ATIog Ethical Codex

When designing therapeutic activities with children with communication disorders that involve Artificial Intelligence (AI) together with robots, we must comply with the ethical rules and principles inherent in the professional responsibility of health professionals. When applying the ethical principles of speech therapy, it is crucial to be extremely careful and consider how children are affected by communication barriers. According to ESLA's Code of Ethical Practice [1] when speech and language therapists are involved in less known or new therapeutic techniques or methods it requires to follow specific protocol. First, before implementing these techniques or methods, the professionals must obtain informed consent from the parents/ caregivers of the child. The consent process should include a detailed explanation of the potential risks and benefits associated with the use of these techniques or methods. If the required skills and competencies for these techniques are not included in their initial education and training, speech and language therapists should complete specific, additional training to ensure they can safely and effectively apply these methods. It is essential to establish appropriate collaborations and consult with other professionals, as needed, to ensure that risks are minimized and patient well-being is protected. This may entail working alongside physicians, psychologists or other specialists. The speech and language therapists collaborate with AI developers, engineers and programmers in this Project. We conducted a comprehensive review of the Risk AI systems outlined in detail within the First European AI Act [2]. We examined the ethical challenges and legal aspects concerning the use of Artificial Intelligence (AI) in Socially Assistive Robots (SARs) for Speech and Language Therapy (SLT). First European AI Act, include concerns regarding safety, privacy and social equity, while from a legal standpoint, the Act involves the classification of AI systems based on risk levels, prohibits certain AI applications that risk citizens' rights, such as biometric categorization systems and facial recognition databases, except in specific law enforcement situations. In alignment with these regulations, we don't apply any recognition technologies in our therapy practices. The AI Act classifies AI and handles unacceptable risk as prohibited in case of social scoring systems and manipulative AI, as well as limited risk AI systems for Conversational AI – obligations for developers and deployers that they must ensure that end-users are aware that they are interacting with AI (chatbots). Concerning the High-Risk AI Systems referred to the third use case in Annex III "Education and vocational training: AI systems determining access, admission or assignment to educational and vocational training institutions at all levels. Evaluating learning outcomes, including those used to steer the student's learning process. Assessing the appropriate level of education for an individual. Monitoring and detecting prohibited student behavior during tests" our SARs doesn't assess personal data and record learning outcomes anonymously. We didn't apply social scoring (a prohibited AI system), i.e., evaluating or classifying individuals or groups based on social behavior or personal traits, causing detrimental or unfavorable treatment of those people. We didn't apply inferring emotions in workplaces or educational institutions (also prohibited AI systems), although it is allowed for medical or safety reasons.

As a whole, if the SARs are programed to use Conversational AI or emotional assessment, this is considered as low level of risk. Despite this, we design Ethical CODEX, where we refer that the SARs equipped with AI are always mediators (or moderators) in the triple:

professional-SAR-child, where the professional has full control of the session and has the right to stop the session at any time. As a project result, a Codex to be followed by the developers that integrate Conversational AI in robots for children was created (Codex I), as well as a Codex for speech and language pathologists involved in therapy augmented with Conversational AI applied in interventions for children with communication disorders (Codex II).

[1] European Speech and Language Therapy Association. Code of Ethical Practice. 2021. Retrieved May, 2024 from https://eslaeurope.eu/wp-content/uploads/2021/10/ESLA-Code-of-Ethical-Practice-1.pdf

[2] European AI Act. 2024. Retrieved May, 2024 from https://artificialintelligenceact.eu/the-act/.

Codex I for developers of software products with elements of AI

As an AI developer, it is crucial to consider ethical considerations when creating ConvAI for children. The following codex outlines these considerations:

- Privacy: Protect the privacy and personal data of children by using secure data storage and only collecting necessary information.
- Safety: Ensure that the content and interactions are safe and appropriate for children, and take measures to prevent harm.
- Transparency: Make sure that the AI system's decision-making process is transparent and understandable to children, and that they can easily access and understand any data collected about them.
- Fairness: Ensure that the AI system does not discriminate against any group or individual, and use unbiased data sets and algorithms.
- Bias: Identify and mitigate any potential biases that may exist in the AI system, and regularly review and update the system to ensure fairness.
- Empowerment: Empower children to make informed decisions and give them control over their interactions with the AI system, such as allowing them to choose what data is collected about them.
- Trust: Establish trust between the child and the AI system through transparency, reliability, and consistency, and ensure that the system is designed to act in the best interest of the child.
- Responsibility: Ensure that the designers, developers, and operators of the AI system take responsibility for its actions and their impact on children, and regularly assess and improve the system's ethical practices.

Codex II for speech and language pathologists involved in therapy augmented with ConvAI applied in interventions for children with communication disorders

Ethical principles and the specific concerns of speech and language therapy practice when using AI are as follow:

- Privacy: Respect the autonomy and dignity of children with communication disorders and protect their personal data and maintaining the confidentiality

- Safety: Obtain informed consent from the parents of the child in order to ensure interaction and content are safe and suitable for children and take steps to avoid doing anything which will do harm to them.

- Transparency: Make sure that explaining the results of the assessment and decision-making concerning therapy and intervention with AI system is transparent and understandable to children and their parents/ caregivers.

- Fairness: Ensure that the speech and language therapists maintain good records which are accurate, objective and comprehensive and they provide reasoned and honest professional opinions and advice for the AI system application in the speech and language therapy interventions respecting the social, cultural and moral norms of the children and their family.

- Bias: Work within the limits of child's own knowledge and skills and effectively manages therapeutic tasks with the AI system, and regularly review and update them.

- Empowerment: Obtain informed consent from the parents/ caregivers of the child, allow children to make informed decisions and give them the ability to control their interactions and communicate effectively with an AI system.