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Online Counseling in the Student Context: A Bibliometric Analysis

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Abstract: This study aims to provide a bibliometric review of the relevant previous research landscape related to online counseling in the student context from 2000-2023. Data were taken from the Scopus database of 215 and refined into 114 publications. Based on the results from bibliometric analysis using VOSviewer software, it was found that 2020 would be the year with the most published articles, namely, 20 articles. The United States is the country that publishes the most articles related to online counseling in the student context, with 26 publications and 18 collaboration links with other countries, followed by Australia, namely 12 publications with 8 collaboration links with other countries, and Indonesia, namely 10 publications with 11 collaboration links with other countries. The trend of citations related to online counseling in the student context occurred in 2020, with as many as 253 citations. Of the 114 articles that have published research related to this field, 40 have been published in Q1 journals. The focus of research on online counseling in the student context by clustering using VOSviewer software is 1) COVID-19 and mental health; 2) higher education and self-stigma; 3) technology and anxiety.

Keywords: Online counseling, Bibliometric analysis, Guidance and counseling

Introduction

Online counseling interventions are now considered to have the potential to address various needs in mental health services (Wong et al., 2018; Navarro et al., 2019; Seidel et al., 2020; Yurayat & Tuklang, 2023). Online counseling has been the subject of extensive research and a rapidly growing field of intervention (Dowling & Rickwood, 2013). Methods of providing support through online counseling continue to improve as technology develops (Nelson et al., 2023). Online counseling is a therapeutic intervention in cyberspace between trained professional counselors and their clients facilitated by technology as a communication modality (Richards & Viganó, 2012). Communication modalities include forums, email exchanges, chat (instant messaging), webcams (e.g., cameras that transmit video over the internet), and audio (voice-only exchanges) (Chester & Glass, 2006;

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Dowling & Rickwood, 2013). Then, the exchange of information can be asynchronous or synchronous. Communication exchanges are asynchronous, meaning there is a time lag between contacts, and communication exchanges are synchronous, meaning communication occurs in real-time or without significant time lag between users (Perle et al., 2011). Asynchronous communication modalities include email and forums, while synchronous ones include audio, chat, and webcam (Dowling & Rickwood, 2013).

Based on the systematic review conducted in this article, the COVID-19 pandemic is a topic that is widely discussed in research related to online counseling in the educational context. Research by Pokhrel & Chhetri (2021) explains that the COVID-19 pandemic has caused the largest disruption to education systems in human history, affecting nearly 1.6 billion students in more than 200 countries. The closure of schools, educational institutions, and other learning spaces has affected more than 94% of the world's student population. The COVID-19 pandemic has brought major life changes (Okan et al., 2020). Social distancing measures and educational movement restrictions have significantly disrupted traditional practices (Pokhrel & Chhetri, 2021). German researchers noted that social distancing and isolation requirements resulting from COVID-19 contributed to the loneliness and depression experienced by many students at school (Holm-Hadulla et al., 2021). The causal factors are poor academic achievement, school dropout rates, and violence against minors (Azevedo et al., 2021). During the lockdown period, university students experienced somatic complaints and aggressive behavior (Parola et al., 2020), high levels of anxiety and depression (Villani et al., 2021; Bruno et al., 2021), and changes in sleep rhythms and symptoms of insomnia (Marelli et al., 2021). Vocational school students who study online also often experience mental health problems, low academic achievement, inaccurate information, and a lack of problem-solving skills (PSS) (Yuniarti & Yusuf, 2021). Therefore, the impact of the COVID-19 pandemic on students' mental health is a major concern for higher education institutions as well as the mental health sector worldwide.

Overall, the scientific community believes that college students' mental health has been severely impacted during the public health emergency, and there is a need to support, assist, and prevent the long-term impact of the pandemic on their mental health (Celia et al., 2022). Research has found a gap in that only about one in five students receive adequate mental health services at university even though the university has adequate facilities to offer help (Auerbach et al., 2016). Then other research also found that only 15.7% of students with mental health disorders received counseling (Rongbudsri et al., 2019). This condition becomes even more complicated because research has explained that the impact of the global COVID-19 pandemic does not provide many choices regarding how to implement mental health services for students (Yurayat & Tuklang, 2023). Because even after the pandemic passes, it will likely have a long-term impact on individual mental health (Ornell et al., 2020).

Research coinciding with the emergence of the COVID-19 pandemic in 2019 noted that the Internet and digital devices are now opening doors for individuals seeking mental health services in Indonesia (Sukmawati et al., 2019). Although the number of people who choose to use the Internet for mental health support is still limited, this number continues to increase along with the rapid growth of Internet users in Indonesia (Sukmawati et al., 2019). The term 'cybercounseling' has been used to describe counseling services based on technological innovation to help combat 'cyberbullying' (Pimdee & Leekitchwatana, 2022). Studies have also been conducted to highlight mental health prevention and intervention efforts using the Internet and mobile devices (Ebert et al., 2018), as well as reporting on the use of the Internet in providing online mental health counseling to treat college students' anxiety, depression, and improve psychological well-being (Davies et al., 2014). Although initially online counseling has received criticism from professionals and lay people due to concerns regarding the impact of the loss of cues on the therapy process, ethical issues and legal implications for all aspects of the construction and delivery of online counseling features, various practical problems of online counseling, as well as concerns about reliance on technology (Barak et al., 2012), but with increasing research evidence regarding the benefits of online counseling, online counseling is now an acceptable form of psychological support (Baker & Ray, 2011; Jorm et al., 2013).

Research highlights the significant benefits of online counseling services for students in various contexts. Thanks to the Internet, individuals seeking mental health services have a new way to communicate with health professionals worldwide (Li et al., 2013). In Ghana, male and female students generally receive online counseling and report that the most significant advantages of online counseling are time savings and convenience (Awabil & Clifford, 2018). This research is in line with research that reports that utilizing online counseling is a convenient way to access information quickly, saves time, increases self-confidence in clients who lack the confidence of face-to-face counseling, and provides a more effective way to interact with clients (Bastemur & Bastemur, 2015; Lamela et al., 2020). Apart from that, online counseling also helps students eliminate the challenges of the counseling process, such as limited transportation and places to live that are

difficult to reach, such as in rural or remote places (Navarro et al., 2019). Likewise, the effectiveness of online counseling for students with disabilities who experience travel barriers or wish to remain anonymous (Jones & Stokes, 2009). Online counseling has been reported to help remove the social stigma associated with seeking mental health support services so that more people can seek professional help (Li et al., 2013; Lamela et al., 2020; Hadler et al., 2021; Ran et al., 2021). The effectiveness of online counseling is at least equivalent to face-to-face counseling (Barak et al., 2012; Richards & Viganó, 2013; Dowling & Rickwood, 2013; Drago et al., 2016), and can be successfully applied to various mental health problems such as depression, anxiety, stress, or post-traumatic stress disorder (Andrews et al., 2018; Andrews et al., 2018; Berryhill et al., 2019; Axelsson et al., 2020; Novella et al., 2022). The results showed that in students in Italy, positive affect, subjective well-being, and future time perspective increased significantly after the intervention of online counseling; in contrast, the participants reported significantly lower levels of negative affect, global mental distress, state and trait anxiety, as well as perceived stress over time (Celia, et al., 2022).

In line with the continued development of research on online counseling in the student context, this research seeks to outline and map the cumulative scientific knowledge and nuances of the field's evolution by rigorously understanding large amounts of unstructured data using bibliometric analysis. Bibliometric analysis is a popular and rigorous method for exploring and analyzing large amounts of scientific data, allowing researchers to uncover nuances of evolution within a particular field while highlighting emerging areas within that field (Donthu, Kumar, Mukherjee, et al., 2021). Bibliometric analysis is used for various reasons, such as to uncover emerging trends in article and journal performance, collaboration patterns, and research constituents and to explore the intellectual structure of a particular domain in the extant literature (Donthu, Kumar, Pandey, et al., 2021; Donthu, Kumar, & Pandey, 2021; Verma & Gustafsson, 2020). The data that takes center stage in bibliometric analysis tends to be massive (e.g., hundreds, even thousands) and objective (e.g., number of citations and publications, occurrences of keywords, and topics), although their interpretation often relies on objective evaluations (e.g., performance analysis) and subjective (e.g., thematic analysis) determined through informed techniques and procedures (Donthu, et al., 2021). Therefore, a well-conducted bibliometric study can build a strong foundation for advancing a field in new and meaningful ways (Donthu, Kumar, Mukherjee, et al., 2021). For example, it enables and empowers researchers to (1) gain a comprehensive picture, (2) identify knowledge gaps, (3) obtain new ideas for investigation, and (4) position their contributions in the field (Donthu, et al., 2021).

Research Purposes

This study aims to provide a bibliometric review of the relevant previous research landscape related to online counseling in the student context from 2000-2023 with the following questions proposed:

Q1: What are the citation trends related to online counseling in the student context?

Q2: How is the distribution of journal rankings based on quartile values related to online counseling in the student context?

Q3: What is the geographical distribution of publications and collaboration patterns between countries in research related to online counseling in the student context?

Q4: What is the focus of research on online counseling in the student context?

Method

Data Collection Strategy

Scopus presents scientific articles from journals that have passed a strict selection process and have a high reputation. Scopus provides complete metadata for each article, including information about the author, affiliation, abstract, keywords, and citations, which makes it easier for researchers to evaluate the relevance of an article and get an overview of a study. Therefore, researchers used Scopus to carry out bibliometric analysis regarding online counseling in a student context. The data collection procedure was carried out using the PRISMA statement, which consists of identification, screening, eligibility, and inclusion processes (Moher et al., 2009). The PRISMA statement provides a methodologically acceptable and rigorous model that contributes to quality assurance of the revision and replication process (Albeha et al., 2020). In the identification process, the author enters TITLE-ABS-KEY ("Online Counseling" OR "Internet Counseling" OR "Virtual Counseling" OR "e-Counseling" OR "Digital Counseling" OR "Web-Based Counseling" OR "Remote Counseling" OR "Cyber Counseling" OR "Telecounseling" AND Student*) in the Scopus database search, thus obtaining

publication data of 215 articles without duplication. After the identification process, screening and assessment for eligibility were carried out, which aimed to exclude articles that were not linear with the included criteria, namely articles that did not discuss online counseling variables in the student context. A total of 114 articles were declared worthy for use in bibliometric analysis. Data was taken via the Scopus database on September 28, 2023.

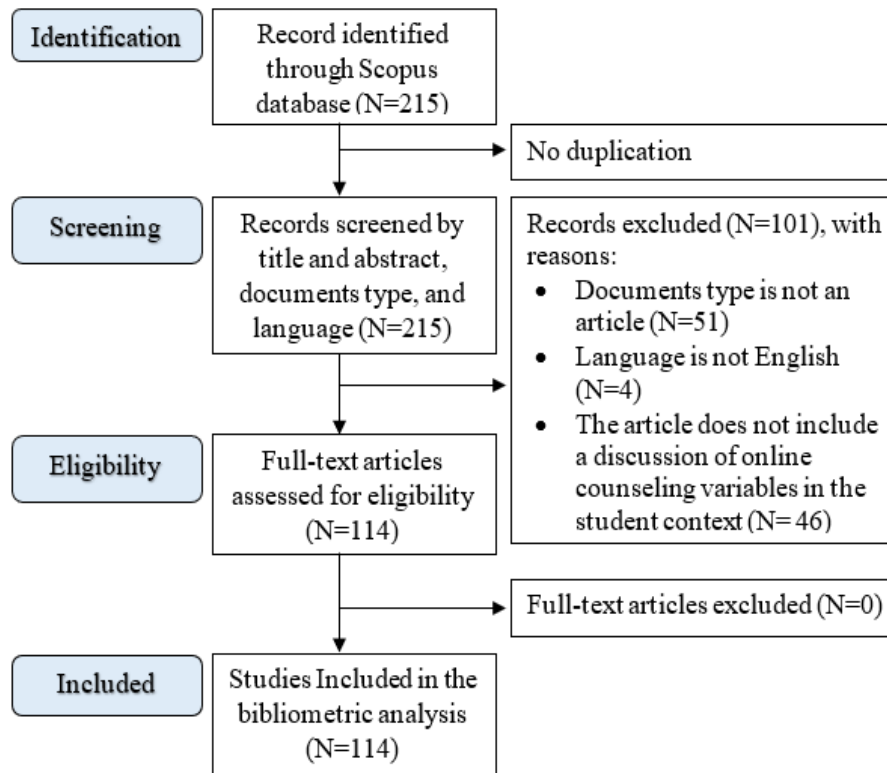


Figure 1. PRISMA flow diagram of the study screening process (Moher et al., 2009)

Data Analysis Method

Total publications and average citations per year regarding online counseling in the student context from 2000 to 2023 were calculated using Microsoft Excel software. The calculation results for the g-index and h-index from each publication were obtained using the Harzing Publish or Perish software. Apart from that, researchers also use Microsoft Excel software to create journal ranking distributions based on quartile values and geographic distribution of publications. Furthermore, to obtain information regarding the distribution of collaboration relations between countries and the research focus of the publication, researchers used VOSviewer software.

Results and Discussion

A description of bibliometric analysis in research on online counseling in student context will be presented in a discussion of trends of citation, journal ranking distribution, geographic distribution and collaboration pattern between countries, and research focus.

The Trends of Citation Related to Online Counseling in The Student Context

This section presents citation trends in research regarding online counseling in the student context from 2000 to 2023 with citation analysis groupings, namely total of publications (TP), number of cited publications (NCP), total of citations (TC), citation per publications (C/P), citation per cited publications (C/CP), h-index (h), g-index (g).

Table 1. Citation analysis of publications

Year	TP	NCP	TC	C/P	C/CP	h	g
2023	13	7	7	0.54	1.00	1	1
2022	18	12	55	3.11	4.58	4	7
2021	9	9	89	9.89	9.88	5	9
2020	20	19	253	9.00	13.31	8	12
2019	3	3	93	31.00	31.00	3	3
2018	10	10	121	12.10	12.10	6	10
2017	6	6	95	15.83	15.83	5	6
2016	6	6	56	9.33	9.33	4	6
2015	6	6	171	28.50	28.50	5	6
2014	3	3	43	14.33	14.33	2	3
2013	5	5	59	11.80	11.80	4	5
2012	2	2	49	24.50	24.50	2	2
2011	1	1	4	4.00	4.00	1	1
2010	2	2	27	13.50	13.50	2	2
2009	3	3	117	39.00	39.00	3	3
2008	3	2	80	26.67	40.00	2	3
2007	3	2	70	23.33	35.00	2	3
2006	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0
2002	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0
2000	1	0	0	0	0	0	0

Table 1 shows that the highest total of publications (TP) between 2000 and 2023 was in 2020, with a total of 20 article publications, followed by 2022 with a total of 18 article publications. 2020 was also the year with the highest number of cited publications (NCP), where there were 19 articles cited out of a total of 20 published articles, followed by 2022, with 12 articles cited out of a total of 18 published articles. Furthermore, the highest total of citations (TC) was in 2020, with 253 citations in 19 published articles, followed by 2015 with 171 citations in 6 published articles. In terms of productivity and the impact of publications on research regarding online counseling in a student context, 2020 occupied the highest position, marked by an h-index of 8 and a g-index of 12. In 2020, it was recorded as having a citation per cited publication (C/CP) of 13.31, which is the result of dividing the total of citations (TC) of 253 citations by the number of cited publications (NCP) of 19.

The citation trend related to online counseling in the student context from 2000 to 2023 can be seen from the total value of citations (TC) in Table 1. Table 1 shows that 2020 is the year with the most cited publications, 253 times out of 20 published articles with an h-index value of 8 and a g-index value of 12. So, 2020 is a year that will have a significant influence on research related to online counseling in the student context. Here are the ten most cited articles published in 2020:

Table 2 shows that the article by Saravanan et al. (2020) is the most cited article, with 82 citations. The study "Knowledge, Anxiety, Fear, and Psychological Distress About COVID-19 Among University Students in the United Arab Emirates" found that students with a history of mental illness, anxiety, and fear significantly predicted psychological distress during the COVID-19 pandemic. The study recommended that educational institutions provide academic and professional counseling to reduce students' psychological distress and improve their academic performance. Additionally, the study suggested that conducting frequent web-based question-and-answer sessions might help students manage their doubts about COVID-19 and alleviate their anxiety and fear related to the pandemic. These findings highlight the potential benefits of online counseling and support for students during the COVID-19 pandemic. In summary, the study's results indicate a clear relationship between the psychological distress experienced by university students and the potential benefits of online counseling and support services in addressing their anxiety and fear related to COVID-19. Furthermore, the article with the second most citations is the article written by Savarese et al. (2020), which has 34 citations. The study sheds light on the psychological challenges faced by university students during the pandemic and the importance of providing effective online counseling services to support their mental well-being during such challenging times. The article's results demonstrate the effectiveness of online counseling in addressing the psychological needs of university students during the COVID-19 lockdown. The online counseling services provided by the center included telephone listening activities, online psychological interviews, psychoeducational groups for anxiety management, and workshops on study methods conducted in small

groups. The counseling interventions were aimed at increasing resilience and identifying psychological problems in order to implement timely management.

Table 2. Ten most cited articles in 2020

No.	Author (Year)	Title	Sources	Citation
1.	Saravanan et al. (2020)	Knowledge, anxiety, fear, and psychological distress about covid-19 among university students in the united arab emirates	Frontiers in Psychiatry	82
2.	Savarese et al. (2020)	Online university counselling services and psychological problems among italian students in lockdown due to covid-19	Healthcare	34
3.	Shorey et al. (2020)	Communication skills training using virtual reality: a descriptive qualitative study	Nurse Education Today	25
4.	Seidel et al. (2020)	Communicating mental health support to college students during covid-19: an exploration of website messaging	Journal of Community Health	25
5.	Pordelan et al. (2020)	Promoting student career decision-making self-efficacy: an online intervention	Education and Information Technologies	17
6.	Savarese et al. (2020)	Online university counselling services and psychological problems among italian students in lockdown due to covid-19	Healthcare	10
7.	Bird et al. (2020)	College students' attitudes, stigma, and intentions toward seeking online and face-to-face counseling	Journal of Clinical Psychology	8
8.	Suranata et al. (2020)	The comparative effect of internet-based cognitive behavioral counseling versus face to face cognitive behavioral counseling in terms of student's resilience	Cogent Psychology	8
9.	Zeren et al. (2020)	The effectiveness of online counseling for university students in Turkey: A non-randomized controlled trial	European Journal of Educational Research	8
10.	Foon et al. (2020)	E-counselling: The intention, motivation and deterrent among school counsellors	Universal Journal of Educational Research	7

The third and fourth articles were cited the most, with 25 citations each. The third article is an article written by Shorey et al. (2020). The article's findings on the use of virtual patient simulations in nursing education have implications for the urgency of implementing virtual counseling programs. The study revealed that while virtual patient simulations have the potential to enhance nursing communication skills, there are limitations, such as lack of authenticity and technological improvements needed. The development and implementation of virtual counseling programs should prioritize addressing these limitations to ensure the effectiveness and authenticity of the training. Additionally, the study highlighted the importance of individual learning objectives and priorities in the effectiveness of virtual patient training, indicating that virtual counseling programs should be tailored to meet the specific needs and expectations of the users. Overall, the findings emphasize the need for urgent attention to technological improvements and individualized approaches in the development of virtual counseling programs to ensure their effectiveness in training communication skills. Then the fourth article was written by Seidel et al. (2020). The study examined the communication of mental health support to college students during the COVID-19 pandemic, particularly focusing on the availability of remote counseling services

on college and university websites. The findings revealed that only half of the surveyed web pages provided information about remote counseling, and just under two-thirds of schools had directions for students experiencing a mental health emergency. The study also found that enrollment size was associated with the availability of psychoeducation about mental health and COVID-19, as well as information about remote counseling on school websites. Medium-sized schools were likely to have these resources available compared to small and large-sized schools, possibly due to the availability of a range of mental health treatment options in urban areas. The study emphasized the critical role of college counseling centers in addressing mental health crises, especially during the pandemic. It highlighted the need for colleges and universities to adapt their mental health support strategies to address the ongoing mental health needs of students.

The Distribution of Journal Rankings based on Quartile Values to Online Counseling in the Student Context

Journal ranking of articles related to online counseling in the student context is carried out by identifying quartile values. Identification of quartile values in journals is done via the Scimagojr website. The following is an image that presents the ranking distribution of the journals examined.

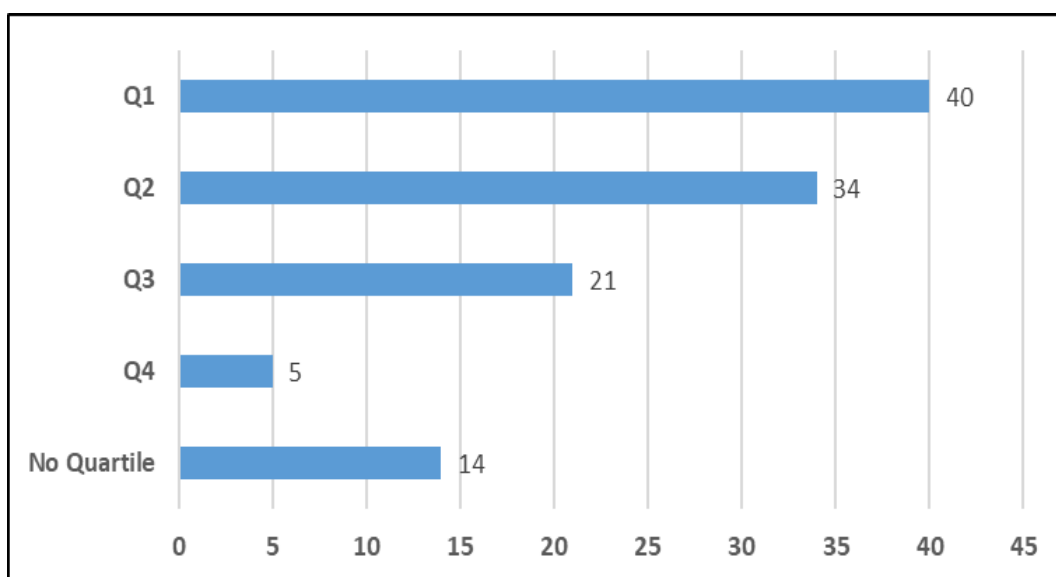


Figure 2. Ranking distribution based on journal quartile values

Figure 2 shows that the ranking by quartiles had the highest distribution in Q1, with a total of 40 articles. Furthermore, the second highest distribution was in Q2 with 34 articles, followed by the distribution in Q3 with 21 articles and Q4 with 5 articles. In research about online counseling in the student context, there were still 14 articles that indicated there were no quartiles. Therefore, authors who research this field need to be more selective in choosing journals to publish their research.

The following is the distribution of journal rankings based on quartile values for the five journals with the most articles from 2000 to 2023. Table 3 shows that *Frontiers in Psychiatry* is the journal that has published the most articles related to online counseling in the student context, namely 5 articles. The journals below can be used as references for researchers to publish articles related to online counseling in the student context.

Table 3. Five journals with the most articles

Journal name	Number of article	Quartile value
Frontiers in Psychiatry.	5	Q1
International Journal for the Advancement of Counselling.	4	Q2
International Journal of Environmental Research and Public Health.	4	Q2
British Journal of Guidance and Counselling.	4	Q3
Education and Information Technologies.	3	Q1
Counselling and Psychotherapy Research.	3	Q2
Journal of the Australian and New Zealand Student Services Association.	3	Q4

Geographical Distribution of Publications and Collaboration Pattern between Countries in Research related to Online Counseling in the Student context

Geographic distribution is an explanation of the distribution country of origin of the author, who has researched the field of online counseling in the student context. Details of the distribution can be seen in Figure 3.

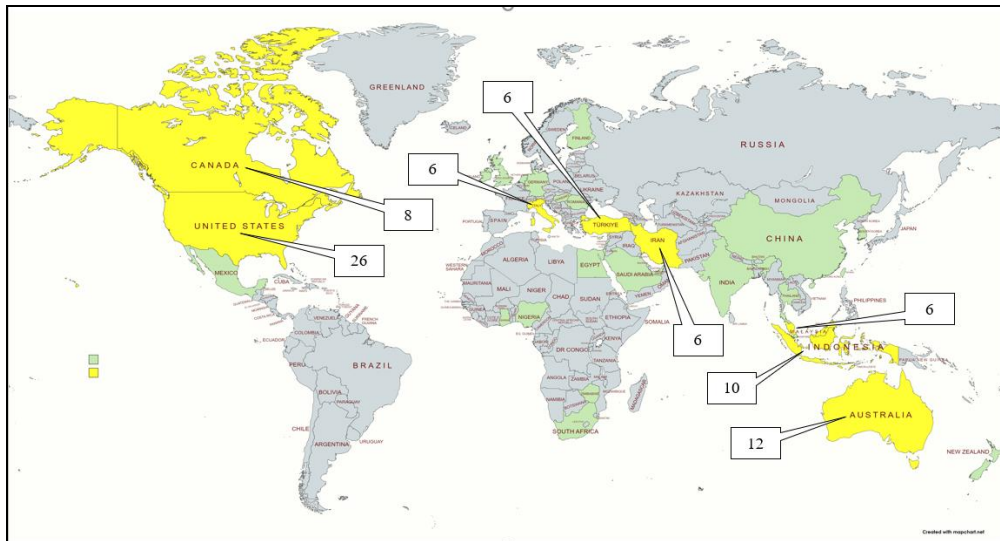


Figure 3. Geographic distribution of publications

There are a total of 35 countries that research the field of online counseling in the student context. The United States is the country that publishes the most articles regarding online counseling in the student context, namely 26 articles. The country with the next most publications is Australia with 12 articles, Indonesia with 10 articles, and Canada with 8 articles. Then, it was followed by Iran, Italy, Malaysia, and Türkiye, with 6 articles each.

In presenting the collaboration relations between countries, researchers do not determine a threshold with certainty. In this case, countries that have 1 article document will be displayed, even though that country does not have cooperative relations with other countries. The distribution of collaboration relations in a total of 35 countries in the article regarding online counseling in the student context is shown in Figure 4.

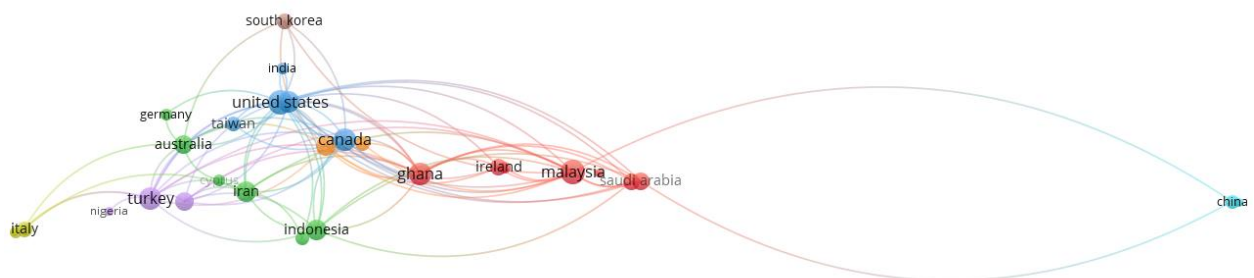


Figure 4. Distribution of collaboration relations between countries

Figure 4 shows that the largest circle diameter is in the United States. The United States has the highest collaborative relationship with other countries, namely 18 countries, regarding online counseling publications in the student context. Apart from that, the relatively large circle diameters are Malaysia, which has 17 collaborative relations with other countries; Canada and Türkiye, with 14 cooperation relations with other countries; and Iran and Indonesia, with 11 cooperation relations with other countries.

The Focus of Research on Online Counseling in the Student Context

The research focus is seen from the author keywords in VOSViewer software by setting the minimum number of occurrences of a keyword to 2 times in published articles so that 53 out of 361 meet the threshold to be

selected. Furthermore, after going through the verified selected keywords process, 37 were used in research and displayed in Figure 5.

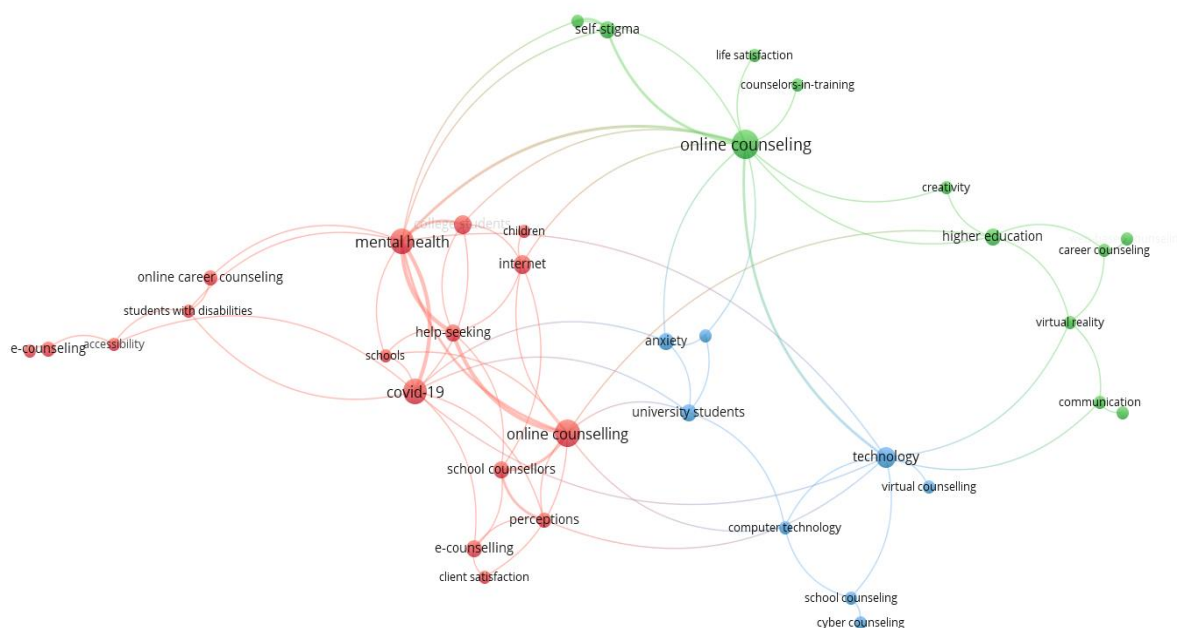


Figure 5. Research focus of publications

Researchers use 3 clusters to explain the focus of research regarding online counseling in the student context, namely the red, green, and blue clusters. First, the red cluster has 17 keywords. Of the 17 keywords, the largest circle diameters are "COVID-19" and "mental health." This indicates that the key "COVID-19" and "mental health" are the main focus of research regarding online counseling in the student context. Second, the green cluster has 12 keywords, where "higher education" and "self-stigma" are the main focus of the research. Next, the third is the blue cluster, which has 8 keywords, where "technology" and "anxiety" are the main focus of research.

Young individuals have emerged as one of the most affected demographics amid the COVID-19 pandemic and associated restrictions on daily life, leading to disruptions in education, social interactions, and connections (Berger et al., 2023). The measures implemented to control the spread of COVID-19 have also affected the mental health of university students and their ability to handle important developmental tasks (Esposito et al., 2023). Therefore, there is a need to provide online counseling services, which have become the preferred method of supporting students during their university studies in the pandemic era, as a supplementary approach to traditional face-to-face counseling (Esposito et al., 2023). The study explores how mental health professionals in schools have supported and addressed the mental health needs of young people during COVID-19 restrictions in Australia (Berger et al., 2023). It highlights the innovative strategies adopted by school mental health staff to assist students during lockdowns and remote learning, including telehealth services, digital resources, and online training and support (Berger et al., 2023). Additionally, the research in Turkey examines counselors' experiences and adaptation processes within university counseling centers during the COVID-19 pandemic (Tuna & Avci, 2023). Thematic analysis indicates that counselors had to adapt to pandemic-induced changes to continue their services, with most counselors showing positive attitudes toward online counseling (Tuna & Avci, 2023). Another study aimed to evaluate the effectiveness of 13 online counseling groups involving 66 underperforming students struggling with their studies, demonstrating the supportive role of online group counseling during the pandemic and in addressing academic challenges (Esposito et al., 2023). The research identified barriers and facilitators in providing counseling and assessment services during lockdowns, including challenges in conducting psychometric assessments during remote learning and ethical concerns surrounding remote counseling delivery (Berger et al., 2023). Counselors faced personal and professional challenges during ongoing counseling sessions (lack of institutional aid, stress, and burnout) and documented their self-care practices (physical health: diet, physical exercise; social support: spending time with families that helped them to feel safe, talk with colleagues and shared their experiences or projects to helped them feel worthwhile; and professional help: counseling sessions after dragged to negativity by clients during the pandemic) (Tuna & Avci, 2023).

Research conducted by Yurayat and Seechaliao (2022) revealed the impact of online counseling (OC) on the mental health of Mahasarakham University Undergraduate Students in Bangkok, Thailand amid the COVID-19 pandemic. OC was found to provide convenient access to psychological support during the pandemic, with counselees exhibiting positive attitudes towards this mode of counseling (Yurayat & Seechaliao, 2022). Notably, no significant differences in attitudes were observed across various demographic and counseling-related factors, as revealed by the study (Yurayat & Seechaliao, 2022). In-depth interviews further highlighted a preference for counseling over both face-to-face counseling (FFC) and OC among participants; the study emphasized the value of OC as a resource for addressing mental health challenges among university students during the pandemic (Yurayat & Seechaliao, 2022). Similarly, research conducted by Celia, Tessitore, et al. (2022) evaluated the effectiveness of online individual counseling provided to Italian undergraduate students during the COVID-19 pandemic. Their study demonstrated significant improvements in mental health indicators post-intervention, including increased positive affect, subjective well-being, and future time perspective, alongside decreased negative affect, global mental distress, anxiety, and perceived stress (Celia, Tessitore, et al., 2022). These findings underscored the positive impact of online counseling interventions in enhancing the well-being of university students during public health crises, providing valuable insights for intervention development in similar contexts (Celia et al., 2022). Furthermore, Khalijian et al. (2023) conducted a mixed study examining the customization and utilization of digital storytelling in online career counseling services for students with physical-motor disabilities in Iran. They found that while students with disabilities face significant challenges in accessing career guidance services, online career counseling, with or without digital storytelling, notably reduces these challenges (Khalijian et al., 2023). Moreover, online counseling significantly enhances academic buoyancy, employability, and mental health among students with disabilities, with digital storytelling showing particular promise in improving employability and mental health outcomes (Khalijian et al., 2023). This research underscores the critical relationship between online counseling and mental health, highlighting its potential to address barriers in accessing career guidance services and promote positive mental health outcomes in this population (Khalijian et al., 2023).

Studies on online counseling have been widely carried out among university students at higher education levels (Tuna & Avci, 2023; Yurayat & Seechaliao, 2022; Celia et al., 2022; Bird et al., 2020; Chen et al., 2022; Wang et al., 2020), where issues like self-stigmatization have emerged as significant topics of investigation. An online survey with 538 participants from a university in the Southeastern United States revealed higher levels of self-stigma and discomfort associated with online counseling compared to face-to-face counseling (Bird et al., 2020). Additionally, participants reported higher value and intentions toward face-to-face counseling (Bird et al., 2020). The study concluded that face-to-face counseling was viewed more favorably than online counseling, and the value of online counseling emerged as a crucial predictor for seeking this form of help (Bird et al., 2020). Stigma significantly influences the willingness of individuals to engage in counseling (Chen et al., 2022). Surveying 823 Chinese college students found that feeling ashamed about seeking help (self-stigma) and doubts about online counseling ethics negatively impacted their willingness to receive online counseling (Chen et al., 2022). However, trust in online interactions positively influenced willingness to receive online counseling (Chen et al., 2022). Importantly, ethical concerns played a mediating role, linking self-stigma and trust to willingness to use online counseling, so the study suggests reducing self-stigma, improving online counseling ethics, and building trust to encourage more students to seek online counseling support (Chen et al., 2022). Interestingly, self-stigma has been observed not only in the context of online counseling but also in face-to-face counseling settings (Wang et al., 2020). A study investigating college students' intentions to seek counseling services found that higher levels of self-stigma and stigma from close others made face-to-face counseling less appealing compared to online counseling (Wang et al., 2020). Despite the general preference for face-to-face counseling, certain personal and social factors may lead individuals to favor online counseling as a more favorable option, highlighting the complex interplay between self-stigma, social influences, and counseling preferences (Wang et al., 2020). These findings underscore the importance of addressing self-stigma in both online and face-to-face counseling contexts to promote more positive attitudes and greater acceptance of counseling services among college students.

Regarding online counseling, technology plays a significant role in shaping the delivery, effectiveness, and challenges of virtual counseling services. Technology plays a multifaceted role in online counseling, offering benefits such as accessibility and efficiency while presenting challenges such as privacy concerns and technological limitations that need to be developed to effectively deliver virtual counseling services (Wells, 2023; Jaber & Al-Hroub, 2023). It serves as a tool to extend counseling services to remote areas, facilitate communication between counselors and clients, and provide support resources for students during online learning (Jaber & Al-Hroub, 2023; Mtemeri et al., 2022; Alias et al., 2022). Several studies have explored the efficacy of online counseling interventions in alleviating anxiety among university students, particularly during the COVID-19 pandemic. The study conducted by the University of Foggia assessed the effects of online

counseling on the mental health of Italian undergraduate students, revealing significant improvements in various mental health aspects post-intervention, including decreased levels of anxiety (Celia, Tessitore, et al., 2022). Similarly, research comparing online synchronous video counseling to in-person counseling using solution-focused brief therapy (SFBT) found significant reductions in anxiety levels for both methods, indicating the effectiveness of online counseling in treating anxiety among undergraduate students in Catholic university in the northeast United States (Novella et al., 2022). Furthermore, a study comparing online and face-to-face psychodynamic counseling interventions demonstrated that both approaches effectively reduced psychological distress, including anxiety symptoms, among students of the University of Milano-Bicocca (Ierardi et al., 2022). Although face-to-face counseling was associated with increased life satisfaction, online counseling was nearly as effective in reducing anxiety, highlighting its potential as an alternative during crises like the COVID-19 pandemic (Ierardi et al., 2022). Additionally, research on online counseling among undergraduate students at the University of Foggia, in southern Italy, using the Brain Wave Modulation Technique (BWM-T) showed promising results in enhancing emotional well-being among university students, with notable improvements in positive affect and decreases in negative affect observed over time, although the decrease in state anxiety was not statistically significant (Celia, et al., 2022). These findings collectively underscore the importance of online counseling interventions in addressing anxiety and promoting mental well-being among university students, particularly in times of crisis.

Conclusion

Online counseling interventions have demonstrated benefits for clients in accessing mental health services. Based on the comprehensive bibliometric review presented in the abstract, this study contributes significantly to understanding the landscape of online counseling in the student context from 2000 to 2023. The meticulous analysis of 114 publications from the Scopus database using VOSviewer software provides valuable insights into the trends and patterns within this field. The identification of 2020 as the peak year for published articles, the prominence of the United States in contributing 26 publications with noteworthy international collaborations, and the emergence of key themes such as COVID-19 and mental health, higher education and self-stigma, and technology and anxiety, all offer a comprehensive understanding of the research landscape. The recognition of 40 articles being published in Q1 journals and the substantial citation trend in 2020 with 253 citations underscore the scholarly impact of research in online counseling in the student context. This study maps the existing body of knowledge and sets the stage for future research directions and policy considerations in online counseling for students.

Recommendations

This study contributes to the existing knowledge base and underscores the importance of addressing mental health concerns and technological interventions in the context of online counseling for students. Researchers and practitioners can leverage these insights to explore further and improve the effectiveness of online counseling strategies, especially in the face of challenges posed by the COVID-19 pandemic and the evolving higher education landscape.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

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