

## Impact of Cyber Psychology in Current Scenario

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### **Abstract:**

*The cyber effect on the psychological dimension of humans constitutes the first part of cyber-psychology. In all the areas of research, the experimental conditions determine a statute of independent variable for the technical data, and a statute of dependent variable for the psychological data. Cyber-psychology can be defined as the study of mental phenomena related to cyber-systems and their context. The term "cyber-psychology" is a neologism which refers to two interwoven concepts: "psychology", the study of behavior and thought, and "cybernetics", the science of the laws of control and communication for mechanisms and machines operations. The advent of intelligent machines is for some a solution to cope with human problems; for others, it stands as a threat to the future of humanity.*

*Undoubtedly, the cybernetic world keeps transforming humans and it will probably transform them even more in the future. The relationship between mind (psycho) and cyber (Information technology) should be investigated from different angles. While the scientific field is sometimes inappropriately reduced to a one-sided definition of cyber-psychology, it is crucial not to restrict the field of research to virtual reality or psychotherapy applications. In terms of research, cyber-psychology includes three distinct categories, and their differences are based on the causality link between the respective elements of each of the psychological and of the cyber-technical worlds, and their variation.*

**Keywords:** *Cyber-Psychology, behaviors, Cyber-bullying, intelligence, technology*

### **Introduction**

The term "Cyber-psychology" had origin in the field of applied psychology (Barak, A. et.al). The term Cyber-psychology may be unfamiliar, but it goes back more than two decades. It was a term that surfaced in the mid-1990s among the early researchers who were studying online behavior (Suler, J. R., 2000). According to past studies, "Cyber-psychology and Behaviour" was the first journal to use the term Cyber-psychology, which launched in 1998, that U.S. based journal changed its name to "Cyber-psychology, Behaviour, and Social Networking" in 2010 (Young, K. S. & Rogers, R. C., 1998). The American Psychological Association only adopted the Cyber-psychology term first used in Cyber-psychology & Behaviour journal in 1998 but it in a general way 2017 (American Psychological Association, 2017). The Cyber-psychology newly emerging discipline defined as "the study of how new communication technologies influence, and are influenced by, human behaviors and subjectivities (Harley, D. et.al)".

Thus, the Cyber-psychology is a relatively new field within applied psychology, which examines how we interact with others using technology, how our behavior is influenced by technology. The most commonly studied technology in Cyber-psychology research on the internet, all through the area considers human interactions with many devices, including mobile computing, games consoles, virtual reality and artificial intelligence (Connolly, I. et.al).

Cyber-psychology is education and training students in the use and integration of technology to prepare them for the future delivery of services is needed as they take on novel and expanding professional roles. This includes the application of technology for clinical services and research activities, new and evolving ethical matters, and research topics requiring further investigation. Such an endeavor will require a reexamination of traditional course curriculum and training requirements to respond to this new landscape.

### **Elements of Cyber-psychology**

#### ***Human Interactions Online***

- Computer Mediated Communication and online media (*Gráinne Kirwan*)
- Self and identity in cyberspace (*Irene Connolly*)
- The dark side of the Internet (*Hannah Barton*)
- Love and relationships online (*Nicola Fox Hamilton*)
- Attention and distraction online (*John Greaney*)
- The dynamics of groups online (*Olivia Hurley*)
- Persuasion and compliance in cyberspace (*Hannah Barton*)
- Privacy and trust online (*Gráinne Kirwan*)

#### ***Applied Cyber-psychology***

- Forensic cyber-psychology (*Gráinne Kirwan*)
- Abnormal cyber-psychology and cybertherapy (*Cliona Flood*)
- Sport and health cyber-psychology (*Olivia Hurley*)
- The online workplace (*Cliona Flood*)
- The Internet as an educational space (*Marion Palmer*)
- Consumer cyber-psychology and online marketing (*Nicola Fox Hamilton*)
- Young people and the Internet (*Irene Connolly*)

#### ***Psychology and Technology***

- Human–Computer Interaction (*Andrew Errity*)
- Gaming (*Andrew Errity, Brendan Rooney and Conall Tunney*)
- Psychological applications of Virtual Reality (*Gráinne Kirwan*)
- The psychology of Artificial Intelligence (*Gráinne Kirwan*)

Cyber-psychology is five major areas that have been identified as relevant to the field of cyber-psychology, including trends and directions in cyber-psychology ethics, research, training and application. They include (a) online behavior and personality; (b) social media use and psychological functioning; (c) games and gaming; (d) Tele-Psychology; and (e) virtual reality (VR), artificial intelligence (AI), and applications. The five areas, which have primarily attended to personality variables, perceptual processes, emotional functioning, and behavioral responses, have emerged as most prominent in the cyber-psychology literature.

### **Online Behavior and Personality**

As individuals increasingly engage with the world through cyber technology in many areas of their lives, research on online behavior has also increased. These investigations include the ways in which people behave in cyberspace relative to face-to-face and the relationship between personality characteristics and a range of online behavior such as social media preferences and use, dating activity, cyber-security measures, and online bullying. People often behave differently in cyberspace versus offline. The online disinhibition effect is a term used to describe the lowering of psychological restraints in online social environments (Joinson, 2007; Suler, 2004, 2016), reflected in reduced behavioral inhibitions and lowered regard for behavioral boundaries in cyberspace. The

lack of eye contact and anonymity in cyberspace are two factors that reduce inhibitions and result in cyber-specific behavior, including self-disclosure (Lapidot-Lefler & Barak, 2015). Individuals may engage in viewing content (e.g., pornography, violent sites) or seeking information (e.g., healthcare) online that they would not do offline. An area of online behavior which has received attention in both the popular press and among researchers is cyber-bullying. Cyber-bullying is defined as “willful and repeated harm inflicted through the use of computers, cell phone, or other electronic devices” (Hinduja & Patchin, 2014).

### **Games and Gaming**

The development and use of video games has grown within the last few decades. Technically, “video games” are electronic games that use visual feedback. According to the Entertainment Software Association (ESA, 2019), more than 164 million adults in the United States play video games, and three-quarters of all Americans have at least one video game player in their household. The ESA reports that 93% of American households own a smart-phone and, of those, almost half of them use it to play video games. “Gamer” communities have grown, allowing people to interact in a shared space regardless of geographical location. “Digital games” is a broader term referring to any game that is played in an electronic platform including games used for learning or health (Carras et al., 2019).

### **Tele-Psychology**

Tele-psychology is defined as the provision of psychological services using telecommunication technologies (American Psychiatric Association, 2013). Terms such as tele-psychology, tele-mental health, e-therapy, cyber therapy, email therapy, computer mediated interventions, and online therapy are oftentimes used interchangeably in the literature (Amichai-Hamburger et al., 2014). Telecommunication technologies include, but are not limited to, telephone, mobile devices, interactive videoconferencing/webcam, email, chat, text, and internet (e.g., self-help websites, blogs, and social media). These communications may be synchronous, with multiple parties communicating in real time (e.g., interactive videoconferencing, telephone), or asynchronous (e.g., email, online bulletin boards, storing and forwarding of information). Technology based mental health interventions have the potential to transform access for those limited geographically such as persons living in rural areas, by medical condition, financial constraint, or other barriers.

### **VR, AI, and Applications**

Developments in simulated experiences and environments via VR and AI have converged with clinical, diagnostic, and educational applications for a range of psychological and social issues. VR is an advanced form of human-computer interface that allows users to interact with and/or become immersed within a computer generated simulated environment/virtual environment (VE). Real time computer graphics and sensory input devices are utilized. Head-mounted displays and tracking systems are often employed to deliver computer-generated images and sounds in a virtual scene, similar to what one would see and hear in the real world. People act and respond to events and situations within VR as if these were real, also known as “presence” (Sanchez-Vives & Slater, 2005).

### **Review of Literature**

In a study conducted by Wong-Lo and Bullock (2011) a total of 137 participants (62 adolescents; 75 parents) responded to a survey. Results indicated that 90% of the participants from the adolescent group have reported to have experienced cyber-bullying either as victims or as a bystander. In addition, 70% of the victims have been cyber-bullied one to two times within a month’s time and 50% of the victims did not know the perpetrator. Secondly, 89% of parent participants indicated to be knowledgeable about the issues relating to cyberbullying and 89% reported to have no knowledge if their child has

or has not been a victim of cyber-bullying. Furthermore, qualitative findings of personal perspectives toward cyber-bullying from each participating group are discussed.

A review of literature is provided and results and analysis of the survey are discussed as well as recommendations for future research. Erdur-Baker's (2010) study revealed that 32% of the students were victims of both cyber-bullying and traditional bullying, while 26% of the students bullied others in both cyberspace and physical environments.

Research conducted by Mary Ailen et.al, 2014 claim that, the area of cyber-psychology study an artificial intelligence, social media, virtual environments, internet psychology, intelligence amplification, digital convergence, gaming also mobile and networking device.

According James (2000) "It studies mind through virtual reality as it evolves on the net." The importance of cyber-psychology on the cyberspace is quite difficult to explain. The cyber-psychology deals with a lot of what drives an individual in a cyberspace, motivates, and catches the attention to what people are looking, seeing, and feeling and goes deeper than that. The importance of cyber-psychology on the cyberspace is quite difficult to explain. It's very complex. However, the cyber-psychology on the cyberspace is to understand what makes people addicted and attracted there.

Additionally, every people have different viewed and understanding when online in cyberspace. The different viewed are affected from many factors such as gender, level of age, intention and others. This is where the psychology are took part. Cyber-psychology is the study of human behavior thus the principles of cyber-psychology are in order to understand the psychological impact that cyberspace has on school teenager.

### **Discussion**

Cyber-psychology is an emerging branch of applied psychology and clinical psychology has become very important, playing a relevant role in all subject domains. Cyber-psychology researches conducting content analysis to appropriate identify relevant concepts, and conceptual themes. In few years back, we witnessed a rapid rise of computing and mobile technology, influencing human behavior change, with common labels like digital addiction, digital anxiety, or negative effects of used of technologies, focused on the purpose of clinical psychology, and having a psychological and behavioral impact, detrimental for the technologies users . This includes a wide scope of knowledge area for health and wellbeing promotion. The growing number of empirical research on Cyber-psychology basically, about users change behavior originated a proliferation of academic journals to disclose such research efforts (including the areas of human computer interaction, cyber behavior, Virtual interiors, e-therapy, digital addiction, techno-stress, cyber-therapy, cyber-bullying and digital closet, etc.). This led some researchers to study how this recent and relevant research in the field of Cyber-psychology has been addressed in specific domains.

The effects of these cyber technical dimensions on the mind concern the following points (non-exhaustive list):

- Behavior and thought (cognitive facilitations, cognitive impairments, cognitive errors, ergonomics, etc., cognitive impairment, human error, etc.);
- Psychological traits and personality (structuring, alterations, use in soft power or social engineering); - professional training and apprenticeship;

- Education (children, adolescents, adults, young experts, knowledge management, etc.);
- Psycho-rehabilitation, psychotherapy (psychiatry, mental health, post-traumatic stress disorder, brain injury, moral injury);
- Prevention (cyber-dependence is now officially recognized as a psychological disease by the World Health Organization). The psychological effect on the cyber field defines a cyber-cognitics domain, and it is possible to describe some of the effects of psychology on cyber-technology or on the cyber-domain (non-exhaustive list):
  - Computer programming styles, program structure, etc.;
  - Limitations (neural networks versus symbolic programming, hybrid modes, different AI, etc.);
  - Modes of implementation (networks, main frames, intensive computing, parallelism, fuzzy logic and cyber-quantum, etc.);
  - Digital trust (complete or partial autonomy, monitoring, control, delegation, etc.)
  - Digital resistance modes (avoidance coping, procrastination, etc.)
  - Psychological cyber defense (cyber-security, especially invasive, defensive, techniques, attractive etc.) “man is the first flaw in digital systems”;
  - Cyber-radicalization (cognitive processes, social environments, prison environment, liberties, rights, etc.);
  - The third type of effect can be characterized by non-causal relations, or unknown causal relations, mainly in complex systems. It concerns the domain of human-system integration (HSI)(4) or human-automata teaming (HAT)(5) , in an anthrop technical world (non-exhaustive list):
    - some elements in human machine interface;
    - human machine teaming; - human machine symbiosis, human machine heredity
    - NBIC6 (converging technologies for human enhancement);

### **Conclusion:**

Cyber-psychology is a relatively new field within applied psychology, which has recently attracted a considerable amount of attention within the academic community. Cyber-psychology emphasizes the study of human interactions with the Internet, mobile computing, mobile phones, games consoles, virtual reality, artificial intelligence, and any other technology which has demonstrated an ability to alter human behavior. It also considers how humans interact with each other in these environments, and considers the impact of evolving trends, such as technological convergence and the digital divide, on individuals. The purpose of this article is to outline the scope of the field, and to describe some recent research within sub-topics of cyber-psychology and explore recent research, emerging relevant themes and concepts in Cyber-psychology focused current trends, Our findings confirm Cyber-psychology as an important topic or subject domain, both for researcher and for medical professionals, that is much related to other sectors, like human-computer interaction, cyber behavior, Virtual interiors, e-therapy, digital addiction, techno stress, cyber-therapy, cyber-bullying, and digital closet. That’s why, we strongly recommended that the two emerging sectors digital anxiety and digital addiction which are

completely arisen due to excessive use of digital communications and devices that must be included as a new sub-field or branch under the Cyber-psychology.

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