

The Impact Of Technology On Mental Health, Perspectives From Psychology

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Summary

A documentary review was carried out on the production and publication of research papers related to the study of the variables Mental Health, Technology, Psychology. The purpose of the bibliometric analysis proposed in this document was to know the main characteristics of the volume of publications registered in the Scopus database during the period 2017-2022 by Latin American institutions, achieving the identification of 65 publications. The information provided by this platform was organized through graphs and figures categorizing the information by Year of Publication, Country of Origin, Area of Knowledge and Type of Publication. Once these characteristics have been described, the position of different authors towards the proposed theme is referenced through a qualitative analysis. Among the main findings made through this research, it is found that Brazil with 29 publications was the Latin American country with the highest scientific production registered in the name of authors affiliated with institutions of that nation. The Area of

Knowledge that made the greatest contribution to the construction of bibliographic material referring to the study of the different didactic methodologies for teaching in the area of general medicine was Medicine with 44 published documents, and the Type of Publication most used during the period indicated above were Journal Articles with 71% of the total scientific production.

Keywords: Mental Health, Technology, Psychology.

1. Introduction

In the XXI century, the implementation of technology in our daily lives has generated a multitude of comforts and opportunities. From instant communication to access to a vast reservoir of information, it's undeniable that technology has revolutionized the way we interact with the world around us. However, as we delve deeper into the digital age, psychologists increasingly analyze the impact of this digital revolution on a crucial aspect of human existence: mental health. The arduous interaction between technology and psychology has given rise to a complex landscape, where positive and negative implications coexist. This exploration of the impact of technology on mental health offers a multifaceted perspective, delving into the potential benefits as well as emerging challenges that demand our attention.

On the one hand, technology has opened new avenues of connection and support, erasing geographical borders and fostering virtual communities. Social media platforms, for example, allow people to maintain connections and forge relationships across great distances, providing a sense of belonging that can be particularly valuable to those who would otherwise feel isolated. In addition, telehealth services have expanded mental health support to remote or underserved populations, breaking down barriers to accessing therapy and counseling. Conversely, the presence of technology has also revealed a number of concerns. The constant flow of information, often selected to elicit extreme emotions, can contribute to higher levels of stress and emotional fatigue. The addictive nature of digital devices, designed to keep our attention through notifications and algorithms engaging, has raised concerns about the technology's impact on attention span and impulse control. In addition, the distorted presentation of reality on social media, where people tend to show only the highlights of their lives,

has been linked to feelings of inadequacy, comparison, and even depression.

The field of psychology lies at the intersection of these technological advances and their psychological ramifications. Psychologists not only study the direct effects of technology on mental health, but also develop interventions to mitigate potential negative consequences. Understanding how technology influences cognitive processes, emotional regulation, and interpersonal dynamics is crucial for crafting new strategies that maximize benefits while minimizing harm. By examining the changing relationship between technology and psychology, we can gain insight into the ways in which individuals adapt to this digital landscape and how society at large can proactively address the challenges posed by the rapid evolution of technology.

In this exploration, we emphasize the interaction between technology and mental health from a psychological perspective, examining nuanced effects on cognition, emotions, relationships, and well-being. Through a comprehensive analysis, on the dynamic evolution between human psychology and the digital realm and ultimately pave the way for informed decisions and strategies to promote a healthier coexistence with technology. For this reason, this article seeks to describe the main characteristics of the compendium of publications indexed in Scopus database related to the variables Mental Health, Technology, Psychology, as well. As the description of the position of certain authors affiliated with Latin American institutions, during the period between 2017 and 2022.

2. General Objective

Analyze from a bibliometric and bibliographic perspective, the elaboration and publication of research works in high impact journals indexed in Scopus database on the variables Mental Health, Technology, Psychology during the period 2017-2022 by Latin American institutions.

3. Methodology

This article is carried out through a mixed orientation research that combines the quantitative and qualitative method.

On the one hand, a quantitative analysis of the information selected in Scopus is carried out under a bibliometric approach of the scientific production corresponding to the study Mental Health, Technology, Psychology. On the other hand, examples of some

research works published in the area of study indicated above are analyzed from a qualitative perspective, starting from a bibliographic approach that allows describing the position of different authors against the proposed topic. It is important to note that the entire search was performed through Scopus, managing to establish the parameters referenced in Figure 1.

3.1. Methodological design

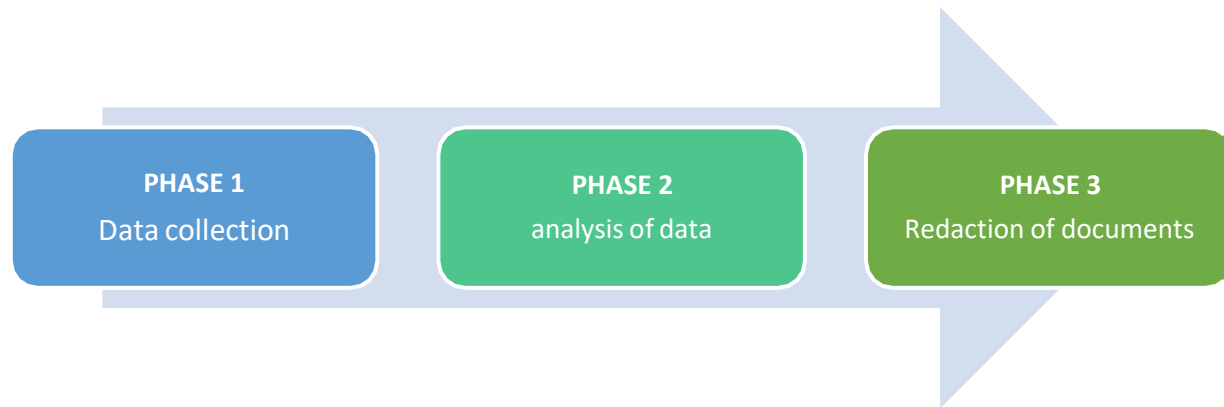


Figure 1. Methodological design

Source: Authors.

3.1.1 Phase 1: Data collection

Data collection was executed from the Search tool on the Scopus website, where 65 publications were obtained from the choice of the following filters:

TITLE-ABS-KEY (mental AND health, AND technology, AND psychology) AND PUBYEAR > 2016 AND PUBYEAR < 2023 AND (LIMIT-TO (AFFILCOUNTRY , "Brazil") OR LIMIT-TO (AFFILCOUNTRY , "Colombia") OR LIMIT-TO (AFFILCOUNTRY , "Chile") OR LIMIT-TO (AFFILCOUNTRY , "Mexico") OR LIMIT-TO (AFFILCOUNTRY , "Peru") OR LIMIT-TO (AFFILCOUNTRY , "Argentina") OR LIMIT-TO (AFFILCOUNTRY , "Ecuador") OR LIMIT-TO (AFFILCOUNTRY , "Dominican Republic") OR LIMIT-TO (AFFILCOUNTRY , "Paraguay") OR LIMIT-TO (AFFILCOUNTRY , "Cuba") OR LIMIT-TO (AFFILCOUNTRY , "Costa Rica"))

- Published documents whose study variables are related to the study of the variables Mental Health, Technology, Psychology.
- Limited to the period 2017-2022.
- Limited to Latin American countries.
- Without distinction of area of knowledge.
- Regardless of type of publication.

3.1.2 Phase 2: Construction of analysis material

The information collected in Scopus during the previous phase is organized and subsequently classified by graphs, figures and tables as follows:

- Co-occurrence of words.
- Country of origin of the publication.
- Area of knowledge.
- Type of publication.

3.1.3 Phase 3: Drafting of conclusions and outcome document

In this phase, we proceed with the analysis of the results previously yielded resulting in the determination of conclusions and, consequently, the obtaining of the final document.

4. Results

4.1 Co-occurrence of words

Figure 2 shows the co-occurrence of keywords found in the publications identified in the Scopus database.

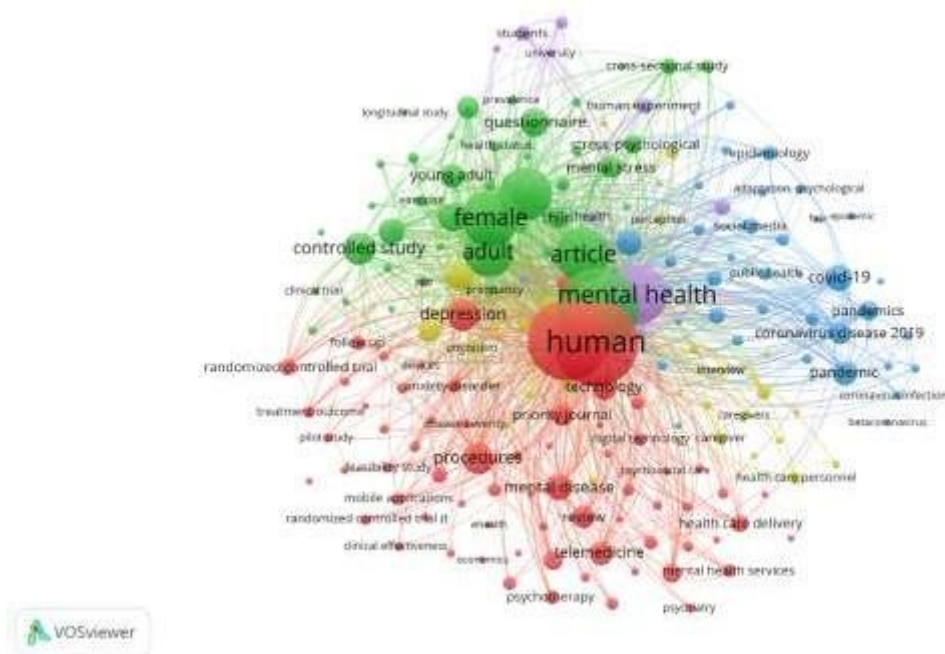


Figure 2. Co-occurrence of words

Source: Own elaboration (2023); based on data exported from Scopus.

Mental Health was the most frequently used keyword within the studies identified through the execution of Phase 1 of the Methodological Design proposed for the development of this article. Controlled Study is also among the most frequently used variables, associated with variables such as Technology, Mental Illness, Telemedicine, Psychology, Psychological Stress, Digital Technology. From the above, it is striking that the correlation that exists between mental health, technology and psychology can be pointed out that it is increasingly relevant in society. The present introduction of technology in everyday life has structured the way we live, work and relationships, this manages to have a significant impact on mental health. The relationship between mental health, technology and psychology is complex and constantly evolving. Technology can be a powerful tool for improving accessibility to care and self-care, but it is also important to address potential negative effects and ensure balanced and healthy use of technology to preserve and promote mental well-being.

4.2 Distribution of scientific production by year of publication

Figure 3 shows how scientific production is distributed according to the year of publication.

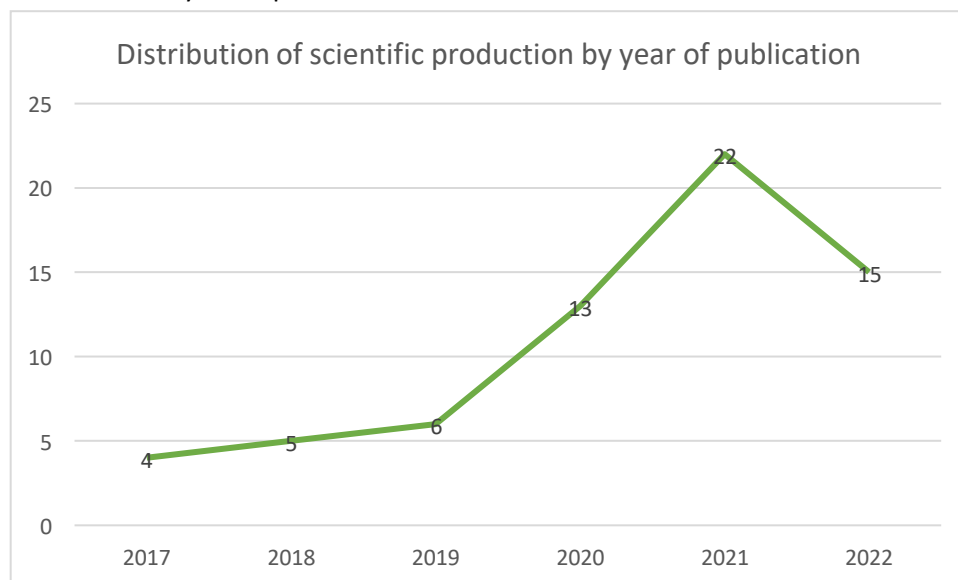


Figure 3. Distribution of scientific production by year of publication.

Source: Own elaboration (2023); based on data exported from Scopus

Among the main characteristics evidenced by the distribution of scientific production by year of publication, a level of number of publications registered in Scopus was the years 2021, reaching a

total of 22 documents published in journals indexed in said platform. This can be explained thanks to articles such as the one entitled "Life satisfaction and academic commitment in Chilean undergraduate students of the University of Atacama" The present study sought to describe the effect of academic commitment on life satisfaction in a sample of Chilean university students. A cross-sectional correlational design was used. A total of 370 university students participated, 72.4% women and 27.6% men, elderly. The effect of engagement on life satisfaction was demonstrated, where the dimensions vigor ($\beta = 0.462$; $p < 0.01$) and dedication ($\beta = 0.465$; $p < 0.01$) were evaluated.) acted as significant predictors ($\chi^2 = 87.077$, $gl = 32$, $p < 0.01$; $\chi^2/gl = 2.721$; IFC = 975; TLI = 0.964; RMSEA = 0.068). The proposed model showed factorial invariance according to sex. The usefulness of using these constructs as a way to manage the well-being and mental health of students in university institutions is discussed.(Burgos-Videla, 2022)

4.3 Distribution of scientific production by country of origin.

Figure 4 shows how scientific production is distributed according to the nationality of the authors.



Figure 4. Distribution of scientific production by country of origin.

Source: Own elaboration (2023); based on data provided by Scopus.

Within the distribution of scientific production by country of origin, records from institutions were taken into account, establishing Brazil, as the country of that community, with the highest number of publications indexed in Scopus during the period 2017-2022,

with a total of 29 publications in total. In second place, Colombia with 10 scientific papers, and Chile occupying the third place presenting to the scientific community, with a total of 8 documents among which is the article entitled "ePSICONUT: An e-Health program to improve the emotional health and lifestyle of university students" the objective of this study was to evaluate the impact of eHealth tools in a program called ePSICONUT. This program was created to promote healthy lifestyle habits in university students. The sample was composed of 16 university students from the Dominican Republic aged between 18 and 24 years ((Formula presented.) = 20.69; s = 1.74). ePSICONUT was developed over 12 weeks and its impact was analysed by comparing the results of initial and final psychological and lifestyle tests, which participants completed online. The results reported that professionally supervised use of eHealth tools was associated with better psychological well-being, less anxiety and depression, and better lifestyle habits (such as diet quality), even in stressful and changing situations such as the circumstances of the COVID-19 pandemic. However, more studies are needed to validate and promote the use of eHealth-based intervention programmes.(Cantisano, 2022)

4.4 Distribution of scientific production by area of knowledge

Figure 5 shows the distribution of the elaboration of scientific publications from the area of knowledge through which the different research methodologies are implemented.

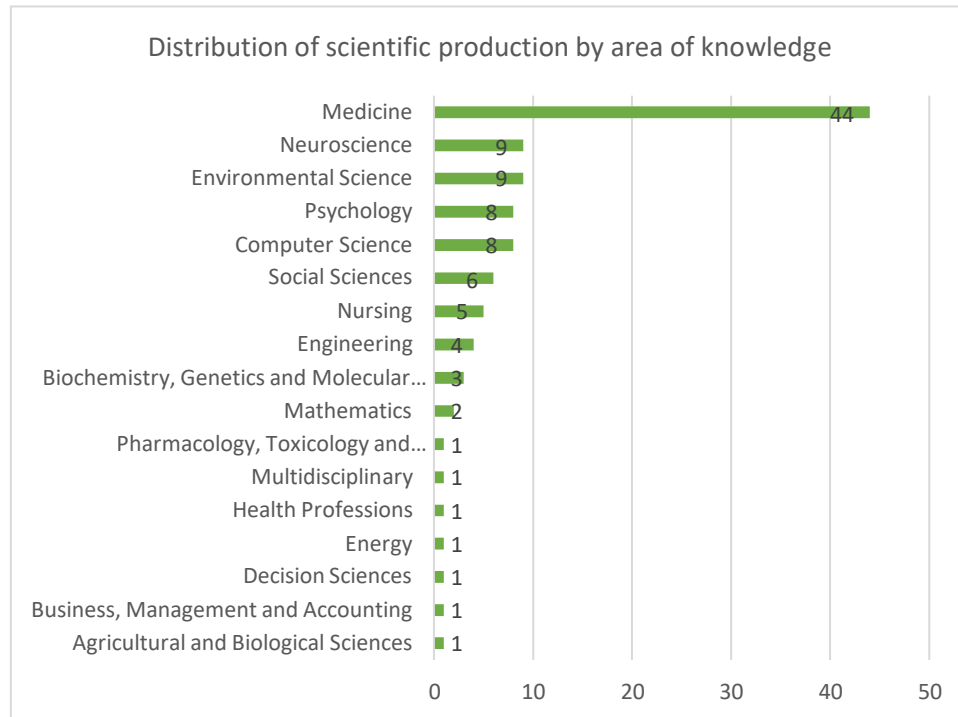


Figure 5. Distribution of scientific production by area of knowledge.
Source: Own elaboration (2023); based on data provided by Scopus.

Medicine was the area of knowledge with the highest number of publications registered in Scopus with a total of 44 documents that have based their variable methodologies Mental Health, Technology, Psychology. In second place, Neurosciences with 9 articles and Environmental Sciences in third place with 9. The above can be explained thanks to the contribution and study of different branches, the article with the greatest impact was registered by the area of Medicine entitled "Use of smartphones, digital addiction and physical and mental health in older adults living in the community: a population survey " (Bertocchi, 2022) This study aims to evaluate the use of mobile technology (cell phones and smartphones), the level of digital addiction and the association of these factors with physical, mental and social health and quality of life (QoL) in older adults living in the community. A population-based study of a city with a low-income population in Brazil was conducted. Sociodemography, cognition (MMSE), mental health (DASS-21), quality of life (WHOQOL-bref), sleep quality (Pittsburgh Index), instrumental activities of daily living (Lawton), loneliness (UCLA), digital addiction (Internet Addiction Test) and mobile phone/smartphone use was investigated. A total of 668 older

adults (93.6% of the total) were included; 175 (26.2%) owned cell phones, 172 (25.7%) smartphones, and 321 (48.1%) no mobile device. Smartphone owners were predominantly young, white, had higher incomes, MMSE scores and social support, and were less dependent. However, no group differences were observed in terms of depression, anxiety or stress symptoms, quality of life, sleep disturbances or loneliness.

4.5 Type of publication

In the following graph, you will observe the distribution of the bibliographic finding according to the type of publication made by each of the authors found in Scopus.

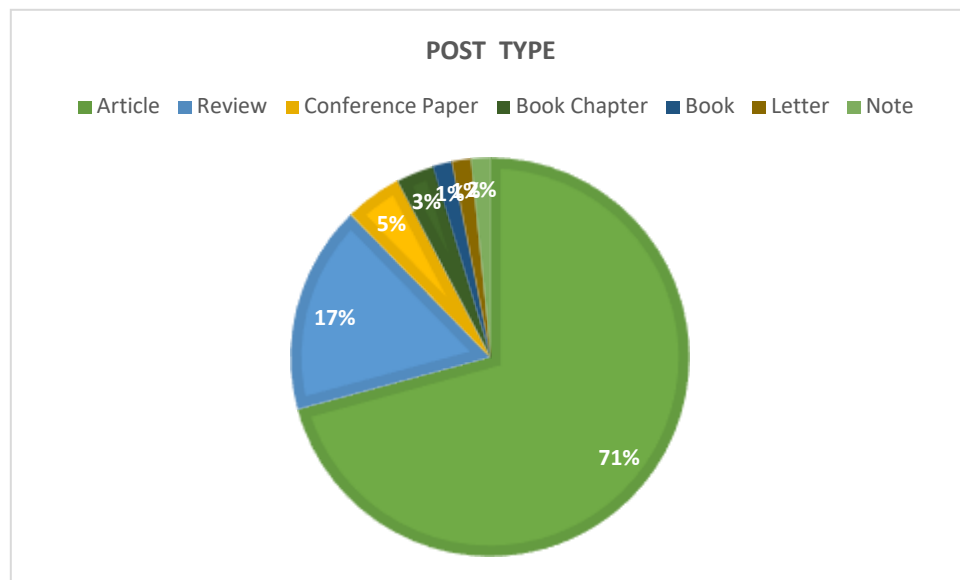


Figure 6. Type of publication.

Fountain: Own elaboration (2023); based on data provided by Scopus.

The type of publication most frequently used by the researchers referenced in the body of this document was entitled Journal Article with 71% of the total production identified for analysis, followed by Journal with 17%. Session papers are part of this classification, representing 5% of the research papers published during the period 2017-2022 in journals indexed in Scopus. In this last category, the one entitled "Psychological help line in the face of the COVID-19 pandemic in the Dominican Republic" stands out. The objective of this article is to describe the development, implementation and evaluation of a psychological first aid program. The program aimed to mitigate the impact of morbidity and

mortality due to mental health issues associated with the COVID-19 pandemic through mobile technology. There were 62 psychologists involved and trained to provide care, and a protocol was developed, implemented, monitored and evaluated. Over the course of four months, the program served 497 people. The average age of participants was 32 years and 73% were women. Reasons for contacting the helpline included anxiety, stress, depression, domestic violence, suicidal behavior, and other behavioral problems. After the intervention, most users reported feeling satisfied and having improved their emotions. The first psychological help in the country developed through telephone messaging and chat was an optimal resource since face-to-face interaction was not possible. It also reached more people and narrowed the attention gap. (Sosa Lovera, 2022)

5. Conclusions

Through the bibliometric analysis carried out in the present research work, it was established that Brazil was the country with the largest number of records published for the variables Mental Health, Technology, Psychology. with a total of 29 publications in Scopus database. Similarly, it was established that the application of theories framed in the area of Medicine, from a psychological perspective, the impact of technology on mental health is a complex and multifaceted issue. Despite the numerous benefits that technology has brought to our lives, it has also created new challenges and potential negative effects on mental health. On the one hand, technology has provided platforms for social connection, access to information, and tools for self-expression, which can positively influence mental health. Virtual support groups, online therapy, and mental health apps have made resources more accessible, breaking down barriers to seeking help and promoting awareness of mental health issues. However, there are also concerns about the harmful effects of excessive use of technology. Constant exposure to social media, digital communication, and entertainment can lead to feelings of comparison, inadequacy, and anxiety. The phenomenon of "digital addiction" can disrupt sleep patterns, reduce social interaction in the real world, and lead to feelings of isolation and loneliness. In addition, the constant flow of information and notifications can lead to cognitive overload and reduced attention span, which can exacerbate stress and anxiety. From a psychological perspective, it is important to recognize that individual differences play an important role in the impact of

technology on mental health. Factors such as personality traits, coping strategies, pre-existing mental health conditions, and social support networks can influence an individual's response to the effects of technology.

To address the impact of technology on mental health, psychologists emphasize the importance of digital literacy and healthy tech habits. Encouraging mindfulness, limiting screen time, engaging in regular digital detox activities, and encouraging direct social interaction are strategies that can help reduce the potentially negative effects of technology on mental health.

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