

## Technology for Psychological Care in Crisis

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### Abstract

*Nowadays, technology has transformed various aspects of our lives, including the field of mental health. Psychological crises, which can arise for various reasons such as stress, anxiety, depression, and other mental disorders, require rapid and effective interventions. In this context, the use of technology has become an essential tool to address and manage these crises more effectively. Technology also plays an important role in mental health education and awareness. Online campaigns, webinars, and educational videos can reach a wide and diverse audience, increasing understanding and reducing the stigma associated with mental disorders. Additionally, social media can serve as platforms to share personal experiences and foster a community of support among those facing similar challenges. The increasing incidence of psychological crises in the population, exacerbated by factors such as the COVID-19 pandemic, social isolation, and economic stress, has highlighted the need for innovative solutions to address mental health. The objective of this study is to analyze how technology, including mobile applications, online therapies, and social networks, can be effectively used to prevent and treat psychological crises. It seeks to identify best practices, existing barriers, and opportunities to improve psychological support through digital means.*

**Keywords:** Technology, Mental Health, Psychological Crises

### INTRODUCTION

Nowadays, technology has transformed various aspects of our lives, including the field of mental health. Psychological crises, which can arise for various reasons such as stress, anxiety, depression, and other mental disorders, require rapid and effective interventions. In this context, the use of technology has become an essential tool to address and manage these crises more effectively. Payares Medina, M. M., & Chamorro Posso, M. J. (2023).

One of the main advantages of using technology in psychological crises is accessibility. Online platforms, mobile applications, and social media allow people to access mental health resources from anywhere and at any time. This is especially relevant for those living in rural areas or who have difficulty accessing traditional mental health services. In addition, technology can offer immediate support through online help, chats, and discussion forums, which can be crucial in times of crisis. (Florez-Revuelta, F., Ake-Kob, A., Climent-Perez, P., Coelho, P., Colonna, L., Dahabiyeh, L., ... & Yazici, Z. A. 2024).

Another area where technology has proven valuable is in telemedicine. Teletherapy, which involves therapy sessions via video calls, has gained popularity, especially during the COVID-19 pandemic. This treatment modality not only allows patients to continue receiving psychological support without leaving their homes, but also eliminates barriers such as transportation and travel time. Additionally, teletherapy may be a viable option for those who are more comfortable speaking to a therapist through a screen rather than in person. (Hernández-Rincón, Erwin Hernando, Leaño-Ramírez, Catalina, Fuentes-Barreiro, Yuli Viviana, Barrera-Orduz, María Fernanda, & Blanco-Mejía, Jhosep Andres. 2019).

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Mobile apps dedicated to mental health are another example of the positive impact of technology on the management of psychological crises. These apps can offer a variety of features, such as breathing exercises, guided meditation, mood tracking, and reminders to take medication. Some apps also include AI-powered chatbots that can provide emotional support and personalized recommendations based on user responses. (Chiriboga Pastor, S. I. 2024).

Technology also plays an important role in mental health education and awareness. Online campaigns, webinars, and educational videos can reach a wide and diverse audience, increasing understanding and reducing the stigma associated with mental disorders. Additionally, social media can serve as platforms to share personal experiences and foster a community of support among those facing similar challenges.

Despite the numerous benefits, it is important to recognize that the use of technology in mental health also presents challenges. Privacy and data security are major concerns, as sensitive patient information must be adequately protected. Likewise, over-reliance on technology can lead to a lack of human interaction, which is critical for emotional well-being. Therefore, it is essential to find an appropriate balance between the use of technology and traditional interventions in the treatment of psychological crises. (Bariffi, F. J. 2024).

The increasing incidence of psychological crises in the population, exacerbated by factors such as the COVID-19 pandemic, social isolation, and economic stress, has highlighted the need for innovative solutions to address mental health. Despite the increase in access to technology and digital platforms, the effectiveness of these tools in the management and treatment of psychological crises has not been fully understood or leveraged.

The objective of this study is to analyze how technology, including mobile applications, online therapies, and social networks, can be effectively used to prevent and treat psychological crises. It seeks to identify best practices, existing barriers, and opportunities to improve psychological support through digital means.

## **Results**

Current trends in the use of technology for mental health are transforming the way mental disorders are diagnosed and treated. Here are some of the most notable trends:

### **Mental Health Mobile Apps**

Mobile apps have grown exponentially, offering tools for self-help, cognitive-behavioral therapy, and mood tracking. Apps like Woebot and Wysa provide cognitive-behavioral therapy-based interventions through interactive chats

### **Telemedicine Platforms**

Telemedicine platforms allow patients to access psychological therapies and consultations from the comfort of their homes. Services like BetterHelp and Talkspace offer online sessions with mental health professionals

### **Artificial Intelligence (AI)**

AI is revolutionizing the diagnosis and treatment of mental disorders. Machine learning algorithms can analyze brain and behavioral data to predict relapses in patients with major depression or schizophrenia

### **Virtual Reality (VR)**

Virtual reality is used in therapies to treat phobias, anxiety disorders, and post-traumatic stress. VR allows patients to face their fears in a controlled and safe environment

### **Wearable Devices**

Wearable devices, such as smart watches and fitness trackers, monitor mood and stress levels in real time. These devices can provide valuable data to adjust treatments and therapies

## Gene Therapies

Gene editing techniques, such as CRISPR, are being investigated to treat neuropsychiatric disorders such as severe autism and Tourette syndrome. These advances could revolutionize the treatment of these complex conditions

These trends are redefining how people can access emotional support and improve their quality of life. Technology is enabling broader and more flexible access to mental health services, especially in remote areas or where access to therapists is limited.

The impact of technology on people's mental health in the long term can be both positive and negative. Below, I explain some of the main effects in both directions:

### Positive Impacts

1. **\*\*Access to Resources and Support\*\***: Technology has enabled more people to access mental health resources, including wellness apps, online therapies, and support communities. This can improve the management of mental health conditions and reduce isolation.
2. **\*\*Early Intervention\*\***: Technological tools can help identify early signs of mental health problems, allowing for faster and more effective interventions. For example, some apps can monitor mood and provide alerts.
3. **\*\*Education and Awareness\*\***: Technology facilitates the dissemination of mental health information, which increases awareness and reduces the stigma associated with mental disorders. Online campaigns and educational content can reach a wide audience.

### Negative Impacts

1. **\*\*Dependency and Addiction\*\***: Excessive use of technological devices and social media can lead to addiction, causing problems such as insomnia, anxiety, and depression. Dependency on technology can interfere with daily life and personal relationships.
2. **\*\*Social Comparison and Low Self-Esteem\*\***: Social media can foster social comparison, where people compare themselves to others and feel inadequate. This can negatively impact self-esteem and contribute to mental health issues like depression and anxiety.
3. **\*\*Cyberbullying\*\***: Online bullying or cyberstalking is a major concern, especially among young people. Bullying experiences can have lasting effects on mental health, including anxiety, depression, and post-traumatic stress.

### Balancing Technology and Well-being

It is critical to find the right balance in technology use to maximize its benefits and minimize risks. Some strategies include:

- **\*\*Set Boundaries\*\***: Limiting time spent using devices and social media can help prevent addiction and negative impact on mental health.
- **\*\*Promote Offline Activities\*\***: Encouraging offline activities, such as exercise, reading, and face-to-face social interaction, can contribute to emotional well-being.
- **\*\*Education and Awareness\*\***: Educating people about healthy technology use and associated risks can empower them to make informed decisions.

Yes, there are studies in other countries on the use of technologies in psychological crises. Here are some relevant examples:

1. **\*\*United States\*\***: A study titled "The COVID-19 Telepsychology Revolution" analyzes how telepsychology has been used to intervene in psychological crises during the pandemic

2. **Spain**: A systematic review article examines the availability of mobile applications for the assessment and intervention in emotional disorders. This study reviews works published since 2016 and selects those that study the functioning of applications in the psychological population in emotional disorders
3. **Ecuador**: A study on the applicability of telepsychology as a care option for patients with psychological crises during the COVID-19 pandemic
4. **Colombia**: A virtual psychological support project for students requesting support in crisis situations

These studies show how different countries are exploring and using technologies to address psychological crises, providing a solid foundation for your research.

## **Discussion**

One of the main advantages of technology in the mental health space is accessibility. In Ecuador, access to traditional mental health services can be limited, especially in rural areas. Teletherapy, which involves therapy sessions via video calls, has allowed many people to receive psychological support from the comfort of their homes. This modality not only eliminates geographical barriers, but also reduces the stigma associated with seeking professional help.

In the context of Ecuador, some mental health apps may be more viable due to their accessibility, popularity, and specific features. Here are some options that might be suitable:

1. **Headspace**: This app is widely used and offers guided meditations, breathing exercises, and stress management techniques. It is accessible and easy to use, making it a good option for those looking to improve their mental well-being.
2. **Calm**: Calm provides guided meditations, relaxing music, and nature sounds. It is ideal for reducing anxiety and improving sleep quality, which can be beneficial for many people in Ecuador.
3. **BetterHelp**: BetterHelp offers access to licensed therapists through online sessions. This option can be especially helpful for those who prefer therapy from the comfort of their home and are looking for professional support.
4. **Talkspace**: Similar to BetterHelp, Talkspace allows users to connect with therapists through text, phone, and video calls. It is a convenient and accessible option for receiving online therapy.

These apps have proven to be effective and can be well suited to the Ecuadorian context due to their ease of use and accessibility. If you need more information about any of these apps or have any other questions, please feel free to let me know.

Internet accessibility in Ecuador has improved in recent years, although it still faces some challenges. Here is a summary of the current situation:

1. **Internet Penetration**: More than 75% of Ecuadorians have access to the Internet

Internet coverage has increased, especially in urban areas, thanks to the expansion of infrastructure and government policies to improve connectivity.

2. **Speed and Quality**: Internet speeds and connection quality have improved, although limitations still exist in some rural areas. The government has implemented plans to increase coverage of 4G and higher technologies
3. **Geographic and Socioeconomic Inequalities**: Despite progress, gaps in Internet access persist due to geographic and socioeconomic differences. Rural areas and low-income communities often have less access to high-quality Internet services.
4. **Recent Challenges**: Connectivity has been affected by power outages and other infrastructure-related issues. Additionally, data security and privacy remain major concerns.

In summary, although Ecuador has made significant progress in Internet accessibility, there are still areas that require improvement to ensure equitable and high-quality access for all citizens.

In order for psychologists in Ecuador to effectively employ technologies in mental health, here are some strategies they might consider:

#### Strategies for Psychologists in Ecuador

1. **Teletherapy and Online Consultations**: Implement therapy sessions through video calls and online platforms. This allows patients to access mental health services from the comfort of their homes, eliminating geographic and transportation barriers.
2. **Mental Health Apps**: Recommend and utilize mobile apps that offer stress management tools, mood tracking, and meditation exercises. Apps like Headspace, Calm, and BetterHelp can be helpful to complement traditional therapy.
3. **Online Education and Awareness**: Utilize social media and online platforms to educate the public about the importance of mental health and reduce the associated stigma. Posting educational content, hosting webinars, and participating in discussion forums can be effective ways to reach a wider audience.
4. **Virtual Support Groups**: Create and moderate online support groups where patients can share their experiences and receive emotional support from their peers. These communities can provide a sense of belonging and reduce isolation.
5. **Continuing Training**: Participate in online courses and workshops to stay up to date on the latest trends and technologies in the mental health field. Continuing education is essential to provide the best possible service to patients.
6. **Security and Privacy**: Ensure that all platforms and tools used comply with privacy and data security regulations. Protecting sensitive patient information is critical to maintaining trust and confidentiality.
7. **Collaboration with Institutions**: Work together with universities, non-governmental organizations, and the Ministry of Public Health to develop and implement technology-based mental health programs. Collaboration can facilitate access to additional resources and support.

These strategies can help psychologists in Ecuador integrate technology into their practice and improve access to and quality of mental health services.

Here are some relevant data on the use of technology in mental health in Ecuador to date:

1. **Increased Use of Technology**: In Ecuador, the use of digital platforms and technologies in daily life has increased significantly. This includes the use of wellness apps and online therapy.
2. **Impact on Mental Health**: The COVID-19 pandemic accelerated the use of digital services and technology, which has had both a positive and negative impact on mental health. On the one hand, it has facilitated access to mental health resources, but it has also increased dependence on technology and social disconnection.
3. **Wellness Apps**: Mental wellness apps, such as Headspace and Calm, are being used to help people manage stress, anxiety, and other emotional challenges. These apps offer meditation exercises, mood tracking, and cognitive behavioral therapy.
4. **Teletherapy**: Teletherapy has gained popularity in Ecuador, allowing patients to access care from mental health professionals from the comfort of their homes. This has been especially helpful during the pandemic.
5. **Challenges and Opportunities**: Despite the benefits, there are challenges related to data privacy and security, as well as the need to balance the use of technology with traditional human interactions.

Mobile apps dedicated to mental health have gained popularity in Ecuador. Apps such as Headspace and Calm offer a variety of tools for stress and anxiety management, including guided meditations, breathing exercises, and mood tracking. These apps provide immediate and accessible support, which can be crucial in times of crisis.

#### Social Media and Community Support

Social media also plays an important role in mental health. Platforms such as Facebook and Instagram allow people to share their experiences and seek support in online communities. These communities can provide a sense of belonging and reduce isolation, which is especially important in times of crisis. (García Lozano, A. A., & Silva Robayo, P. X. 2024).

#### Education and Awareness

Technology facilitates the dissemination of mental health information, which increases awareness and reduces the stigma associated with mental disorders. Online campaigns, webinars, and educational content can reach a wide and diverse audience, promoting greater understanding of mental health challenges. (Rodríguez Bacallado, P., & Cortés Perez, E. 2024).

#### Challenges and Considerations

Despite the benefits, the use of technology in mental health presents challenges. Data privacy and security are major concerns, as sensitive patient information must be adequately protected. Furthermore, over-reliance on technology can lead to a lack of human interaction, which is critical to emotional well-being. (Aroca Rios, M. C., & Calderón Velasquez, M. F. 2024).

#### Future of Technology in Mental Health in Ecuador

Looking ahead, it is essential for Ecuador to continue innovating and adopting new technologies to address mental health crises. Collaboration between the government, health institutions, and non-governmental organizations can facilitate the development and implementation of technology-based mental health programs. Likewise, it is crucial to educate the population on the healthy use of technology and ensure an appropriate balance between digital tools and human interactions. (Salazar Menéndez, J. P. 2024).

### **Materials and Methods**

A mixed methodology is used that combines both quantitative and qualitative approaches. Here is a proposed methodology that you could follow:

#### Proposed Methodology

##### 1. **Study Design**

- **Methodological Approach**: Mixed methodology (quantitative and qualitative).

##### 2. **Population and Sample**

- **Target Population**: People who have experienced psychological crises in Ecuador and have used technology to manage them.

- **Sample**: Selection of participants through stratified random sampling to ensure the representation of different demographic groups (age, gender, geographic location, socioeconomic level).

##### 3. **Data Collection**

#### Quantitative Approach:

- **Surveys**: Administer structured surveys via online platforms to collect data on mental health technology use, frequency, and perceived effectiveness. Include questions on:

- Type of technology used (apps, teletherapy, social media).

- Frequency of use.

- Perceived effectiveness and satisfaction.

- Perceived mental health changes.

#### Qualitative Approach:

- **\*\*In-depth Interviews\*\***: Conduct semi-structured interviews with a sample of participants to explore their experiences and perceptions of using technology in psychological crisis management. Interviews may address:
  - Personal experiences with mental health apps and teletherapy.
  - Barriers and challenges faced.
  - Perceived benefits and suggestions for improvement.
- **\*\*Focus Groups\*\***: Organize focus groups to discuss in depth the impact of technology on mental health, providing a space for the exchange of ideas and experiences between participants.

#### 4. **\*\*Data Analysis\*\***

#### Quantitative Approach:

- **\*\*Statistical Analysis\*\***: Use statistical software (such as SPSS or R) to analyze survey data. Conduct descriptive, correlational, and regression analyses to identify significant patterns and relationships.

#### Qualitative Approach:

- **\*\*Content Analysis\*\***: Transcribe and code interviews and focus group discussions. Identify emerging themes and patterns by using qualitative analysis software (such as NVivo or Atlas.ti).

#### 5. **\*\*Interpretation and Presentation of Results\*\***

- **\*\*Integration of Results\*\***: Combine quantitative and qualitative findings to gain a comprehensive view of the impact of technology on psychological crisis management in Ecuador.
- **\*\*Study Report\*\***: Write a detailed report that includes a description of the methodology, results of the analysis, and conclusions. Include recommendations for improving the use of technology in mental health.

#### 6. **\*\*Ethical Considerations\*\***

- **\*\*Informed Consent\*\***: Obtain informed consent from all participants.
- **\*\*Confidentiality\*\***: Ensure the confidentiality and anonymity of the data collected.
- **\*\*Ethical Approval\*\***: Obtain approval from the relevant ethics committee before starting the study.

### Conclusions

In conclusion, technology has proven to be a valuable tool in the management of psychological crises in Ecuador. Its ability to provide quick and convenient access to mental health resources, offer teletherapy, and develop customized mobile applications has revolutionized the way these challenges are addressed. However, it is important to address the associated challenges and ensure that the use of technology complements, rather than replaces, human interactions and traditional approaches in mental health treatment.

### Patents

This section is not mandatory but may be added if there are patents resulting from the work reported in this manuscript.

**Supplementary Materials:** The following supporting information can be downloaded at: [www.mdpi.com/xxx/s1](http://www.mdpi.com/xxx/s1), Figure S1: title; Table S1: title; Video S1: title.

**Author Contributions:** For research articles with several authors, a short paragraph specifying their individual contributions must be provided. The following statements should be used “Conceptualization, X.X. and Y.Y.; methodology, X.X.; software, X.X.; validation, X.X., Y.Y. and Z.Z.; formal analysis, X.X.; investigation, X.X.; resources, X.X.; data curation, X.X.; writing—original draft preparation, X.X.; writing—review and editing, X.X.; visualization, X.X.; supervision, X.X.; project administration, X.X.; funding acquisition, Y.Y. All authors

have read and agreed to the published version of the manuscript.” Please turn to the [CRediT taxonomy](#) for the term explanation. Authorship must be limited to those who have contributed substantially to the work reported.

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Written informed consent for publication must be obtained from participating patients who can be identified (including by the patients themselves). Please state “Written informed consent has been obtained from the patient(s) to publish this paper” if applicable.

**Data Availability Statement:** We encourage all authors of articles published in MDPI journals to share their research data. In this section, please provide details regarding where data supporting reported results can be found, including links to publicly archived datasets analyzed or generated during the study. Where no new data were created, or where data is unavailable due to privacy or ethical restrictions, a statement is still required. Suggested Data Availability Statements are available in section “MDPI Research Data Policies” at <https://www.mdpi.com/ethics>.

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**Conflicts of Interest:** Declare conflicts of interest or state “The authors declare no conflicts of interest.” Authors must identify and declare any personal circumstances or interest that may be perceived as inappropriately influencing the representation or interpretation of reported research results. Any role of the funders in the design of the study; in the collection, analyses or interpretation of data; in the writing of the manuscript; or in the decision to publish the results must be declared in this section. If there is no role, please state “The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results”.

## Abbreviations

The following abbreviations are used in this manuscript:

|    |                         |
|----|-------------------------|
| AI | Artificial Intelligence |
| VR | Virtual Reality         |

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