Cyberpsychology is a branch of psychology that focuses on studying how digital technologies and media influence psychological processes. This discipline analyzes important topics such as internet addiction, cyberbullying, digital identity, and online privacy, among others. Cyberpsychologists can work in research, clinical intervention, and education, helping people develop skills for responsible technology use.

Below, we present our interview with Julie Ancis, Distinguished Professor at the Department of Informatics and Founding Director of the Cyberpsychology Laboratory at the New Jersey Institute of Technology. The author of Gender, Psychology, and Justice offers different points of analysis on Cyberpsychology and its fields of action.

- You direct the Cyberpsychology Laboratory at the New Jersey Institute of Technology. What research are you conducting in the academic field?

My research focuses on the intersection between technology and human behavior. I lead the Cyberpsychology Laboratory and the online messaging platform at the New Jersey Institute of Technology. This interdisciplinary laboratory employs psychology, computer science, cognitive science, data science, and communication to study real-world phenomena. We are currently conducting several research studies; I can highlight studies on understanding the content and spread of hate speech online, with analysis of the approaches used by social influencers to combat it. Another line of research includes understanding how prevention methods for health are communicated online to culturally diverse populations, such as during the COVID-19 pandemic."

- One of their research works is highlighted by the title "The age of cyberpsychology: An overview." Could you summarize the research areas and main conclusions?

We have entered a new era in the field of Psychology. Creating and sharing information and ideas on the Internet and social media has become a primary form of communication and information exchange. This has transformed the ways in which we learn, communicate, behave, and socialize. With the growth of new technologies and an increasingly interconnected world, Cyberpsychology has emerged as a unique discipline. This field encompasses multiple intersecting disciplines such as human-computer interaction, computer science, engineering, and psychology.

My article, published in the first volume and issue of the new peer-reviewed journal Technology, Mind, and Behavior, analyzes five main areas that I identified through an extensive review of more than 400 relevant texts and articles for the field of Cyberpsychology. These areas are: 1) online behavior and personality; 2) the use of

social media and psychological involvement; 3) gaming and gambling addiction; 4) telepsychology; 5) Virtual Reality (VR), Artificial Intelligence (AI), and their applications.

Cyber advancements have had a profound impact on virtually all aspects of human life, such as education, healthcare, work, and even common actions like shopping. The affective, cognitive, and behavioral implications at the individual, dyadic, and group levels are just beginning to be investigated and understood.

- In said study, you clarify that "Cyberpsychology is in its infancy in many ways, including not having definitive and consensual language and boundaries." What future can you speculate for this discipline?

Cyberpsychology will become a cutting-edge discipline in the fields of education and research. The application of Cyberpsychology will have far-reaching implications in a myriad of contexts such as education, healthcare, productivity management, security, and psychological practice. There has been increased recognition of Cyberpsychology through professional associations in computer science and psychology, as well as through new journals, conferences, and emerging academic programs. As such, the term "Cyberpsychology" has come to encompass various areas of study and application viewed through the lens of psychology and behavioral sciences. The affective, cognitive, and behavioral implications at the individual, dyadic, and group levels are starting to be investigated and understood in many aspects. In the technological era, new phenomena have emerged. This includes the use of online or digital resources as substitutes for in-person and offline interaction, a situation that was deeply highlighted during the COVID-19 pandemic.

As new technologies are developed and implemented, novel phenomena will emerge that will need to be studied. This includes the impact of cybernetics on the job market. What will be the future of work with the rise of automation? What kind of job skills will be required? More research will also be needed on the impact of social media content and forms on individuals and communities' perspectives and understanding of issues. The role of technology in education and the impact of digital learning on motivation, engagement, and teaching will continue to be studied. Ethical issues such as privacy and security will also continue to be addressed. The field of Cyberpsychology will continue to grow exponentially as technologies and their applications change rapidly over time.

From the United States comes news about the use of Cyberpsychology by scientists from the Office of the Director of National Intelligence (IARPA). Do you think it would be

important to implement this tool within any type of official institution and increase the development of the discipline?

Yes, I believe that Cyberpsychology is of vital importance in this field, especially in terms of cyber attacks. An important issue is how we can use technology and psychology to improve the collection and analysis of information. Understanding human cognition and how people use technology can serve as a basis for the development of analysis tools and strategies. There are many potential applications in this field.

Cyberpsychology can serve as a basis for research and interventions related to human vulnerability, cognitive biases, and resilience that expose us to attacks on the Internet. It can also help inform about cognitive biases and the exchange that lead to the perpetuation of misinformation. I am actively engaged in conversations with colleagues from social and behavioral sciences and computer science about how cognitive biases and vulnerabilities can affect decision-making in crisis situations, a time ripe for cyber attacks and the dissemination of misinformation. The social engineering of attacks and the proliferation of fake news in cyberspace demand that the field of Cyberpsychology understands, predicts, and ultimately combats these threats.

What do you think about companies hiring the figure of Cyber Profiling?

I think this professional figure could be valuable, depending on the purpose of the company and its objectives. Many companies already use predictive analytics in hiring, marketing, advertising, and service customization. However, it is necessary to ensure that predictions about personality and behavior are valid. Of course, there is also the issue of privacy and data collection. Users often do not know how their data is collected and used. Companies must be transparent about data collection practices and how they are used. Additionally, there is the issue of bias. If companies rely on erroneous algorithms to predict preferences, attitudes, or behaviors, the predictions and related actions will be equally erroneous. This can lead to discriminatory practices. Given that much of our behavior occurs online, it makes sense for companies to rely on people with experience in the cyber realm to help provide the best services to customers.

Regarding the use of Artificial Intelligence, what dangers have you been able to detect in your Cyberpsychology research?

One must be careful with the use of any type of Artificial Intelligence and it is necessary to understand the limitations in terms of accuracy and integrity of information. AI is a wonderful tool for education, training, and research. For example, virtual simulations are being used to train psychology students, offering the opportunity to manipulate the

simulation based on the training needs of the students. Similarly, virtual agents and apps are being used in the areas of coaching and psychological support, a huge contribution especially for those who would not seek traditional in-person services for various reasons, including shame and stigma, reduced availability of professional help in their own community, or restricted access to public transportation. However, there are limitations, such as the inability of AI to completely replace humans in terms of reading and understanding the subtleties of communication, nonverbal behavior, and context. Humans are needed to help correct the flaws and errors that AI may produce.

Machines do not have all the sensitivity or ethical sense of human beings. Additionally, the social dangers of using technology to generate important forgeries, erroneous news, or social engineering cyber attacks, all of which can contribute to greater distrust in institutions and the dismantling of democracy. People often use technology in unexpected ways. It is also interesting to consider how technology addiction can lead to an outsourcing of critical thinking and/or creativity. Additionally, AI systems are trained with data, learning and perpetuating existing biases in the information. This can lead to discrimination in numerous areas, such as hiring, loans, or legal decisions.

- Combine research with teaching activity. How can the inappropriate use of technology affect the proper psychological development of young people?

The answer depends on factors such as the content being viewed, the frequency of use, and whether the use negatively affects social, psychological, and interpersonal functioning. Technology can provide avenues for education and support. Excessive dependence on devices like mobile phones can negatively affect interpersonal skills. On the other hand, some researchers have studied how excessive use of technology can lead to addictive behavior that results in significant alterations in interpersonal functioning and mood. Cyberbullying is also a significant social problem that causes anxiety, depression, and decreased self-esteem.

- What educational approach do you use to protect young people from cyber risks?

Technology is not inherently good or bad. It's essential to consider how we choose to use it; that is, what we see, how we interact with technology, and its effects. I have written about cyber risks in my Cyberpsychology Blog on Psychology Today, specifically regarding adaptation versus maladaptation during the pandemic and technology use. Adaptive approaches include cultivating a sense of intentionality to use technology with greater personal control over engagement, moderating media consumption, and becoming a more discerning consumer of technology in terms of purpose, content, and frequency, with the aim of promoting mental and emotional health. I have also written

about how to address difficult issues on social media and how to recognize disinformation techniques.

Regarding disinformation, educational approaches should emphasize critical consumption of information and becoming more savvy consumers of social media. The amount of messages we're exposed to is overwhelming, leading to information overload. It's often difficult to differentiate reality from fiction. Excessive dependence on online information can contribute to decreased critical thinking ability. Students can be encouraged to increase their exposure to diverse viewpoints and fact-check data. Additionally, educators can teach students about cognitive foundations and the role of emotions such as anger and fear in increasing vulnerability to false information and erroneous decision-making. Moreover, our educational work should also focus on how the threat to social identity and the media echo chamber of cyberspace limit our worldview and connections with others, contributing to the development of conspiracy thinking and increased polarization.

- In conclusion, what advice would you give to parents to protect their children from inappropriate use of new technologies?

I would encourage parents to become informed about the social media platforms their children use daily and have informed conversations about intentional, critical, and purposeful use of technology, as well as its limitations. Parents can help their children use technology in a healthy way, but that requires parents to stay informed about technological advancements, which is not always easy to achieve. Parents can consider setting screen time limits, encouraging socialization, and promoting physical activity. On the other hand, they should act as models of healthy behavior by being fully present with their children instead of frantically looking at their smartphones. Parents should also encourage their children to talk to them or a trusted adult if they feel uncomfortable with something they see or experience online.