

# Mental Health in the Digital World

Subjects: Health Care Sciences & Services

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Mental health in the digital world means technology has been used to improve mental health, after the COVID-19 pandemic. Human beings are already in the mental health is health paradigm, without which everything else ceases to make sense or even to exist. Scientific events are essential for maturing and debating the science. As such, it is suggested a reflection on a paradigm shift that is taking place, which is mental health is also health. This change occurs, particularly in this post-pandemic context, and people try to reflect on how digital tools can be built to improve the population's mental health. The cost to society is quite substantial. It is the second leading cause of disability and premature mortality—an excellent opportunity for collaborative research between human-computer interaction and mental health professionals. Interdisciplinary feedback is so important; when people work only with professionals from the same field, this feedback is missing out.

Keywords: technology ; listening and understanding people ; psychology

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## 1. Introduction

The National Health Plan for Portugal, as stated in <sup>[1]</sup>, defines one of the priority goals for mental health to reverse the trend of prescribing benzodiazepines in the population. The USA is the country that most prescribes benzodiazepines; next is Europe, and Portugal is one of the countries that most prescribe them <sup>[2][3]</sup>. Humans seem to feel lost on their planet, hence the high levels of depression and anxiety. People seem to feel more lost between the natural and virtual worlds: when people feel distressed, lost and helpless, they tend to get depressed. According to the World Health Organization <sup>[2][4][5]</sup>, 16% of the world's population suffers from depression. This work aims to highlight the contribution and the challenges that digital technologies face entering the mental health problems. It aims to bring reflexive questions forward, rather than answering them.

### 1.1. Mental Health Fragilities: A New Technological Perspective

Living in a time of rapid changes is very complicated for human beings with mental fragilities <sup>[2]</sup>. In medicine, if it is true that technology, more precisely clinical exams, allows a more accurate diagnosis, it is also true that today people are moving from a medicine centered on the patient and his clinical history to a treatment centered on technology. And that can lead to dehumanization. Some doctors must look up from the computer during the consultation to meet the patient's gaze. Patients are treated very well technically, but a holistic perspective is needed in this process <sup>[5][6]</sup>. Indeed, clinical observation as a specific diagnostic technique has a particular goal, relates to a specific problem, and is based on a theory. For instance, what distinguishes professional psychological observation from non-professional observation is the scientific knowledge and the principles and instruments used to record data <sup>[7][8]</sup>.

Technology is here to stay <sup>[9][10]</sup>. It is undeniable. It is necessary to take advantage of what it has that is positive. Still, to guarantee the humanism associated with medicine and the ability to empathize with the patient and, for this to occur, it is necessary to invest (even more) in the doctor/patient relationship <sup>[11]</sup>. One must learn the art of conversation, and that's where Psychology comes in: talking, understanding, and listening to the other person is not easy, and it's imperative.

### 1.2. Listening and Understanding People

Carl Rogers <sup>[12]</sup> has highlighted the importance of making the other person feel attended to and welcomed before attempting any intervention. Sigmund Freud <sup>[13]</sup> spoke of the beneficial effect of mere clinical listening. Skinner <sup>[14]</sup> talked about the "non-punitive audience," listening to the other carefully, without judging him, eliminates tensions.

It is important not to rush into analyzing and issuing "diagnoses." Often, the other wants the least to be explored, classified, and diagnosed; they want to be heard, understood, and recognized as a person with value. In short, a good listener shows interest in the other; this is already rewarding. Therefore, you need to know how to speak and learn how to listen. These are challenging tasks to be performed with full effectiveness. Most people find it difficult to talk about

themselves and even more complex to know how to listen. It sounds simple, but it's not. One needs to be very cautious not to injure the other person. Listening in a porous, curious way, and thinking about what you hear, activates several cognitive processes. Talking and listening are not a duel between two persons. According to <sup>[15]</sup> "Each one of us is an enigma, which most of the time remains to be deciphered".

Introducing the concept of mental health and physical health in 1948, the World Health Organization (WHO) <sup>[3]</sup> elaborated the concept of *health* as a complete physical, mental, and social well-being state and not the absence of disease. Beforehand, health was considered under the ancient Latin phrase of the Roman poet Juvenal: *Mens sana in corpore sano* (a healthy mind in a healthy body) as well as the affirmation made by Leriche in the 1930s: *Health is a life lived in the silence of the organs*, <sup>[8]</sup>. After World War II, there was a demand to promote political welfare to people, <sup>[16]</sup> just like nowadays, there is a high demand to encourage mental health politics after the 2020-2022 Covid-19 pandemic. Back then, the WHO elaborated the concept of health as of well-being, introducing the social factor in health <sup>[16][17]</sup>. Before the war, health was considered more individually. After the war and the precarious social condition, people started to perceive collectivity crosses over individuals and individuals cross over collectivity <sup>[18]</sup>. The social vision benefits individuals and communities beyond selfish thinking about health.

Pandemic consequences are emerging in different areas. New technologies are producing mental health content in the mental health field, where communication between clients and therapists is changing. The main question remains to be seen in the future: can technology and artificial intelligence replace a human therapist? We do hope not. Hope interpersonal connection, eye-to-eye, verbal and nonverbal actions and decisions are still on the frontline, considered very important in understanding human being psychological suffering. Quality of Human Interconnections (QHI) is how people grow and develop as humans. What matters most is the quality of the relationships human beings build and maintain throughout our lives. Technology can help towards that goal but can only partially replace it <sup>[19][20]</sup>.

## **2. 5G (5th Generation Mobile Network) Mental Health**

Following these ideas, herein would like to provoke some critical thinking concerning mental health and the use of technology these days. When referring to 5G mental health, herein would like to remind you that the psychologist is a professional in the human sciences who fits into the health area. One cannot have humanization without health, nor health without humanization. Interestingly, the training course in Psychology at the University of Madeira, in Portugal, fits into the best possible faculty: The Faculty of Arts and Humanities. Psychology is indeed an art of talking with and about humanity, with the existence and essence of the human being.

Human beings are facing a world in transformation <sup>[9]</sup>, where the inversion of human values prevails; there is a progressive loss of authority of parents and teachers as role models for the "human being" due to, perhaps, the predominance of the influence of the internet and the failure of the systematic and traditional education, where co-exists the parental fear of educating with three fundamental ingredients: limits, discipline and affection. Parents seem to want to be friends with their children and not raise human beings, leading and guiding them towards a life project with an educational style with authority and democracy.

Herein emphasizes this idea of Jung <sup>[21]</sup> that there is no such thing as a pure introvert or extrovert, but a continuum where each of us is situated. This idea is over 100 years old but applies today and to various mental illnesses <sup>[22][23]</sup>. Herein considers them a spectrum, a continuum, not an absolute label. Current scientific evidence in mental health also demonstrates this:

- Individual differences in mental health are classified with degrees rather than types <sup>[22]</sup>.
- More extensive mental health conditions (hospitalization) are also responsible for the tendency for more restricted ones to occur (e.g., depression, anxiety) <sup>[22]</sup>, <sup>[24]</sup>. Conway <sup>[25]</sup> proposes an alternative diagnostic system: The Hierarchical Taxonomy of Psychopathology (HiTOP), which describes the components of mental disorder and deconstructs traditional diagnostic categories (listed in the Diagnostic and Statistical Manual of Mental Disorders - DSM) and reformulates them in terms of profiles and dimensions. Human beings do not have just one tonality. It comprises balances of various hues in terms of behavior and mental Health.

How nice it is when someone offers their time to reach the other, capturing the subtleties of their essence and comforting them in the most challenging moments. It is the art of Psychology. And, in a future predicted to be dominated by Artificial Intelligence, genuine human support will be precious.

In a book by a Brazilian doctor called "Patients who cure: the daily life of a doctor in the Unified Health System (UHS)" by Júlia Rocha <sup>[26]</sup>, it describes the internal psychological growth of this doctor as she carries out her work helping patients. She tells some clinical stories and how she learned from each patient. This book it takes a doctor/therapist to be very

open and receptive to understand and transform internally with each patient. Become not only more technically efficient but also emotionally intelligent. According to the author, health goes beyond being a doctor, the hospital, and the office. Health is social well-being. It means working with dignity, having access to comfortable and accessible public transportation, having security, having a good school for your children, and having peace of mind. She also refers to a notion from one of her professors that no one makes a bond with a doctor who does not solve a problem: interest and curiosity in knowing the patient, but also scientific knowledge is necessary.

### **3. Applications (Apps) for Mental Health**

People's ability to observe something and describe with precision and originality is human and stimulates our brain activity. Technology cannot do that. It is necessary to reflect on the excessive manufacturing of technological applications for mental Health in a completely uncontrolled way, not evaluated, not tested or validated ecologically. In Silicon Valley, about 10,000 mental health apps were created during the pandemic period of 2020-2022. Also, consider how capitalist technology is saturating the market with unrealistic services to promote mental health. Questions herein urgently needs to ask as a society:

- How is technology being used by people and mental health services?
- What are examples of good practices?
- What have we learned so far in the year 2022-2023?
- What does the research tell us?
- What national and international guidelines and policies exist based on empirical and scientific evidence?
- How to expand the population's access to the benefits generated by scientific and technological knowledge?

Some excellent free examples of applications (apps) for mental health are fascinating and based on theoretical models of Psychology but do not present scientific and proven results about their effectiveness, like Finch, MindShift Cognitive Behavioral Therapy, Insight Timer and Virtual Hope Box, to mention a few.

It is time to consider a slightly more global or European future vision. It is called the "new European Bauhaus" <sup>[27]</sup> initiative. It is an idea the European community promotes and links the European ecological pact to our living spaces. It invites Europeans to build together a sustainable and inclusive future, visually and mentally beautiful. It is a creative and interdisciplinary movement in development in which everyone can participate. It translates into a platform for experimentation and the creation of connections, which promotes collaboration between thinkers and entrepreneurs interested in creating future ways of life together; between the world of science, technology, art and culture. It is also an invitation to face ecological and digital questions as opportunities to challenge our lives for the better. It aims innovative solutions to complex social problems between different scientific areas.

Technology applied to mental health with common sense is a genius idea! For example, it allows:

- Working less and having more time available for leisure, reducing physical distances between people.
- Telepsychology (psychology help service through videoconference) could be a natural evolution of mental health care in the digital world. The ability to improve the quality, equity and accessibility of mental health care is indisputable <sup>[28]</sup>.
- Allows real-time assistance to patients.
- Reduction of material costs.
- Decreased overcrowding in health facilities,
- Enables world-class data security for healthcare professionals and patients.
- Continuity of care in any situation, but it is necessary to build safe and scientifically tested platforms exclusively for psychological care. Research and scientists can help a lot here. There are three exciting concepts about technology applied to mental health with common sense that are worth exploring, which arise from the work of interdisciplinary teams with psychologists, designers, engineers, and doctors: the concepts of Artificial Intelligence (AI), Health 4.0 and IoT (the Internet of Things).

#### **3.1. AI (Artificial Intelligence)**

The field of science develops intelligence in software mechanisms and robots. It is an intelligence similar to human intelligence. A famous example of AI in healthcare is the IBM Watson supercomputer, which can analyze thousands of contents in just a few seconds, which helps a lot in solving clinical cases. According to the McKinsey Global Institute, a study by <sup>[28]</sup>, AI will change the interaction between doctors and patients in every situation, as routine activities such as monitoring patient vital signs will no longer be the responsibility of health professionals. The benefits of more excellent professionals' productivity will increase, and better agility skills in digital technologies will be required in the future <sup>[28][29]</sup>.

### 3.2. Health 4.0

Health 4.0 is to use investments in technology in the health area to promote disease prevention and guarantee patients' physical and mental well-being. It involves the integration of technological tools and automated mechanisms in medicine, such as the management systems of medical offices, and getting care as close as possible to the human being. Many doctors and psychologists already use blogs and websites to share information and educate their patients. Presenting correct information amid so much false data and fake news on the internet can be an excellent way to do a good public and private service to the public.

### 3.3. IoT (Internet of Things)

The IoT, the Internet of Things, integrates the real world with the digital world. It is the integration of everyday objects with computing and the internet. In health and well-being, there is an example of watches that can measure heart rate and help change behaviors for better health.

Herein would like to rechallenge the reader to make and maintain critical thinking on the following questions:

- What is the role of research and teaching in the current university paradigm? <sup>[30][31]</sup>.
- Universities exclusively for teaching vs. Universities as factories for producing scientific articles with an impact factor?
- What content is helpful for professionals to practice?

Validated research on human-computer interaction regarding mental health is still abysmal. It is necessary to work with professionals and researchers from different fields to move forward to a behavioral change and work very closely with academic researchers, providing tools for a wide range of professionals working with behavior - psychologists, doctors, nurses, etc. Computerized implementations of cognitive behavioral therapies and virtual reality-based exposure therapies have received attention in the past ten years. In cognitive narrative therapy, when the person unblocks painful moments and starts to pay attention to pleasant moments, they are on the right track. Sometimes people are just blocked by psychological disorders. The clue is to acknowledge the good and the bad moments in life, talk about them, integrate them into the mental health practice and move on to new and future narrative experiences. Technologies for mental health engagement have received attention, but therapists must do a lot more to show other professionals how to design and evaluate their effectiveness.

## 4. Conclusions

People have already asked ourselves these questions, in particular, people who work in the university world, researchers, or professors. What helpful content is the academia producing that is informative and beneficial for professionals to practice? It needs to know that:

*We all choose a profession, but Our first vocation is to be Human beings.* That implies critical thinking in the face of the problems surrounding us. Stop and think for a while and create a context conducive to serenity and common sense to continue building a path of scientific integrity for health psychology, particularly for mental health, which seems necessary <sup>[31]</sup>. With speed as the 5G internet will manage, but also with serenity and common sense. So, herein reminds you of the dictionary's definition of these two simple concepts.

**Serenity:** means calm or peaceful, not anticipating problems, being in the here and now.

Serenity expresses softness in actions, even in adverse situations and conflicts. It is associated with dealing with problems and with other people docilely and without influencing one's emotional state. Being serene provides better conditions to act in the world.

**Common sense:** balance in decisions or judgments in each situation; the way of acting based on reason and ratio, according to the standards and morals of a common good.

These should be guiding standards for this new scientific, academic and professional path that the psychologists are all building: for students who are starting their training, for psychologists who are already in the field helping people in mental suffering and for the teachers in charge of training the new generations of psychologists. That training in Psychology and other disciplinary areas does not benefit the common good if it becomes a machine for producing articles with an impact factor. Psychologists should aspire for serenity and common sense. Human beings are at the end of an era. The end of

the pandemic and even the Queen of England's death helps delineate this historical era in which we lived in 2022. These two human barometers (serenity and common sense) will allow us to create a new historical epoch in which speed and urgency prevail in everything, but that does not invalidate the growth of mental health with common sense and serenity.

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## References

1. Plano Nacional de Saúde (2021–2030). Direção Geral de Saúde (DGS). Available online: <https://pns.dgs.pt> (accessed on 21 October 2022).
2. Kirton, J.J. (Ed.). *Global Health*, 1st ed.; Routledge: London, UK, 2009. <https://doi.org/10.4324/9781315254227>.
3. World Health Organization. WHO Recommends Eight Harmful New Psychoactive Substances be Placed under International Control by the CND, 2020. Available online: <https://www.who.int/news/item/07-12-2020-recommendations-made-by-the-43rd-who-expert-committee-on-drug-dependence> (accessed on 21 October 2022).
4. Wood, L.; Williams, C.; Billings, J.; Johnson, S. The role of psychology in a multidisciplinary psychiatric inpatient setting: Perspective from the multidisciplinary team. *Psychol. Psychother. Theory Res. Pract.* 2018, 92, 554–564. <https://doi.org/10.1111/papt.12199>.
5. Jensen, A.J. The psychology of globalization. *Am. Psychol.* 2002, 57, 774–783.
6. Geczy, B., Jr.; Sultenfuss, J.F.; Donat, D.C. Psychologists in State Mental Hospitals: Problems and Recommendations. *Prof. Psychol. Res. Pract.* 1990, 21, 392–397.
7. Stephens, M.W. Training in behavioral observation and clinical inference. *Prof. Psychol.* 1970, 1, 483.
8. Witmer, L. Clinical Psychology. *Psychol. Clin.* 1907, 1, 1–9.
9. Baras, K.; Soares, L.; Oliveira, F.; Lucas, C.V.; Paulo, N.; Barros, R. Supporting Students Mental Health and Academic Success Through Mobile App and IoT. *Int. J. E-Health Med. Commun. (IJEHMC)* 2018, 1, 50–64.
10. Mendes, D.C.G.; de Almeida, Y.A.D.S.G.; Lucas, C.V.; Soares, L.; Bermúdez i Badia, S. A Pilot Study to Evaluate the Feasibility of a Science-Based Game Called Symphony to Alleviate Depression Symptoms. In *International Conference on ICT for Health, Accessibility and Wellbeing*; Springer: Cham, Switzerland, 2023; pp. 147–161.
11. Prusinski, T. The Working Alliance and the Short-Term and Long-Term Effects of Therapy: Identification and Analysis of the Effect of the Therapeutic Relationship on Patients' Quality of Life. *Psychiatr. Pol.* 2021, 211, 1–20.
12. Rogers, C. *Tornar-se Pessoa*; Martins Fontes: São Paulo, Brazil, 1961; pp. 60–61.
13. Freud, S. The resistances to psycho-analysis. In *The Standard Edition of the Complete Psychological Works of Sigmund Freud. In The Ego and the Id and Other Works*, 1961; Hogarth Press and Institute of Psycho-Analysis: London, UK. Volume XIX (1923–1925), pp. 211–224.
14. Skinner, B.F. *Reflections on Behaviorism and Society*; Prentice Hall: Hoboken, NJ, USA, 1978; pp. 58–59, ISBN 0-13-770057-1.
15. Torga, M. *Contos da Montanha*; Nova Fronteira: Rio de Janeiro, Brazil, 1999; p. 140, ISBN 85-209-0720-2.
16. Lee, K. *The World Health Organization (WHO)*, 1st ed.; Routledge: London, UK, 2008; p. 25. <https://doi.org/10.4324/9780203029732>.
17. Blount, A.; Schoenbaum, M.; Kathol, R. The economics of behavioral health services in mental settings: A summary of the evidence. *Prof. Psychol. Res. Pract.* 2007, 38, 290–297.
18. Nieman, M.C. Shocks and turbulence: Globalization and the occurrence of civil war. *Int. Interact.* 2011, 37, 263–292.
19. Bray, J.H. The future of Psychology Practice and Science. *Am. Psychol.* 2010, 65, 355–369.
20. Kinderman, P.; Sellwood, S.; Tai, S. Policy implications of a psychological model of mental disorder. *J. Ment. Health* 2008, 17, 93–103.
21. Jung, C.G. *Psychological Types*; Routledge: London, UK, 1971; pp. 20–23, ISBN 978-0-415-04559-9.
22. Fonagy, P.; Target, M.; Gergely, G. Psychoanalytic Perspectives on Developmental Psychopathology. In *Development Psychopathology, Theory and Method*; Cicchetti, D., Cohen, D.J., Eds.; John Wiley & Sons: Hoboken, NJ, USA, 2006; Volume 1, pp. 1–10.
23. Neves, A.C. An Amplified Concept of Health. *Acad. Lett.* 2021, 2872. <https://doi.org/10.20935/AL3872>.
24. Townsend, C.O.; Bruce, B.K.; Hooten, W.M.; Rome, J.D. The role of Mental Health Professionals in Multidisciplinary Pain Rehabilitation Programs. *J. Clin. Sess.* 2006, 62, 1433–1443.

25. Conway, C.C.; Forbes, M.K.; South, S.C. A Hierarchical Taxonomy of Psychopathology (HiTOP) Primer for Mental Health Researchers. *Clin. Psychol. Sci.* 2022, 10, 236–258. <https://doi.org/10.1177/21677026211017834>.
26. Rocha, J. *Pacientes Que Curam: O cotidiano de uma médica do SUS*; Civilização Brasileira: Rio de Janeiro, Brazil, 2020; ISBN 6558020157, 9786558020158.
27. New European Bauhaus. 2022. Available online: [https://new-european-bauhaus.europa.eu/index\\_en](https://new-european-bauhaus.europa.eu/index_en) (accessed on 21 October 2022).
28. Gaurav, B.; Andrea, Q.; Nick, S. Artificial Intelligence Will Soon Change How We Conduct Our Daily Lives. Are Companies Prepared to Capture Value from the Oncoming Wave of Innovation? McKinsey Global Institute Study. Available online: <https://www.mckinsey.com/industries/advanced-electronics/our-insights/artificial-intelligence-the-time-to-act-is-now> (accessed on 8 January 2018).
29. Horlait, M.; Dhaene, S.; Van Belle, S.; Leys, M. Multidisciplinary Team Meetings in Cancer Care: Is There a Psychologist in the House? *Int. J. Integr. Care* 2019, 19, 131.
30. Oliveira, F. Lucas, C.V.; Soares, L.; Martins, R. Thinking the future and developing skills for the workplace: A project with college students, *Rev. Psicol.* 2020, 34, 437–445. <https://doi.org/10.17575/psicologia.v34i1.1681>.
31. Soares, L. Critical thinking and scientific integrity, are university students ready enough to be engaged. In *International Perspectives on Undergraduate Research: Policy and Practice*; Hensel, N.H., Blessinger, P., Eds.; Palgrave Macmillan: London, UK, ISBN 978-3-030-53559-9.

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