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IMPACTS OF A PUBLIC HEALTH CRISIS ON HEALTH-CENTERED ONLINE SOCIAL NETWORKS

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ABSTRACT

Aim/Purpose	This study examines how the COVID-19 pandemic influenced the use of health-centered Online Social Networks (OSNs), specifically analyzing user activity trends on Camoni, Israel's leading health-centered OSN. The research addresses the growing role of OSNs in providing medical information and emotional support during public health crises.
Background	The COVID-19 pandemic significantly altered healthcare access, encouraging individuals to seek medical information and support online. OSNs have emerged as critical platforms for facilitating peer support, knowledge exchange, and community engagement in health-related discussions.
Methodology	A comprehensive 12-year dataset of Camoni's user activity was constructed to assess changes in participation over time. A large-scale (more than 400k posts) quantitative analysis was performed to identify trends and measure the impact of the pandemic on different user demographics (age, gender) and community activity levels (medical staff, patients, and their families).
Contribution	This study enhances understanding of how health-centered OSNs evolve during crises, highlighting demographic shifts in engagement and the increased reliance on online mental health resources. It provides empirical evidence of the pandemic's role in accelerating digital health adoption.

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Findings	User engagement in Camoni increased significantly during the pandemic, particularly in mental health-related communities (more than 30% increase).
	The depression and anxiety community exhibited the highest activity levels.
	Men and younger individuals showed a notable rise in participation (nearly matching the levels of women and older adults).
	Users personally dealing with mental health challenges were the most active contributors (in several posts and comments).
Recommendations For Practitioners	Healthcare providers and policymakers should recognize OSNs as essential tools for patient education, mental health support, and crisis intervention. Integrating OSNs into public health strategies can enhance accessibility to mental health resources.
Recommendations For Researchers	Future studies should explore the long-term impact of the pandemic on OSN engagement, the effectiveness of online peer support in improving mental health outcomes, and cross-platform comparisons to identify universal trends in digital health communities.
Impact on Society	The study underscores the increasing responsibility individuals take for their health, particularly in mental health management. It also emphasizes the role of OSNs in mitigating social isolation and enhancing digital health literacy during global crises.
Future Research	Further research should investigate post-pandemic trends in OSN engagement, the role of artificial intelligence in moderating online health discussions, and the potential for OSNs to complement traditional healthcare services.

Keywords	data mining, online social networks, mental health, digital health communities, COVID-19, public health crisis

INTRODUCTION

ONLINE SOCIAL NETWORKS

A growing array of digital tools worldwide combine professional information with social networking capabilities for problem-solving, emotional support, and sharing. Such networks allow people dealing with disease quick and easy access to others in similar situations to consult, share information, and give and receive support and insights (Fraga et al., 2018).

Specifically health-centered Online Social Networks (OSNs) were created to provide patients with knowledge and support to manage their health more independently (Ma et al., 2010). They allow members to share experiences and communicate with individuals dealing with similar health problems (Zhao et al., 2014). The literature reveals differences in behavior between genders in online settings (Liu et al., 2018).

A worldwide common health-centered social network is Reddit, where users engage in discussions about public health, share information, and seek support. Hu and Conway (2022) demonstrate how Reddit served as a platform for monitoring public attitudes and behaviors during the COVID-19 pandemic, highlighting its potential for real-time health communication and policy discourse.

Another widely used health-centered social network is Facebook, which has been leveraged for public health research, including large-scale surveys on attitudes and behaviors during COVID-19. By utilizing targeted advertisements, studies have recruited diverse participants across multiple countries, ena-

bling real-time monitoring of behavioral trends, policy compliance, and public perceptions. The ability to rapidly collect and analyze data through Facebook has provided valuable insights into how individuals respond to health crises, helping inform interventions and public health strategies (Perrotta et al., 2021).

Unlike classic social networks such as Facebook, whose primary objective is profit, health social networks first and foremost provide information and support to patients. Bierman et al. (2021) argue that social networks serve as a bulwark of psychological and social support in times of crisis. These networks are a major source of medical information worldwide (Harari & Kian, 2020).

The COVID-19 pandemic disrupted healthcare access, driving people to seek medical information and support online. While OSNs became vital for health discussions, little is known about how the pandemic influenced user engagement, particularly in mental health communities. This study examines the impact of the pandemic on OSN activity, focusing on Israel's leading health-related platform, Camoni ("Like-Me" in Hebrew). We analyze changes in user participation, demographics, and engagement trends, especially in mental health discussions. The following sections detail our methodology, key findings, and their implications for public health and digital health strategies.

CAMONI – HEALTH CENTERED OSN

This exploratory research examines the characteristics of social interactions taking place in an Israeli health-centered OSN. It specifically focuses on differences in gender behavior as well as changes in activity during the COVID-19 pandemic. To the best of our knowledge, this is the first study of a Hebrew-language OSN to analyze posts and responses in light of the above issues.

A systematic review (Chen & Wang, 2021) highlighted the diverse and evolving roles of social media in health communication, research, and intervention. While early uses primarily focused on individual health information sharing and support, recent applications extended to institutional engagement, professional development, and mobilizing communities for health advocacy. The review identified emerging functions, such as facilitating offline health services and supporting medical research, underscoring social media's growing integration into healthcare ecosystems. However, significant research gaps remained, particularly in optimizing audience engagement strategies, evaluating the effectiveness of social media-based interventions, understanding the impact of health identity formation, and addressing privacy concerns.

Camoni is a free platform for sharing knowledge regarding health issues among patients, families, and caregivers. Camoni is one of the leading regional health-centered OSNs (Camoni, 2022), similar to international platforms like PatientsLikeMe or HealthUnlocked. Camoni is made up of 41 different disease communities (diabetes, cancer, cardiovascular diseases, obesity, growth problems, etc.). Professor Mordechai Shani, Camoni's founder, explains that the site was established to empower patients and enable them and their families to take an active part in the management of their medical conditions (NRG, 2010).

Each community is managed by professionals in the field, together with "community leaders", and patients with extensive knowledge and experience. The content is curated and includes detailed guides, patients' rights, current news and research, and user content like personal blogs, talk pages, and discussion groups. The users of the site are divided into three groups – those dealing with an illness, patients' family members, and medical staff.

Camoni has several unique features compared to other medical sites. As a project of The Gertner Institute, a Community Interest Company, it is unaffected by the commercial interests of hospitals or pharmaceutical companies. The mission of the institute is to assist the health system and the Israeli Ministry of Health in establishing and designing informed healthcare policy (Camoni, 2022; Gertner Institute, 2022). In addition, the focus of Camoni is not on the doctors running the forums, but on the patients. The doctors are only there to advise and supervise (Berkovich, 2010).

We have carried out massive mining of more than 400k web pages of content created on Camoni to investigate the major characteristics of the data and major trends over the years.

The data included in the study covers almost a dozen years. We examine trends and changes in the social health network Camoni from when it was established in 2010 through the end of 2021, nearly a dozen years of activity. The extended timeline allows us to examine trends over time in the online health community in Israel as it developed.

Although this study examines an Israeli OSN, the identified trends are consistent with global findings on the rise in digital health engagement during the COVID-19 pandemic.

After COVID-19 Pandemic

The outbreak of the COVID-19 pandemic in November 2019 caused panic and a significant economic crisis, driving up interest in mental and emotional well-being (Cheng, 2022; Green et al., 2021).

COVID-19 began spreading widely in Israel in March 2020. Israeli guidelines for quarantine when a person came into contact with a COVID-19 patient (or was sick him- or herself) ranged from 30 days at the beginning of the pandemic to a week towards its end (Israeli Ministry of Health, 2022). Throughout the COVID-19 pandemic, online health communities were powerful tools for social support and communication during times of quarantine (Green et al., 2021).

Social media played a dual role during the COVID-19 pandemic, serving as a vital source of health information and emotional support while also contributing to the spread of misinformation and mental health risks (Williams, 2022).

Numerous studies have investigated social media usage during the COVID-19 pandemic, highlighting its role as a central source of information (SeyyedHosseini & BasirianJahromi, 2021). Research indicates that engagement with platforms such as Facebook, Twitter, and TikTok increased significantly during this period (Vall-Roqué et al., 2021). Additionally, multiple studies have documented shifts in online discourse related to the pandemic (Ahmed et al., 2020; Hung et al., 2020), examining factors that influence opinion change and identifying authoritative sources in online discussions (Jong et al., 2021; Yum, 2020).

Beyond general usage patterns, researchers have explored social and psychological dynamics within these online spaces. For instance, studies have revealed gender-based differences in social support and mental resilience (Barros & Sacau-Fontenla, 2021), as well as variations in the types of issues perceived as most concerning in online discussions (Wang et al., 2021). These findings underscore the evolving nature of online interactions during crises and provide essential context for understanding how health-centered online social networks, such as Camoni, functioned during the pandemic.

Another study (Laufer & Shechory Bitton, 2021) found that women experienced higher anxiety, depression, and somatization during Israel's first COVID-19 lockdown, alongside greater financial and health concerns. Despite using more coping strategies, they had lower resilience and belief in a just world than men. The findings suggest that women's greater psychological distress resulted from the pandemic's disproportionate impact rather than differences in coping or resilience.

Online health communities specifically were found to benefit patients' ability to cope with the pandemic by providing information and social support (Garcia Martinez et al., 2022). In these communities, the symptoms of the pandemic and its psychological effects were found to be the two most discussed topics online (Jong et al., 2021).

The Research Goals

Our study was structured to achieve two main objectives:

1) Building a comprehensive database of all the information on the Camoni site, in a way that allows analysis of the quantity of information and its content.
2) Carrying out in-depth research on the data with the help of tools for analyzing big data to identify key trends on the site with a focus on gender differences.

The study clears the way for other studies to identify the needs of patients dealing with diseases and can also provide patients with better access to information by identifying the shortcomings and strengths of health-centered OSNs today.

METHODS

The Research Question

Are there significant effects of the COVID-19 pandemic on the behavior of both inquirers and respondents in the Israeli health-centered OSN Camoni?

In particular, which characteristics of the participants had a higher impact: gender, age, or user status (medical staff, dealing with the disease, or supporting a family member)?

The Research Hypotheses

H1.1: The COVID-19 pandemic has led to increased public interest and awareness regarding medical and health issues.

H1.2: The COVID-19 pandemic created a need to receive individualized answers to questions and doubts.

H2.1: The COVID-19 pandemic, and the phenomenon of social isolation that became widespread as a result, has increased the public interest in medical treatment in the field of mental health.

H2.2: The COVID-19 pandemic subsequently increased health-centered OSN activity in communities dealing with depression, anxiety, and more.

Therefore, we predict that we will find an increase in the use of the Internet, especially in the mental health field, but we will not see gender differences.

The Examined Population

The health communities that we tested comprise all the professionally managed communities on the Camoni website, a total of 41 communities. These are communities were created by administrators of the site and cover the common diseases and medical problems in Israel, such as blood pressure, heart disease, diabetes, smoking cessation, depression and anxiety, and cancer.

The website also hosts hundreds of groups on various topics. Unlike communities, these groups were founded by users and not by website management. Since they are not targeted or especially well-organized, and in some cases do not even deal with the core medical issue, we focused on communities.

The sample size consisted of all the communities' content between the years 2010-2021, with more than 400,000 posts and comments, written by more than 25,000 users.

We chose to group the 41 website communities into 6 domains. Each domain includes communities in related fields to enable more general research and identification of trends. The domains represent major medical disciplines built by us in conjunction with a medical team. The selected domains are

Dermatology, Oncology, Orthopedics and Joints, Chronic Diseases, Mental Health Therapy and Community, and Internal Medicine.

Processing Steps

Processing the data is divided into three main stages: downloading the data from the website, processing the data by building databases by topic, and processing the data to identify trends and changes.

Downloading the website contents

First, we had to download all the data from the Camoni website. Since the website does not have an organized API that allows access to all the content, it was necessary to study the structure of the different URL addresses and identify the address template for each part of the website. In total, we identified about 600,000 potential URLs.

We then created code that sent an HTTP request to each potential address and saved the content to an HTML file. In the advanced stages of processing the data, we noticed that we did not see in the file all the data that was visible when opening it manually in the browser. We concluded that there was code pulled from another source with the help of JavaScript commands and that it was necessary to re-download all the data. This time, instead of a normal HTTP request we used the Selenium Hidden Chrome Driver infrastructure that allows generating all the data as viewed in the browser.

To avoid being blocked by the website server, which might detect our requests as a Denial of Service cyber-attack, we sent all requests with a wait time of about a second and a half between requests.

A significant portion of the potential addresses was empty. In the end, we retained approximately 130,000 data binaries, including 97,000 post and comment files, and 32,000 user data files.

Parsing the data

In the next step, we moved on to the data processing stage. We used the Python package Beautiful Soup (Richardson, 2007), which allows, among other things, the parsing of HTML files. The goal was to identify key data on each page of post/comment/user details, match the tags on the HTML page to the data viewed in the browser, and create an algorithm that would extract all the data and put it into an organized and uniform database (DB).

The DB was saved in xlsx files using the pandas and xlwt packages in Python. The DB was composed of a central table containing the posts and their corresponding responses, along with all the metadata accompanying the post – the community in which it was written, the writer, times of writing, and more. A second table contained user data – gender, date of joining the site, communities of which they are members, and user status (medical staff member, patient's family member, or dealing with the disease himself).

Processing the data to identify trends and changes

After building the database, we analyzed the data and attempted to characterize trends and changes in the activity of the website's users, mainly in demographic and cultural aspects.

The tool we used to analyze the data is Tableau. Tableau is a business intelligence tool for data visualization used in analyzing and reporting large quantities of data. It helps create charts, graphs, stories, and more for visualizing and analyzing data (Kumar et al., 2022).

Tableau has many unique and powerful features that make it one of the most popular tools in business intelligence (BI). Tableau allows taking several tables with common characteristics and generating different intersections and perspectives of the data to discover a relationship between components: for example, between a post and its comments, between users and the texts they wrote, or between a community and its activity and members. It can also highlight various indicators such as the

nature of activity over time, consistency across gender, and many other representations of the data. Our methodology is inspired by numerous studies that have successfully employed data mining and the analysis of large databases to derive meaningful insights with Tableau. For instance, we reference research that used Tableau for data mining techniques utilized to analyze extensive datasets, facilitating the identification of key patterns and trends (Akhtar et al., 2020; Balaji et al., 2021). Additionally, we draw on methodologies applied in COVID-19 data analysis, where Tableau was instrumental in creating comprehensive visualizations to understand the pandemic's impact (Parhusip et al., 2022). Furthermore, we consider approaches in which big data analytics and data mining techniques, such as k-means clustering, have been pivotal in identifying patterns and supporting law enforcement (Kumar et al., 2022). These studies provide a solid methodological foundation and demonstrate the effectiveness of data mining and visualization tools in deciphering complex datasets.

To support our findings with statistical rigor, we employed both Cramer's V test and the chi-square test. Cramer's V is utilized to measure the strength of association between two categorical variables, providing critical insights into the degree of correlation and the patterns of dependency within our data. Additionally, the chi-square test was applied to determine the presence of a significant association between categorical variables. By comparing observed frequencies with expected frequencies under the null hypothesis of independence, this test allows us to detect significant deviations and assess the independence of the variables (Franke et al., 2012).

Ethical Considerations

The Camoni platform is publicly accessible. The data was collected from posts and comments that users have expressly agreed to share and that have undergone approval by the site administration, following the platform's terms of use. These posts are viewable to anyone on the Internet, regardless of their registration status on the platform. Our research strictly adhered to all relevant regulations and guidelines outlined by Camoni, ensuring compliance with ethical standards.

As this study involved the secondary analysis of publicly available data on the Camoni website, informed consent was not required from the users. The original consent provided by the users for their data to be publicly shared and used for non-commercial purposes on the Camoni platform.

No compensation was provided to participants as the data utilized in this study was derived from publicly accessible posts and comments on the Camoni platform, where users share information voluntarily without expectation of compensation. Furthermore, the research relates to trend analysis based on metadata, so no specific usernames, posts, or personal data is presented here.

RESULTS

The Camoni Dataset

The first and most basic goal was to build a database that would enable the analysis done in this research as well as future analyses and follow-up studies on digital health communities in Israel – and indeed this goal was fully achieved. We built a table-based database that contains all the information on the site from 2010 to 2021 inclusive, including posts, comments, metadata, and the users with all their details.

The Trends Related to COVID-19

Many areas were examined to identify trends or patterns of interest. The most interesting and significant trends and transformations were related to differences in activity on the OSN before the COVID-19 pandemic, during it, and after it.

Users Gender Distribution

Over a decade, the total volume of publications (posts and responses) in the Camoni communities has increased sharply by 600%, as shown in Figure 1. Women consistently publish more than men in health communities. Beginning in 2019, however, the gender gap in publications narrows as men publish relatively more than before. In 2021, the gender gap is only 8%.

To examine the hypothesized relationship between gender and year, a chi-square test for independence was executed. The statistical outcomes demonstrate a significant association between the two variables ($x^2_{(1)}$ = 35.68, p smaller than 0.001, Cramer's V=0.05). The observed relationship is characterized by a Cramer's V coefficient of 0.05, suggesting a weak but discernible effect size. This means that while there is a certain relationship between the variables, it is not overwhelmingly strong.

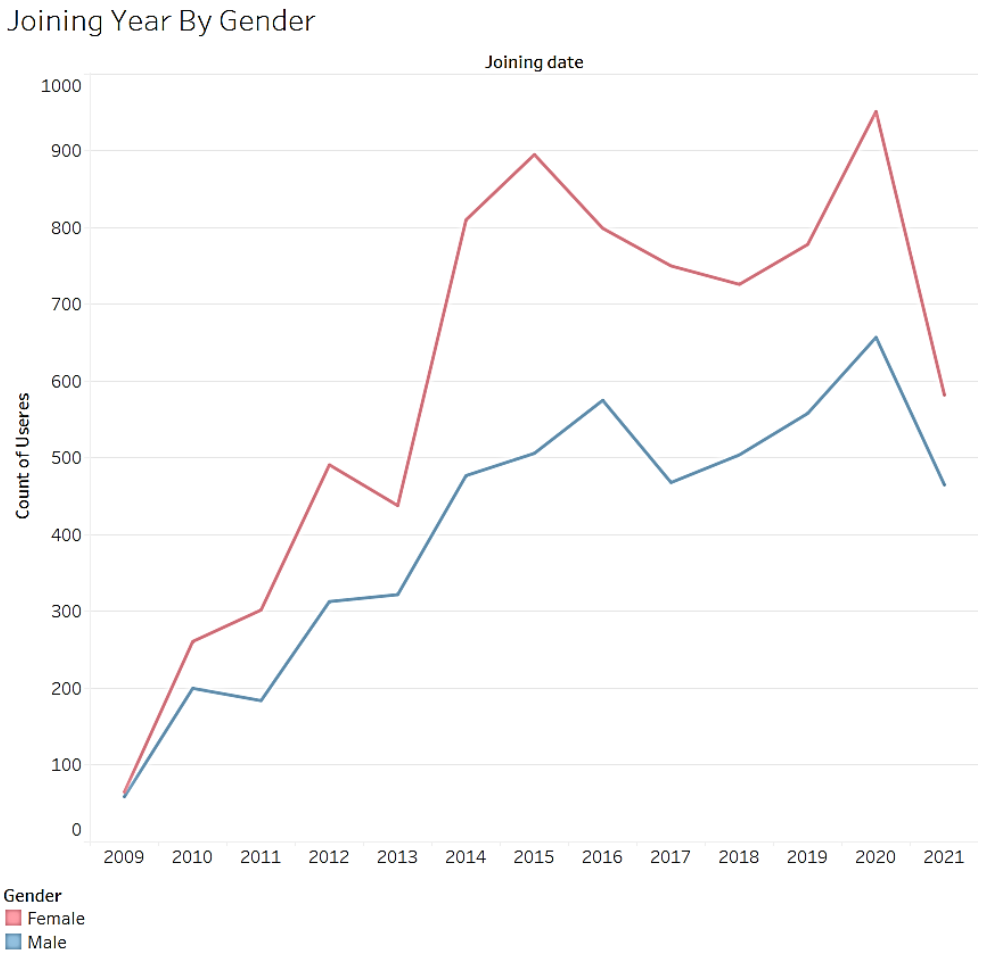

Figure 1. Joining users by year and gender.

Comments Distribution by Year and Gender

Figure 2 presents the number of comments written by men and women respectively showing that both genders are generally increasing their activity on the site. Women consistently comment more, but over the years men have narrowed the gap. The peak for comments by men occurs during the COVID-19 period.

To examine the hypothesized relationship between gender and comments distributions by year, a chi-square test for independence was executed. The statistical outcomes demonstrate a significant association between the two variables. ($x^2_{(1)}$ =1889.46 p smaller than 0.001, Cramer's V=0.12). The observed relationship is characterized by a Cramer's V coefficient of 0.12, suggesting a small but discernible effect size.

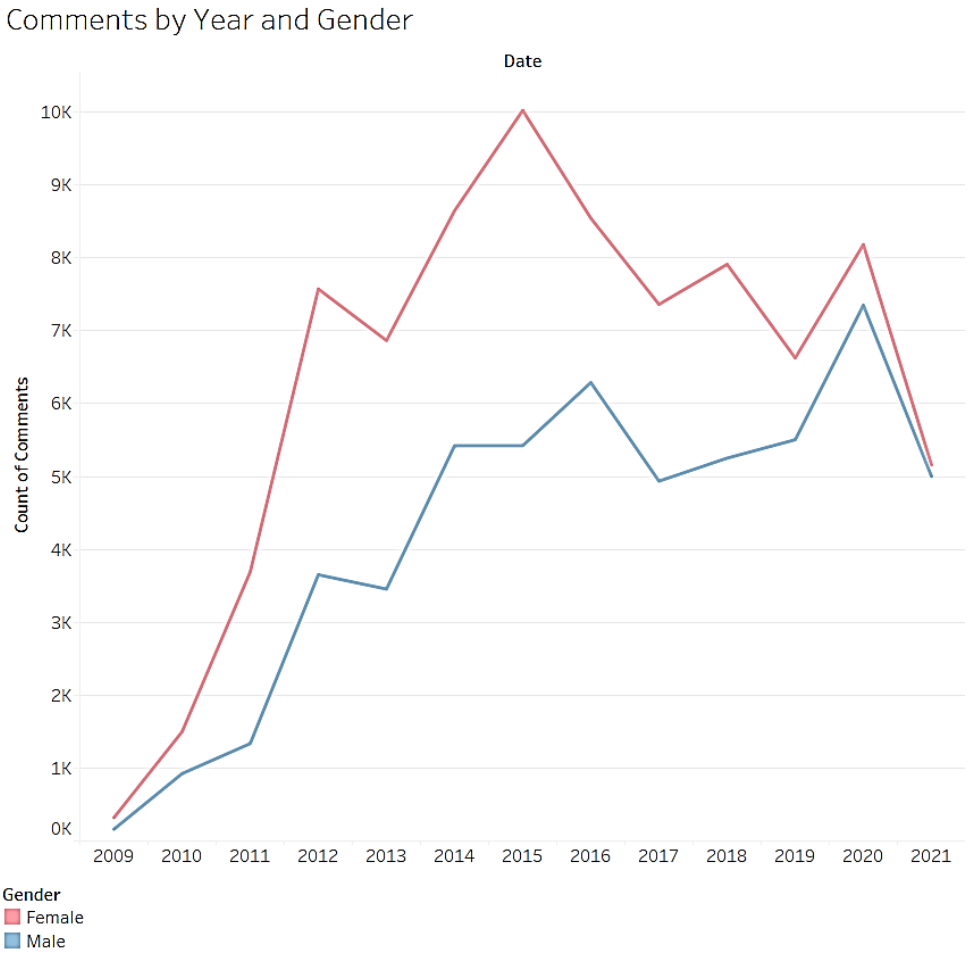

Figure 2. Count of comments by year and gender.

Domain Distribution by Year

Figure 3 shows the number of comments broken down by domain revealing that the most active domain is Mental Health Therapy and Community. All domains experienced an increase in comments in 2020 when the COVID-19 pandemic broke out in Israel and worldwide, with the sharpest increase in the mental health domain.

To examine the hypothesized relationship between domain and comments distribution by year, a chi-square test for independence was executed. The statistical outcomes demonstrate a significant association between the two variables ($x^2_{(5)}$ =50558.99, p smaller than 0.001, Cramer's V=0.20) with the observed relationship characterized by a Cramer's V coefficient of 0.20, suggesting a medium effect size.

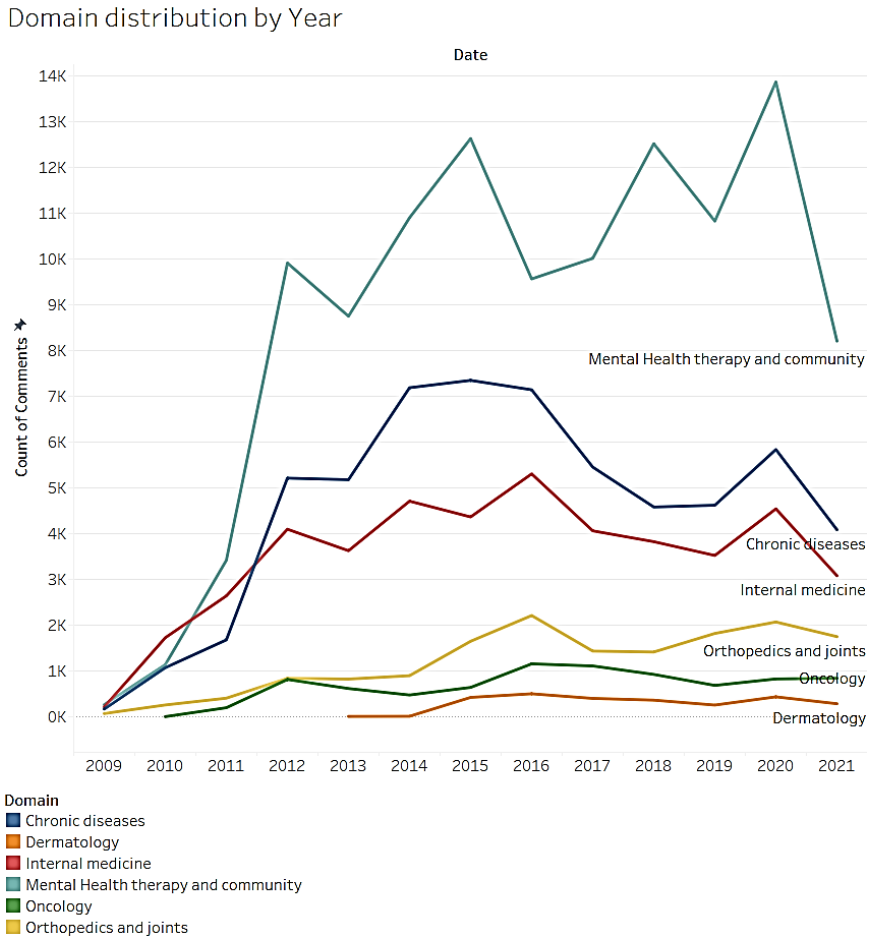

Figure 3. Count of comments by year and domain.

Domain by Gender and Year

Figure 4 charts the number of comments written each year in the various domains, broken down by gender. Men are on a general upward trend in all domains. In the domain of Internal Medicine men have even overtaken women. In the domain of Mental Health Therapy and Community, the gender gap nearly vanishes after the pandemic.

To examine the hypothesized relationship between domain by gender and year, a chi-square test for independence was executed. The statistical outcomes demonstrate a significant association between the two variables ($x^2_{(7)}$=10645.60, p smaller than 0.001, Cramer's V=0.16) with the observed relationship characterized by a Cramer's V coefficient of 0.16, suggesting a medium effect size.

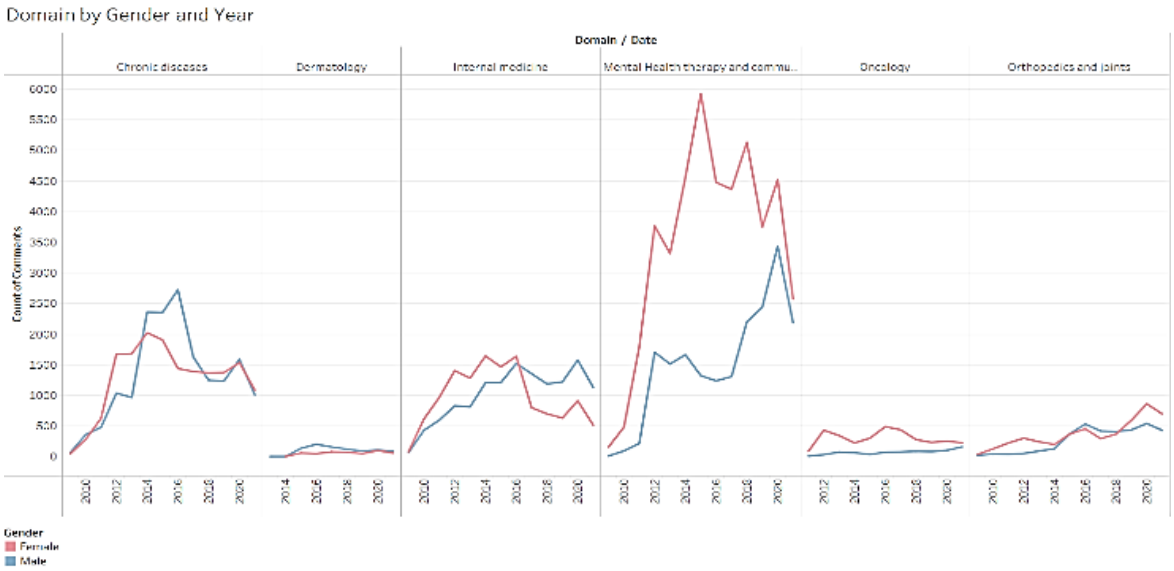

Figure 4. Count of comments by year and gender, separated into domains.

Comments by Age and Year

The number of comments and posts written in the years 2010-2021, divided into age groups of the writers, shows that in the first 8 years of the site, ages 40-49 were the most active, followed by ages 50-59, is shown in figure 5.

In the last three to four years, ages 30-39 are the most active followed by ages 20-29. That is, over the years the activity of the younger ages increases dramatically. Generally, it can be assumed that older people (above 50) have more health issues and therefore might be more active in health centerd OSN. It seems that young people's interest in digital health communities is becoming more wide-spread, and we notice a peak for ages 30-59 in 2020 with the outbreak of the COVID-19 pandemic.

To examine the hypothesized relationship between comments by age and year, a chi-square test for independence was executed. The statistical outcomes demonstrate a significant association between the two variables ($x^2_{(5)}$ =16519.32, p smaller than 0.001, Cramer's V=0.16) with the observed relationship characterized by a Cramer's V coefficient of 0.16, suggesting a medium effect size.

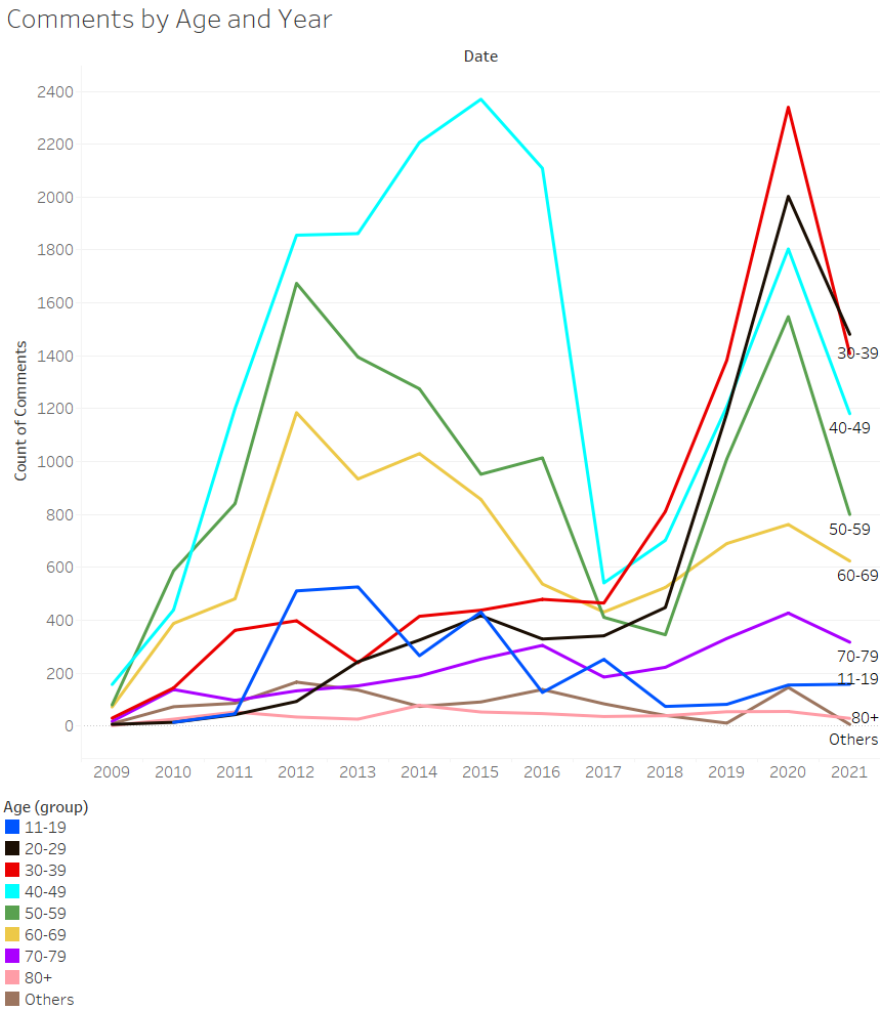

Figure 5. Count of comments by year and age groups.

The Mental Health Therapy Domain by Year

Figure 6 focuses on the domain of Mental Health Therapy and Community, broken into the seven communities that are members of the domain and the number of comments in them by year. The most active communities are the depression community and the eating disorder community. It is interesting to note that activity in the depression and anxiety community is constantly rising, with the peak taking place in 2020, the year the COVID-19 pandemic broke out.

A chi-square test for independence was executed to examine the hypothesized relationship between the mental health therapy domain and year. The statistical outcomes demonstrate a significant association between the two variables ($x^2_{(6)}$ =18324.54, p smaller than 0.001, Cramer's V=0.17) with the observed relationship characterized by a Cramer's V coefficient of 0.17, suggesting a medium effect size.

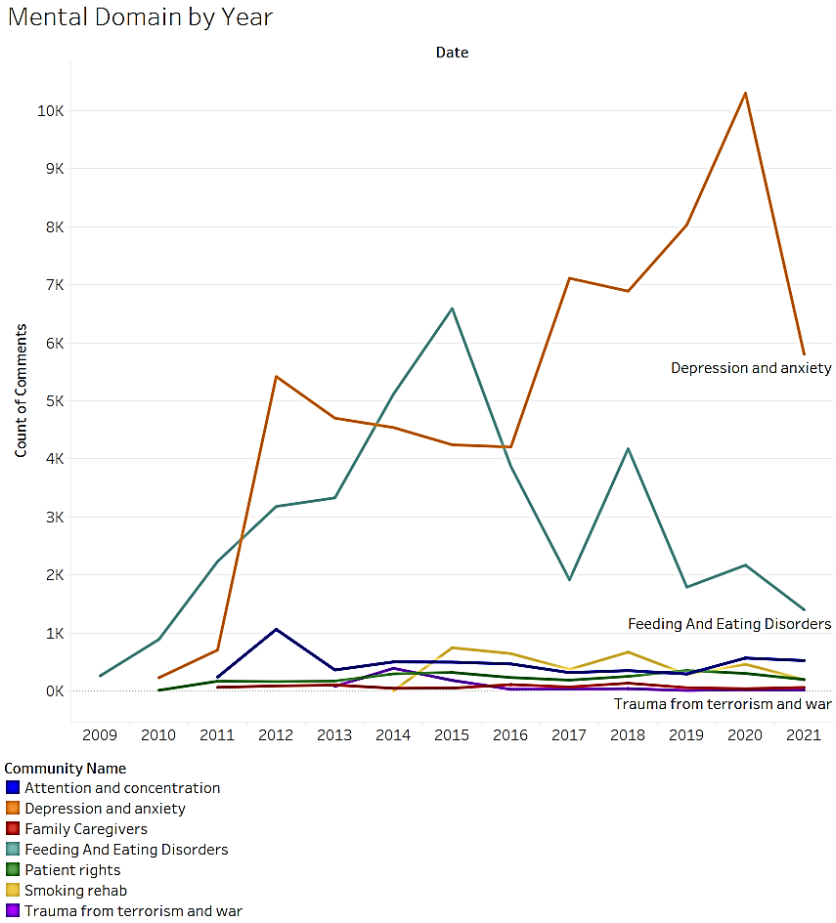

Figure 6. Count of comments by year in the mental domain.

THE DEPRESSION AND ANXIETY COMMUNITY BY GENDER

Following the previous graph, Figure 7 shows specifically the activity in the depression and anxiety community. It describes the number of comments and posts they wrote, divided by men and women, from 2014 and the end of 2021. It can be seen that women are generally more active than men and that both reached the peak of activity (since 2018) between April and August 2020, exactly the period when the significant first wave of COVID-19 outbreaks occurred in Israel.

To examine the hypothesized relationship between depression community by gender, a chi-square test for independence was executed. The statistical outcomes demonstrate a significant association between the two variables ($x^2_{(6)}$=18324.54, p smaller than 0.001, Cramer's V=0.17) with the observed relationship characterized by a Cramer's V coefficient of 0.17, suggesting a medium effect size.

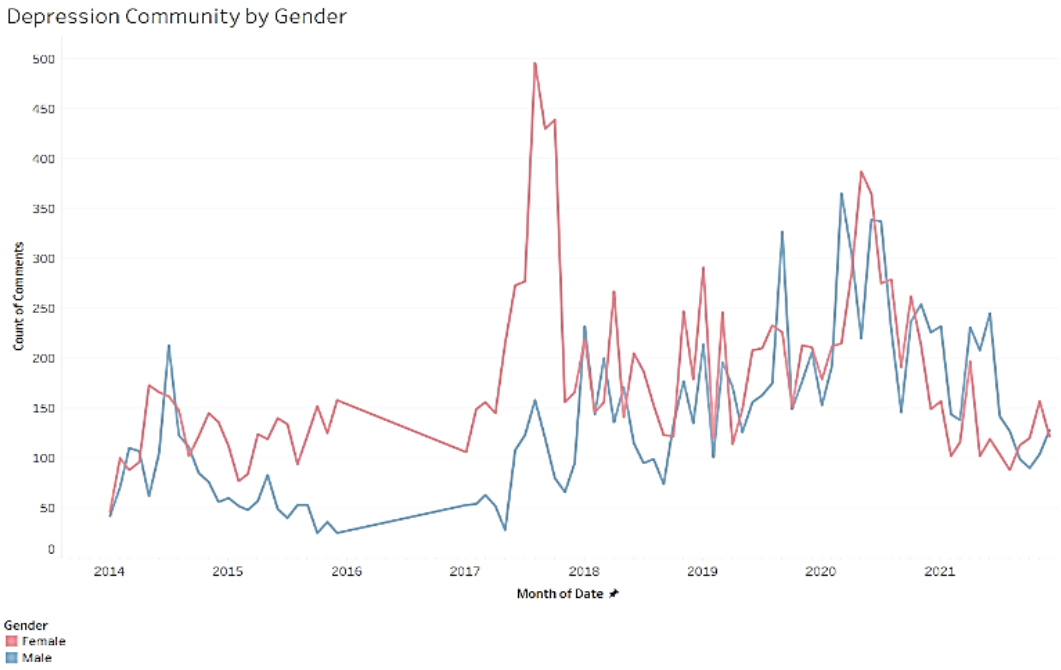

Figure 7. Count of comments by year and gender in the depression and anxiety community.

THE DEPRESSION AND ANXIETY COMMUNITY BY USER STATUS

Following the previous graph, Figure 8 shows the number of comments in the depression and anxiety community according to user status throughout the years 2014-2021(it was established in 2014). Users are divided into 3 types: users dealing with the disease (depression and anxiety) themselves, family members of a patient, or medical staff members. Null users are those who did not fill in the status field. Starting in 2018 there is a significant increase in activity precisely on the part of the patients themselves, peaking in 2020.

To examine the hypothesized relationship between depression community by user status, a chi-square test for independence was executed. The statistical outcomes demonstrate a significant association between the two variables the observed relationship is characterized by a Cramer's V coefficient of 0.20 (x^2 =164, p smaller than 0.001), suggesting a medium effect size.

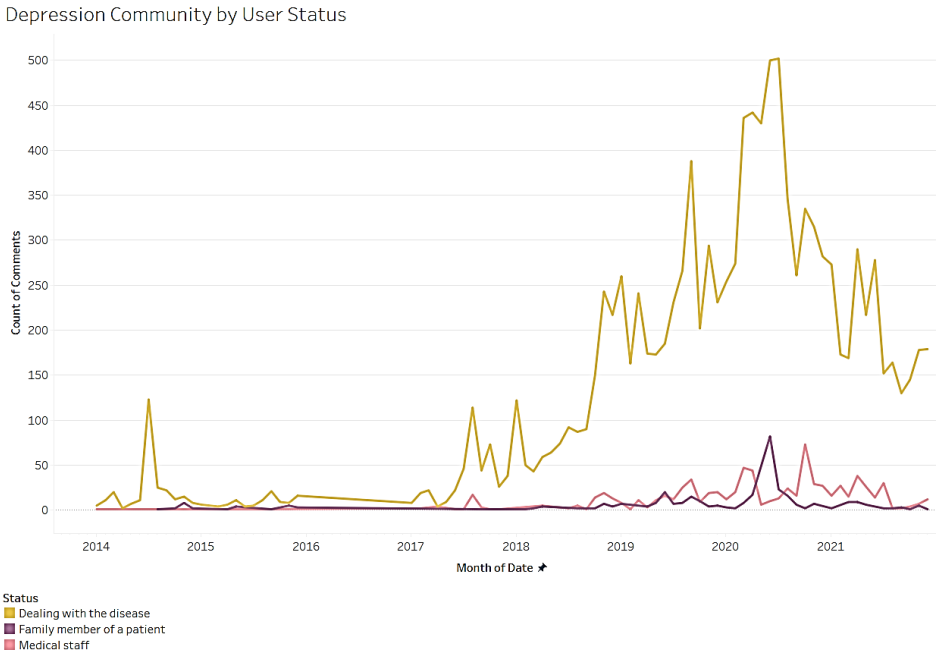

Figure 8. Count of comments by year and author status in the depression and anxiety community.

DISCUSSION

Our study built a database and analyzed the data found on the health OSN Camoni. This comprehensive database of all data on the site contains 12 years of posts, comments, metadata, and the users and their details, and can serve as a basis for future research.

While this study focuses on an Israeli OSN, the observed trends align with global research on increased digital health engagement during COVID-19. Globally, interest in mental and emotional well-being increased by more than 20% in the wake of the pandemic (Green et al., 2021). OSNs can serve as a source of psychological and social support in times of crisis (Bierman et al., 2021; Harari & Kian, 2020; Ma et al., 2010; SeyyedHosseini & BasirianJahromi, 2021; Zhao et al., 2014). We found that during the pandemic activity on Camoni – especially in the Mental Health Therapy and Community domain – increased by 30%, as seen in previous reviews (Chen & Wang, 2021)

In recent years, patients have become more informed and involved in their treatment. It seems that the research hypothesis H1 was correct, and the COVID-19 pandemic has accelerated this trend,

leading to increased awareness even among people with little connection to the medical field, particularly younger individuals and men. This echoes studies such as the survey conducted in Spain by Vall-Roqué et al. (2021) finding increased social network use during lockdowns. These findings may reflect the growing interest of a global civilian population of all demographics in health issues and the recovery and prevention of diseases following the worldwide spread of the COVID-19 pandemic. Understanding how different demographics engage with digital platforms can help policymakers and health organizations leverage social media to disseminate accurate information and support public well-being (Williams, 2022). It is worth noting that while COVID-19 likely contributed to increased OSN engagement, other factors—such as mental health awareness campaigns and improvements to Camoni's platform—may have also had some influence on participation trends.
In Israel, extended lockdowns and isolation periods seem to have pushed the population to explore healthcare online, especially in the field of mental health, as we hypothesized in H.2.1.

Our study seems to stand in contrast to the findings of Barros and Sacau-Fontenla (2021) who found that men have greater mental resilience. In our analysis, males equally sought online support during the COVID-19 pandemic.

When delving into the data analysis concerning the communities themselves, it is noteworthy that the most active domain is the mental health and community sector. This domain encompasses communities addressing various mental health issues, such as depression and anxiety, trauma from terrorism, obesity, and mental first aid. While this domain was active in the initial years of the site's existence, it has shown a more significant increase (+20%) in recent years compared to other domains dealing with conventional diseases (+7%). This suggests a substantial societal need for professional mental support, prompting a deeper exploration of this domain.

Among these communities, the two largest are those focused on eating disorders and depression and anxiety. Since 2016, the depression and anxiety community has experienced a significant surge in activity, surpassing all other communities combined (H2.2). This community can be considered a framework for various other phenomena, as depression and anxiety can stem from trauma, terrorism, eating disorders, and other factors, making it a super community that provides support across multiple areas.

Gender analysis of the depression and anxiety community reveals that women were more active in the early years. However, men quickly caught up, indicating that this community engages a broad demographic. Analysis of user status shows that the most active participants in the depression and anxiety community are those who self-identify as "dealing with the disease." Their activity level surpasses that of family members, caregivers, and medical staff. This suggests that the majority of active users seek mental support for their personal depression and anxiety issues (Houston et al., 2002; Keinan et al., 2024). It is also likely that more stable individuals join the community to offer support and share their experiences to benefit those in need.

Regarding the correlation between variables, relationships with a medium effect size were observed between the following variables: domain distribution by year, mental health therapy domain and year, comments by age, and depression community by gender. The gender aspect was examined in several researches (Keinan et al., 2024; Laufer & Shechory Bitton, 2021).

CONCLUSIONS

In light of the findings outlined above, several important conclusions can be made.

Throughout the dozen years of the Camoni site's existence, there has been a constant increase in joining and posting on the site in most of the site's communities. Regarding gender, female users were always more active. However, over the years men narrow the gap and almost reach equality in 2020-2021 during the COVID-19 pandemic.

It seems that the increase in activity among men who are members of the Camoni site was greater than the increase in activity among new members who joined the site. The narrowing of the gender gap in activity was mainly generated by users who existed before 2020. The COVID-19 pandemic seems to have especially motivated men to become more involved, as seen by their greater participation in Camoni over this period.

In the field of mental health (depression, anxiety, eating disorders, smoking prevention, and more), activity increased in 2020 when the COVID-19 pandemic broke out. In particular, male users became more active and significantly narrowed the gap compared to women. In our opinion, this is a result of the social isolation experienced by both the patients with the disease and the entire population during several national lockdowns in Israel.

Another notable trend is the younger age groups becoming more active on the site. The most active ages shift from the 40-60 range to the 20-40 range in just a few years, leading us to believe that the COVID-19 pandemic increased young individuals' interest in their health and motivated them to take a more active role in their medical treatment. Many young individuals, who normally are relatively unaffected by medical issues, were personally impacted by COVID-19 and so took part in the public medical discourse for the first time.

Over the years examined, the most active users are those personally dealing with the disease, not medical staff or family members. More individuals are taking responsibility for their medical conditions. It is a notable feature of the COVID-19 pandemic that a significant portion of the population was sick themselves.

Within the field of mental health, the most active community is the depression and anxiety community. Activity in this community, although generally very high, peaked during the COVID-19 pandemic. This is likely a direct effect of the isolations and lockdowns characterizing life in Israel during the COVID-19 pandemic.

Considering the entire period, the effect size indicates that the key variables are age, gender, and domain/community. During the epidemic, these variables significantly influenced the processes, as described earlier.

In the waning days of this worldwide pandemic, it is encouraging to know the role that social networks play in promoting community and mental well-being. This is evident in places like Israel, where individuals are open to sharing their struggles and offering support to others. Online social networks can especially help those struggling with anxiety and mental health issues, who might otherwise hesitate to share these issues with others.

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