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Opportunities and challenges of AI chatbots for digital youth information, advice, and counselling services in Europe

Oportunidades y retos de los chatbots de IA para los servicios digitales de información, asesoramiento y orientación para jóvenes en Europa

Alonso Escamilla & Paula Gonzalo
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Opportunities and challenges of AI chatbots for digital youth information, advice, and counselling services in Europe

Oportunidades y retos de los chatbots de IA para los servicios digitales de información, asesoramiento y orientación para jóvenes en Europa

Alonso Escamilla
Universidad Católica de Ávila. Spain
alonso.escamilla@ucavila.es
ORCiD: https://orcid.org/0000-0003-0159-3576

Paula Gonzalo
Universidad de Salamanca. Spain
gonzalomoreno.paula@usal.es
ORCiD: https://orcid.org/0009-0001-0686-0162

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Abstract: New technologies such as artificial intelligence (AI), applications and platforms are becoming more common in youth services and non-formal

education, with chatbots being key examples. However, many chatbots often fail to take into account the profiles, requirements and rights of young users leading to potential risks such as biases, polarization, and low data protection standards. In carrying out this research, a literature review was done to determine the history of youth services in Europe and the prevalence of chatbots. A series of interviews with representatives of organizations that either represented young people or provided youth services at the European level were held to share their experiences and describe the key features needed for a correct use of chatbots on youth services. This study highlights the practical possibilities and limitations of AI chatbots, and the need to co-design AI tools with youth organizations and young people in order to minimize threats and maximize the effectiveness of digital youth information, advice, and counselling services in Europe.

Keywords: Artificial intelligence, chatbots, youth work, Europe.

Resumen: Nuevas tecnologías, como las aplicaciones y plataformas de inteligencia artificial (IA), están volviéndose más comunes en los servicios juveniles y en la educación no formal, siendo los chatbots ejemplos clave. Sin embargo, muchos chatbots a menudo no tienen en cuenta los perfiles, requisitos y derechos de los jóvenes usuarios, lo que conlleva riesgos potenciales como sesgos, polarización y bajos estándares de protección de datos. En la realización de esta investigación, se llevó a cabo una revisión de la literatura para determinar la historia de los servicios juveniles en Europa y la prevalencia de los chatbots. Se realizaron una serie de entrevistas con representantes de organizaciones que o bien representaban a las personas jóvenes o proveen servicios juveniles a nivel europeo, para compartir sus experiencias y describir las características clave necesarias para un uso correcto de los chatbots en los servicios juveniles. Este estudio revela las posibilidades prácticas y las limitaciones de los chatbots de IA y la necesidad de diseñar conjuntamente herramientas de IA con las organizaciones juveniles y los jóvenes para minimizar las amenazas y maximizar la eficiencia de los servicios digitales de información, asesoramiento y orientación para jóvenes en Europa.

Palabras clave: Inteligencia artificial, chatbots, trabajo juvenil, Europa.

1. **Context of the problem**[1]

Digitalisation has transversely impacted and shaped the society we, as Europeans, know today. Simply, this transformative process has changed the way we carry out everyday tasks (Șerban et al. 2020). As Escamilla and Lonean (2021) describe, the COVID-19 pandemic unprecedentedly marked a before and after in the way we perceive digitalisation and the benefits and risks that new technologies, such as chatbots, pose to societies, impacting everything from education and social interactions to healthcare, governance, and, as this study will demonstrate, with particular implications for youth work. From this perspective, studying chatbots within youth work is essential, as they can serve as digital tools to enhance engagement, foster communication, and support the specific needs of young people navigating the evolving digital landscape.

These new technologies such as Artificial Intelligence (AI) have had a strong social and economic impact in the last decades. For instance, Lastauskaitė and Krušinskas (2021) pointed out that the increase in the adoption of digital technologies is directly linked to the improvement of productivity and economic activity in the manufacturing sector, as well as to a general growth of the Gross domestic product (GDP) in the EU (Kravchenko et al. 2019). Nonetheless, the impact of AI on youth employment and the debate on whether the shift of the job market towards more AI-centric roles may negatively influence young people is contested. For example, Aswathy et al. (2021) argue that AI will cause job displacement of low-skilled occupations due to the automation of routine tasks and the increase in the demands for technological competencies, thus directly affecting lower-income young people who cannot afford said qualifications. Whereas authors like Lu (2022), state that it is the skilled labor force who is seen affected negatively by the invention of AI, and vice versa. In other words, the arrival of AI presents a paradoxical scenario: while it offers remarkable advancements and efficiencies in productivity and economic growth, it simultaneously poses challenges for workforce integration, especially among the youth.

In terms of social issues of young people, digitalisation and AI have revolutionised their educational landscape. Again, AI is a double-sided

[1] The researchers would like to extend a special thanks to all the organizations that participated and made this research possible. On a voluntary basis, explicit mention (in alphabetical order) is made to: ASPAYM Castilla y León, Department of Youth Affairs of the Education and Youth Board of Estonia, Digital Child Rights Foundation, Eurocities, Eurodesk Spain, Extremadura Youth Council, and Spanish Youth Council.

sword in the sense that it can act as an enabler by facilitating and democratizing access to information, but it can also have a negative impact on the quality and reliability of the information that they consume, and it risks contributing to social isolation and mental health challenges such as depression and anxiety among youth (Grové 2021; Ştefan 2023a).

Although digitalisation has broadened access to information, and young people are the primary consumers of the internet —according to 2023 data, nearly 99% of individuals aged 16-24 in the EU reported using the internet daily, which is 4 percentage points higher than the usage rate among those over 25 (Eurostat 2023)— the benefits are not evenly distributed. Many sectors with limited resources struggle to afford these technologies (Ştefan 2023a). Therefore, AI may hinder social inclusion by perpetuating existing socio-economic divides, favoring those with access to technology and leaving behind those without (Park and Humphry 2019). Therefore, as we will explore in the following sections, youth work must include a balanced and informed use of AI in order to squeeze its potential to the fullest to mitigate the aforementioned inequalities and increase social inclusion.

Digital technologies have slowly taken over all aspects of life, and youth work is no exception (Pawluczuk and Șerban 2022). Youth workers have been integrating AI into their activities because its uses are many-fold (Șerban et al. 2020). The literature has identified many of the functions that AI can serve to the benefit of youth, especially young people with fewer opportunities, in the context of youth work and non-formal education. Given the rapid development of these technologies, this list is by no means exhaustive. Șerban et al. (2020) noted that AI-powered tools can:

— facilitate a deeper understanding of young people's needs and foster closer relationships;
— enable the early detection and mitigation of potential risks, such as stress indicators, thus enhancing mental health support;
— use specific digital tools such as heart rate monitoring through devices such as smart watches, which are particularly useful for people with dyslexia, anxiety, Down syndrome, autism and similar conditions;
— provide more customised advice and direction for young individuals' professional, social, and personal growth;
— augment educational systems to better align with the learning preferences and needs of youth by employing technologies

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that track and analyse educational engagement and learning patterns;
— support young people with disabilities, such as applications that convert written text into speech for those with visual impairments, enhancing their accessibility to information and communication;
— AI-powered technology presents new possibilities by identifying, discouraging, and preventing online hate speech; and
— accelerate the delivery of youth services through the use of chatbots.

This paper will focus on the last point: the use of AI chatbots for digital youth services for digital youth information, advice, and counselling in Europe. In this highlight, we will present the development and implementation issues of AI chatbots. Also, the possible effects of deployment on the youth and the larger digital youth perspectives in Europe will be covered. The study will involve consultation of youth organizations in order to paint an all-encompassing picture about the effectiveness and prospects of digitalisation of youth services.

AI chatbots are increasingly being employed to facilitate interactive and integrated environments (Mageira et al. 2022). In the case of youth work, they can supplement the role of social workers, as they can be used to expand the services to the people who cannot access the services that depend on the presence of a human being (Ştefan 2023a). As pointed out by Pawluczuk (2023), these chatbots have also been used to provide information and to carry out other routinary activities like extracting, copying, and inserting data, or filling in forms, therefore allowing the youth workers to concentrate on more personalized and impactful interactions with all young people engaging in these services.

The latest studies (Pawluczuk 2023; Stefan 2024; Solyst et al. 2023; Vetrivel et al. 2024) have highlighted the fact that these electronic equipments should be designed for and by young people. They should do this by providing information, resources, and support in an engaging and friendly style that suits them best. For example, chatbots are particularly effective in settings like mental health support, as they can provide evidence-based coping strategies and resources via interactive and relatable conversations. This approach is possible because young people are adept at using technology and comfortable with digital interactions, making them more likely to engage with and benefit from such tools (Grové 2021).

Besides, Väänänen et al. (2020) stated that the so-called Civic Chatbots or CivicBots can support young people to be involved in civic affairs and engage with societal issues. These chatbots not only make participation in community affairs for young people easy and accessible but also help in fostering equality, making them adequate tools for motivating the youth to freely give their opinions and actively participate in their localities.

Overall, websites with integrated chatbots are facilitating a new way of how youth services relate to their audience. They provide the quick and customized communication imperative for attracting young people. Chatbots are accessible constantly and are equipped to answer questions about particular services or activities or to provide information: from clarifying the process of enrolling in a university (Atmauswan and Abdullahi 2022) to answering adolescents' inquiries on drugs, sex, and alcohol in an anonymous way. The convenience of this nonstop availability not only makes service delivery more efficient but also gives young people the power of immediate access to the information they may need (Crutzen et al. 2011).

This article highlights a significant issue in the design of chatbots: the lack of consideration for the profile, needs, and rights of end-users, that is, young people (Ştefan 2023a). Digital technologies such as AI services are not power-neutral, but rather designed, run, and controlled by profit-driven companies. These companies are a 'third party' that influences the relationship and interaction between young people and youth workers and services (Pawluczuk and Șerban 2022). Chatbots are powered by algorithms that analyse data, and this data, with the argument of providing better services, can be traced back to the user, thus jeopardising the data protection and anonymity of young people (Siurala 2020). On the technical side, there is a huge problem of disinformation among young people on the functioning of these tools and their potential risks, due to the opacity, complexity and private ownership of the analysis of data like algorithms and AI (Ştefan 2023a; Siurala 2020).

End-user data protection is not the only risk that deserves awareness when it comes to AI and chatbots in the context of youth work. Another issue is that AI chatbots have been found to be biased, due to the way their algorithms are designed (Șerban et al. 2020). The datasets that form the basis of chatbots are often fed with social biases, which can lead to discriminatory predictions between one target class and another, which can undermine the rights of people, especially those on the margins based on race, gender and social status (McQuillan and Salaj 2021; Ştefan 2023a). The misinformation on the

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mechanisms used to provide content can lead to the incapacity to discern between real and fake outputs, dissemination of propaganda, filter bubbles that increase polarisation, and even radicalisation (Ştefan 2023a).

As mentioned earlier chatbots are often designed without involving young people in the process, and therefore overlooking their needs (Șerban et al. 2020). There are several ways to ensure the participation of youth. For example, one way is through the use of the People's Council. Citing McQuillan and Salaj (2021), these councils are bottom-up democratic assemblies, in which everyone has an equal say about the matter being decided. When speaking about AI, People's Councils become a way of collectively questioning the reasoning of the machine. These horizontal structures would incorporate both young people and youth workers to change the way these valuable tools are designed to meet the needs and respect the rights of young people. Another way is to carry out participatory action research to shape the outcomes. This method is characterised by the participation of the target population, to enable their influence in the decisions that will affect their lives (Chaudron and Di Gioia 2022). Following this line, this paper will include the perspective of youth organizations that offer chatbot services to the youths.

2. **Research objectives and methodology**

This study firstly conducted a review of various literature sources to get an overview of the development of information, advice and guidance services for young people in Europe, as well as the integration of artificial intelligence and chatbots in these digital youth services. Secondly, a qualitative methodological approach based on in-depth interviews was used. The aim was to collect data to find out in which activities chatbots are used, what functionalities they have and what benefits (or risks) they offer to youth information, counselling and guidance services.

Non-probability, purposive and convenience sampling was used to select a sample of organizations representing young people or whose main function is to provide youth services in EU countries (see Table 1). Between April and June 2024, 8 interviews were conducted virtually (via Teams) with heads of departments responsible for making decisions about integrating chatbots into their organizations or with youth workers responsible for teaching young people how to use these conversational digital assistants.

Table 1.
Characteristics of the youth organizations interviewed

Type of organization	Country	Level of action
Service Providers	Belgium	European level
Service Providers	Estonia	National level
Service Providers	Spain	Regional level
Service Providers	Spain	National level
Service Providers	The Netherlands	Worldwide level
Youth Representation	Spain	Regional level
Youth Representation	Belgium	European level
Youth Representation	Spain	National level

Source: Own elaboration.

The interview guide[2] began by laying the groundwork to find out if organizations knew what a chatbot was, if they had ever used one, and what experiences, both positive and negative, they had had. The questions then focused on what characteristics a chatbot should have within youth information, advice, and counselling services and what activities these tools are currently being used for. Afterwards, the questions focused on the opportunities offered, the risks involved and the challenges that the use of chatbots in youth services will bring.

A documentary and content analysis were then carried out (using MAXQDA software) to categorize and systematize the information collected. This made it possible to identify trends and commonalities between all the organizations interviewed, as well as with other research (to contrast the perspectives of this study with other sources). In this way, the interviews with these youth organizations allowed us to delve deeper into two main aspects. First, their perspectives on the role chatbots play or will play in youth services. Second, to find out what opportunities and risks they perceive chatbots to bring to young people.

Finally, it should be noted that all interviewees participated in this research on a voluntary basis and gave their consent for the

[2] The interview guide was developed based on the literature review to combine both the aspects of chatbots and artificial intelligence with youth services.

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information collected during the interviews to be used for this study (and for their quotations to be used anonymously). In this sense, the information obtained, collected and classified within the parameters of the applicable data protection legislation, was used for the subsequent analysis of the main results.

3. Evolution of youth information, advice, and counselling services in Europe

Due to the overwhelming amount of available information online, occasionally unreliable, youth information, advice, and counselling services are one of the cornerstones of the transition of young people to adulthood. They accompany them and defend their right to —trustworthy— information[3] (Sildnik and Simon 2020). Through the provision of accurate data, these services enable young people to make well-informed choices, thus, developing the critical thinking skills that are essential in today's complex information landscape. Furthermore, they assist in achieving social environment diversity and benefits. They make it possible for all young people, no matter their socioeconomic background, to be full members of society and therefore actively participate in decision-making activities (Reina et al. 2020).

Nowadays, the term 'youth information and counselling' is an umbrella term that includes a wide range of services and activities, such as informing, counselling, supporting, coaching, training, peer-to-peer, networking, or referral to specialized services (Sildnik and Simon 2020). The profession of youth information worker is now well organized (Frith et al. 2021), but these services have not always been the way we know them in the modern days. In this section, we will explore the evolution of youth services from their beginning until today. This section will also dig into what are the expected changes, opportunities, and challenges that youth information and counselling services are going to experience in the future, according to literature.

Léargas (2017), in the 1950s, specialized youth information services in Europe came into existence. These services were created in Finland with the opening of information centres for the young internal migrants coming from the countryside to the cities. The aim was to

[3] This is recognised in the Universal Declaration of Human Rights, in the Convention on the Rights of the Child, in the European Convention for the Protection of Human Rights and Fundamental Freedoms and in the Recommendations n. (90)7, CM/Rec(2010)8 and CM/Rec(2016)7 of the Council of Europe.

prepare these youths for the new challenges and complexities that they were facing. Later, in 1961, the very first 'walk-in' centre, called the Young People's Consultation Centre, was established in London. This changed the way in which young people could gain access to professional help without having to make an appointment.

'Open door' services became a trend during the 1960s. In cities like Ghent (Belgium) and Amsterdam (The Netherlands), new centers such as the Info Jeugd Centre for Youth Information and counselling and the Young People's Advice Center (Jongerenadviescentrum), respectively, were set up. These centers were different from the common method of youth work that was usually formal, bureaucratic and medical-psychiatric in nature. In contrast to the traditional facilities, these new centers created an atmosphere of acceptance, where the youth would be free to express themselves and seek assistance in a nonjudgmental way; hence, the feeling of belonging and support grew stronger.

It was during the 1970s when providing young people with information became more popular in Europe and integrated into the broader youth work practices in the majority of the countries. Recognizing the crucial role of youth information and counselling was finally done at the first European Conference of Ministers Responsible for Youth, which was held in Strasbourg in 1985. Thus, here, these services were emphasized as priorities of the future European-level policy cooperation. Consequently, the Council of Europe established the Committee of Experts on Youth Information in Europe in order to advance these plans (Léargas 2017).

These organizations kept evolving and specializing with time. A great milestone occurred in 1986 with the creation of the European Youth Information and Counselling Agency (ERYICA). This independent European non-governmental, non-profit association aims to safeguard the right of young people to information. They adopted the European Youth Information Charter in 1993, which served as the roadmap of youth work. This document has been revised several times to keep up with the rapid changes of the last 30 years (Reina et al. 2020). Other initiatives, that were implemented for the promotion of youth access to information and resources, were the European Youth Card (EYCA)[4]

[4] The EYCA is a discount card focused on the encouragement of mobility and active citizenship among youth across Europe. Providing a wide range of discounts to young people typically between 13 and 30 years of age, the card gives access to a range of transport, cultural, lodging and services at reduced rates in many European countries across the continent.

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(1987), Eurodesk[5] (1990), Euroguidance[6] (1992), the European Youth Portal[7] (2004), the Youth Guarantee programme[8] (2013), Youth Wiki[9] (2015), European Solidarity Corps[10] (2016) or the EU Youth Coordinator[11] (2018).

Looking at the future, youth information, advice, and counselling services in Europe now have the difficult task of providing solutions to the aforementioned problems, related to the unprecedented increase of technology in young people's lives, the wave of fake news and misinformation, the shift to an online mode of counselling –which includes AI and chatbots. Therefore, youth information services should work one step ahead, anticipating the needs of young people, establishing prevention measures, and mainstreaming youth information and counselling in diverse youth policies (Reina et al. 2020)

4. **The incorporation of artificial intelligence and chatbots in digital youth services**

4.1. *Artificial intelligence*

When speaking about AI, McQuillan and Salaj (2021) describe it as a sum of biased data, as opposed to the idea of a conscious superintelligent

[5] Eurodesk is an information network that aims at offering young people and those working with them timely, accurate, and relevant information in the realm of learning, training, and youth mobility. It provides information and counselling to support young people to participate in different programmes and campaigns across Europe.

[6] Euroguidance is a network of national resource and information centres for educational and employment sectors across Europe.

[7] The European Youth Portal provides information for young people on among others, opportunities, initiatives, employment or youth policies, as well as resources for organisations and policymakers.

[8] The Youth Guarantee Programme is an initiative launched by the European Union to guarantee that all young people under the age of 25 receive a good-quality offer of employment, continued education, apprenticeship or traineeship within four months of becoming unemployed or leaving formal education. For instance, in Castilla y León (Spain), a group of Youth Information Officers were responsible for informing and registering interested young people.

[9] The Youth Wiki is a database created by the European Comission that offers information on national policies and best practices on youth related issues.

[10] The European Solidarity Corps is a programme that aims to promote opportunities to volunteer or work on solidarity projects for young people.

[11] The EU Youth Coordinator is a position created by the European Commission as part of the EU Youth Strategy 2019-2027 for the management of youth policies of the EU. The aim is to ensure that young people's voices are represented in decision-making processes.

entity. Other scholars go a step further and affirm that AI is more an ideology rather than just algorithms, due to the implications in regards to categorization and language (Vesa and Tienari 2022).

The concept of AI was first used in the 1950s but it was not until 2017 when AI gained momentum at an international level, with the initiation of governance processes. These procedures included academia, public institutions, and civil society organizations to debate the potential risks and benefits that AI pose to general society (Ştefan 2023a). It is not clear when AI started to be used in the field of youth work, although international organizations (EU-Council of Europe Youth Partnership 2022) also refer to the last decade as the period when the trend of integrating AI in educational and social services grew. A big event in terms of the acknowledgment of the role of AI in youth work services was the 2018 Symposium 'Connecting the dots: Young people, social inclusion and digitalisation', held by the EU-Council of Europe Youth Partnership. In this sense, the European Commission defines AI as:

> Artificial intelligence (AI) refers to systems that display intelligent behaviour by analysing their environment and taking actions –with some degree of autonomy– to achieve specific goals. AI-based systems can be purely software-based, acting in the virtual world (e.g. voice assistants, image analysis software, search engines, speech and face recognition systems) or AI can be embedded in hardware devices (e.g. advanced robots, autonomous cars, drones or internet of things applications) (High-Level Expert Group on Artificial Intelligence 2019).

On the other hand, the Council of Europe (Leslie et al. 2021, 7) also provides a technical definition of this discipline:

> AI systems are algorithmic models that carry out cognitive or perceptual functions in the world that were previously reserved for thinking, judging, and reasoning human beings.

Nonetheless, youth work still lacks a standard definition of the correct approach to the use of AI (Pawluczuk 2023). The lack of a standard definition for chatbots may arise from their diverse applications, rapid technological evolution, and varied architectures. This can lead to user confusion, regulatory challenges, and ethical and privacy concerns. A common definition is very much needed as young people recognize that AI is and will continue to be part of their daily lives (Chaudron and Di Gioia 2022). Building on this increasing

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integration of AI in youth-oriented services, one prominent application that has emerged is the use of chatbots.

4.2. *Chatbots*

Essentially, a chatbot is a conversational agent that uses natural language to dialogue with its user (in either text or speech form) with the aim of substituting traditional scrolling, swiping, or button click interfaces of data service providers (Council of Europe n.d.). Chatbots may exist solely as software or be integrated into physical social robots (Følstad and Brandtzæg 2017; Väänänen et al. 2020).

The origin of chatbots can be dated back to the 1960s (Dale 2016). These were simple, superficial systems unable to understand context and with limited interaction capabilities. Since then, the technological revolution and the resulting proliferation of computers and smartphones have driven the evolution of chatbots into more advanced applications that can be implemented for youth services even without technical skills (Verke 2020).

There are a myriad of youth services to which chatbots can be applied. They can be used not only to provide basic information about services and procedures, but also for cognitive behaviour therapy of young people (Fitzpatrick et al. 2017), for mental health support (Kretzschmar et al. 2019; Grové 2021), to provide adolescents with advice on topics such as sexual education (Crutzen et al. 2011), for legal counselling about young people's rights (Morgan et al. 2018), or to help them with their transition to college (Atmauswan and Abdullahi 2022).

According to Verke (2020), chatbots are creating numerous positive changes in various directions: Technologically, chatbots allow independence from traditional constraints such as time and place, and facilitate the streamlining of interactions due to their ease of use. They automate and carry out daily tasks and offer a range of technical solutions. Chatbots for the younger generation are highly customised and easily accessible with the provision of anonymity. Despite the fact that chatbots can be biased according to how their algorithmic systems learn (Feine et al. 2020; Kostenius et al. 2024), these digital assistants have the advantage that they can be called at any time, never get tired and provide constant support.

In the case of counselling, chatbots can be used to merge the existing services into one, making implicit knowledge explicit and offering guidance that can help to enrich the work of the counselor.

The counselors of the future, through automation, will be able to free up some of their valuable working hours and plan to improve the quality of their services and master new skills. Furthermore, chatbots can be of assistance in the creation of stronger counseling relationships, which in turn can reach diverse target groups (Verke 2020).

The problem is that these services have such complex systems that, even for their developers, they are considered black boxes. In other words, the decision-making mechanisms of these algorithms are frequently unknown (Ştefan 2023b). Therefore, if not even the creators of such systems can fully grasp the implications that chatbots may have in relation to data gathering and analysis, let alone the general public, especially if we look at vulnerable young people who have not been included in the design process. This issue raises privacy concerns in the sense that both young people and youth workers may want to share internal sensitive documents that include personal trackable data (Ştefan 2023a) and a sense of unease due to the unknown future development of this technology (Pawluczuk 2023).

As noted by Verke (2020), technologically –apart from the earlier mentioned problems with data protection and security, and ethical dilemmas– the lack of empathy and the human touch of facial expressions and gestures which can lead to a perceived coldness and impersonality, are limitations for chatbots. Along with that, chatbots may face the problem of automatically identifying subtle information requirements.

For the youth, text-based communication with a chatbot can give rise to a lack of understanding due to the absence of vocal tone and physical signs. Finding the right services via chatbots can be difficult, especially when it involves a case of individual and special needs. An additional issue is whether young users can tell when they are chatting with a bot or a human, which may influence their level of trust and the quality of the conversation. Moreover, in the arena of counselling, the speed of chatbots may be at the expense of the quality of services provided. The values of the employees who design the chatbots might inadvertently be reflected in the bot's responses that sometimes do not match the users' needs and expectations (Verke 2020). This is also because most of these conversational agents have an adult-centered design, which does not allow for the provision of trustworthy and safe systems that guarantee the fundamental rights of children, adolescents and young people (Escobar-Planas et al. 2022).

To date, the use of AI chatbots is not legally bound by any international body. Nonetheless, the EU is on the right track. The EU AI Act (European Parliament 2024), despite not explicitly including youth

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services in its regulations, lays a basis that could create a framework to eventually provide protection to young people by classifying some AI systems as high-risk when they impact fundamental rights and are related to education, employment, and access to services. Complementing this initiative, other steps that the EU has taken to protect youth from the risks of these technologies include, but are not limited to the following. First, the report *Conclusions of the Council and of the Representatives of the Governments of the Member States Meeting within the Council on Digital Youth Work by the Council of the European Union* (2019). Second, the Digital Education Action Plan 2021-2027 (European Commission n.d.) to help to adapt the education systems to the digital era. Third, the EU Strategy on the Rights of the Child and the European Child Guarantee, which includes the section "Children's rights in the digital environment" to protect them against online risks. Fourth, or the *EU's General Data protection Regulation* (European Parliament and Council of the European Union 2016) that focuses on the collection and processing of personal data, including AI and chatbots. Fifth the *European Guidelines for Digital Youth Work*, which provides a framework for integrating digital tools and practices into youth work (Digital Youth Work 2019).

It is crucial that in the process of developing this academic and legislative body, stakeholders such as youth councils and organizations are taken into consideration. Not only to be heard but to be listened to, as stated in Article 12 of the UN Convention on the Rights of the Child: "I have the right to be listened to and taken seriously". That is why, the next sections will focus on the testimonies of these organizations in regards to the use, opportunities and challenges of chatbots in their services.

5. **The perspectives of youth organizations**

5.1. *What is a chatbot?*

From our analysis, the first and foremost finding that emerges is the difficulty of having a clear idea of what a chatbot really is, or even knowing how to recognise when one is being used on a recurring basis. All the interviewees, in addition to giving a different definition of what a chatbot was, highlighted several examples where young people and youth workers were unaware that they were interacting with a chatbot until they were made to realize that the tool with which they exchange information was, in fact, a chatbot. The above highlights the

need for privacy provisions and limitations to be transparent to users, and for them to be reminded at any time (Kretzschmar et al. 2019).

> It is difficult for everyone to keep up with the topic of AI and chatbots. It is becoming more and more pressing as a topic. But we're barely understanding it, we're barely understanding what it is. It's in so many technologies, that many times... for example, the term chatbot... many colleagues told me that ChatGPT is not a chatbot, we need to categorize what is AI and chatbot, what is the difference: are all chatbots AI, but all AI are chatbots? (Youth representation organization)

Along the same lines, the organizations interviewed indicated that they are still in the process of establishing a clear and convincing position on artificial intelligence (and, therefore, on chatbots)[12]. This is due to the complexity of understanding what it is and what it isn't, the whirlwind of digital tools being updated and the inability to keep up to date with all the issues related to artificial intelligence.

> We don't see AI and chatbot as a single area [...] it goes in the sense that this is evolving very fast, and administrations and services don't have the capacity to know everything, or to update [...] and to see that all levels and services have the capacity [to update] is still a challenge… (Service provider organization)

5.2. *From giving information about a youth centre to getting involved in mental health issues*

Interviewees noted a duality in the daily use of chatbots. Firstly, because they perceive that this type of tool is used by young people to solve administrative, logistical and informational queries within youth services, such as: finding out the opening hours of the youth centre, how to book a working room, what documents are needed to create a youth association, what cultural activities exist in their locality or how to participate in European volunteering.

> If I want to create a youth association, what do I have to do? If the room in the cultural centre is free and I want to book it, where

[12] It is considered necessary to point out that several organizations declined to participate in this research due to the fact that they do not yet have a position on AI and Chatbots.

Deusto Journal of Human Rights
ISSN: 2530-4275 • ISSN-e: 2603-6002, No. 14/2024, 127-154
https://doi.org/10.18543/djhr.3192 • http://djhr.revistas.deusto.es/

> do I have to book it? This seems ideal to me. [...] On mental health issues. Lately, there are a lot of self-help websites for young people with mental health problems (Youth representation organization).
>
> With tweezers, in emotional support, because in these issues, it is unpredictable that there is a person behind and not just a chatbot... Access to resources of all kinds, from an online shop, focused on young people, to find products… (Service provider organization).

Secondly, interviewees also perceived that the tools went from providing simple administrative information to directly addressing mental health issues. In other words, they stressed that there was no intermediate step in these tools and that many of them, which were not specifically designed for this purpose, ended up addressing problems of stress, anxiety or depression in children, adolescents and young people. Dosovitsky and Bunge (2023) conducted research with young people aged 13-18, testing a chatbot designed to psychoeducate young people about depression, teach behavioural activation and change negative thoughts. Although participants said that these conversational advisors could be positive for mental health, they highlighted technical and stylistic issues that developers should consider.

5.3. *Tailored for services and young people*

According to the interviewees, getting young people to engage with a chatbot depends not only on whether it is useful to them or whether it does not keep repeating the same answer in a loop. It is also important that the responses are adapted to both the service being offered and the language young people use. If a chatbot responds in the way a young person would interact, it may mean that they will either use the tool again or, on the contrary, discard it altogether.

> Adults or people that developed the systems are not young people. They do not know the slang they are using, or the specific topics that they need. Otherwise, they will not work… […] Otherwise, they will not use it anymore… This is the hardest part, to train and to create the information or the answers that are connected with what the young people are asking (Service provider organization).

In the same line, interviewees point out that chatbots have the capacity to facilitate access to youth services because they can be

consulted any day and at any time. Moreover, if their designs from the outset have an inclusive approach, they can also further enhance the accessibility of youth services to profiles that are often marginalised, especially if they respond in multiple languages. Due to the above, interviewees highlight the importance of young people and youth organizations being involved in co-design and testing processes of chatbots.

> There is a chatbot that gives you information in sign language... [The chatbot] has to be inclusive, with young people from different backgrounds, from other ethnicities, not to give a homogenous image of [the young people] who can access the programmes.... (Service provider organization).

6. **Opportunities and challenges of AI chatbots for digital youth services**

6.1. *Generator of ideas and organiser of time*

One of the opportunities offered by chatbots, according to interviewees, is the possibility of generating new ideas from a base. Being able to constantly share information with the chatbot, and have it responded, allows not only to generate ideas, but also to structure and systematise them in a clearer way. At the same time, they also believe that chatbots can be useful in taking on bureaucratic or time-consuming tasks, so that both young people and youth services can better manage their time.

> The ability to delegate processes to AIs... There are other issues that could be time-consuming or an administrative burden, so chatbots can fulfill bureaucratic issues. They can support a lot of grant applications, or reports... and bear the heavy burden of bureaucracy… (Youth representation organization)

Along the same lines, interviewees also emphasise that chatbots allow for the creation of organizational and working methodologies that are necessary for youth services to succeed. In other words, having a tool that allows you to plan activities, create gamified roadmaps or identify other technological tools, seems to be an opportunity that youth organizations and services should take into account.

Deusto Journal of Human Rights
ISSN: 2530-4275 • ISSN-e: 2603-6002, No. 14/2024, 127-154
https://doi.org/10.18543/djhr.3192 • http://djhr.revistas.deusto.es/

> Chatbots are being used for sure. In terms of non-formal education, it is especially useful in gamification of educational materials, or in simulation for policy practices, or for multiple prompting, the AI came with a lot of options and saved a lot of time (Youth representation organization).

Another of the opportunities offered by AI, according to interviewees, is the possibility of creating a model that generates various scenarios to anticipate what impacts the implementation of one service or another might have. In this sense, chatbots that can analyse data, generate scenarios and establish processes can improve the decisions that are made both within youth services and the actions of youth workers.

> If you have a model of [your services], before you close a street or demolish a building, you can simulate the scenario before you make that decision and find the best solution, before you put the money or dissatisfied the citizens.... (Service provider organization).

6.2. *Trust is earned through people and truthful information*

All interviewees agree that chatbots often fail because they do not give the right information or because it is noticeable that 'no person' has filtered what could be said (and what could not). This seems very relevant, especially when we are talking about such a heterogeneous group as young people. Especially because it is not the same how a child, an adolescent or a young person speaks and interacts. Therefore, one of the great challenges is to adapt the same information for several profiles and to be aware of the trends in each of them.

> The most important thing would be to delimit who can use this chatbot and who cannot [...] If this chatbot can be used by a person of legal age or if it can be used by children, adolescents... Based on this, I understand that the contents of the chatbot would have to be adapted to this public, in order to safeguard the integrity of all people… (Youth representation organization).

At the same time, interviewees point out that young people trust those chatbots, or the services they offer, when they know that a specialised person has been behind them doing a critical review of the information that the chatbot could or could not give. This trust also increases when young people know that an organization that already offers the same services face-to-face is behind the chatbot.

> The Child Help Line Chatbot, which is connected to child services, and young people trust it because they know that there are people behind it... Even if the answer is automatic, they know that there are people, specialists behind the service, and they trust in using it. They want to know who is behind the chatbot so they can trust and use it, instead of those big, general chatbots… (Service provider organization).

6.3. *No time, no resources, no competences*

Despite the above, interviewees also agree that creating a reliable chatbot is a present and future challenge. Firstly, because it involves a lot of human, technological and economic resources to keep a chatbot up to date both in the information it provides and in adapting from time to time to the reality of the young people themselves.

> We don't have enough human resources to create the chatbots... The specialists behind the chatbot might not be enough, they might not be prepared enough to design them [...] We are not prepared to coordinate the IT service… It can cost a lot of money to have a chatbot [...] We don't think about where the servers will be, how they will be protected… (Service provider organization).

In this sense, the interviewees underline that another challenge not only for chatbots but also for AI, is to keep up with all the technological advances that occur every second. According to Park and Lee (2024), it is necessary to improve the sustainability of chatbot services based on their artificial intelligence (in personalization and social aspects) and systemic factors (in their responsiveness and compatibility). The above is of paramount importance, as young people, youth workers and youth services do not seem to have enough time and resources to acquire all the skills they would need to critically use a chatbot. For that reason, organizations fear not so much that chatbots may provide wrong information, but that users do not have the time or the tools to check whether what they say is true, misleading or false.

> What characteristics would a person need to have in order to use it and benefit from it, in education and youth services? Is it necessary for young people to have critical-thinking and fact-checking skills in order not to misuse it? (Youth representation organization).

Deusto Journal of Human Rights
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https://doi.org/10.18543/djhr.3192 • http://djhr.revistas.deusto.es/

Along these lines, interviewees also expressed concern about the side effects of such constant use of technology, especially when it is a tool that pretends to be a person. The opportunity provided by the immediacy of access to information may also mean that young people are increasingly unprepared to deal with situations where there is no immediate response. Likewise, youth organizations also seem to be concerned that this type of technology is increasingly leading to an impersonal tendency in social relations between young people themselves, as well as in their social and working relationships

> Applicants use it more and more for CV and Cover Letter. And not very skillful, I would say. And it is difficult for us, for recruitment, for writing production, it is very difficult to know who we are contacting… (Youth representation organization).

6.4. *Who is after our data?*

Interviewees agree that the biggest risk with chatbots is ensuring that our data is protected when interacting with these digital tools. Even when a chatbot is free in its functionalities, the way to generate revenue is often by selling user data. In this sense, interviewees also point out the difficulty in finding out who is behind certain chatbots and what their purposes are with our information. At the same time, it is also highlighted that young people may not be aware that the information they share is sensitive.

> The issue of profit, gain and development, poses issues in terms of why it is done and what people gain in this software […] It may not be in their interest to make (youth services) accessible to all. […] Discrimination bias and surveillance is very connected to who owns the monopoly and who has the data, who makes money out of it. It is a grey area (Youth representation organization).
>
> (The biggest risk is) The issue of data protection and privacy. Many companies want this information for their own profits. Young people are not aware of their private data and sell it easily. These chatbots can be very contracted, and their purposes can be different from what they seem. (Service provider organization).

In the same vein, interviewees also stress that the large companies that design these chatbots may have too much decision-making power. For example, determining which services are launched to the entire public or which are kept for a specific group; or which services

are made accessible and which are not. Likewise, these large corporations may be able to lobby to be the only ones to offer the technological solutions to carry out youth services in the digital world and not knowing whether the data they have has been ethically collected.

> The data has to be representative, because if we give decision making process and power to AI, the data has to be of good quality... [However] with AI the question is: the model is only good based on the data you have... If the data is good, has it been ethically sourced? (Service provider organization).

Finally, the organizations interviewed refer to the fact that the information that is shared and extracted from chatbots is not regulated. They therefore hope that, in view of the challenges they have been pointing out, the European Commission will regulate these tools and processes through the 'Artificial Intelligence Act'.

> It is true that chatbots, and the information that they generate, that we extract from these chatbots, is not regulated... So, it would be necessary for the European Commission to regulate it in this sense... The AI Act that is in the process of being drafted should contemplate this situation and the use of chatbots… (Youth representation organization).

Conclusions and Recommendations

All in all, the use of AI chatbots in the provision of digital information, advice and counselling services to the youth in Europe has several opportunities. Firstly, they have the ability to reach a larger number of users and provide young people with instant access to essential information. Secondly, they can contribute significantly to making youth services more inclusive and efficient (if they are designed with this in mind from the outset). Thirdly, they can help to reduce the administrative burden on youth workers and thus enable them to provide more responsive services. Fourthly, they can contribute to better decision-making in both the design and delivery of youth services, in order to mitigate negative outcomes and provide quality interventions.

On the other hand, there is no doubt that one of the main risks associated with AI chatbots is the lack of ethical principles in both their development and use within youth services. This is due to the fact that

Deusto Journal of Human Rights
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https://doi.org/10.18543/djhr.3192 • http://djhr.revistas.deusto.es/

most are designed from an adult-centric approach, as well as the lack of mechanisms to ensure transparency, accountability and responsibility (Atkins et al. 2021). There is also the challenge of ensuring that conversational assistants do not become a substitute for human interaction and experience. In particular, a long-term implication is that young people may seek mental health support from chatbots first, rather than from trained professionals (Kooli 2023).

In addition to these risks, there is also the digital gap when using several services through a chatbot. Although young people are becoming increasingly connected, there are still a considerable number of young people who do not have access to the internet or a mobile device. According to Eurostat (2024), in 2019 only 52.35% of young people aged 16-29 had access to the internet at home via a computer and almost 10% did not have access via their mobile. Therefore, the incorporation of a chatbot has to be a complement and not a replacement of a service, in order to ensure that all people can access services both online and offline.

Building on the points above, here are some recommendations to consider when developing and using AI chatbots to benefit young people. Policymakers should ensure sufficient regulations are in place regarding the use of AI chatbots, data protection, and ethical standards, especially concerning youth data, so that this information is not sold to the highest bidder or used to monitor users (Pawluczuk 2023). Additionally, as mentioned, training programmes for young people and youth workers focused on digital literacy and critical thinking would be valuable to promote the responsible use of these technologies (Digital Youth Work 2019). Youth organizations can play a crucial role by involving young people in chatbot development stages, aligning tools with their needs, and conducting research on the impact of AI across diverse youth contexts and age groups to highlight the varied needs of young users (Dosovitsky and Bunge 2023). Practitioners should regularly update chatbots based on feedback from youth organizations to ensure cultural sensitivity, inclusivity in language and content, and build trust by incorporating human oversight of chatbot processes. It is important to ensure that chatbots are designed from an inclusive and intersectoral approach to avoid discrimination and biased decision-making that excludes any profile of young people (Väänänen et al. 2020).

On the other hand, the present research also has some limitations. The first is the impossibility to generalise the findings obtained to the reality of the EU and youth services in this region, due to the small sample size of the current study. In particular, due to the impossibility

of interviewing one organization per member country and per type of youth service. The second, similar to the previous one, was not being able to count with young people during this study, in order to know in depth their perspectives, expectations and concerns about these issues. Therefore, it is recommended that future research overcome these limitations to continue generating evidence that will help the design of chatbots within youth services.

In conclusion, the current study shows that chatbots can be a positive tool within youth services, especially if they are co-designed with youth organizations and young people to minimize threats and maximize their effectiveness. However, it seems imperative to consider and address potential risks when developing AI chatbots, especially if they are to become effective tools for expanding coverage, improving productivity and increasing the effectiveness of youth services. In other words, it is crucial to ensure ongoing evaluation and monitoring of AI chatbots in youth services to ensure that they achieve their intended goals and do not cause unintended harm.

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