Original Article

The Role of Social Media in Mental Health in College Students: Impact and Intervention Strategies

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Abstract - The impact of social media on the mental health of college students is a topic of growing concern and study today. Social media has transformed the way students communicate, engage, and access information, but it also poses significant challenges to their psychological well-being. Numerous studies have highlighted both the positive and negative effects of social media on the mental health of this demographic. On the one hand, social media can provide a platform for social connection, emotional support, and self-expression, which can benefit mental health. However, excessive or problematic use of social media has also been associated with higher levels of anxiety, depression, loneliness, and low self-esteem in college students. Constant comparison with others, exposure to negative or harmful content, and the feeling of always being connected can all contribute to these problems. Faced with this reality, various intervention strategies have been proposed to address the negative impacts of social media on the mental health of university students. These strategies include awareness programs on the healthy use of social media, promoting coping skills and resilience, fostering offline social relationships, and implementing university policies that promote a safer and healthier digital environment.

Keywords - Social media, College students, Mental health, Impact, Intervention strategies.

1. Introduction

In the digital age, the use of social media has reached a massive penetration in the daily lives of young people, particularly university students. These digital platforms have transformed the way we communicate, share information, and build social relationships. However, along with the obvious benefits they offer, concerns have also been raised about their impact on mental health, especially among this segment of the population [1]. The present study delves into the complex intersection between social media and the mental health of college students.

Through a comprehensive analysis, we examine the positive impact and potential risks of heavy social media use on this demographic's psychological and emotional well-being [2]. First, it explores the various positive aspects that social media brings to the lives of college students. These platforms offer an avenue to stay connected with friends and family, facilitate academic collaboration, provide access to educational resources, and promote creative expression [3]. In addition, they can serve as valuable tools for mental health promotion by providing supportive and community spaces where students can share experiences and seek help in times of need [4]. However, along with these benefits, there are several concerns about the negative impact that social media can have on the mental health of college students. Constant

exposure to idealized content and social comparison are factors that can contribute to the development of problems such as anxiety, depression, and low self-esteem. In addition, excessive use of social media can interfere with sleep, academic performance, and interpersonal relationships, thereby exacerbating mental health issues [5]. In this context, it is crucial to examine intervention strategies that can help mitigate the negative effects of social media on the mental health of college students [6].

From approaches focused on promoting critical awareness and digital self-care to institutional initiatives encouraging healthy use of social media, various measures can be implemented to protect students' psychological well-being in an increasingly digitized world [7].

This research aims to comprehensively examine the role of social media in the mental health of college students, focusing on understanding both the positive impacts and potential risks associated with their use. In addition, it seeks to identify and propose effective intervention strategies to mitigate negative effects and promote healthy use of social media among this demographic. Through this study, we aim to contribute to developing policies, programs and practices that promote the psychological well-being of university students in a digitalized environment.

2. Literature to Review

The author [8] points out that a high number of university students experience physical inactivity and sedentary lifestyles, a situation that has been especially aggravated after the health crisis caused by COVID-19. In this context, integrating physical exercise into Healthy Universities programs is a potential strategy to address this problem. This pilot study aimed to examine the effects of a training program on the level of Physical Activity (PA), mental health, and body composition of sedentary college students. A longitudinal repeated-measures study was carried out with the participation of 14 students, and it was evaluated at three different times: at the beginning of the training program, at the end of the training program, and two weeks after its conclusion. Various instruments were used to measure these aspects, including the International Physical Activity Questionnaire for PA level, the DASS-21 questionnaire for stress, depression and anxiety, the Pittsburgh Sleep Quality Questionnaire for sleep quality, body circumference measurements and bioimpedance for body composition. After five weeks of training and two weeks thereafter, significant improvements were observed in the participants' level of PA, mental health, and sleep quality (p <.05). In addition, muscle mass was the only variable related to body composition that showed a significant improvement after five weeks of supervised physical exercise (p = .04). These results show that university initiatives based on healthy training programs can contribute to improving the level of PA, mental health and body composition of university students.

In this way, the author [9] tells us that gamification, a playful strategy used to encourage and engage people in achieving specific goals, has emerged as a promising tool in education and mental health to improve emotional and psychological well-being. This paper aimed to conduct a comprehensive literature review to assess the impact of Artificial Intelligence (AI) on gamification to promote mental health in university students. To carry out this analysis, a detailed search of scientific articles was carried out in various databases, following the guidelines of the PRISMA statement. From an initial total of 424 potentially relevant titles, 14 articles were selected for in-depth evaluation.

The results of the reviewed studies indicated that gamification can increase the motivation and engagement of university students, as well as improve their self-esteem and self-efficacy. In addition, it was highlighted that 50% of the articles analyzed received funding, which suggests an apparent interest of educational institutions in raising their quality standards. In conclusion, the studies examined pointed out that gamification can be implemented in various areas of study by taking advantage of emerging technologies such as artificial intelligence. Nonetheless, it is crucial to consider that the effectiveness of gamification interventions can vary depending on factors such as the quality of the game design, the context of implementation, and the individual characteristics of the users. Likewise, the author [10] reports that various studies have indicated that social crises can aggravate mental health problems in the population. However, it has been suggested that the level of empathy and the availability of information on social media can cushion its impact. Two major social crises occurred recently in Colombia: the COVID-19 pandemic and the 2021 national strike. This study examined the relationship between empathy, social media use, and mental health during these crises. Data were collected from 314 participants through online questionnaires that assessed interpersonal reactivity, time spent using social media, secondary traumatic stress, generalized anxiety disorder, and general well-being. The results revealed an increase in social media use during crises, as well as a positive correlation between time spent using social media and anxiety and traumatic stress. In addition, worse well-being and mental health indicators were observed among those who used social media more. A negative relationship was found between mental health and measures of empathy, and worse indicators of mental health were identified in individuals with lower educational attainment who made intensive use of social media and reported high levels of personal distress and empathic fantasy. In conclusion, empathic skills influence the relationship between social media use and mental health during social crises such as those mentioned.

On the other hand, the author [11] says that, in recent years, we have witnessed an exponential growth of technology and social networks globally, becoming tools of widespread access for the population. Adolescents are one of the most active groups in the use of this technology, and there is scientific evidence to suggest that prolonged use of social networks can generate mental disorders in this population, such as stress, anxiety, depression, fear and even suicidal ideation. The main objective of this review is to examine the relationship between the time spent by adolescents on social networks and its influence on mental health, as well as on various psychological variables. In addition, it seeks to explore how multidisciplinary interventions by healthcare personnel can address these psychological variables that are affected by the use of social networks.

A systematic review of articles was carried out through an exhaustive bibliographic search in various databases such as Cinahl, Medline Complete, Dialnet Plus, and Pubmed to carry out this work. Of 1096 articles obtained, 22 were selected after a critical evaluation to perform the analysis. The results and conclusions of this review highlight that greater use of social networks is associated with a greater predisposition of adolescents to experience anxiety, depression, and stress, as well as to be affected by their academic performance and social life. There is evidence of

the need for the involvement of health personnel, including nursing professionals, in the promotion, prevention and intervention to address the use of social networks and their consequences to help adolescents and their families adopt healthy use.

3. Methodology

For the development of this research, the RUP methodology was developed:

3.1. Beginning

- To investigate how social media use affects the mental health of college students.
- Identify this demographic's risk and protective factors related to social media use.
- Develop effective intervention strategies to mitigate social media's negative effects on college students' mental health.

3.2. Elaboration

3.2.1. Identification of Potential Risks Associated with the Study
Selection Biases

The possibility that the sample selected for the study is not representative of the target population, which could bias the results, is recognized. Appropriate sampling strategies are implemented to mitigate this risk, such as random or stratified sampling, and the limitations and scope of the study are discussed based on the sample selected.

Difficulties in Data Collection

Potential challenges related to data collection are anticipated, such as low response rate, lack of participant cooperation, or the quality of the data collected. Contingency plans are developed to address these difficulties, such as implementing incentives for participation or conducting pilot tests to improve the effectiveness of data collection instruments.

Ethical Issues

The ethical implications of research are considered, especially regarding privacy, confidentiality, and well-being of participants. Ethical approval is obtained from an institutional review committee before initiating the study, and all participants are guaranteed informed consent. Measures are in place to protect participants' identity and personal data and minimize any potential emotional or psychological distress associated with participation in the study.

Table 1. Demograhics

Details	
Age:	
Gender:	
University Career:	
Academic level:	

3.3. Construction Phase

A survey was conducted among 20 university students, and they were asked for the following data, as shown in Table 1.

3.3.1. Use of Social Media
What are the main social media platforms you use? (You can select more than one option: Facebook, Instagram, Twitter, Snapchat, TikTok, LinkedIn, YouTube, others)

This question was asked to find out about the networks used by young people, and the majority indicated that they used all social networks. The result can be seen in Figure 1.

How much average time do you spend on social media per day? (Specify in hours)

Figure 2 shows the answer to the question of the hours young people spend on social networks, where we observe that 6 indicate 1 hour, another 6 about 5 hours, 4 students 2 hours only, 3 students 4 hours, and Only one students 3 hours.
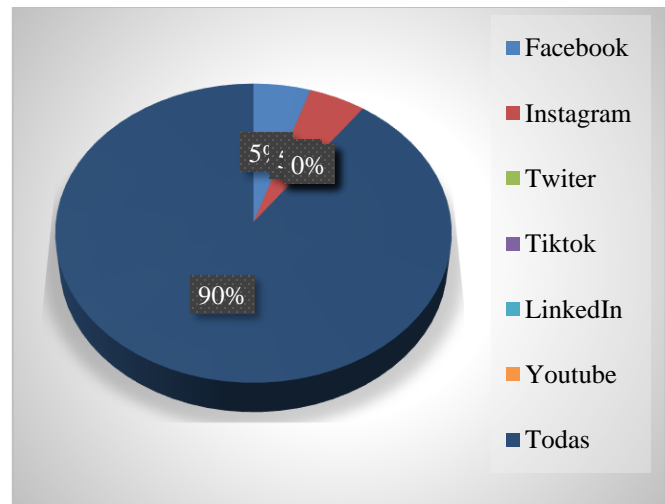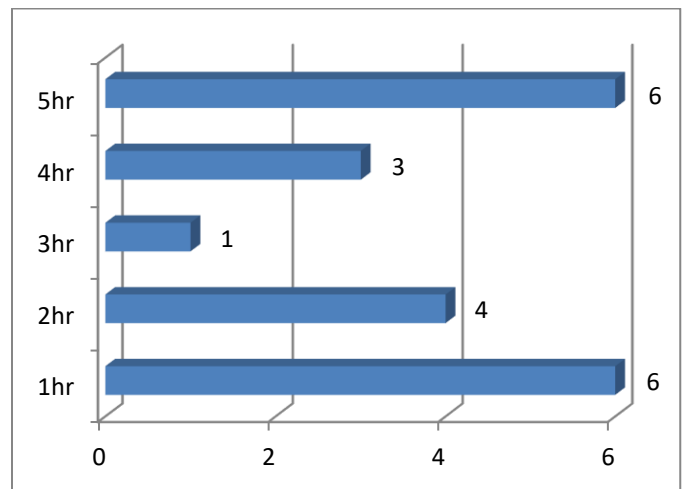

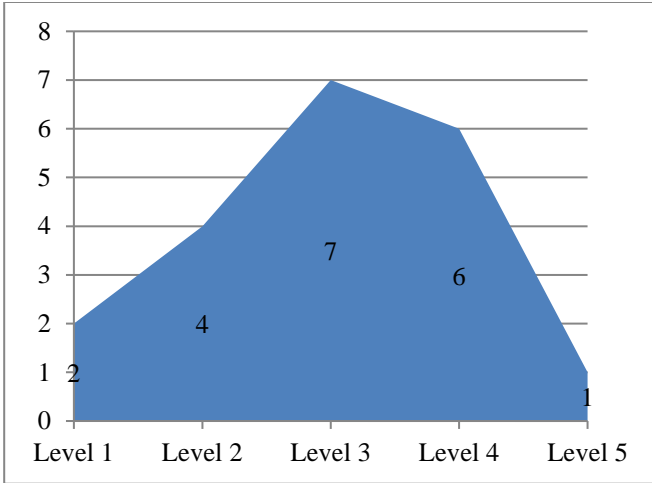**Fig. 1 Social media platform**

Fig. 2 Social media time

Fig. 3 Anxiety level

3.3.2. Mental Health
On a scale of 1 to 5, how would you rate your overall anxiety level? (1 being very low, 5 being very high)

Anxiety experienced by college students in relation to their social media use. By providing a scale of 1 to 5, they can express the intensity of their personal experiences. This allows us to obtain a quantitative measure that can help to understand better the relationship between social media use and mental health and to identify possible patterns or correlations. The answer can be seen in Figure 3.

On a scale of 1 to 5, how would you rate your level of depression overall? (1 being very low, 5 being very high)

This question is formulated using an assessment scale ranging from 1 to 5, where 1 represents a very low level of depression, and 5 represents a very high level. This scale seeks to get participants to rate their level of general depression, thus providing a quantitative measure that allows for a better understanding of the impact of social media use on the mental health of university students. The answer is shown in Figure 4.
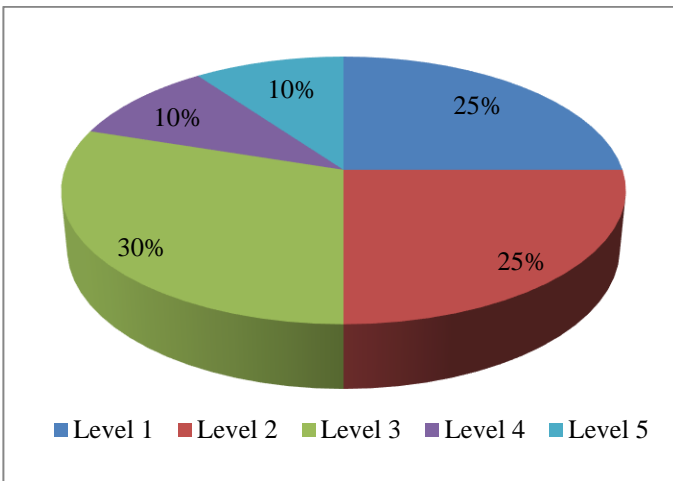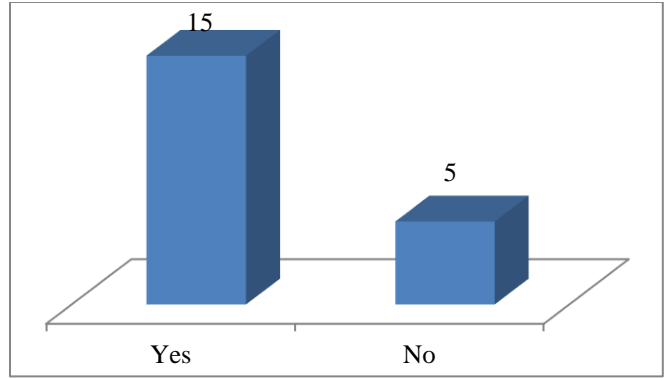

Fig. 4 Depression

Fig. 5 Self-esteem

Have you experienced changes in your self-esteem as a result of using social media? (Yes/No)

This question seeks to understand whether the use of social media has had a perceptible impact on participants' self-esteem. Social media can affect self-esteem in various ways, such as comparisons with other users, seeking validation through likes and comments, or exposure to content promoting unrealistic beauty standards or success. By asking about changes in self-esteem, you can identify if there is a correlation between social media use and self-perception. The answer is shown in Figure 5.

Do you feel that social media affects your social relationships outside the platform? (Yes/No)

This question seeks to determine whether the use of social networks has repercussions on interpersonal relationships outside the virtual environment. Social media can influence the quality and quantity of face-to-face social interactions and the perception of personal relationships. For example, excessive time spent on social media can affect the quality of time spent with friends and family, or it can lead to feelings of loneliness if there is a perceived gap between virtual social life and real life. By asking about the impact on social relationships outside of the platform, one can assess how social media affects the social and emotional lives of participants as a whole.
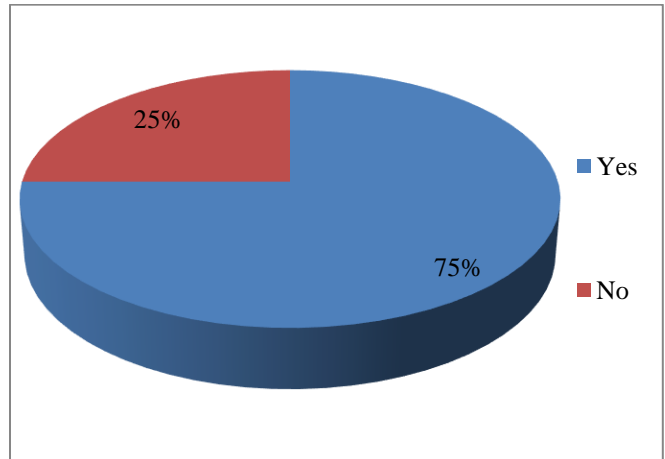

Fig. 6 Social relationship

4. Results and Discussions

The author [8] highlights the importance of integrating physical exercise into Healthy Universities programs to address physical inactivity and sedentary lifestyles, especially aggravated by the COVID-19 pandemic. This approach shows how exercise-based interventions can improve sedentary college students' physical activity, mental health, and body composition. In this way, the author [9] highlights the potential of gamification as a promising tool to improve university students' emotional and psychological well-being. In addition, it examines how artificial intelligence can enhance the effectiveness of these interventions, showing how gamification can increase students' motivation and engagement and improve their self-esteem and self-efficacy. Likewise, the author [10] analyzes how social crises, such as the COVID-19 pandemic and the 2021 national strike in Colombia, can affect the mental health of university students through their relationship with empathy and the use of social networks. It highlights the positive correlation between time spent using networks and anxiety and traumatic stress, as well as the importance of empathic skills in mitigating these effects. Finally, the author [11] examines how prolonged use of social media can affect adolescent mental health, including anxiety, depression, and stress. In addition, it highlights the need for the intervention of health personnel, including nursing professionals, in the promotion, prevention and intervention to address the use of social networks and its consequences on adolescents.

5. Conclusion

By exploring the multiple dimensions of social media use among university students, a complex interaction between these digital platforms and the psychological well-being of young people in academic settings is evidenced. Research reveals how extensive use of social media can trigger a number of mental health issues, including anxiety, depression, and stress, among others. This negative impact is compounded by social crises such as the COVID-19 pandemic and other adverse situations. However, the study also highlights the potential of social media as an intervention and support tool to improve the mental health of college students. Innovative strategies, such as gamification and the use of artificial intelligence, are explored that can be used to promote healthy use of social media and foster the emotional and psychological well-being of young university students. In addition, the importance of the intervention of health personnel, including nursing professionals, in promoting mental health and addressing the challenges associated with using social networks is underlined. This multidisciplinary approach is critical to developing effective strategies that mitigate negative impacts and promote a healthier, more balanced university environment.

References

[1] Dawn Luz Robles Mendoza, and Olive Lopez Sanchez, "Stress and Anxiety in Higher Education Students Under Pandemic Conditions. A Psychoemotional Intervention," *Teaching and Research in New Era Psychology*, vol. 4, no. 1, pp. 472-486, 2022. [Google Scholar] [Publisher Link]

[2] Sandra Posada-Berna et al., "Social Networks as a Mental Health Training Strategy for Young University Students. A Systematic Review," *Revolution in Training and Capacitation for the 21st Century*, vol. 1, 2021. [Google Scholar] [Publisher Link]

[3] Andrés Marín-Cortés et al., "Fear and Sadness in Adolescents who are Spectators of Cyberbullying. Mental Health Violation in the Digital Age," *Virtual Journal of the Catholic University of the North*, vol. 61, pp. 66-82, 2020. [CrossRef] [Google Scholar] [Publisher Link]

[4] Betzy del Rosario Jimeno Orozco, "*ICT Resources for the Promotion of Positive Mental Health to University Students in Times of Coronavirus*," Undergraduate Thesis, Cooperative University of Colombia, Faculty of Social Sciences, Psychology, Santa Marta, 2021. [Google Scholar] [Publisher Link]

[5] Gineth Paola Vitola Rodriguez, "*Audiovisual Resources Based on ICT to Promote Mental Health in University Students*," Undergraduate Thesis, Cooperative University of Colombia, Faculty of Social Sciences, Psychology, Santa Marta, 2021. [Google Scholar] [Publisher Link]

[6] Juan Pablo Zapata-Ospina et al., "Deliberative Dialogue with Ibero-American Universities on Interventions in Student Mental Health During the COVID-19 Pandemic," *Pan American Journal of Public Health*, vol. 46, pp. 1-8, 2022. [CrossRef] [Google Scholar] [Publisher Link]

[7] Ivan Dario Mejía Montoya, "*Risk Factors for Mental Health Impacts from Social Media Use In Adolescents*," Minuto de Dios University Corporation, 2022. [Google Scholar] [Publisher Link]

[8] Gema Sanchis-Soler et al., "Actions for a Healthy University: Impact on the Mental and Physical Health of Young People," *Spanish Federation of Physical Education Teachers Associations (FEADEF)*, vol. 44, pp. 1045-1052, 2022. [CrossRef] [Google Scholar] [Publisher Link]

[9] Verónica Freire-Palacios et al., "Artificial Intelligence in Gamification to Promote Mental Health among University Students: A Scoping Review," *Health, Science and Technology*, vol. 3, pp. 1-13, 2023. [CrossRef] [Google Scholar] [Publisher Link]

[10] Diego Armando Leon Rodriguez et al., "*Empathy, Social Networks and Mental Health Indicators During Social Crises in Colombia*," Undergraduate Thesis, University of Psychology, vol. 21, pp. 1-18, 2022. [CrossRef] [Google Scholar] [Publisher Link]

[11] Selina Manzanero Díaz, "*Impact of Social Media on Adolescent Mental Health and How it Affects Different Psychological Variables*," European University of Madrid, 2022. [Google Scholar] [Publisher Link]