PASSAGENS
Revista do Programa de Pós-Graduação em Comunicação – UFC

ISSN 2179-9938

CHILEAN YOUTH´S PERSPECTIVES TOWARDS AI AND ROBOTS: AN EXPLORATORY STUDY

PERSPECTIVAS DOS JOVENS CHILENOS SOBRE IA E ROBÔS: UM ESTUDO EXPLORATÓRIO

LIONEL BROSSI
Universidad de Chile

ANA MARÍA CASTILLO HINOJOSA
Universidad Austral de Chile

TOSHIE TAKAHASHI
Waseda University, Tokyo

Resumo: Este estudo explora a visão dos jovens sobre Inteligência Artificial (IA) e robôs, por meio de pesquisas estruturadas com trinta participantes do Chile, com idades entre 12 e 23 anos de diferentes estratos de renda. Por meio de entrevistas on-line e off-line, uma série de questões foram exploradas, incluindo sua familiaridade com robôs ou serviços de IA e seus pensamentos sobre tópicos como o futuro do trabalho, meio ambiente, cuidado humano e bem-estar dos jovens, entre outros. As descobertas sugerem que os jovens entrevistados estão entusiasmados com a IA e seu impacto nas sociedades, desejando uma sociedade que valorize o conhecimento e o crescimento pessoal, com ênfase na consciência global. Além disso, eles mostram uma forte preocupação em como essas tecnologias podem afetar o meio ambiente e defendem a tecnologia centrada no ser humano moldando seu futuro. Ao refletir sobre as atitudes e percepções dos jovens em relação à IA e aos robôs, este estudo pode fornecer informações cruciais para pesquisadores, formuladores de políticas e designers de IA. Essas descobertas podem ajudar a desenvolver estratégias, políticas e programas relevantes para os jovens, gerando resultados mais benéficos e equitativos.

Palavras-chave: juventude; inteligência artificial; robôs; Chile.

Abstract: This study explores young people's views on Artificial Intelligence (AI) and robots, through structured surveys with thirty participants from Chile, aged between 12 and 23 from varied income strata. Through both online and offline interviews, a range of issues were explored including their familiarity with robots or AI services and their thoughts on topics such as the future of work, the environment, human caring, and youth wellbeing among others. The findings suggest that young respondents are enthusiastic about AI and its impact on societies, wishing for a society that values knowledge and personal growth, with an emphasis on global consciousness. Moreover, they show a strong concern for how these technologies may affect the environment and advocate for human-centered technology shaping their future. By reflecting on the attitudes and perceptions of young people towards AI and robots, this study can provide crucial insights for researchers, policymakers, and AI designers. These findings can help inform strategies, policies and programs that are relevant for young people resulting in more equitable and beneficial outcomes.

Keywords: youth; artificial intelligence; robots; Chile.

ISSN 2179-9938

1 INTRODUCTION

The development of artificial intelligence (AI) is transforming various aspects of life, including education, healthcare, entertainment, communication, and transportation (Agarwal et al., 2022; Aly, 2022, Gruetzemacher & Whittlestone 2022; Lin & Wu, 2022; Newman et al., 2022). As AI-based technologies and robotics continue to advance and impact people and society at large, it is critical to engage and include young people's perspectives in the design, development, and implementation processes of AI systems. Young people's participation in AI development is crucial as they are those who will be most impacted by these technologies in the near future. Additionally, their unique understanding of technology can contribute to more inclusive, innovative and efficient systems. Furthermore, including young people in the conversation around AI development and deployment is crucial, as this technology has the potential to exacerbate existing societal risks. Youth participation can help researchers, developers and policy makers to ensure that ethical considerations and social responsibility are integrated into these technologies from the outset, reducing the possibility of AI exacerbating different forms of exclusion (UNICEF, 2021; Hasse et al., 2019; Brossi et al. (eds.) 2019).

In accordance with the United Nations Convention on the Rights of the Child (CRC), which advocates for the right of children and adolescents to participate in decision-making processes, policies, and practices that impact their lives, UNICEF (2021) has made consultations with adolescents around the world, which include youth's perspectives on AI, their dynamics of experiences with AI, and their view of the challenges, risks and opportunities that AI based systems present or may present in their lives. Some of the findings or observations out of the conversations with youth included that decision-making about AI is adult-centric, most of the young people interviewed learned about AI in informal educational settings rather than in formal education environments; most of them had low awareness of the risks associated with AI, there were a mix of neutral and strongly critical views of AI; some participants of the consultation had basic views on AI but a few had more sophisticated and complex

ISSN 2179-9938

understandings of AI and many of the participants believe that parents have a crucial role to play in order to protect them and avoid potential risks.

Another report "A Future with AI: Voices of Global Youth" (Hogenhout and Takahashi, 2022), -from which the present study is based- included surveys and essays- with 254 youth from 36 countries, where they could also share their views on the future of artificial intelligence. In this case, the majority of youth have a positive perception of AI and robots, and have a certain amount of confidence in AI based systems, even though they do not understand how AI works. Most of them reported interacting with AI multiple times a day, and they think AI technology risks even though they could be serious, they could also be controlled. Youth were specially worried about unemployment and the military uses of AI.

Additionally to interviews, deep listening and participatory methodologies, recent studies have delved into methods of involving young people in learning about critical implications of artificial intelligence. Irgens et al. (2022, p. 127), observed that research has shown that hands-on activities such as modifying a robot's input, teaching it how to play a game, or training it to differentiate between objects are effective in helping young learners understand AI concepts. Secondary school students have demonstrated their ability to engage with ethical AI concepts and identify the societal impacts of biased algorithms. In this regard, the authors observe there is a need for more AI education, and the importance of including young people in decision-making tables in both the private and public sectors to ensure ethical and responsible AI development.

This study is based on the Chilean results of a survey that was conducted as part of the Project GenZAI (Gen Z and AI). Project GenZAI initially started to conduct cross-cultural research among the US, UK and Japan as a part of the Moonshot R&D program (funded by the JST) in 2021. However, in addition to these three countries, it has expanded its scope to include Chile, Singapore, China, Italy, and Spain since 2022. The goal of Project GenZAI is to contribute towards a vision of a future where human happiness takes central stage. The aim is to understand universalism and cultural

ISSN 2179-9938

specificities in terms of AI and robots such as perceptions, both opportunities and risks of AI and robots, the future with AI, which are essential to mutual understanding, solidarity and collaboration globally.

2 METHODOLOGY

This empirical study aimed to gather data on the perceptions of gen z participants from Chile regarding artificial intelligence (AI), robots and technological advances, as well as their vision of society and life in 2050. Participants were selected to ensure diversity in terms of age, gender, and background, and their responses were collected through a structured questionnaire.

The survey included a total of 30 interviewees, with a relatively equal distribution of 15 male and 14 female participants, as well as 1 non-binary individual. The participants' ages ranged between 12 and 17 years old, with all of them being of basic or secondary education level. The survey included participants from a range of income levels, including low, low-middle, middle, upper-middle, and non-specified. All of the participants resided in urban areas of Chile.

Data analysis was conducted using a thematic analysis approach, categorizing responses into themes and identifying patterns. Survey responses were transcribed and coded for common themes related to attitudes toward AI, concerns about automation, ethical considerations, future aspirations, desire for human-centered AI, and the importance of education and preparedness. The results were analyzed qualitatively to identify emerging patterns, trends, and key insights.

It's important to note that, as with any survey, there may be limitations, including potential bias in participant selection and self-reported responses. Efforts were made to minimize these limitations by ensuring diversity in participant selection and maintaining confidentiality and anonymity in data collection and analysis. The results of this survey provide valuable insights into young Chilean participants' perceptions of

ISSN 2179-9938

AI and technological advances and their visions for the future, which can inform future research and policy discussions in the field of AI ethics and development.

3 RESULTS AND ANALYSIS[1]

The following presents the results and analysis of the survey based on four main areas of inquiry:

Society and Your Life in 2050: This section explores participants' expectations and perceptions regarding the impact of technological advancements on society and daily life in the year 2050. Specifically, we examine the extent to which they anticipate changes in their work, relationships, and broader societal structures.

Perception and Attitudes towards AI and Robots: In this segment, we delve into the ways in which young people perceive and view AI and robots. We detail the associations and opinions they hold on the topics, as well as their level of knowledge on the matter, with an emphasis on their potential fears, hopes, and concerns.

AI and Robots for Social Good: This section examines the potential of AI and robots to benefit people and society, by addressing social issues and tackling challenges in areas such as healthcare, education, and environmental sustainability. Specifically, we investigate how participants envision these technologies being used in the service of social good.

Adaptation and Self-Creation: Finally, we focus on participants' visions and expectations surrounding three key areas: AI literacy, the future of work, and how to adapt to these technologies moving forward. The concept of “self-creation” (Takahashi, 2009) is derived from Thompson's (1995), Giddens' (1991) and Hall's (1992, 1996) respective concepts of self-formation, self-identity, and identification respectively. Takahashi’s terminology is intended to reflect the creative, original, and

[1] ChatGPT AI was employed to enhance the quality and accuracy of transcriptions and translations in this scientific article, without altering the content's meaning.

ISSN 2179-9938

individual nature of the process as she has witnessed throughout her fieldwork on youth and digital media over the last twenty years (Takahashi, 2008, 2009, 2010, 2011, 2014). Her notion of self-creation focuses on how people create and recreate themselves, even momentarily, through both mediated and non-mediated interaction. Here, we explore participants' hopes and concerns about the implications of these technologies for their personal and professional lives, and discuss potential strategies for developing the skills necessary to thrive in a rapidly-changing technological landscape.

3.1 Society and your life in 2050

The majority of the participants were very interested in how technology would evolve and affect society and their daily lives in 2050. Several respondents expressed a desire for an educated, self-aware society that values knowledge and personal development. Additionally, they expressed concern for the environment and a wish for future sustainable technology. One common theme among the responses was a desire for advancements in the field of environment and medicine. One participant mentioned, "I would love to see some concrete applications that improve the environment like electric cars and things like that." Another participant stated, "I imagined myself as a doctor and I would love for medicine and technology to be intertwined. I would like that very much and therefore I would be fulfilling one of my dreams in 2050." The idea of technological advancements in healthcare, especially in terms of accessibility and efficiency, was something that many participants seemed to be looking forward to.

Participants also expressed hope for a more inclusive, equal, and respectful society where people can be more tolerant and, again, take care of the environment. Another participant stated, "I would like people to have a vision or to be more intellectually advanced. In other words, that people could learn from all the things that had happened before, and be more, I don't know, considerate; people that take care of the environment and have a vision on the planet's challenges because there are people who are a little, I think, a little blind."

ISSN 2179-9938

The majority of participants also expressed a desire to work in a field that they are passionate about and that enables them to create a meaningful impact. In addition, they conveyed a strong desire for a better world and a better life for people in 2050. Specifically, they mentioned the importance of preserving the environment and the role of humans in a world where artificial intelligence is likely to play an increasingly prominent role.

3.2 Perception and Attitudes towards AI and Robots

When asked to associate the terms "AI" and "robots," most participants associated robots with physical machines, while AI was more commonly associated with "soft" concepts like algorithms, programming, and intelligence. Some participants also linked AI with virtual or non-physical entities, while others associated it with technology in general.

"When I heard the words 'Artificial Intelligence' and 'robots,' I thought of the technology I use on my phone and computer and physical robots, respectively." (14, female)

"I think of robots like in the movies as being square or metallic. I think they are similar." (13, female)

"Artificial Intelligence... I think of a smart house that does everything. And by robot, I think of an automatic vacuum cleaner that does that. I think it's the same thing." (13, male)

The majority of participants reported having limited knowledge about AI and robots, with some citing exposure to the topic through movies, television shows, or news articles. A few participants reported having more knowledge, either through personal interest or involvement as a student in related fields.

ISSN 2179-9938

"I remember a robot named Sophia from a long time ago." (17, male)

"I think, yes they are different because robots come to mind as if they were a human made of metal that can do things. AI I see it more as not necessarily having to be something physical or material." (17, male)

"I know almost nothing. I remember the movie The Mitchells vs. the Machines." (13, male)

Participants held diverse perspectives regarding the topic of AI and robots. While some expressed confidence in the intelligence of robots and their potential to generate benefits, others voiced apprehension regarding the implications of increased automation and the possibility of job displacement. Furthermore, certain participants exhibited a preference for robots to possess specific shapes or appearances, such as geometric forms or animal-like designs.

"I think [AI and robots] are a good thing. They can bring many benefits to society." (14, female)

"I would not like that theory that robots are going to control the world. The future will be with less pollution and more positive technological advances." (13, female)

"I think it's better if it has the shape like a ball, as compact as possible." (14, male)

In general, the majority of participants had limited knowledge about AI and robots, and their associations and opinions on the topic were varied. Some participants expressed trust in the intelligence of robots and the potential benefits they could bring, while others expressed concerns about the implications of increased automation and potential job loss.

ISSN 2179-9938

3.3 AI and Robots for Social Good

This section of the interview aimed to explore participants' perspectives on the potential applications of AI and robots for societal benefit. Respondents recognized the usefulness of these technologies in tasks such as domestic chores, elderly care, and even education. Nevertheless, they underscored the importance of acknowledging the limitations of these technologies and not solely relying on them to replace human care and interaction.

To illustrate, participants acknowledged that while robots may be capable of aiding in cooking for elderly individuals, they should not be employed as a substitute for human care for children or disabled people. Likewise, they observed that although robots may possess the ability to contain vast amounts of information about a subject, they may lack the subtle strategies and acumen to comprehend complex ideas in the manner that a human teacher does.

In the medical field, participants stressed the importance of noting that AI can help but not replace human doctors, as they observe more than just the physical aspects of a patient. Additionally, in retail and other commerce services, robots could be helpful in specific tasks but should always favor human interaction. Furthermore, they suggested that autonomous car companies should be held accountable for their AI technologies, since those cars may have errors or failures. Another example expressed by participants for a positive use of AI in a city or in their communities, are drones and robot delivery services, which could be helpful in reaching difficult locations and useful to improve accessibility.

Respondents held the belief that AI and robots could prove useful in household and familial settings, particularly for tasks pertaining to cleaning and transportation, though with certain caveats. While they acknowledged that robots could assist in minor duties such as cooking for the elderly, they persisted in the idea that these

ISSN 2179-9938

machines should not be deployed as substitutes for human care. Additionally, participants expressed that AI technologies, such as Amazon's Alexa, could be beneficial in nursing homes. Nevertheless, they stressed that human contact and care remain irreplaceable. Participants emphasized that robots can effectively perform simple tasks that do not necessitate human interaction or the ability to react to unpredictable situations, but preserving human care is of paramount importance for them.

Participants believed that robots lack empathy and as such, they would not be able to provide help with complex tasks like taking care of children. They explained that children's needs are too complex to be fulfilled by an intelligent robot, and a robot would lack the ability to understand and respond to the emotional needs of children.

The participants recognized the potential benefits of AI and robots in specific tasks. Still, they also highlighted the importance of considering the limitations of these technologies and preserving human care and interaction. They acknowledged that while robots can perform certain tasks, they lack the empathy, emotional support, and decision-making abilities of humans. Therefore, it is crucial to balance the use of these technologies with human care and human interaction to ensure social good.

3.3.1 Teaching and learning

The participants held varied opinions regarding the use of AI and robots in education. While some individuals envisioned the prospect of robots serving as classroom teachers, observing that these machines could eliminate any biases that human teachers may have concerning a given subject matter, others found no advantage or utility in employing robots as educators.

“I can't think of anything where a robot or an AI would be particularly useful. I don't think it's a good idea for a machine to be the one teaching. I find that it has to be a person's job.” (23, male)

ISSN 2179-9938

“A robot would know everything there is to know about a subject and it wouldn’t even have to think, it would just answer, so I think it would be better (...) It would be better (at grading) because teachers make mistakes and I think a robot could know everything and it’s super cool.” (13, female)

On a positive note, participants highlighted that robots could potentially offer an extensive repository of information on a given subject, thereby serving as a valuable source of knowledge for students. According to respondents, robots possess the capacity to assimilate all relevant information without any need for deliberation, which would enable them to provide more efficient and accurate instruction compared to human teachers.

"I imagine that maybe there won't be the same subjects as we have now. Maybe they will be synthesized so that the burden on students is not so much that they can also have more free time, so they can spend more time with their families, so they can have time to play, develop other skills that don't necessarily have to be academic." (12, male)

Regarding grading, participants posited that robots could prove more accurate and efficient than human teachers, as they could provide a standardized criterion and reduce grading time. Respondents suggested that since human teachers may commit errors, a robot would be more reliable in delivering accurate grades.

However, participants also acknowledged various limitations of robots as educators. They highlighted that robots lack the nuanced strategies and emotional intelligence required to engage with and comprehend the needs of students. Respondents highlighted that robots currently lack the capacity to navigate diverse situations and grasp complex concepts. Additionally, some participants pointed out that the absence of emotions in robots presents a critical obstacle when teaching and interacting with children and individuals, as expressed earlier.

ISSN 2179-9938

Participants also manifested concerns about the use of AI and robots to assess students for university admission, positing that such processes should be executed by humans, who consider a wide range of factors beyond academic performance. Respondents emphasized that selection processes must account for an individual's emotional and non-cognitive attributes, which robots lack. They asserted that a human-centered approach to university admission would provide a more comprehensive evaluation of an applicant's capabilities and potential.

In general, participants expressed support for the integration of AI and robots as educational assistants, but not as substitutes for human teachers. Respondents believed that robots could provide value in tasks such as grading, providing information, and evaluating tests, but emphasized that human teachers were essential for activities that required emotional intelligence and interpersonal interaction with students. Participants suggested that a robot could serve as a helpful resource for students when reviewing for exams, but could not fully replace the human teaching style. Furthermore, while a robot may assist with teaching activities, it could not entirely replace a human teacher's ability to impart knowledge and engage with students.

3.3.2 Healthcare

As previously mentioned, participants highlighted medicine and healthcare as one of the areas where robots and AI could be most impactful, alongside the environment. Participants explained that these technologies could assist with tasks such as diagnostics, monitoring patients, and performing precision tasks. They believed that AI could also be beneficial in identifying and diagnosing diseases by processing and managing large amounts of data. Furthermore, they saw potential for robots to perform complex surgeries, which could benefit people in remote areas or with limited resources.

ISSN 2179-9938

"I believe that AI and robots are already being implemented to some extent. For instance, they could potentially serve as support in surgical procedures rather than replacing the surgeon or nurse entirely." (21, female)

Nevertheless, similar to the field of education, the participants recognized that robots and AI cannot serve as complete replacements for humans in the healthcare domain. They observed that human touch and empathy play a critical role in establishing trust between patients and healthcare providers. Thus, robots should only be limited to diagnostic tasks and should not be deployed for duties that require human emotions and sensitivities.

Participants acknowledged that robots could be useful assistants in hospitals for tasks such as moving patients from one place to another or with other minor tasks. However, they emphasized that robots should always be supervised by human medical professionals when assisting people with disabilities or the elderly.

In addition, the participants prioritized the development of intelligent technologies for security and healthcare applications. They suggested that robots could be utilized for surveillance and monitoring, thereby enhancing individuals' safety and potentially even saving lives. However, the potential implications of surveillance technologies on human rights were not thoroughly discussed.

3.3.3 Nursing homes

The participants expressed a positive outlook regarding some potential uses of robots and AI in elderly care. They view robots as valuable assets in assisting with practical and operational tasks, such as eating, dressing, bathing, and cleaning, which would allow human caregivers to focus on more pressing and sensitive tasks. Furthermore, they see potential for robots to help with mental exercises, which could help maintain the cognitive abilities of the elderly and keep them engaged. This would be particularly

ISSN 2179-9938

advantageous in situations where the elderly have limited mobility or are unable to participate in social activities outside of nursing homes.

"I believe that robots could be very useful in providing entertainment and assistance to the elderly, especially in practical tasks such as eating, dressing, and bathing. However, I am concerned that relying too heavily on robots for companionship and conversation could actually disengage the elderly from valuable human relationships." (14, female)

The participants voiced a preference for human interaction in certain domains, particularly in the areas of care and conversation. They observed that robots may not have the same capacity to connect with or fully comprehend the needs of elderly individuals. Robots may, for instance, be unable to detect subtle cues or changes in mood or behavior. Furthermore, there is concern that robots may alienate the elderly from human relationships, leading to feelings of isolation and loneliness.

Regarding specialized robots, the participants posit that robots specifically designed to care for the elderly may be advantageous. These specialized robots would likely be more effective and tailored to the needs of the elderly, as they would be programmed to recognize and address the specific concerns and requirements of this population. Moreover, specialized robots may prove more cost-effective in the long term, as they would be engineered to execute specific tasks and would not require the same level of training as a human caregiver.

Finally, as in all the above, the participants emphasize that robots and AI should not replace human workers and should only be used as a support. They suggest that a human should always be supervising any robot performing a task traditionally done by humans, especially in sensitive areas such as surgery or taking blood samples. Participants believed that this would ensure, for example, that the elderly are receiving the best possible care and that any issues or concerns can be addressed immediately. Additionally, having a human supervisor would ensure that the elderly are receiving the emotional support and companionship they need.

ISSN 2179-9938

In conclusion, the participants view robots and AI as a potential aid in assisting with practical and operational tasks in nursing homes, but believe that human interaction and care should still be prioritized, particularly in areas such as conversation and care for the elderly. They also suggest that specialized robots could be created for these purposes.

3.3.4 Robots and the future of work

Participants highlighted the intricate nature of the use of AI and robots in the retail and service industry, acknowledging diverse perspectives and potential consequences. On one hand, intelligent technologies have the capacity to improve efficiency and precision in various areas, including product information retrieval, ordering, and customer service. For instance, participants observed that a robotic store clerk could be equipped with comprehensive knowledge about each product in the store, simplifying the process of locating items and addressing customer inquiries. Furthermore, they stated that the deployment of robots as servers in restaurants might boost the speed and effectiveness of service.

However, there were also concerns about the potential for robots to take away jobs from humans. The retail and service industries employed a large number of people, and the use of robots could have led to job losses for many workers. Additionally, there were certain aspects of customer service, such as understanding customer preferences and providing personalized recommendations, which may have been difficult for robots to replicate, participants said. This was why some people expressed that human interaction was still important and that robots should have been seen as an assistant instead of a replacement.

“Robots could replace human jobs and make it difficult for people to find employment" (14, female)

ISSN 2179-9938

Another aspect of concern for participants was about the reliability of AI and robots. They explained that while robots and AI could have been programmed to perform specific tasks, they could also make mistakes, and it is important for humans to be able to step in and intervene if necessary. Respondents considered this very important in situations where there could be a risk of harm to customers or employees.

Furthermore, the use of AI and robots in the retail and service industry raised concerns about privacy and security. As customers shared personal information with these systems, participants pointed out it was important to ensure that customers' data was protected and not used for negligent purposes. Additionally, they observed that robots and AI systems could be vulnerable to hacking and other forms of cyberattacks, which could compromise customer data and cause other problems.

In relation to employment opportunities, participants acknowledged the potential of robots and AI in creating new job positions for individuals. Specifically, the development, maintenance, and repair of AI systems were noted to require skilled workers, thus suggesting a need for expertise in areas such as computer science, engineering, and data analysis. With advancements in robotics and AI systems in general, respondents conceived that demand for skilled individuals would increase in the future.

Participants said it was important to consider the potential impact of the advancements in robotics and AI systems on jobs, the need for human oversight to ensure reliability, privacy and security concerns and the potential of creating new jobs. They noted the need for a balance between utilizing the benefits of technology while also preserving the value of human interaction and preserving jobs.

ISSN 2179-9938

3.3.5 City and community

Participants had a well-rounded view on the potential uses of AI technologies and the impact they could have on society. They saw the potential for these technologies to improve safety, efficiency, and the environment.

For example, they believed that autonomous cars could have driven better than humans, for example with a driver under the influence of alcohol, they also saw AI as having the potential for environmental benefits, such as cleaning up garbage and recycling materials.

“There should be robots that could be used for the most risky things, for example, if there was a fire, it would be better to send the robot than a human who could die” (14, male)

The participants mentioned that they believed that AI could have been beneficial for the environment, health, and human protection. However, they also expressed concern about the potential negative impact of AI technologies on society. Participants also mentioned that they believed that in certain high-risk situations, such as firefighting, it would be safer to use robots instead of humans risking injury or death.

In terms of community and city, the participants saw the potential for fully autonomous cars and delivery drones to be useful but emphasized the importance of clear responsibility for accidents. They also suggested that robots and technologies should be used responsibly and never replace human interactions and jobs.

Overall, participants seemed to have had a balanced view on the potential benefits of AI and robots for cities and communities, but also were aware of the potential downsides, advocating for responsible use and clear accountability. They seemed to understand that the implementation of AI technology needs to be done with a long-

ISSN 2179-9938

term vision and considering the impact on society as a whole. They also were aware of some ethical and societal implications of AI and the importance of regulations and responsible use to minimize the negative impact of these technologies.

3.3.6 Other developments

The participants expressed support for the use of intelligent technologies to improve people's lives, specifically mentioning the potential for brain implants to help with mental illnesses such as Alzheimer's and senile dementia, as well as communication assistants for the deaf and blind. They believe that these technologies could help alleviate disabilities and improve the quality of life for those affected. They also express a strong support and interest for using technology to help with environmental issues, such as creating machines or inventions that could potentially end droughts and clean the atmosphere.

"An [implant to increase intelligence] seems very interesting to me, because I feel like they would be getting into your brain. For example, math is not my strong suit, and if this had been implemented when I was in school, I think it would have saved me a lot of fights with my mom during study time, maybe I would have done better in school, and had better grades." (12, male)

However, some participants expressed concerns about the possible negative effects of using technology to alter people's "inner structures." They were worried that this could interfere with human development and may not have a positive outcome. They also raised concerns about the potential misuse of such technologies for fraudulent purposes and exploiting others.

Another topic discussed was the idea of using robots as parents. Some participants thought that it could be useful for single parents or parents who need extra help, but they also talked about how it's important to find a balance between relying on technology and spending time with people. They said that it's important for kids to get

ISSN 2179-9938

used to robots and learn how to treat them with kindness, but also to spend time with their real parents because “that's part of being human”.

The majority of participants expressed a favorable view towards AI chatbots, finding them entertaining. However, some participants noted that the algorithms that support these chatbots can sometimes learn inappropriate responses, leading to rude or ill-suited interactions.

Respondents remarked that it is acceptable for robots to operate beyond standard working hours, even if their functions are limited to answering a few inquiries before informing the user of their unavailability. When asking about AI home technologies, participants held a positive view towards cleaning robots, deeming them an excellent technological innovation.

"I envision a future where all human-operated jobs are automated and performed by robots or AI. Personally, I would appreciate having an operating system installed in my home that could, for instance, open my curtains or doors in inaccessible areas. In the case of having a parking lot, a robotic gate opener would be particularly convenient. My desire for such advanced technology stems from my belief that it can make my life more comfortable and save me time. Even if a device may not necessarily serve a functional purpose for me, I would still consider acquiring it if it can improve my daily life in some meaningful way." (12, male)

In summary, the participants seem to have a positive view on the use of intelligent technologies to improve people's lives, but also express some concerns about the potential negative effects of these technologies. Once again, they highlighted the importance of maintaining a balance between the use of technology and human interactions and supervision.

ISSN 2179-9938

4 ADAPTATION AND SELF-CREATION

In this section, participants explained their visions and expectations about three main topics Literacy, Future of Work and Adaptation and Self Creation:

I. AI Literacy

Participants expressed a strong interest in understanding the inner workings of AI and its potential impact on society, specifically in the field of education. They suggested that the incorporation of intelligent robots in education would bring significant changes to the current school system that could improve the education system in the future.

“In my school in particular, I think it was taught. There was a robotics workshop that was very popular -and there was also a programming elective, so I think it was very important for students who were interested and who could, I don't know, see that their area did exist and that things could be done within that area.” (16, female)

“The AI thing I would kind of like to develop or have something focused on my career, that would help me select or discover drugs. But by myself, as a user level, I saw it difficult to implement it by myself alone. Maybe if I gave that idea to a development team, something could be done” (23, male)

They expressed a desire for a less stressful and easier to understand education system in 2050, and they believed robots could play a role in improving the education system in the future. They also expressed a desire to learn about programming robots and how they would contribute to society and thought it would be important to familiarize oneself with robots in order to adapt to life with them, as they believed that robots would be more present in our daily life in the future. Participants also pointed out that the school system would remain mostly the same but with more technology.

ISSN 2179-9938

However, some participants expressed skepticism about incorporating robots into the classroom and preferred to use them in other areas of life. They were also concerned about not having much knowledge on the ethical implications of AI and robots, but they had the idea that robots should not be used to harm people or be used in a negative way. In this sense, they manifested a desire to learn more about the ethical considerations of using AI and robots in society, and the responsibilities that came with creating and using these technologies.

In general, the participants had a positive attitude towards the potential benefits of AI and robots in society, specifically in education. They saw the potential for robots to bring benefits in the future and voiced a wish for a proper education on the topic to understand the implications and responsible use of these technologies and manifested certain doubts about some aspects of using AI and robots and the importance of understanding the ethical considerations of using these technologies.

II. Future of Work

The survey participants observed that individuals must persist in equipping themselves with diverse occupational skills to avoid over-reliance on automated technologies and to acclimate to the implications that may arise from the integration of AI systems and robots. While acknowledging the superior efficiency of robots in activities such as task execution, respondents also acknowledged the potential hurdles associated with their deployment in the labor market. They proposed a collaborative approach to task assignment between human beings and AI systems and robots, with the latter being primarily responsible for repetitive, dangerous, and “boring tasks”, so humans could focus on more challenging and creative work, improving the quality of work.

"I think some jobs would be created while others would be replaced." (13, female)

ISSN 2179-9938

"The most important tasks should be done by people who had already studied more about the subject, and maybe a robot did not have the ability to do something like that. So, if the robot made a mistake, it would not be so serious." (16, female)

The respondents noted that work played a significant role in both personal fulfillment and societal importance. However, they also expressed apprehension regarding the management of critical and potentially life-threatening situations. In line with previous sections, the participants believed that robots ought to assist rather than replace human workers. They suggested that individuals should pursue employment opportunities and professions that capitalize on innovation, creativity, and critical thinking, which cannot be replicated by robots. Moreover, some participants posited that AI has the potential to generate new jobs and that sharing tasks between humans and robots could facilitate mutual learning and information exchange, thereby promoting optimal resource utilization. They expressed that striking a balance between the use of robots and human labor was important and people should have continued to prepare themselves for different jobs and professions to adapt to changes.

Overall, they expressed concern about the impact of robots on the labor market and the potential for robots to take away jobs from humans, which could lead to financial instability for families and society in general. They also expressed concerns about the possibility of society becoming overly dependent on robots and the potential for robots to replace human labor and make life meaningless. Finally, they suggested that people would have to look for things that robots could not do and that humans were still needed.

ISSN 2179-9938

III. Adaptation & Self Creation

Participants were concerned with the idea that, on one side, robots and AI could be very helpful for individuals and society, but on the other hand, they could also be a threat if not well controlled, suggesting the need for better management and regulation of these technologies.

Some participants expressed excitement and interest in the emergence of AI technologies, while others were more indifferent or cautious. Some participants manifested a great interest in learning, and they found robotics and intelligent technologies very compelling. They see the evolution of these technologies as a way to improve human life, and they were really excited about the topic. Others were more reluctant, considering themselves optimistic but cautious, in the sense that they saw the potential for AI in society but also recognized the need for careful management and control to avoid negative consequences.

Overall, the participants saw the potential and dangers of intelligent technologies. They expressed the idea that humans and robots should share the challenges to come, especially regarding the environment and the future of work, and that economic and social systems should change to adapt to the changes that robots and AI would bring. They highlighted the need to use these technologies in a responsible way, to ensure they would be beneficial to society.

5 FINAL CONSIDERATIONS

The results of the survey conducted among Chilean youth provide valuable insights into their attitudes towards AI and robotics, which are crucial for the future of technological development and application. This report presents the findings of the study involving 30 young participants, which shed light on their perceptions of AI and technological advancements, particularly in the field of robotics.

ISSN 2179-9938

The report indicates that while the participants are enthusiastic about the possibilities of robotics and AI, they are also aware of the dangers and difficulties associated with these technologies. The participants expressed a desire for increased education and literacy in AI and robotics, and recognized ethical considerations related to their development, such as bias and discrimination. Furthermore, they acknowledged the potential drawbacks associated with overreliance on technology, including decreased social interaction or empathy among individuals. They envisioned a future society that values knowledge and personal growth, is environmentally sustainable, inclusive and equal, where people can be more tolerant and take care of the environment. However, they also recognized challenges such as jobs may be replaced by AI and robots, the need for learning technological skills, the potentialities of these technologies for promoting the loss of social bonds and human interactions, the challenges for education, the need for a balance between innovation, ethics and regulation, among others.

This study has limitations, such as a small sample size and cultural specificity. Another limitation of this study is that although it is based on adolescents and young people, the differences in age range within the sample could be considered in future research. This is because youth is not a homogenous sector of the population, and differences in age, gender, socio-cultural and economic context, geographic location, among others, should be addressed. However, the study provides important considerations for researchers, developers and policymakers regarding what youth have to say about responsible development and use of these technologies and their views for the future.

Future research should aim to address the aforementioned limitations by conducting large-scale studies across different regions and age groups, considering intersectional aspects of the social group studied, while also providing concrete recommendations for addressing ethical considerations related to AI and robots development.

ISSN 2179-9938

Overall, this report contributes to our understanding of young people's attitudes towards AI and robotics in Chile, while highlighting important considerations regarding the responsible and ethical development of these technologies.

REFERENCES

AGARWAL, P., SWAMI, S. and MALHOTRA, S.K., **"Artificial Intelligence Adoption in the Post COVID-19 New-Normal and Role of Smart Technologies in Transforming Business: a Review"**, Journal of Science and Technology Policy Management, Vol. (ahead-of-print) No. (ahead-of-print). 2022. DOI: https://doi.org/10.1108/JSTPM-08-2021-0122.

ALY, H. **"Digital transformation, development and productivity in developing countries: is artificial intelligence a curse or a blessing?",** Review of Economics and Political Science, Vol. 7 No. 4, pp. 238-256., 2022. https://doi.org/10.1108/REPS-11-2019-0145

BROSSI, L., DODDS, T., & PASSERON, E. (Eds.). (2019). **Inteligencia Artificial y bienestar de las juventudes en América Latina.** Santiago: LOM.

GIDDENS, A. **Modernity and self-identity: Self and society in the late modern age**. Cambridge: Polity Press, 1991.

GRUETZEMACHER, R. and WHITTLESTONE, J. **The transformative potential of artificial intelligence**. Futures, Volume 135, 2022, 102884, ISSN 0016-3287. https://doi.org/10.1016/j.futures.2021.102884.

HALL, S. **The question of cultural identity**. In S. Hall, D. Held and A. McGrew (Eds.), Modernity and its futures (pp.274-316). Cambridge: Polity Press, 1992.

HALL, S. **Introduction: Who needs identity?** In S. Hall and P. du Gay (Eds.), Questions of cultural Identity (pp.15-30). London: Sage, 1996.

HASSE, A., CORTESI, S., LOMBANA-BERMUDEZ, A., & GASSER, U. **Youth and artificial intelligence: Where we stand**. Berkman Klein Center Research Publication, (2019-3).

HOGENHOUTH, l. & TAKAHASHI, T. **A Future with AI: Voices of Global Youth-Final Report**-, Unite Research, NY : United Nations. (Republished in the United Nations' Technology Policy series), 2022. Retrieved from: https://unite.un.org/news/future-ai-voices-global-youth-report-launched Accessed on: 27th Jun. 2023.

IRGENS, G. A., ADISA, I., BAILEY, C., & QUESADA, H. V. **Designing with and for Youth**. Educational Technology & Society, 25(4), 126-141., 2022.

ISSN 2179-9938

LIN, B. and WU, S. **Digital Transformation in Personalized Medicine with Artificial Intelligence and the Internet of Medical Things.OMICS**: A Journal of Integrative Biology. 77-81, 2022. DOI: http://doi.org/10.1089/omi.2021.0037.

NEWMAN, J., MINTROM, M., O'NEILL, D. **Digital technologies, artificial intelligence, and bureaucratic transformation**. Futures, Volume 136. ISSN 0016-3287, 2022. https://doi.org/10.1016/j.futures.2021.102886

PROJECT GenZAI (Director Toshie Takahashi). Retrieved from: https://gen-zai.org/en/. Accessed on: 27th Jun. 2023.

TAKAHASHI, T., "**Japanese Young People, Media and Everyday Life: Towards the Internationalizing Media Studies,"** In K. Drotner and S. Livingstone (eds), "International Handbook of Children, Media and Culture," Sage, 2008.

TAKAHASHI, T., **"Audience Studies: A Japanese Perspective,"** Routledge, 2009.

TAKAHASHI, T., **"MySpace or Mixi? Japanese Engagement with SNS (Social Networking Sites) in the Global Age,"** New Media and Society, Vol. 12, No. 3, 2010, pp.453-475.

TAKAHASHI T., "**Japanese Youth and Mobile Media,"** In Thomas, M (ed.), "Deconstructing Digital Natives," Routledge, 2011.

TAKAHASHI, T., **"Youth, Social Media and Connectivity in Japan,"** In Seargeant, P. and C. Tagg (eds), "The Language of Social Media: Community and Identity on the Internet," Palgrave, 2014.

THOMPSON, J.B. **The media and modernity**. Cambridge: Polity Press, 1995.

UNICEF. **Adolescent perspectives on artificial intelligence: A report on consultations with adolescents across the world**. Retrieved from: https://www.unicef.org/globalinsight/stories/adolescent-perspectives-artificial-intelligence Accessed on: 27th Jun. 2023.

ISSN 2179-9938

SOBRE OS AUTORES / ABOUT THE AUTHORS

Lionel Brossi
Director del Núcleo Inteligencia Artificial y Sociedad y Profesor Asociado de la Facultad de Comunicación e Imagen de la Universidad de Chile. Sus líneas de investigación abordan la intersección entre tecnologías y juventudes, y trabaja en los ámbitos de educación, inteligencia artificial para la inclusión social, habilidades digitales, calidad de la información, entre otros. Es investigador adjunto del Núcleo Milenio para mejorar la salud mental de jóvenes y adolescentes, IMHAY, y es Faculty Associate del Berkman Klein Center for Internet and Society de la Universidad de Harvard, donde colabora con el proyecto Youth and Media. Fue miembro de la Misión de Expertos en IA para Colombia y ha participado como consultor en diversos comités de organismos internacionales como UNESCO, UNICEF, ITU, AI4D, entre otros.
ResearchGate: https://www.researchgate.net/profile/Lionel-Brossi-2
E-mail: lionel.brossi@uchile.cl

Ana María Castillo Hinojosa
Periodista, Licenciada en Comunicación Social, Magíster en Comunicación de la Universidad Austral de Chile, Doctora en Comunicación y Periodismo de la Universidad Autónoma de Barcelona. Sus áreas de investigación incluyen las Prácticas con Tecnologías y Medios, Ética y Gobernanza de la Inteligencia Artificial, Economía Digital y Futuro del Trabajo, Comunicación y Educación. Co-dirige el Núcleo de Inteligencia Artificial, Sociedad, Información y Comunicación.
ResearchGate: https://www.researchgate.net/profile/Ana-Castillo-Hinojosa
E-mail: castillohinojosa@gmail.com

Toshie Takahashi
Professor in the School of Culture, Media and Society as well as the Institute for AI and Robotics, Waseda University, Tokyo. She has been appointed as a Faculty Associate of the Berkman Klein Center for Internet & Society at Harvard University as well as an Associate Fellow of the Leverhulme Centre for the Future of Intelligence, the University of Cambridge.
LinkedIn: https://jp.linkedin.com/in/toshietakahashi
E-mail: toshie.takahashi@waseda.jp

COMO CITAR ESTE ARTIGO / HOW TO CITE THIS ARTICLE

BROSSI, Lionel; CASTILLO HINOJOSA, Ana María; TAKAHASHI, Toshie. Chilean youth´s perspectives towards ai and robots: an exploratory study. **Passagens**: Revista do Programa de Pós-Graduação em Comunicação da Universidade Federal do Ceará, Fortaleza, v. 14, n. esp., p. 83-109, dez. 2023.
DOI: 10.36517/psg.v14iespecial.88782.

RECEBIDO EM: 14/05/2023
ACEITO EM: 14/12/2023
PUBLICADO EM: 28/12/2023