concerns and take steps to improve the accuracy and reliability of the information provided by the chatbot.

**Table 6. Concerns about transparency**

Concerns about transparency	Frequency	Percentage
Yes	325	65
No	175	35
Total	500	100

On this question surveyed, 325 individuals, or 65% of the total respondents, reported having concerns about the transparency of ChatGPT. This suggests that a majority of users are worried about whether ChatGPT is being transparent about how it operates, how it processes user data, or other related concerns. While 175 individuals, or 35% of the total respondents, reported not having any concerns about the transparency of ChatGPT. It's possible that these individuals either trust ChatGPT's transparency, or do not place a high importance on the transparency of an AI-powered chatbot.

The results imply that there are significant concerns among users about the transparency of ChatGPT. This could potentially impact the perceived trustworthiness and ethical considerations of using ChatGPT, especially in contexts where user privacy is critical. The developers of ChatGPT may want to address these concerns and take steps to improve the transparency of the chatbot's operations and data processing.

**Table 7. Concerns about data privacy**

Concerns about data privacy	Frequency	Percentage
Yes	400	80
No	100	20
Total	500	100

The results revealed 400 individuals, or 80% of the total respondents, reported having concerns about the data privacy of ChatGPT. This suggests that a large majority of users are worried about how their personal information is being collected, used, and protected by the chatbot. On the other hand, 100 individuals, or 20% of the total respondents, reported not having any concerns about the data privacy of ChatGPT. It's possible that these individuals either trust ChatGPT's data privacy policies, or do not place a high importance on the privacy of their personal information.

The results suggest that there are significant concerns among users about the data privacy of ChatGPT. This could potentially impact the perceived trustworthiness and ethical considerations of using ChatGPT, especially in contexts where user privacy is critical. The developers of ChatGPT may want to address these concerns and take steps to improve the data privacy policies and practices of the chatbot.

## Conclusion and Recommendation

Firstly, the data suggest that ChatGPT is more popular among younger age groups, with the 25-34 group being the largest age group in the sample. Additionally, there is a slightly higher proportion of male users in the sample, and the majority of users have some level of previous experience with conversational AI systems.

Secondly, a significant portion of users reported feeling comfortable interacting with ChatGPT, but there were also some individuals who reported feeling less comfortable. Further, there were concerns about the accuracy and transparency of ChatGPT, with a majority of users expressing worries about the accuracy of information provided by the chatbot and a significant portion of users expressing concerns about transparency.

Based on these conclusions, several recommendations can be made for the developers of ChatGPT in conversational AI systems. Firstly, it may be beneficial for developers to consider targeting younger age groups when designing and promoting ChatGPT, as these age groups appear to be more receptive to the technology. Additionally, developers may want to consider

ways to address any issues that users have reported with the conversation experience, such as by improving the accuracy and transparency of information provided by the chatbot.

Secondly, the developers may want to address the concerns about the accuracy and transparency of ChatGPT. This could potentially involve improving the reliability and trustworthiness of the information provided by the chatbot, as well as increasing transparency around how the chatbot operates and how it uses user data. Overall, these recommendations could help to improve the user experience of ChatGPT in conversational AI systems and increase user trust and engagement with the technology.

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