# Understanding ChatGpt Users: A Digital Ethnography on Discord

di Caterina Ambrosio, Vincenza Laezza

**Abstract**

This study is situated within the realm of digital sociology research, given the recognized necessity for social sciences intervention on this subject. The aim of this work is to explore the communicative dimensions and characteristics of the discussion surrounding ChatGpt two months after its launch. Discord – relatively underexplored but with considerable potential – was selected to achieve this goal. Specifically, digital ethnography was employed as the analytical strategy. The results demonstrate a clear interest among users in understanding the platform, not only in its technical dimension but also in its social aspect. This reaffirms the imperative for sociology to address such issues. The study contributes to the understanding of new technologies and underscores the importance of social media as platforms for such discussions. Moreover, the use of digital ethnography on Discord represents an innovative methodology for exploring these communicative dynamics.

## Introduction: The Release of ChatGpt

On November 30, 2022, OpenAI released ChatGPT, bringing generative AI to the devices of millions of users. While discussions about generative AI in scientific fields have been ongoing for some time, the advent of ChatGpt has brought forth new cognitive needs. Generative AI systems can create new content, such as images, text, or other data, based on learned models and information (Huang & Le, 2021). Early users found themselves facing a tool with infinite potential, which signifies a change in how individuals perceive the reality around them. It is critical to note that the data on which AI models are trained can inherit biases and incorrect information (Ray 2023). Users quickly realize that artificial intelligence, in practice – unlike inherited narratives (Cave *et al.*, 2018) – is fallible, akin to human intelligence: machines can fail. However, this dimension of error can be circumvented by users because, through prompt customization, it is possible to push the machine to do things that may surpass its limitations and potential errors caused by application structuring settings.

How users interact with ChatGpt has become a potential research interest (Paul *et al.*, 2023). Prompts, the commands used to instruct artificial

intelligence to perform certain tasks, have become the keys to shaping the world. With the right prompts, it is possible, for example, to mimic the modus operandi of a successful entrepreneur with ChatGpt (Short & Short, 2023), define strategies, and provide decision support. This places a fundamental emphasis on who possesses the skills to produce the best prompts, as the quality of ChatGpt's output depends on the quality of the prompt entered as input (Van Dis et al., 2023). Therefore, it is evident that the prompt, like any aspect of artificial intelligence, cannot be evaluated solely in its technical dimension but also in its social dimension.

The objective of this study is to investigate the dimensions and communicative characteristics of discourses about ChatGpt. The platform selected for this study is Discord. To this end, the article is divided into five sections, and the following one presents the main features of Discord and the potential it holds for social research, which is currently unexplored. The third section is dedicated to presenting the research design. Findings from the empirical evidence are presented in the fourth section. Finally, conclusions from the study and indications for future work are drawn.

## Discord: Key Features and Implications for Social Research

Discord is a communication platform that focuses on voice-over-IP and text messaging for communication among individuals and groups, as well as for creating online communities. Discord users can create servers on which other users can be invited. These servers consisted of a series of voice channels, indicated by a microphone icon, and text channels, marked with" '#'. After joining a server, users can access a voice channel by clicking on its name, whereas clicking on the name of a text channel allows them to view all previously sent messages in that channel and send new messages. Initially designed for instant messaging during games, Discord has seen its user base grow and now includes a wide range of people and purposes. Servers are used on a small scale, for example, by groups of friends to interact with each other, and on a large scale, such as by popular streamers to interact with their fans. With only 59 million users in 2019, Discord reached 151 million by the end of 2021 (Haddad, 2021). The pandemic certainly contributed to the increase in Discord users as it forced many people to stay at home, leading to a growing interest in the world of streaming, both from viewers and content creators. Discord has been widely adopted as a teaching platform. During this period, there was a significant increase in discord in education. In fact, most formal studies on Discord focus on its educational use (Craig & Kay, 2022).

Like most digital research, it is not possible to perfectly understand the socio-demographic characteristics of the Discord population (Cesare *et al.*, 2018). However, as mentioned earlier, because it was originally intended for gamers, it is not unreasonable to assume that a large percentage of users still belong to this category. Additionally, a Discord representative estimated that only 30% of servers were used for purposes other than gaming in 2020 (Mastellone, 2021). This finding supports the idea that Discord's demographics partially align with those typically associated with gamers. In the US, for example, as of 2022, 60% of gamers are aged between 18 and 34 years (Clement, 2021). Another peculiarity of Discord is the multiple ways in which the platform integrates with external sources. In addition to links with websites such as Amazon created to purchase products at lower prices, there are also integrations for illicit markets and, more generally, web integrations (Brewster, 2019; Patterson, 2019). From this characteristic, it can be inferred that part of the user base is particularly knowledgeable about the field of computing.

Despite the very few studies conducted so far on Discord (Baguley, 2019), it is possible to report some reflections conducted by other scholars useful in this work. First, Discord seems to foster a strong sense of community (Baguley, 2019; Mastellone, 2021). According to Mastellone, Discord "aims to create communities and, therefore, aims to adopt the norms and values associated with communities" (Mastellone, 2021). Servers can be conceived as communities, with their own norms, and for this reason, they appear particularly interesting for social research (Reitman *et al.*, 2021). The organization and moderation of each server depends entirely on its creator, who assigns roles, grants permissions, and establishes rules for the entire server and specific channels (Baguley, 2019). These norms are not always clearly visible, and for this reason, close attention is useful in studying Discord to discover elements that would hardly emerge otherwise. This close attention finds its highest application in social research in ethnography and has been suggested as a tool for the study of the platform (Rennie *et al.*, 2022). Another interesting reflection, which again justifies the use of digital ethnography, concerns data present on the platform. A study conducted in 2022 on a server concerning blockchain highlighted not only a large amount of data typical of large servers, but also the dynamism of the conversation, which can only be retrieved by scrolling through it. Ethnography, therefore, becomes fundamental for connecting all the information: the most recent with the least recent, those concerning the characteristics of the chat compared to the theme, any links, and so on (*ibidem*).

### Research Design and Analysis Strategy

To investigate the dimensions and communicative characteristics with which ChatGpt has been discussed in Discord the research questions that this article will attempt to answer are specifically:

RQ1: What are the dimensions that form the communicative space regarding Discord?

RQ2: What are the characteristics of communicative space regarding ChatGpt on Discord?

The autors decided to investigate Discord for two main reasons:
(1) the platform's role in the construction of socio-technical imaginaries;
(2) to expand scientific knowledge about the platform.

The dataset was constructed using Beautiful Soup 4, a Python library used to extract data from HTML and XML structures. All messages from the ChatGpt channel's serious chat were collected from January 1st to March 5, 2023, for a total of 9 weeks. The choice of this period was due to the use of generative AI is well established. The ChatGpt server proved to be particularly suitable for the research objective of the work, as it is specifically dedicated to ChatGpt; in its welcome section, it is also specified that it is not an official page associated with OpenAI. The server, which counts a total of 13,014 members, is declined into a series of channels dedicated to specific aspects of ChatGpt, such as general aspects, technical aspects, and prompts. For this work, the *serious general* channel was selected, which potentially gathers "serious" issues regarding ChatGpt, compared to the general channel, which collects more generic and less technical questions.

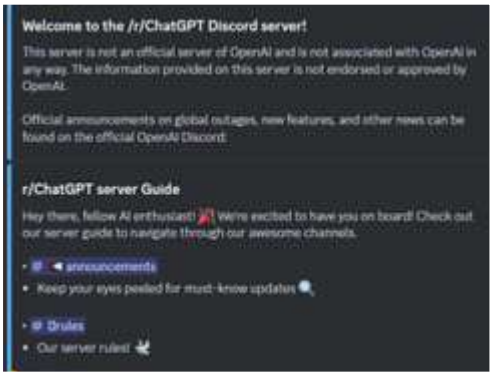


Fig. 1. Welcome page of the Discord server ChatGpt

The dataset, consisting of 1955 records, did not undergo cleaning operations because the chosen analysis strategies did not include the removal of what are commonly labeled as invalid records. The collected variables were as follows: *AuthorID*, *Author*; *Date*, *Content*; and *Attachments*. Any information related to users was censored. The analysis of the empirical material was conducted through digital ethnography in two phases. To answer the first research question, the text of the messages and

any associated attachments were considered to extract the dimensions of the communicative space. An in-depth examination of the temporal aspect was proposed: the contents were separated by weeks (nine in total), and for each week, words with the highest number of occurrences were identified. The analysis was conducted using a hermeneutic approach, which is widely used and is considered valid for digital ethnography (Masullo & Coppola, 2023). To answer the second research question, descriptive statistics regarding the activity of server users were commented on.

The use of digital ethnography proved to be particularly consistent in answering the research questions. Digital ethnography, like classical ethnography, has multiple definitions, each emphasizing certain aspects while obscuring others. For this work, the adopted definition, which the authors consider the most comprehensive, is that of Murthy, who described digital ethnography as

> "Ethnography mediated by the use of technologies [...]. Digital ethnography includes, but is not limited to, the use of field notes mediated by digital means, observation of online participation, blog and wiki contributions from respondents, and online focus groups." (Murthy, 2011)

Digital ethnography is the most suitable tool for investigating the "container of interconnected texts" to which the researcher has access to the web (Caliandro & Gandini, 2019). Obviously, in this sense, texts are to be understood in their broadest sense as an integrated system of theses belonging to multiple codes: linguistic, gestural, musical, visual, numerical, etc. (*ibidem*). The web fundamentally presents two main types of data: textual data that can be extracted and subsequently organized into structured datasets and numeric metadata. For these types of data, digital ethnography, similarly to the web content analysis, perfectly addresses issues related to different analytical registers (Amaturo & Punziano 2013).

The choice of digital ethnography in this context was not guided by the need to confirm predefined hypotheses but rather by an exploratory approach. As emphasized by Rogers (2009), digital methods fit particularly well with this type of approach, especially when the web is both a data source and the object of study. At this point, it is crucial to highlight the distinction between netnography and digital ethnography, and justify the preference for the latter. While netnographers tend to construct their own data and seek and interpret information directly during analysis, the ethnographer adopts a more traditional approach, separating the data collection and analysis phases (Padricelli *et al.*, 2021). This approach offers a greater hybridization of techniques and better ex-

ploration of the digital landscape. Finally, the ethnographic approach allows for simultaneous focus on content, actions, and interactions within the studied context (ibidem). This holistic approach is consistent with the objectives of this study.

The analysis used various annotation tools as NVivo and RawGraph 2.0, an open-source data visualization tool.

## Results

The initial considerations on the empirical evidence presented will focus on the chronological development of discussions. As anticipated, the contents were separated by weeks, 9 in total, and for each week, words with the highest number of occurrences were identified. From these, it was possible to highlight how the themes on the server unfolded, overlapped, or integrated. These reflections are contained in the synoptic table provided below (Fig. 2).

Discord was born as a messaging platform, this obviously makes its communicative dimension important to analyze. It is also differente from other more popular social media: it is recognized that the design of each platform significantly influences the modes of communication between users (Mastellone, 2022). Discord, as anticipated, is characterized by servers and chats composed of users and very different themes, making it necessary to study it. Through the second phase of digital ethnography, it was possible to observe how the selected group, serious general, had two categories of users. On one side are the experts, those who have in-depth knowledge of the ChatGpt prompt system; on the other hand, there are those definable as questioners, that is, users with curiosity or who need to solve problems.

Fig. 3 illustrates the number of messages per user, highlighting the distinction between experts and questioners. Experts are graphically depicted at the center and exhibit the highest number of posts, while questioners are positioned more externally with fewer posts; the latter group is more numerous. This configuration of the Discord channel's user base reflects a specific communicative dimension, encapsulated by the notion "If I have a problem, a more knowledgeable user will solve it". Thus, the communicative space fundamentally revolves around the need of less experienced users to present their problems to a smaller group of informed users for resolution.

As shown in Fig. 4, which represents the distribution of posts per user within the selected time interval for analysis, even experts are not consistently engaged in communication but express themselves in short intervals. However, experts define the communicative flow of the group: when a re-

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|---|---|
| 1 | In the first week of discussions, from the most frequent words, it seems that there is primarily a very technical interest in ChatGpt: words like *prompt, data, code* suggest an active effort to fully exploit ChatGpt's capabilities. It can be thought that users in this first week have been trying to explore the limits of its abilities and trying to understand how to achieve desired results. This is also reflected in the frequent use of words like *make* and *work*. Among the less frequent words, but which still occur with some insistence, are *bypass* and *bomb*, suggesting a certain interest of users also towards more advanced scenarios of ChatGpt usage, what was previously referred to as the bypassing dimension. In summary, the first week of discussions on ChatGpt is characterized by a strong dimension of technical interest. |
| 2 | In the second week of discussions on the server, some differences emerge compared to the first week, along with continuity on some key themes. First of all, words like *JavaScript, source, code, API* indicate a greater focus on the technical and practical aspect of ChatGpt: users seem to want to create web integrations. This integration also promotes a certain creativity, suggested by words like *create, pretty, people*, which refer to a dimension different from the strictly technical one. |
| 3 | In the third week, new facets emerge. First of all, users seem very interested in the linguistic capabilities of ChatGpt, whether they are for generation or comprehension *(text, words, writing, capable*). Also in this week, as in the previous one, words like *make, generate, people* appear, to which solution is added, suggesting both technical interest, linked to resolution, and creative interest. It is interesting to note the frequency of words like *false, information,* and *quotes* that refer to the dimension of limits. |
| 4 | From the most frequent words for the fourth week, a persistent interest already emerged in the second week, namely web integration. Words like *search, internet*, *API* suggest a willingness to integrate the model with search functionalities or access to information. In this week, there also seems to be an interest in the model's capabilities based on the version (*gpt-3, davinci*). Finally, the interest towards the resolution dimension that has been present since the beginning seems to continue *prompt, make.* |
| 5 | In the fifth week, topics more focused on versions, technical characteristics, and internal functioning of the model seem to emerge, as words like *model* and *gpt*-models are found. The textual dimension returns prominently: *text, token, generate, answer*, as in the third week, both in comprehension and text generation; moreover, one could also imagine a greater technical knowledge in this area given the presence of more specific words, such as the previously mentioned token. |
| 6 | From the most frequent words of the sixth week, interest in versions (*gpt, gpt-3, model, version*) and textual aspects reappear. Among the most frequent words, never appeared before, then appears *dan*, which stands for "do anything now." A DAN prompt is a prompt designed to bypass the limits of ChatGpt, allowing it to respond to questions to which it would not normally respond. The theme of bypassing was also present in previous weeks, but this is the first week where this term appears among the most frequent; this data may suggest an increasingly pronounced interest from users in wanting to overcome the limits imposed by OpenAI, which in the early weeks were much more reluctant to declare or share with other users. |
| 7 | Even in the following week, the dimension related to bypassing is quite evident: *dan* reappears, with even greater frequency, along with words like *access, create, back, code*. Hey, the most frequent words also suggest an interest towards text and the implementation or customization of ChatGpt. The discussion seems to be focused around the same themes. |
| 8 | In the eighth week, it is interesting to note that among the most frequently occurring words is *students*; the discussion among users in this case fits into what will be defined as the "work dimension". Indeed, the use of ChatGpt in education has been introduced. Dan does not appear in this week, but *jailbreak* appears among the most frequent words: once again referring to the dimension of bypassing which apparently has not been exhausted in the previous week. |
| 9 | In the last week, among the most frequent words, we find *people*, which appeared in the early weeks, and *chat*, which again suggests a creative dimension linked to humans. Among the words that occur most frequently is also *Bing*, which was about to be integrated at the time. |

Fig. 2. Emerging themes on a weekly basis

quest is ignored or becomes a point of conflict, the user who proposes it is unlikely to attempt to reintroduce it. The communicative setup not only defines the group's structure, but also the thematic structure of the discussion, establishing thematic lines that allow tracing different dimensions of discourse. The discussion of the channel comprises several dimensions, which we will now synthesize.

The most frequent dimension to which most posts can be attributed concerns the ChatGPT restrictions. Users mentioned various limitations imposed, such as the inability to provide information on how to build a nuclear device or produce child pornography images. There seems to be considerable interest in the limitations themselves rather than in the actual accessibility of such information or creations. In fact, attitudes of the users towards this dimension can be positioned along a continuum based on adherence to restrictions, as shown in Fig. 5.

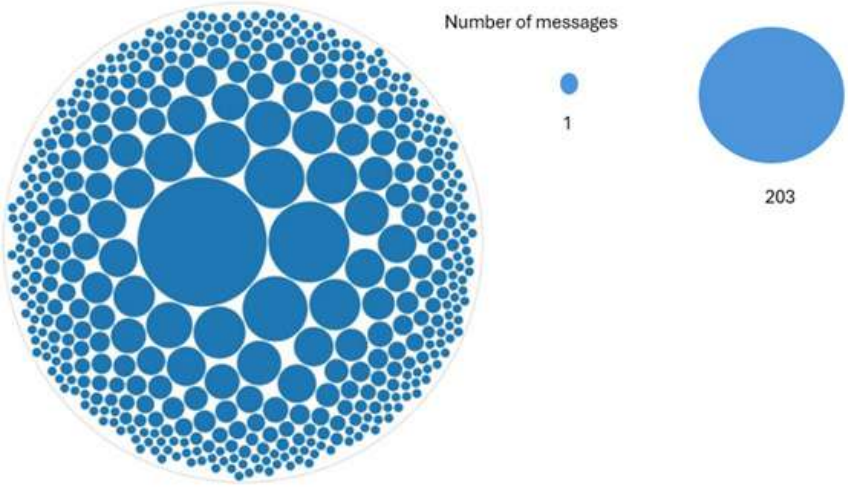


Fig. 3. Number of messages per user

At one end of the continuum there is the *respectful user*. This type of user reminds others to respect ChatGpt restrictions without attempting to force specific responses from AI. The reasons for this choice appear to be twofold: 1. Fear that repeatedly pushing ChatGpt could lead to increasingly stringent rules or future impossibility of use; 2. Respect for the choices made by the creators and propose usage that aligns with the guidelines. The *investigative user* is located at the center of the continuum. This type of user

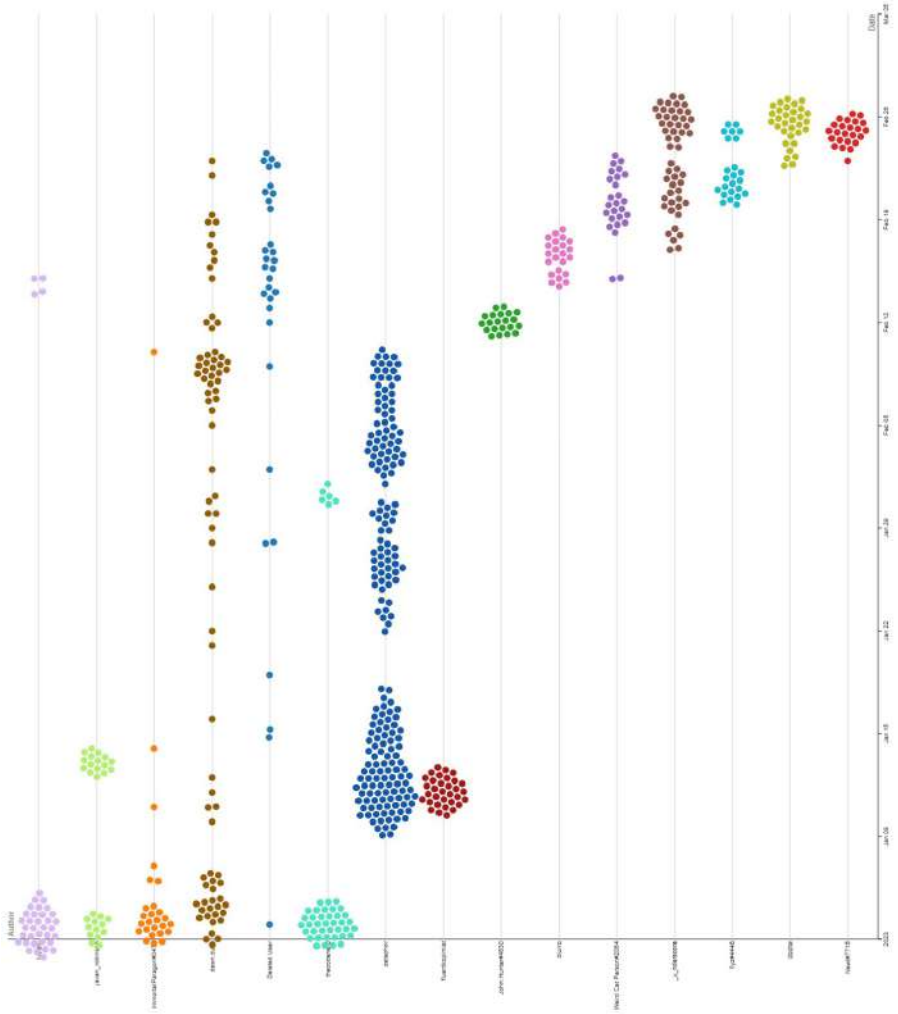

Fig. 4. Temporal distribution of posts per user- top 15 users by post count

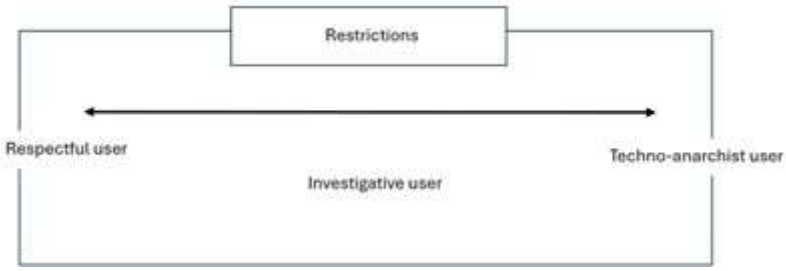


Fig. 5. Dimension 1: Restrictions

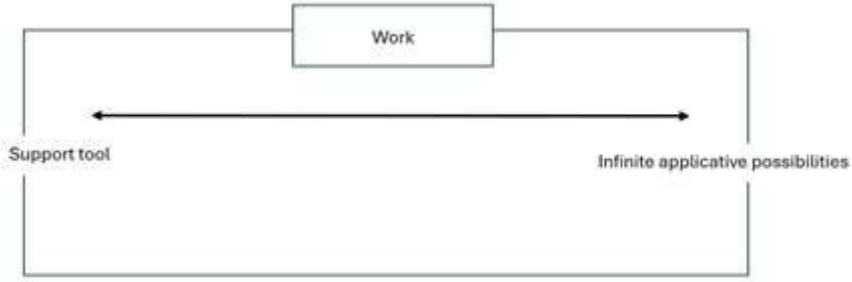


Fig. 6. Dimension 2: Work

is driven by a genuine interest in understanding ChatGpt mechanisms by testing their limits. The investigative user attempts to bypass restrictions but with caution: their goal is not to coerce ChatGpt to provide restricted information, but rather to fully understand what these restrictions entail. At the other end of the continuum, the *techno-anarchist user* appears. This type of user exhibits a total aversion to the restrictions imposed by OpenAI and actively seeks to violate them without hesitation. The techno-anarchist user seeks information on dangerous or illegal topics, often seeking support from other users and asking to share any prompts that have worked in the past. This user type seems motivated by desires, such as challenging rules, relishing in the forbidden, and more generally, a quest for knowledge. These motivations are not entirely new in the realm of computing; they share many similarities with those driving so-called "white hat hackers", the sole purpose of which is to challenge systems without stealing or disseminating data (Lorenzini, 2022). What characterizes these groups appears to be their desire for knowledge about and through technologies.

For the second dimension, regarding work, the positions are slightly more polarized, as shown in Fig. 6. Users discuss how work will inevitably change with the introduction of ChatGpt as well as other similar services

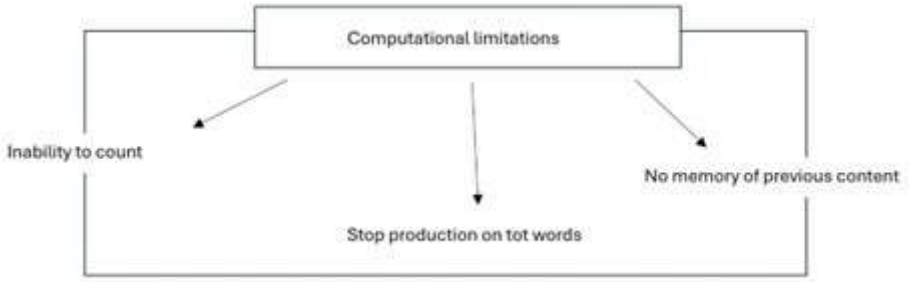


Fig. 7. Dimension 3: Computational limitations

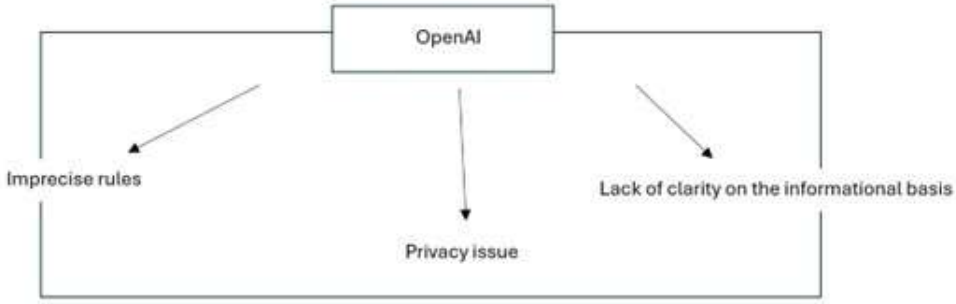


Fig. 8. Dimension 4: OpenAI

into everyday life. While some users believe that AI is simply a support tool for work that is unlikely to replace the human mind, others hold more extreme positions. ChatGpt is seen not just as an aid, but also as a device with endless possibilities in the workplace, although it does not necessarily have negative consequences. Some argue that the implementation of AI in the workplace could alleviate alienating actions or even propose that it could be a tool capable of generating new business ideas that lead to quick enrichment, while others argue that it will become increasingly difficult in the future to distinguish between human work and that of AI, raising the risk of human replacement.

The third dimension observed during the analysis concerns ChatGpt's computational limitations, as depicted in Figure 6. Among the limitations discussed are the inability to count, halt in information production after a certain number of words, incapacity to remember previously written content, and inability to formulate new information based on it. The underlying reason for this disappointment in the face of these limitations may be the imagery associated with artificial intelligence: a workshop conducted

by Cave and colleagues in 2018 for the Royal Society clearly indicates that public perception of artificial intelligence is rife with exceedingly high expectations (Cave *et al.*, 2018).

The final dimension (Fig. 8) emerging from the ethnographic work pertains to the parent company ChatGpt and OpenAI. Users repeatedly question various aspects of AI's parent company:

1. What types of user data were collected?
2. What precisely fuels the ChatGPT?
3. What rules must the users follow for their usage?

User concerns are specific. Regarding the first, it is noteworthy that it has drawn interest from the Italian government, which suspended ChatGpt from March 31 to April 28 because of issues surrounding the management of user data accessing it. Concerning the second issue, it is presumable that during the selected period, there was a growing awareness that ChatGpt was trained on Internet content until 2021. Regarding the last question, users seemed particularly concerned about the lack of a regulatory framework to avoid future access restrictions. This issue leads to comparisons with other digital platforms that have clear behavioral rules for users.

In summarizing and organizing the results presented thus far, an outline of the group's interaction and communication was produced, as shown in Fig. 9.

The proposed communicative model identifies a scheme which, starting from a need, envisages three types of resolution: 1. Cooperative resolution: the user asking for help finds what he/she is looking for; 2. Conflictual resolution: the request results in a dispute which leads to the exclusion of the user from the communicative space; 3. No-resolution: the request is ignored. All possible resolutions then lead to momentary inactivity of the group. This allows us to summarize the communicative and interactive structure of the group, where ChatGpt and the prompts that are used for its use, define a group based on increasing one's knowledge of the tool, with a strongly utilitarian communication that divide experts and questioners, which defines themes that change on linear tracks, with a group structure that gathers around those who have the knowledge of the tool.

## Conclusion

The introduction of ChatGpt by OpenAI in November 2022 expanded access to generative artificial intelligence, opening up new frontiers for everyone. It has sparked interest in numerous fields, and it is crucial for the social scienc-

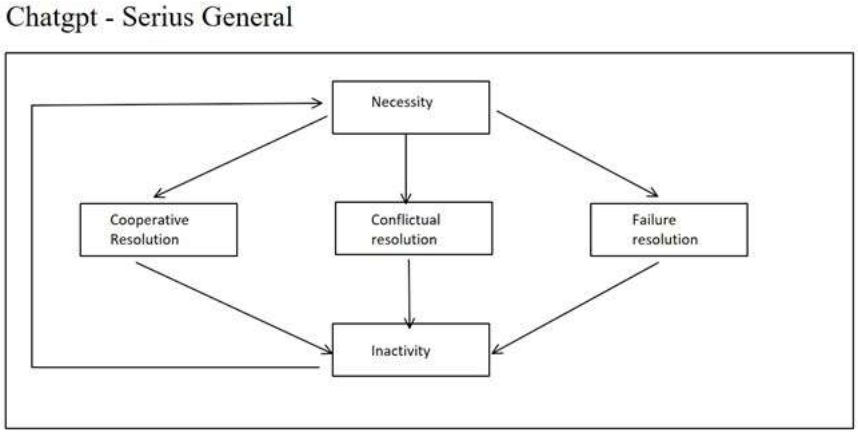


Fig. 9. Communication on General Chat – Discord

es to understand how users interact and discuss ChatGpt. Using Discord, which offers fertile but unexplored ground for social research, the present work has entered this growing field of study. For several reasons, including the communal character of Discord and the different types of data found there, digital ethnography emerged as the key technique to explore its complex dynamics. The objective was twofold: to extract the dimensions that make up the communicative arena regarding ChatGpt and the characteristics of communication. The chat selected for the work was *serious* belonging to the largest OpenAI server. The data analysis, suggested four dimensions. A first dimension provided a typology of the users with respect to the ChatGPT rules: respectful, investigative, techno-anarchic. A second dimension concerns attitudes towards the relationship between ChatGPT and work, which can be summarized on the one hand in a pessimistic view of AI as a substitute for human effort, and on the other hand of AI as a support tool. The other dimensions discussed relate to computational limitations and proprietary society. Regarding the characteristics of communication on Discord, two types of users emerged: experts, with advanced knowledge of the ChatGpt prompt system, and questioners, users who express curiosity or seek solutions to their problems. These types of users define the dynamics of the communication, which is fundamentally based on the request for a problem resolution that may result in cooperative resolution, conflict resolution or no resolution at all.

Discord represents a particularly fertile ground for social research, given its special characteristics that make it different from other platforms (Van der Sanden et al., 2022). The presence of a section of users who are experts in digital topics is a decisive characteristic: it is important for digital sociology to investigate

through and on platforms other than the mainstream ones. In the case of this work, the presence of a channel specifically dedicated to ChatGpt could not but be more central; moreover, the peculiar characteristics of the channel – as well as of the others – allowed for a study that is fully within the scope of communities.

The work is obviously not without its limitations. The main limitation of the work concerns the available data. Apart from the lack of socio-demographic data, a problem common to many digital research tools, the present work lacks – due to the impossibility of collecting – of data regarding the interactions between users or their membership of other channels. Data of this kind could have allowed for other types of analysis such as, for example, social network analysis, which would have provided access to a more complete picture of the phenomenon in question and the characteristics of the communication concerning it. Precisely because of the lack of socio-demographic data, first future proposal to investigate the topic also with non-digital methods of social research. Studying the dimensions in which artificial intelligence is declined and the characteristics of communication concerning it through interviews and focus groups could yield very interesting results, which in combination with digital research would help to better triangulate the phenomenon. Also, using ethnography again, but a participatory approach, potentially stimulates intriguing outcomes. In this case, of course, one must consider all the ethical and other issues surrounding this type of instrument.

Among other future perspectives of the work, an interesting avenue to take concerns longitudinal analysis that aims to study changes in the status of a phenomenon over time (Caputo *et al.*, 2017). Another interesting avenue to pursue still concerns comparison: first with other servers focusing on similar topics and then with other platforms. In the first case, in addition to the differences between the various communities that populate Discord, a more complete picture of the platform would also emerge, which, as has been shown is unexplored. With a more complete picture of the platform, a comparison with mainstream platforms could be made in a systematic way.

In conclusion, this research aimed to investigate the communicative dimensions and characteristics with which ChatGpt was discussed on Discord two months after its reliese. The work, using a non-mainstream platform, also contributed to increasing information about it.

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