



Mapping Homophobia and Transphobia on Social Media

Ana M. Sánchez-Sánchez¹ · David Ruiz-Muñoz² · Francisca J. Sánchez-Sánchez¹

Accepted: 6 September 2023 / Published online: 27 September 2023
© The Author(s) 2023

Abstract

Introduction One of the consequences of the increase in the number of social network users has been the inappropriate use of social networks by some of these users. Hate speeches are frequently identified on social media, and these promote certain homophobic and transphobic attitudes, causing psychological consequences on users belonging to minority gender groups. With this work, it is intended to know the current state of the problem raised, to facilitate the activity of new researchers in an emerging field.

Methodology Bibliographic analysis of 203 papers from the Scopus databases for the period between 1997 and 2022 using the VOSViewer software. The search for publications was carried out in February 2023.

Results There is a positive trend in the number of relevant publications since 2017, mainly in 2021 and 2022. The research on homophobia and transphobia on social media in USA is prominent, with a high number of published articles, productive organizations, and influential authors. Twitter is shown to be the social network most widely used to spread homotransphobic hate speech. Environments conducive to the development of homotransphobic attitudes are identified as collective sports, mainly football and its supporters, as well as peer groups.

Conclusions It is a growing problem that requires intervention at the societal level, requiring the development of legislation that moves away from heteronormativity, the development of mechanisms for automatic detection of homotransphobic discourse on social networks, and a multidisciplinary analysis and approach to control the problem as well as provide adequate social support to affected groups.

Keywords Social media · Homophobia · Transphobia · Violence · Hate speech · Transgender · LGBTIQ+ · Discrimination

Introduction

In the current digital era, social media serve as essential tools for online communication, facilitating users to post or share information and express their opinions on any topic at any time (Gkotsis et al., 2016). For this reason, they are nowadays one of the most important sources of harassment

among young people, as these digital platforms are the most used means to interact with each other.

The role of social networks in relation to hate speech is complex and contradictory. On the one hand, social media platforms have policies in place to prohibit explicit hate speech, but on the other hand, they also provide a means for the spread of hateful messages through the activities of groups and organizations that promote such messages. This creates a challenge for social media platforms, as they must balance the freedom of expression with the need to address hate speech and prevent its spread (Ben-David & Matamoros, 2016).

With the rapid expansion of social media and the increase in the number of users in recent years, it is necessary to review the existing literature on the aforementioned problem, and to translate the results into comprehensive knowledge maps, which facilitate a greater understanding of the trends and attitudes observed on social networks and which in certain situations pose a threat to gender minorities.

Inappropriate use of these platforms, coupled with the continued growth of abusive and hateful content on these

✉ Ana M. Sánchez-Sánchez
amsansan@upo.es

David Ruiz-Muñoz
david.ruiz.m@juntadeandalucia.es

Francisca J. Sánchez-Sánchez
fsansan@upo.es

¹ Departamento de Economía, Métodos Cuantitativos e Historia Económica, Universidad Pablo de Olavide. Ctra. Utrera Km 1. ES-41013, España, Sevilla

² Junta de Andalucía, Sevilla, España

platforms, can affect users psychologically (Tynes et al., 2008; Wypych & Bilewicz, 2022). There is evidence that homosexual, bisexual, and transgender people have a higher vulnerability to mental illness compared to the heterosexual population (Gilman et al., 2001; Marshal et al., 2011; Reisner et al., 2015).

Homophobia or transphobia can be defined as the fear, dislike, discomfort, or distrust of gender minorities (lesbian, gay, transgender, or bisexual people).

Homophobic or transphobic speech is a type of offensive language that can be summarized as hate speech directed towards these minorities and is leading to a steady growth in this type of content. Homophobia or transphobia on social media is a serious problem that can cause harmful and unwanted content to flourish on online platforms, while aiming to eliminate equality, diversity, and social inclusion (Chakravarthi & Muralidaran, 2021).

Although there has been work on hate speech intervention (Qian et al., 2019) and there is a fair amount of literature on identifying this type of discourse (Burnap & Williams, 2016; Malmasi & Zampieri, 2017), there is not much scientific work that attempts to specifically identify homophobic or transphobic discourse (Chakravarthi et al., 2022a). As research so far has focused on identifying violent (Risch & Krestel, 2018), misogynistic (Fersini et al., 2020), or racism (Waseem, 2016), making the detection of such hateful content for gender minorities all the more important.

It is often observed that certain threats, attacks, and aggressions suffered by the aforementioned groups have their origin in systematic campaigns initiated on social media (Garaigordobil & Larrain, 2020; Mkhize et al., 2020).

This paper takes bibliometric analysis as a starting point, as it is considered to be a very effective tool, providing data and information that can be used by policymakers, researchers, and other influential groups interested in improving the quality of research or offering solutions to different problematic situations (Nandiyanto et al., 2020).

The purpose of this paper is to analyze, through research and publication trends, the evolution and influence of social media use on homophobia and transphobia, using papers collected in the Scopus databases, using the VOSViewer software (version 1.6.18). The analysis of the data through the VOSViewer software facilitates a better understanding of the structure of knowledge and key periods of research through the creation of visualization maps by country or region, authors and co-authors, co-citation of references, and co-occurrence of keywords.

Based on the information obtained from this bibliometric analysis, the aim is to identify the main effects of homophobia and transphobia on social networks and to identify which authors and countries show a greater interest and concern for this problem, which institutions are most

proactive in analyzing this problem and whether there are collaborative actions that propose solutions to minimize this type of abusive behavior.

Until now, there have not been many published bibliometric analyzes of homophobia and transphobia on social networks, which is why bibliometric research is necessary to find out how these hateful attitudes develop, their effects and its temporal evolution. Therefore, the present study tries to fill this gap, reviewing the achievements of the existing publications and updating the research trend in this field. In detail, our current study aims to address four research questions (RQs):

RQ1:

- What is the general distribution of the publication according to the year, the institutions and the countries and the authors in the analysis of homophobia and transphobia on social networks?

RQ2:

- What are the most cited publications on virtual homophobia and transphobia?

RQ3:

- What are the main collaborations between authors, institutions and countries in researching homophobia and transphobia on social networks?

RQ4:

- What are the main keywords, coincidences, and research gaps in the field of virtual homophobia and transphobia?

Material and Methods

The two most commonly used databases for bibliometric studies are Scopus (by Elsevier) and Web of Science (by Clarivate Analytics). Although both sources can provide the information needed for our analysis, Scopus was chosen for its greater coverage of journals and total number of citations, as well as its usage in similar studies (Abreu et al., 2022; Lin et al., 2021; Mendes et al., 2021).

While this study is not a classic systematic review, it is a scientometric research that uses rigorous analysis of the scientific literature. To ensure a clear and understandable methodology, the PRISMA guidelines (2020) have been adapted for this article (Fig. 1).

The timeframe for the search was the period between 1997 and 2022. The starting point was 1997, when the Six Degrees platform emerged, which is considered by many researchers to be the first modern social network, as it

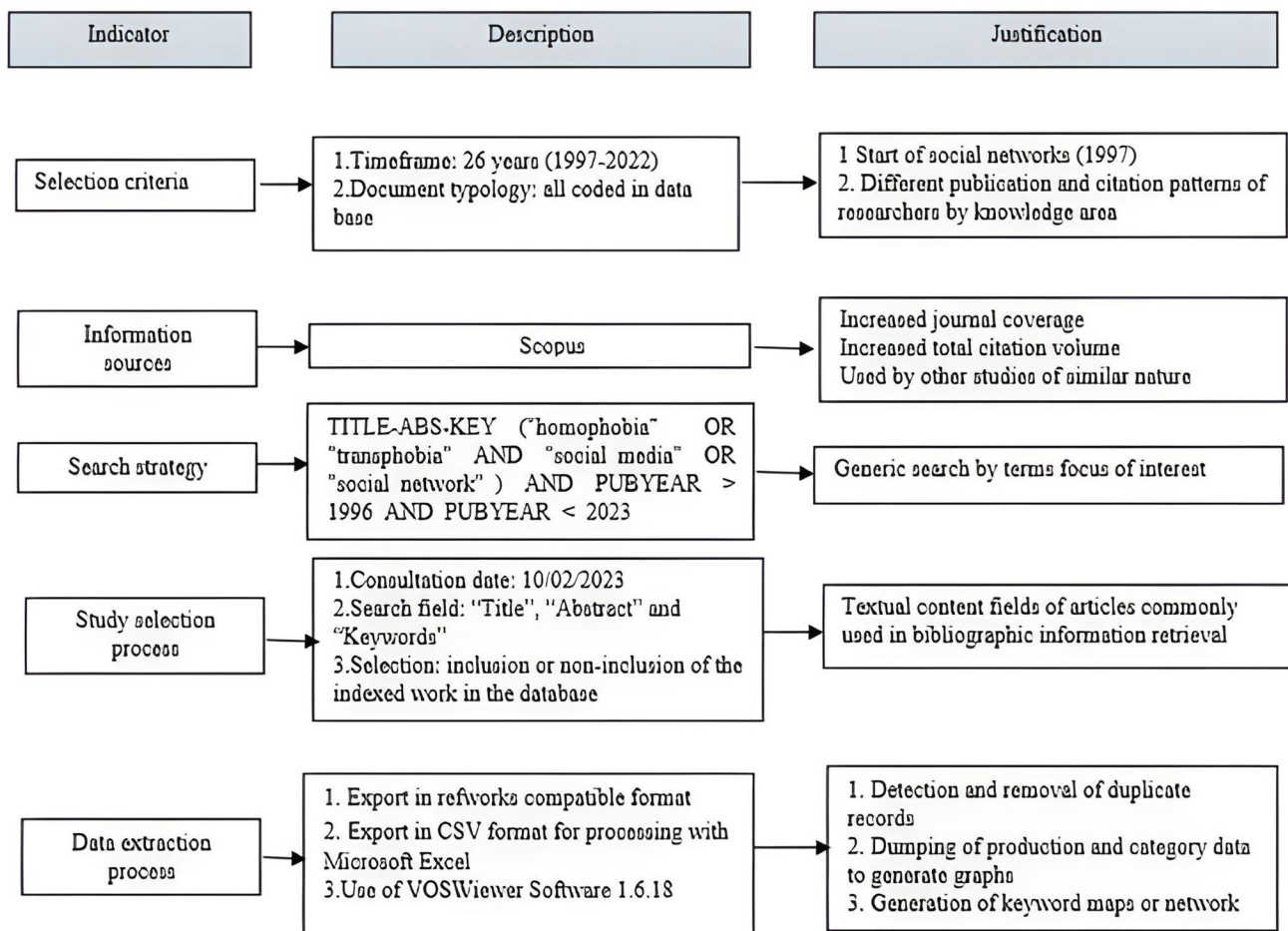


Fig. 1 PRISMA diagram depicts data collection from Scopus database

allowed users to have a profile and add other participants in a format similar a format similar to the current one.

The year 2022 was used as the upper limit to allow for full annual data. The results align with previous studies which show a growing interest in the basic descriptive metrics of scientific production on hate speech and social networks starting from 2017 (Ramírez-García et al., 2022) and reflect the significance of addressing this issue through the detection, prevention, and punishment of hate speech on social media as highlighted by various institutions (Ministry of the Interior, 2015; Movimiento contra la Intolerancia, 2015; European Commission against Racism and Intolerance, 2015).

The search used were “homophobia” using the Boolean operator OR in combination with the second keywords “transphobia” and the Boolean operator AND with the third and fourth keyword “social media” and “social network,” related to each other with the Boolean operator OR, and these words could appear in the fields: titles, keywords, and abstract, restricted to the timeframe referred to above. Initially, 203 publications were obtained.

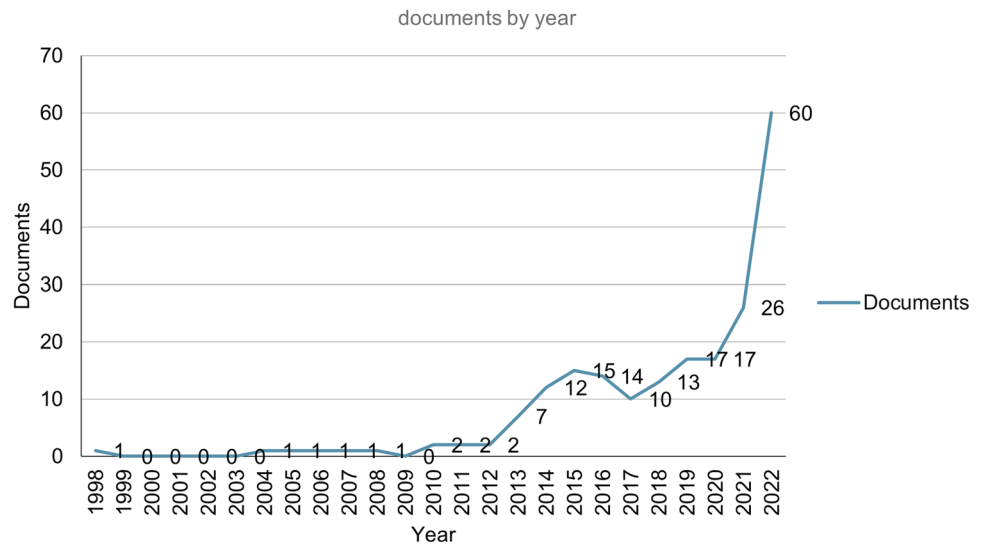
Results

The objective of this systematic bibliometric analysis was to quantitatively analyze trends over time and to assess the scope and potential for enhanced collaboration and knowledge exchange among researchers in the scientific community. The study employed techniques such as keyword analysis, collaboration analysis, recognition of publication sources, and co-citation of works to provide insights into relevant data and trends in research.

Descriptive Analysis

The growth in the number of social media users has resulted in a corresponding rise in the spread of hate speech on these platforms. This has led to a growing need for control mechanisms, which are the focus of strategies and laws developed by international organizations such

Fig. 2 Annual evolution of publications



as the United Nations (2019) and European Commission (2020). Our study found a significant increase in the number of publications addressing this issue in the latter years (2013–2022) of the analyzed period, and mainly in 2022, almost doubling the previous year’s publications, coinciding with the implementation of these regulations and strategies (Fig. 2).

Out of the 203 publications analyzed, the majority (198) were written in English, while the others were written in Spanish, Portuguese, and French.

The type of publication most used by researchers in this field is the article (70.4%), followed by book chapter (8.9%), conference paper (7.9%), review (5.9%), note (4.4%), editorial (2.0%), and letter (0.5%).

If we narrow our focus to thematic areas of research, the most fruitful are as follows: Social Sciences (33.9%), Medicine

(23.0%), Psychology (13.9%), Arts and Humanities (10.3%), and Computer Science (4.4%) are the top five disciplines.

The following figure shows what are the main types of publications for each of the research area (Fig. 3).

Table 1 shows the 5 most frequent keywords-authors in the publications, for each of the 5 most relevant research areas within the research topic studied. For its elaboration, a process of prior refinement has been carried out through a thesaurus of keywords.

The medical field pays less attention to social networking, homophobia, and bisexuality and focuses on AIDS and men who have sex with men (MSM). The other areas have a common focus on social media, homophobia, and LGBTIQ+ and transgender groups. Medicine and psychology are the areas most interested in AIDS and its related aspects (care, treatment, effects, etc.).

Fig. 3 Rate of use by type of document and subject area

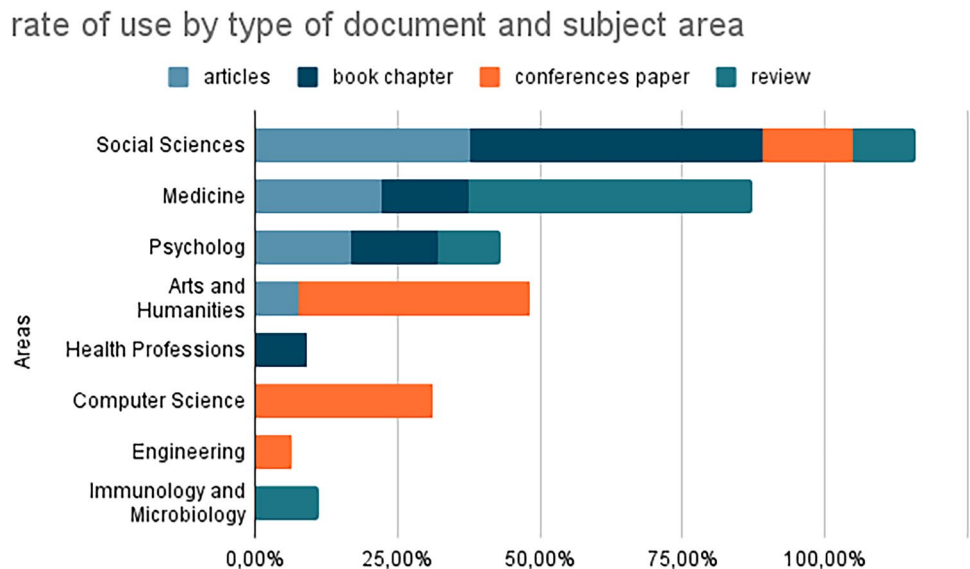


Table 1 Number of occurrences of keywords per research area

Keywords/research area	Social Science	Medicine	Psychology	Arts and Humanities	Computer Science
Social media/network	34		8	6	3
Homophobia	28		12	7	1
LGBTIQ+	18	9		5	
Transgender	9	9	7	5	
Bisexual	8				
HIV/AIDS		11	6		
Affective resources					1
Anti-intellectualism					1
Digital technology				3	
Men who have sex with men (MSM)		12	6		
Mminority stress		7			

According to the analysis, USA is the most productive country in terms of the number of publications (Fig. 4).

Out of the 11 most productive institutions in the analyzed research field, 7 are located in USA (Fig. 5).

The 5 most productive authors, each with 3 publications, are Chakravarthi, B.R., Hightow-Weidman, L.B., Kumaresan, P.K., Muessig, K.E., and Priyadharshini, R. of the 5 authors, 3 are Indian, and 2 are American.

In terms of the most influential publications, we consider the 10 that have received the highest number of citations.

The analysis of the articles in Table 2 shows that they all belong to a first stage, before 2015, in which most of the manuscripts were published in medical journals and where the main subject of analysis was HIV transmission among homosexuals.

Table 3 shows the values of 3 indicators, which provide significant information for the 10 most cited articles: (1)

field-weighted citation impact (FWCI): is the ratio of the document's citations to the average number of citations received by all similar documents over a 3-year window. Each discipline makes an equal contribution to the metric, which eliminates differences in researcher citation behavior. A value greater than 1.00 means the document is more cited than expected according to the average. As our analysis studies the evolution of homophobia and transphobia on social media, it is considered important to provide information with two indicators that provide information on the articles analyzed with social networks. (2) "Social media" can help measure "buzz" and attention. This category includes tweets and Facebook likes that reference the research. (3) "Mentions" are a measurement of activities such as news articles or blog posts about research. They indicate that people are actively engaging with the research.

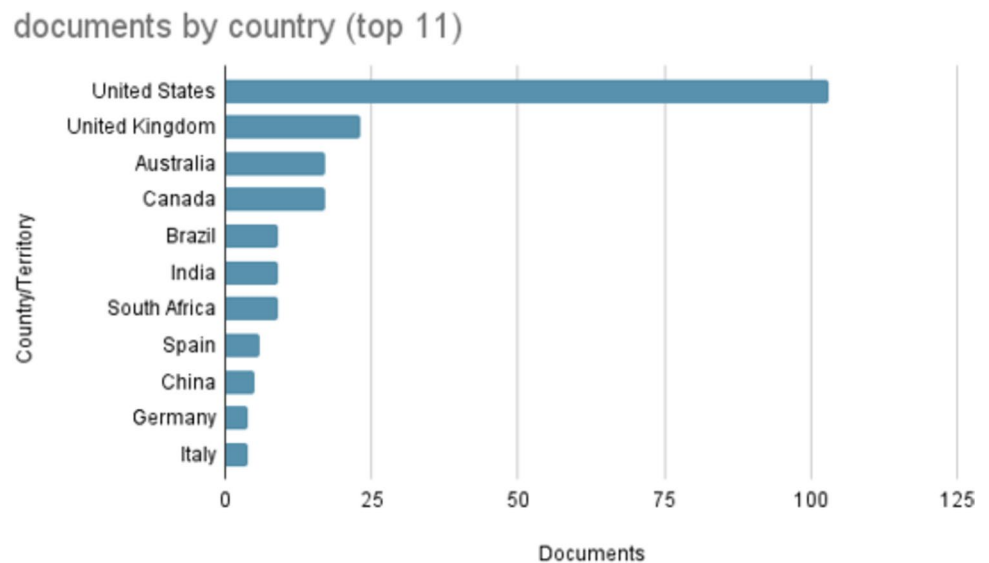
Fig. 4 Top productive countries based on the number of publications



Fig. 5 Top contributing institutions based on total publications

Table 4 shows some generic characteristics of the publications analyzed. It is worth noting that the percentage of publications resulting from collaborations between authors from different institutions in the same country is practically double that of international collaborations (16.26%). It is worth noting the significant percentage of publications offered in all open-access mode (44.83%), or that medical publications, are those with the highest number of citations,

although their number of publications is lower than those included in the social sciences.

Analysis of Co-authorship

For the determination of the thresholds used in the different analyses carried out with VOSViewer, minimum levels have been set in order to lose as little information as possible in

Table 2 The most-cited publications in subject of homophobia and transphobia on social media from 1997 to 2022

Ranking	Document title	Authors	Cited by
1	HIV, gender, race, sexual orientation, and sex work: A qualitative study of intersectional stigma experienced by HIV-positive women in Ontario, Canada	Logie et al. (2011)	363
2	HIV among black men who have sex with men (MSM) in the United States: A review of the literature	Maulsby et al. (2014)	245
3	Perceived risks and benefits of sex work among transgender women of color in San Francisco	Sausa et al. (2007)	175
4	Suicide risk in trans populations: An application of minority stress theory	Tebbe and Moradi (2016)	154
5	'I am not a man': Trans-specific barriers and facilitators to PrEP acceptability among transgender women	Sevelius et al. (2016)	149
6	Homophobia is associated with sexual behavior that increases risk of acquiring and transmitting HIV infection among black men who have sex with men	Jeffries et al. (2013)	119
7	Use of the Internet and Mobile-Based "Apps" for Sex-Seeking Among Men Who Have Sex With Men in New York City	Grosskopf et al. (2014)	112
8	Minority Stress Experiences and Psychological Well-Being: The Impact of Support from and Connection to Social Networks Within the Los Angeles House and Ball Communities	Wong et al. (2014)	103
9	Experiences of and responses to social discrimination among Asian and Pacific Islander gay men: Their relationship to HIV risk	Wilson and Yoshikawa (2004)	97
10	Internalised homonegativity predicts HIV-associated risk behavior in European men who have sex with men in a 38-country cross-sectional study: Some public health implications of homophobia	Ross et al. (2013)	87

Table 3 The most-cited publications in subject of homophobia and transphobia on social media from 1997 to 2022

Document title	FWCI	PlumX Metrics social media	PlumX Metrics mentions
HIV, gender, race, sexual orientation, and sex work: A qualitative study of intersectional stigma experienced by HIV-positive women in Ontario, Canada	8.06	29	5
HIV among black men who have sex with men (MSM) in the United States: A review of the literature	8	7	10
Perceived risks and benefits of sex work among transgender women of color in San Francisco	1.5	5	11
Suicide risk in trans populations: An application of minority stress theory	8.04	25	0
'I am not a man': Trans-specific barriers and facilitators to PrEP acceptability among transgender women	7.03	19	32
Homophobia is associated with sexual behavior that increases risk of acquiring and transmitting HIV infection among black men who have sex with men	6.54	3	24
Use of the Internet and Mobile-Based "Apps" for Sex-Seeking Among Men Who Have Sex With Men in New York City	6.26	13	0
Minority Stress Experiences and Psychological Well-Being: The Impact of Support from and Connection to Social Networks Within the Los Angeles House and Ball Communities	5.22	7	0
Experiences of and responses to social discrimination among Asian and Pacific Islander gay men: Their relationship to HIV risk	1.53	0	0
Internalised homonegativity predicts HIV-associated risk behavior in European men who have sex with men in a 38-country cross-sectional study: Some public health implications of homophobia	8.38	9	0

terms of the relationships between the elements analyzed and, at the same time, not to generate extensive lists and complex maps that are difficult to visualize and understand.

Scientific collaboration between authors, institutions, or countries is a complex social phenomenon that has been extensively studied in research. Bibliometric analysis frequently employs co-authorship analysis to examine various aspects of collaboration. The resulting collaboration networks are constructed by analyzing co-authorship relationships (Glänzel & Schubert, 2006; Romero & Portillo-Salido, 2019; Eck & Waltman, 2020). This analysis is carried out because

it is considered that scientific collaboration helps to solve complex problems and to strengthen academic collaboration.

By conducting a co-authorship analysis and taking authors as the unit of analysis, and only considering authors with at least 2 publications and no minimum number of citations required per author, a collaboration map can be generated. This map enables the analysis of collaboration evolution over time. Of the 654 authors, 28 met the thresholds (Fig. 6).

The map shows 3 main clusters with at least 4 collaborating authors. The cluster formed by Bauermeister, JA, Choi, SK, Legrand, S., Hightow-Weidman, LB, and Muessig, KE, is characterized by work published in medical journals that seeks to reduce HIV-related stigma and isolation of certain groups (black and gay men) using certain technologies and social network.

A second cluster made up of Monroe, A.A., Palha, P.F., Andrade, R.L.P., and Nogueira, J.A. publishes in Public Health journals and analyzes the issue of comprehensive support for transgender adolescents, constituting an emerging field as they are recent publications from the year 2022.

The third cluster formed by Chakravarthi, B.R., Kumaresan, P.K., Priyadharshini, R., and Ponnusamy, R. publish in the area of Computer Science and investigate mechanisms for detecting homophobia and transphobia in social media comments.

Country co-authorship analysis shows patterns of cooperation between authors from different countries within the same research area (Jiang et al., 2017). Co-authors often constitute a cluster in the map of collaborative networks. If only considering countries with at least 3 publications and no minimum number of citations required per country,

Table 4 Global characterization

Publications in collaboration (%)	
International collaboration	16.26%
National collaboration	30.05%
Open-access publications (%)	
All open access	44.83%
Gold	15.76%
Hybrid gold	6.90%
Bronze	7.39%
Green	34.48%
Citations per areas	
Social Science	1445
Medicine	2480
Psychology	1253
Arts and Humanities	544
Computer Science	104

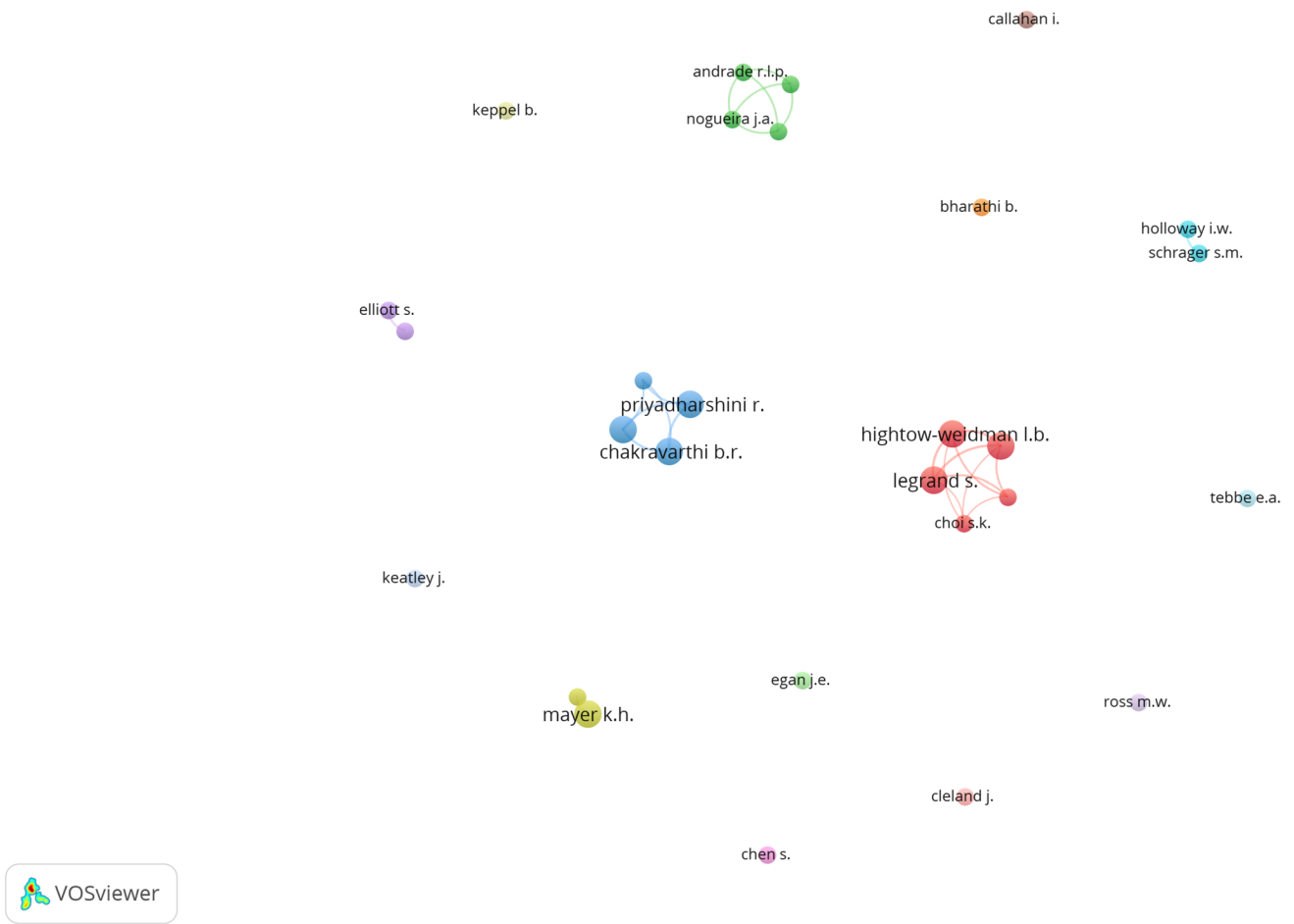


Fig. 6 Collaboration among authors via network visualization

a collaboration map can be generated. This map enables the analysis of collaboration evolution over time. Of the 39 countries, 13 met the thresholds, and the largest set of

connected items consists of 12 items. The 12 countries are grouped into 5 clusters, represented by different colors as shown in Fig. 7.



Fig. 7 Collaboration among countries via network visualization (no. of publications)

In this analysis, we can highlight 3 clusters for their higher level of cooperation:

A first cluster is formed by collaborations between Australian, Irish, and Indian researchers. These researchers share the task of detecting homophobic and transphobic comments on social networks (Chakravarthi et al., 2022b), primarily through the development of multilingual mixed-code models to monitor social networks (Bhandari & Goyal, 2022; Upadhyay et al., 2022).

A second cluster composed of Italian, Dutch, and English researchers. They are characterized by a broad thematic focus, focusing more specifically on the development of transsexuality among adolescents and its relationship with social networks, becoming an open space for its “haters” (Taha-Thomure et al., 2022; Sumter et al., 2021).

The third outstanding cluster is formed by collaborations between American, Spanish, and German authors, where one of the topics addressed is that of word embeddings that are a set of widely used natural language-processing techniques, but they sometimes introduce biases that make it difficult to detect homophobic and transphobic discourse in social networks (Papakyriakopoulos et al., 2020).

By conducting a co-authorship analysis and taking organizations as the unit of analysis, and only considering organizations with at least 2 publications and no minimum number of citations required per organizations, a collaboration map can be generated. This map enables the analysis of collaboration evolution over time. Of the 463 organizations,

9 met the thresholds, and the largest set of connected items consists of 3 items (SSN College of Engineering (Kalavakkam), National University of Ireland, and Indian Institute of Information Technology and Management-Kerala) (Fig. 8).

These institutions collaborate in the development of methods such as SVM Classifiers and BERT-Based Transformers (Swaminathan et al., 2022) for the detection of homophobic and transphobic virtual speech in different languages (Chakravarthi et al., 2022b).

Reference Co-citation Analysis

Cocitation shows the frequency with which two references are cited together by another article (Small, 1973). Usually, clusters of co-cited articles constitute more active research areas within a broader field (Small & Griffith, 1974).

The aim of analysis of joint citation authors (cocitation) is to determine which authors, based on the co-citations of others, are most relevant to a particular discipline, to the extent that these authors may be surrogates for the ideas they represent.

If only considering authors with at least thirty-five publications, a collaboration map can be generated. This map enables the analysis of collaboration evolution over time. Of the 13,308 authors, 11 met the thresholds, and the largest set of connected items consists of 10 items. The 10 authors are grouped into 2 clusters, represented by different colors as shown in Fig. 9.



Fig. 8 Collaboration among organizations via network visualization (no. of publications)

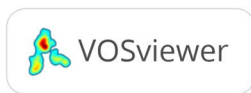


Fig. 9 Co-citations of authors

The red cluster composed of Meyer, I.H., Ayala, G., Diaz, R.M., Herek, G.M., Mustanski, B., Peterson, J.L., and Fredriksen-Goldsen, K. analyzes prejudice, social stress, mental health, and risk of HIV transmission in gender minority groups and the effect of social networks on relationships among their members (prejudice, social stress, and mental health, and HIV risk).

The green cluster composed of Anderson, E., Magrath, R., and Cleland, J. analyzes homophobic attitudes in closed environments such as sports teams or group sports.

Keyword Co-occurrence Analysis

This analysis is the most practical way to appreciate the most relevant topics in a field of research and the relationships between them. In our study, we used the keyword-generated co-occurrence network map, overlay visualization map, and the keyword density visualization map to show the trending topics and research directions in the field of research linking social media with homophobia and transphobia.

A total of 497 author-keywords were extracted from the 203 articles analyzed. To make the visualization easier to understand, a minimum frequency of 4 was established for the keywords. A “Keyword Thesaurus” was created to group together keywords that refer to the same concept, such as “humans” and “human” or “sexual and gender minority” and “sexual and gender minorities,” developing a process of lemmatization. The analysis with VOSViewer resulted in six groups of author-keywords. The links between the keywords show their co-occurrence relationship, and the color of the nodes represents the group each keyword is associated with.

The size of the labels and the diameter of the circles indicate the frequency and strength of the connections between the keywords. This figure shows certain themes that are being studied by the authors because of their relevance within the research topic analyzed (Fig. 10).

The authors of the green cluster study the relationship between types of masculinities and sports, especially in team sports such as football, as well as their link with other variables such as racism or homophobia (Bandeira & Seffner, 2013; Cleland & Macdonald, 2022; Glynn & Brown, 2022; Hansen et al., 2022).

The yellow cluster deals with the issue of social support for sexual minorities (gays, lesbians, LGBTIQ+, and bisexuals), linking it to other factors such as the use of social networks or race, ethnicity, and age (Boyd et al., 2021; Dakin et al., 2020; Gerke et al., 2020).

The red cluster analyzes the minority stress experienced by sexual and gender minorities as a result of the stigma and the discrimination that they face, which often leads to mental health problems, more severely affecting young people who lack resilience (Flynn & Bhambhani, 2021; Henderson et al., 2022).

The blue cluster deals with the issue of bullying of transgender people on social media due to the dissemination of transphobic hate speech. From the analysis of these studies, the need to develop mechanisms for the automatic detection of transphobic hate speech on social networks has been identified (Chakravarthi et al., 2022b; Chiril et al., 2022; Papakyriakopoulos et al., 2020; Valerio, 2022).

After refining our initial database, for each of the social networks most present in the works analyzed, the results showed that the number of articles referring to each of them

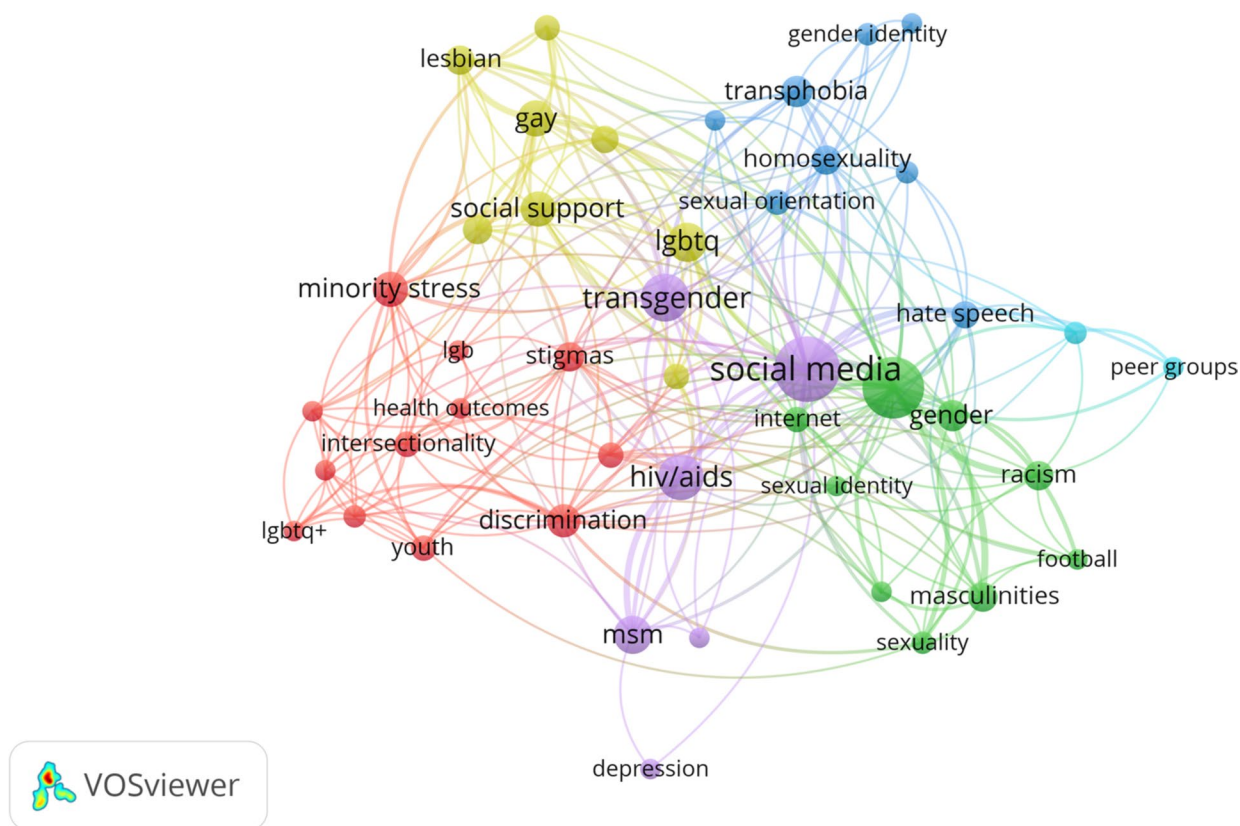


Fig. 10 Network visualization co-occurrence keywords

was as follows: Twitter (45), YouTube (37), Facebook (36), and Instagram (15).

The purple cluster addresses the use of social networks for networking by certain groups, especially men who want to have sex with men and transgender groups, and the association of these groups with HIV/AIDS, both in terms of transmission and prevention measures and their tendency to experience depression (Jeffries et al., 2013; Poteat & Spanierman, 2010; Poteat et al., 2015; Sausa et al., 2007; Tebbe & Moradi, 2016; Wilson & Yoshikawa, 2004).

The turquoise cluster analyzes the influence exerted by peer groups (youth, teams, classmates) with their opinions, insults, on certain members of the group in the definition of their gender identity or in the development of certain hateful attitudes towards certain groups (David-Barrett et al., 2015; DeLay et al., 2018). The analysis of these publications identifies the need to analyze the theories that explain peer aggression and the development of effective prevention strategies to address prejudice-based aggression.

If we consider the temporal evolution in the author-keyword co-occurrence analysis, we observe that the most

recent publications focus the discrimination in sport motivated by heteronormativity and the detection of hate speech on social networks (Cleland & Macdonald, 2022; Devonport et al., 2022), as well as mental health problems in gender and sex minority groups, caused by discrimination and stigmatization (Flynn & Bhambhani, 2021; Henderson et al., 2022) (Fig. 11).

Figure 12 presents the keyword density visualization map. In general, each point has a color indicating the density of the element. In the element density visualization, the colors can be blue, green, yellow, orange, and red (from lowest to highest frequency or density). This map shows in a more visual way the relationships indicated above between the most significant keywords.

Of the six clusters identified in the author's keyword co-occurrence analysis, four groups could be identified as possible research topics within the analysis of homophobia and transphobia in social networks.

A first group focuses on social networks and their amplifying nature for the dissemination of hate speech, most intensely reflected in the world of sport, where certain

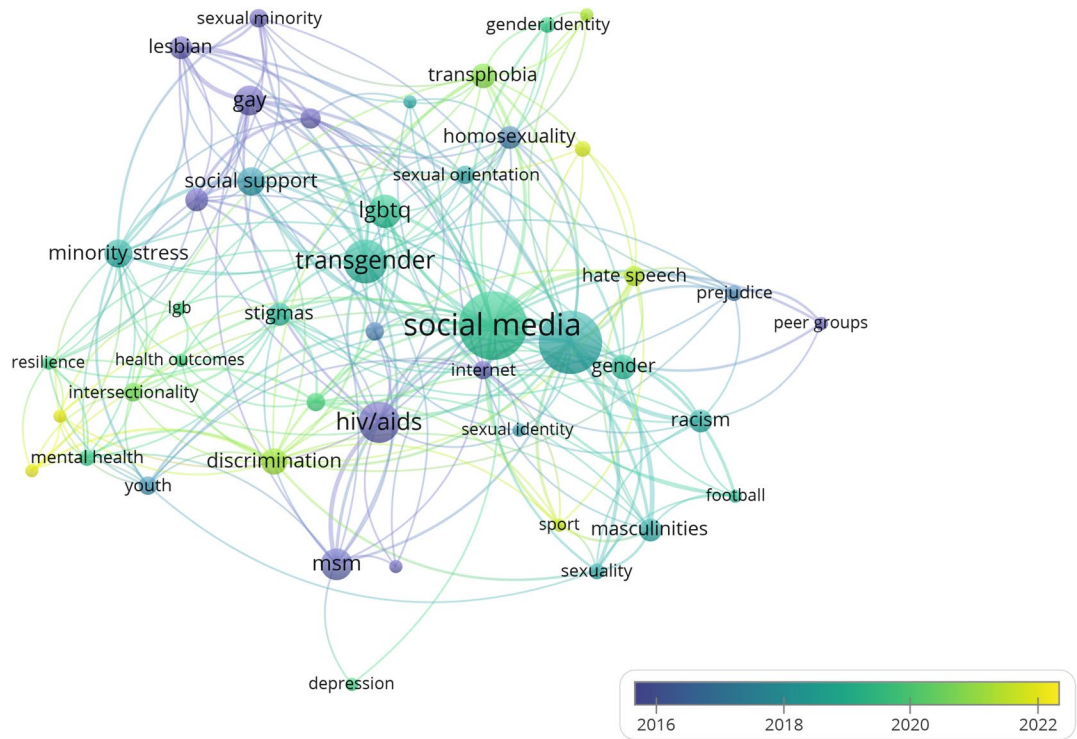


Fig. 11 Overlay visualization co-occurrence keywords

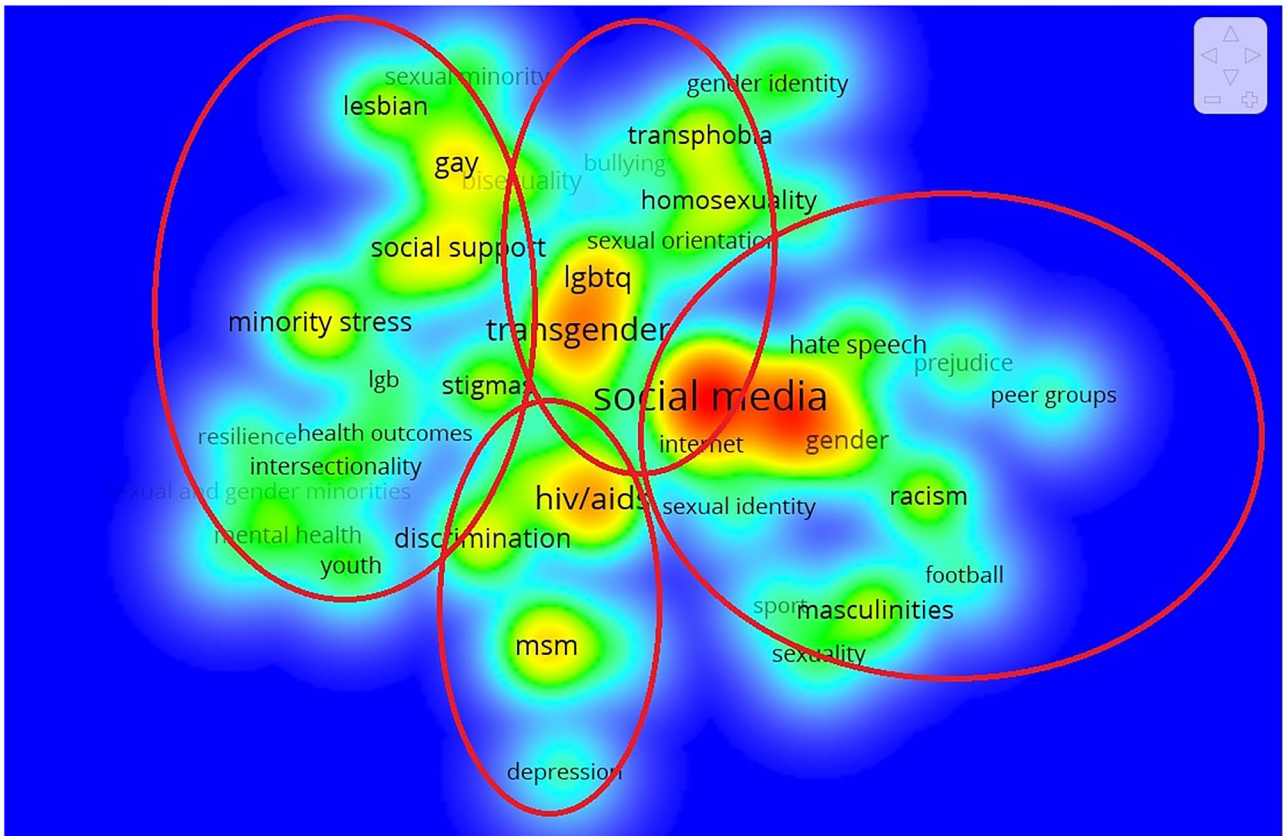


Fig. 12 Author-keyword density visualization map

prejudices typical of stereotypes of classical masculinity are generators of homophobic and racial hatred that are largely evident among football supporters.

A second area of research is the association between MSM and the increased likelihood of acquiring HIV/AIDS, leading to discrimination against this group and, as a consequence, a tendency to suffer from depression.

A third area of research is that which analyzes the bullying experienced by certain groups because of their sexual orientation or gender identity (transgender, LGBTIQ+, homosexuals...) through social networks, generating homophobia and transphobia.

Finally, there is a field of an eminently social nature, which analyzes aspects such as the social support required by certain sexual minorities as a result of the stigmatization they suffer, which in certain cases leads to mental health problems in the youngest members of society. This field shows the need to solve these problems through an intersectional approach, with the development of legislation that moves away from heteronormativity.

Discussion

The growth in research focused on homophobia and transphobia on social media shows that the topic is of great interest to the scientific community. This trend is pushed by the rapid advancement of information and communication technologies and the increasing number of social media users worldwide, with more than half of the world's population using these platforms (Galeano, 2021). The abundance of hate speech on social media has led to the need for its control (Gascón, 2019; European Commission, 2020). The data obtained from Scopus show a positive trend in the number of relevant publications since 2017, mainly in 2021 and 2022. This is a growing problem that requires intervention at a social level, which demands certain laws and regulations to control these hateful attitudes against LGBTIQ+ groups through social networks, as it is society itself, with its norms and values, that encourages and conditions these behaviors (Garaigordobil & Larrain, 2020), and the development of legislation that moves away from heteronormativity (Singha & Chakrabarty, 2022).

The research on homophobia and transphobia on social media in USA is prominent, with a high number of published articles, productive organizations, and influential authors.

Of the publications, 16.44% are the result of international cooperation between researchers, and a high percentage of them are published under the "all open access" modality. It is worth noting that although the scientific area with the most publications is "Social Science," the area of "Medicine" practically doubles the number of citations (2480), and this is motivated by the great interest shown by researchers in the initial stage of the timeframe analyzed in the risk

factors associated with the transmission of HIV/AIDS and subsequently in the care and support demanded by the people affected.

Twitter is identified as the social network that is most conducive to the dissemination of homophobic and transphobic hate speech (Gangurde et al., 2022), followed by YouTube and Facebook.

The football environment, and especially certain groups of fans, is shown to be an amplifying focus of homophobia due to the classic conception of the concept of masculinity, sometimes taking advantage of social networks to reaffirm their masculinity through the hatred of other sexual minority groups (Cleland & Macdonald, 2022; Glynn & Brown, 2022).

An environment conducive to the development of hateful attitudes has been identified, such as peer groups, especially in the early stages of personality development. This type of situation is quite common in schools or certain groups of young people (sports teams, recreational associations, etc.), and the result to bias-based aggression is that it describes harmful offline and online behavior against people based on assigned group characteristics (gender, sexual orientation) (David-Barrett et al., 2015; DeLay et al., 2018).

Despite this, there are still several challenges that require attention and could provide opportunities for future research. These include the following:

- (a) Implementing automatic detection of homophobic and transphobic speech in closed-loop systems, as individuals may try to evade detection if they are aware of being monitored.
- (b) Addressing the issue of identifying homophobic and transphobic speech in different languages, which requires handling code-mixing like Hindi and English.
- (c) Developing consistent and valid methods to detect homophobic and transphobic speech across different forms of communication such as emojis, images, and abbreviations.
- (d) Develop international standards and laws to control hateful attitudes against LGBTIQ+ groups through social networks.
- (e) Analyze the theories that explain peer aggression and the development of effective prevention strategies to address prejudice-based aggression.
- (f) Development of legislation that moves away from heteronormativity.
- (g) Addressing the stigmatization of sex and gender minority groups through interdisciplinary approaches.

Conclusion

Our study highlights the diverse and multidisciplinary approach to the analysis of homophobia and transphobia in social networks, starting from a descriptive analysis that

aims to obtain a picture of the situation of the proposed field of research, identifying the dominant role of North American researchers and institutions, as well as the main international institutional collaborations, highlighting the cooperation between SSN College of Engineering (Kalamkalam), National University of Ireland, and Indian Institute of Information Technology and Management-Kerala in the development of methods such as SVM Classifiers and BERT-Based Transformers for the detection of homophobic and transphobic virtual speech in different languages.

From the co-citation analysis, it can be concluded that two groups of authors have been identified, Meyer being the most representative of first group, analyzing prejudice, social stress, mental health, and the risk of HIV transmission in gender minority groups and the effect of social networks on the relationships between their members. In the other group, the reference researcher is Anderson and they study homophobic attitudes in closed environments such as sports teams or group sports.

In our study, we have detected certain environments that are favorable to the development of homophobic and transphobic behavior, such as the world of football supporters or peer groups that condition possible hateful behavior, especially in young people towards gender or sexual minority groups, which can lead to the development of bullying through social networks, with Twitter being identified as the social network most conducive to the propagation of homotransphobic hate speech.

This study has limitations as it only considers publications from the Scopus database from 1997 to 2022, and does not include other important databases such as WoS, Springer, or ScienceDirect.

The visualizations presented in this paper have been created using VOSViewer software and have been saved as images. This means that some of the details may not be visible in the figures as they have been captured as screenshots.

Author Contribution Idea: AMS-S and DR-M. Literature review: AMS-S, DR-M, and FJS-S. Methodology: AMS-S, DR-M, and FJS-S. Data analysis: AMS-S and DR-M. Results: AMS-S, DR-M, and FJS-S. Discussion and conclusions: AMS-S, DR-M, and FJS-S. Writing (original draft): DR-M. Final revisions: AMS-S, DR-M, and FJS-S. Project design: AMS-S and DR-M.

Funding Funding for open access publishing: Universidad Pablo de Olavide/CBUA.

Data Availability The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request. All data used for this project were publicly available aggregated data.

Code Availability Not applicable.

Declarations

Ethics Approval Not applicable; all data used for this project were publicly available aggregated data.

Informed Consent This article does not contain any studies with human participants performed by any of the authors.

Conflict of Interest The authors declare no competing interests.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

References

- Abreu, P. D., Andrade, R. L. P., Maza, I. L. S., Faria, M. G. B. F., Valença, A. B. M., Araújo, E. C., ... Monroe, A. A. (2022). Support for mothers, fathers, or guardians of transgender children and adolescents: A systematic review on the dynamics of secondary social networks. *International Journal of Environmental Research and Public Health*, *19*(14). <https://doi.org/10.3390/ijerph19148652>
- Bandeira, G. A., & Seffner, F. (2013). Football, gender, masculinity and homophobia: A game within the game. [Futebol, gênero, masculinidade e homofobia: Um jogo dentro do Jogo]. *Espaco Plural*, *14*(29), 246–270.
- Ben-David, A., & Matamoros, A. (2016). Hate Speech and Covert Discrimination on Social Media: Monitoring the Facebook Pages of Extreme-Right Political Parties in Spain. *International Journal of Communication*, *10*, 27. Retrieved from <https://ijoc.org/index.php/ijoc/article/view/3697>
- Bhandari, V., & Goyal, P. (2022). bitsa_nlp@LT-EDI-ACL2022: Leveraging Pretrained Language Models for Detecting Homophobia and Transphobia in Social Media Comments. Proceedings of the Second Workshop on Language Technology for Equality, Diversity and Inclusion, 149–154, Dublin, Ireland. Association for Computational Linguistics.
- Boyd, D. T., Ramos, S. R., Quinn, C. R., Jones, K. V., Wilton, L., & Nelson, L. E. (2021). Family support and sociocultural factors on depression among black and latinx sexual minority men. *International Journal of Environmental Research and Public Health*, *18*(13). <https://doi.org/10.3390/ijerph18136759>
- Burnap, P., & Williams, M. L. (2016). Us and them: identifying cyber hate on Twitter across multiple protected characteristics. *EPJ Data Science*, *5*(11). <https://doi.org/10.1140/epjds/s13688-016-0072-6>
- Chakravarthi, B., & Muralidaran, V. (2021). Findings of the shared Task on Hope Speech Detection for Equality, Diversity, and Inclusion. Proceedings of the First Workshop on Language Technology for Equality, Diversity and Inclusion, 61–72. Kyiv. Association for Computational Linguistics.

- Chakravarthi, B. R., Hande, A., Ponnusamy, R., Kumaresan, P. K., & Priyadharshini, R. (2022b). How can we detect homophobia and transphobia? experiments in a multilingual code-mixed setting for social media governance. *International Journal of Information Management Data Insights*, 2(2). <https://doi.org/10.1016/j.jime.2022.100119>
- Chakravarthi, B. R., Priyadharshini, R., Thenmozhi, D., McCrae, J. P., Buitelaar, P., Ponnusamy, R., & Kumaresan, P. K. (2022a). *Overview of the shared task on homophobia and transphobia detection in social media comments*. Paper presented at the LTEDI 2022 - 2nd Workshop on Language Technology for Equality, Diversity and Inclusion, Proceedings of the Workshop, 369–377.
- Chiril, P., Pamungkas, E. W., Benamara, F., Moriceau, V., & Patti, V. (2022). Emotionally informed hate speech detection: A multi-target perspective. *Cognitive Computation*, 14(1), 322–352. <https://doi.org/10.1007/s12559-021-09862-5>
- Cleland, J., & MacDonald, C. (2022). *Social Media, Digital Technology, and Masculinity in Sport*. Sanderson, J. (Ed.) Sport, Social Media, and Digital Technology (Research in the Sociology of Sport, Vol. 15). <https://doi.org/10.1108/S1476-285420220000015007>
- Dakin, E. K., Williams, K. A., & MacNamara, M. A. (2020). Social support and social networks among LGBT older adults in rural southern appalachia. *Journal of Gerontological Social Work*, 63(8), 768–789. <https://doi.org/10.1080/01634372.2020.1774028>
- David-Barrett, T., Rotkirch, A., Carney, J., Izquierdo, I. B., Krems, J. A., Townley, D., ... Dunbar, R. I. M. (2015). Women favour dyadic relationships, but men prefer clubs: Cross-cultural evidence from social networking. *PLoS ONE*, 10(3). <https://doi.org/10.1371/journal.pone.0118329>
- DeLay, D., Lynn Martin, C., Cook, R. E., & Hanish, L. D. (2018). The influence of peers during adolescence: Does homophobic name calling by peers change gender identity? *Journal of Youth and Adolescence*, 47(3), 636–649. <https://doi.org/10.1007/s10964-017-0749-6>
- Devonport, T. J., Leflay, K., Biscoomb, K., Richardson-Walsh, H., Richardson-Walsh, K., & Thelwall, M. (2022). ‘Nobody needs a label’: Responses on facebook to a team GB equity, diversity and inclusion initiative. *Sport in Society*. <https://doi.org/10.1080/17430437.2022.2115365>
- Eck, N. J., & Waltman, L. (2020). *VOSviewer Manual version 1.6.16*. Universteit Leiden, November, 1–52. Retrieved from <https://www.vosviewer.com/download/f-33t2.pdf>
- European Commission. (2020). *LGBTIQ Equality Strategy 2020–2025*. Retrieved from https://commission.europa.eu/strategy-and-policy/policies/justice-and-fundamental-rights/combating-discrimination/lesbian-gay-bi-trans-and-intersex-equality/lgbtiq-equality-strategy-2020-2025_en
- European Commission against Racism and Intolerance. (2015). ECRI General Policy Recommendation No. 15 on Combating Hate Speech and Explanatory Memorandum (8 December 2015), CRI (2016) 15.
- Fersini, E., Nozza, D., & Boifava, G. (2020). *Profiling Italian Misogynist: An Empirical Study*. Proceedings of the Workshop on Resources and Techniques for User and Author Profiling in Abusive Language, 9–13, Marseille, France. European Language Resources Association (ELRA).
- Flynn, M. K., & Bhambhani, Y. (2021). Internalized transphobia, non-disclosure of gender identity, and life satisfaction among transgender and non-binary adults: The moderating roles of psychological flexibility and inflexibility. *Journal of Contextual Behavioral Science*, 20, 194–201. <https://doi.org/10.1016/j.jcbs.2021.04.008>
- Galeano, S. (2021). *Cuáles son las redes sociales con más usuarios del mundo*. Marketing Ecommerce. Retrieved from <https://bit.ly/3DmqAex>
- Gangurde, A., Mankar, P., Chaudhari, D., & Pawar, A. (2022). A Systematic Bibliometric Analysis of Hate Speech Detection on Social Media Sites. *Journal of Scientometric Research*, 11(1), 100–111. <https://doi.org/10.5530/jscires.11.1.10>
- Garaigordobil, M., & Larrain, E. (2020). Bullying and cyberbullying in LGBT adolescents: Prevalence and effects on mental health. *Comunicar*, 28(1), 79–90. <https://doi.org/10.3916/C62-2020-07>
- Gascón, A. (2019). *La lucha contra el discurso del odio en línea en la Unión Europea y los intermediarios de Internet*. In Z. Combalía, M. P. Diago, & A. González-Varas (Eds.), Libertad de expresión y discurso de odio por motivos religiosos (pp. 64–86). Ediciones del Licregdi. Retrieved from <https://bit.ly/3wkba9G>
- Gerke, D. R., Step, M. M., Rüniger, D., Fletcher, J. B., Brooks, R. A., Davis, N., ... Reback, C. J. (2020). Associations between social support and social media use among young adult cisgender MSM and transgender women living with HIV. *Health Promotion Practice*, 21(5), 705–715. <https://doi.org/10.1177/1524839920936248>
- Gilman, S. E., Cochran, S. D., Mays, V. M., Hughes, M., Ostrow, D., & Kessler, R. C. (2001). Risk of psychiatric disorders among individuals reporting same-sex sexual partners in the National Comorbidity Survey. *American Journal of Public Health*, 91(6), 933–939.
- Gkotsis, G., Oellrich, A., Hubbard, T., Dobson, R., Liakata, M., Velupillai, S., & Dutta, R. (2016). *The language of mental health problems in social media*. Proceedings of the third workshop on computational linguistics and clinical psychology, 63–73.
- Glänzel, W., & Schubert, A. (2006). Analysing scientific networks through co-authorship. *Handbook of Quantitative Science and Technology Research*. https://doi.org/10.1007/1-4020-2755-9_12
- Glynn, E., & Brown, D. H. K. (2022). Discrimination on football twitter: The role of humour in the othering of minorities. *Sport in Society*. <https://doi.org/10.1080/17430437.2022.2144726>
- Grosskopf, N. A., LeVasseur, M. T., & Glaser, D. B. (2014). Use of the internet and mobile-based “Apps” for sex-seeking among men who have sex with men in new york city. *American Journal of Men’s Health*, 8(6), 510–520. <https://doi.org/10.1177/1557988314527311>
- Hansen, M., Kavanagh, E., Anderson, E., Parry, K., & Cleland, J. (2022). An analysis of responses on twitter to the english Premier League’s support for the anti-homophobia rainbow laces campaign. *Sport in Society*. <https://doi.org/10.1080/17430437.2022.2028774>
- Henderson, E. R., Sang, J. M., Louth-Marquez, W., Egan, J. E., Espelage, D., Friedman, M., & Coulter, R. W. S. (2022). “Words Aren’t supposed to hurt, but they do”: Sexual and gender minority Youth’s bullying experiences. *Journal of Interpersonal Violence*, 37(11–12), NP8747–NP8766. <https://doi.org/10.1177/0886260520978199>
- Jeffries, W. L., Marks, G., Lauby, J., Murrill, C. S., & Millett, G. A. (2013). Homophobia is Associated with Sexual Behavior that Increases Risk of Acquiring and Transmitting HIV Infection Among Black Men Who Have Sex with Men. *AIDS and Behavior*, 17, 1442–1453. <https://doi.org/10.1007/s10461-012-0189-y>
- Jiang, Y., Ritchie, B. W., & Benckendorff, P. (2017). Bibliometric visualisation: an application in tourism crisis and disaster management research. *Current Issues in Tourism*, 1–33. <https://doi.org/10.1080/13683500.2017.1408574>
- Lin, Y., Xie, H., Huang, Z., Zhang, Q., Wilson, A., Hou, J., ... Chen, R. (2021). The mental health of transgender and gender non-conforming people in china: A systematic review. *The Lancet Public Health*, 6(12), e954–e969. [https://doi.org/10.1016/S2468-2667\(21\)00236-X](https://doi.org/10.1016/S2468-2667(21)00236-X)
- Logie, C. H., James, L., Tharao, W., & Loutfy, M. R. (2011). HIV, gender, race, sexual orientation, and sex work: A qualitative study of intersectional stigma experienced by HIV-positive women in Ontario, Canada. *PLoS Medicine*, 8(11). <https://doi.org/10.1371/journal.pmed.1001124>
- Malmasi, S., & Zampieri, M. (2017). *Detecting hate speech in social media*. Proceedings of the International Conference Recent Advances in Natural Language Processing, RANLP, 467–472, Varna, Bulgaria. INCOMA Ltd.

- Marshall, M. P., Dietz, L. J., Friedman, M. S., Stall, R., Smith, H. A., McGinley, J., Thoma, B. C., Murray, P. J., D'Augelli, A. R., & Brent, D. A. (2011). Suicidality and depression disparities between sexual minority and heterosexual youth: A meta-analytic review. *Journal of Adolescent Health, 49*(2), 115–123. <https://doi.org/10.1016/j.jadohealth.2011.02.005>
- Maulsby, C., Millett, G., Lindsey, K., Kelley, R., Johnson, K., Montoya, D., & Holtgrave, D. (2014). HIV among black men who have sex with men (MSM) in the united states: A review of the literature. *AIDS and Behavior, 18*(1), 10–25. <https://doi.org/10.1007/s10461-013-0476-2>
- Mendes, W. G., Duarte, M. J. O., de Andrade, C. A. F., & da Silva, C. M. F. P. (2021). Systematic review of the characteristics of lgbt homicides. [Revisão sistemática das características dos homicídios contra a população LGBT]. *Ciencia e Saude Coletiva, 26*(11), 5615–5628. <https://doi.org/10.1590/1413-812320212611.33362020>
- Ministry of the Interior. (2015). *Evolución del racismo, la xenofobia y otras formas conexas de intolerancia en España*. Retrieved from <http://www.empleo.gob.es/oberaxe/ficheros/documentos/EvolucionRacismoXenofobiaOtrasFormasConexasIntoleranciaEspanainforme-encuesta-2014.pdf>.
- Mkhize, S., Nunlall, R., & Gopal, N. (2020). An examination of social media as a platform for cyber-violence against the lgbt+ population. *Agenda, 34*(1), 23–33. <https://doi.org/10.1080/10130950.2019.1704485>
- Movimiento Contra La Intolerancia. (2015). *Informe Raxen. Racismo, Xenofobia, Antisemitismo, Islamofobia, Neofascismo, Homofobia y otras manifestaciones relacionadas de Intolerancia a través de los hechos. Especial Acción Jurídica contra el Racismo y los Crímenes de Odio*. Movimiento contra la Intolerancia. Retrieved from https://inclusion.seg-social.es/oberaxe/es/publicaciones/documentos/documento_0013.htm
- Nandiyanto, A. B. D., Biddinika, M. K., & Triawan, F. (2020). How bibliographic dataset portrays decreasing number of scientific publication from Indonesia. *Indonesian Journal of Science and Technology, 5*(1), 154–175. <https://doi.org/10.17509/ijost.v5i1.22265>
- Papakyriakopoulos, O., Hegelich, S., Serrano, J. C. M., & Marco, F. (2020). *Bias in word embeddings*. Paper presented at the FAT* 2020 - Proceedings of the 2020 Conference on Fairness, Accountability, and Transparency, 446–457. <https://doi.org/10.1145/3351095.3372843>
- Poteat, V. P., Mereish, E. H., & Birkett, M. (2015). The negative effects of prejudice on interpersonal relationships within adolescent peer groups. *Developmental Psychology, 51*(4), 544–553. <https://doi.org/10.1037/a0038914>
- Poteat, V. P., & Spanierman, L. B. (2010). Do the ideological beliefs of peers predict the prejudiced attitudes of other individuals in the group? *Group Processes and Intergroup Relations, 13*(4), 495–514. <https://doi.org/10.1177/1368430209357436>
- PRISMA. (2020). *Declaración PRISMA*. Retrieved from <https://bit.ly/33JwE3x>
- Qian, J., Bethke, A., Liu, Y., Belding, E., & Wang, W. Y. (2019). *A Benchmark Dataset for Learning to Intervene in Online Hate Speech*. Proceedings of the 2019 Conference on Empirical Methods in Natural Language Processing and the 9th International Joint Conference on Natural Language Processing (EMNLP-IJCNLP), 4755–4764, Hong Kong, China. Association for Computational Linguistics.
- Ramírez-García, A., González-Molina, A., Gutiérrez-Arenas, M., & Moyano-Pacheco, M. (2022). Interdisciplinarity of scientific production on hate speech and social media: A bibliometric analysis. *Comunicar, 72*, 129–140. <https://doi.org/10.3916/C72-2022-10>
- Reisner, S. L., Veters, R., Leclerc, M., Zaslow, S., Wolfrom, S., Shumer, D., & Mimiaga, M. J. (2015). Mental health of transgender youth in care at an adolescent urban community health center: A matched retrospective cohort study. *Journal of Adolescent Health, 56*(3), 274–279. <https://doi.org/10.1016/j.jadohealth.2014.10.264>
- Risch, J., & Krestel, R. (2018). *Aggression Identification Using Deep Learning and Data Augmentation*. Proceedings of the First Workshop on Trolling, Aggression and Cyberbullying (TRAC-2018), 150–158, Santa Fe, New Mexico, USA. Association for Computational Linguistics.
- Romero, L., & Portillo-Salido, E. (2019). Trends in sigma-1 receptor research: A 25-year bibliometric analysis. *Frontiers in Pharmacology, 10*. <https://doi.org/10.3389/fphar.2019.00564>
- Ross, M. W., Berg, R. C., Schmidt, A. J., Hospers, H. J., Breveglieri, M., Furegato, M., & Weatherburn, P. (2013). Internalised homonegativity predicts HIV-associated risk behavior in european men who have sex with men in a 38-country cross-sectional study: Some public health implications of homophobia. *BMJ Open, 3*(2). <https://doi.org/10.1136/bmjopen-2012-001928>
- Sausa, L. A., Keatley, J., & Operario, D. (2007). Perceived risks and benefits of sex work among transgender women of color in San Francisco. *Archives of Sexual Behavior, 36*(6), 768–777. <https://doi.org/10.1007/s10508-007-9210-3>
- Sevelius, J. M., Keatley, J., Calma, N., & Arnold, E. (2016). 'I am not a man': Trans-specific barriers and facilitators to PrEP acceptability among transgender women. *Global Public Health, 11*(7–8), 1060–1075. <https://doi.org/10.1080/17441692.2016.1154085>
- Singha, L. G. K., & Chakrabarty, J. (2022). Surviving homophobia, resisting heteronormativity: India and himanjali Sankar's talking of muskaan. *Forum for World Literature Studies, 14*(1), 137–150.
- Small, H. (1973). Co-citation in the scientific literature: A new measure of the relationship between two documents. *Journal of the American Society for Information Science, 24*(4), 265–269. <https://doi.org/10.1002/asi.4630240406>
- Small, H., & Griffith, B. C. (1974). The structure of scientific literatures I: Identifying and graphing specialties. *Science Studies, 4*(1), 17–40. <https://doi.org/10.1177/030631277400400102>
- Sumter, S. R., Cingel, D., & Hollander, L. (2021). Navigating a muscular and sexualized instagram feed: An experimental study examining how instagram affects both heterosexual and nonheterosexual Men's body image. *Psychology of Popular Media, 11*(2), 125–138. <https://doi.org/10.1037/ppm0000355>
- Swaminathan, K., Bharathi, B., Gayathri, G. L., & Sampath, H. (2022). SSNCSE_NLP@LT-EDI-ACL2022: *Homophobia/Transphobia Detection in Multiple Languages using SVM Classifiers and BERT-based Transformers*. Proceedings of the Second Workshop on Language Technology for Equality, Diversity and Inclusion, 239–244, Dublin, Ireland. Association for Computational Linguistics.
- Taha-Thomure, R., Milne, A. S., Kavanagh, E. J., & Stirling, A. E. (2022). Gender-based violence against trans* individuals: A network graph of mary Gregory's experience in powerlifting. *Frontiers in Psychology, 13*. <https://doi.org/10.3389/fpsyg.2022.854452>
- Tebbe, E. A., & Moradi, B. (2016). Suicide risk in trans populations: An application of minority stress theory. *Journal of Counseling Psychology, 63*(5), 520–533. <https://doi.org/10.1037/cou0000152>
- Tynes, B. M., Giang, M. T., Williams, D. R., & Thompson, G. N. (2008). Online racial discrimination and psychological adjustment among adolescents. *Journal of Adolescent Health, 43*(6), 565–9. <https://doi.org/10.1016/j.jadohealth.2008.08.021>
- United Nations. (2019). *UN Strategy and Plan of Action on Hate Speech*. Retrieved from <https://www.un.org/en/hate-speech>
- Upadhyay, I. S., Aditya, K., & Mamidi, R. (2022). Sammaan@LT-EDI-ACL2022: *Ensembled Transformers Against Homophobia and Transphobia*. Proceedings of the Second Workshop on Language Technology for Equality, Diversity and Inclusion, 270–275, Dublin, Ireland. Association for Computational Linguistics.

- Valerio, L. M. (2022). Hate messages towards the LGTBQ+ community: Instagram profiles of the Spanish press analysis during “pride week”. [Mensajes de odio hacia la comunidad LGTBQ+: análisis de los perfiles de Instagram de la prensa española durante la “Semana del Orgullo”]. *Revista Latina De Comunicacion Social*, 2022(80), 363–388. <https://doi.org/10.4185/RLCS-2022-1749>
- Waseem, Z. (2016). *Are You a Racist or Am I Seeing Things? Annotator Influence on Hate Speech Detection on Twitter*. Proceedings of the First Workshop on NLP and Computational Social Science, 138–142, Austin, Texas. Association for Computational Linguistics. <https://doi.org/10.18653/v1/W16-5618>
- Wilson, P. A., & Yoshikawa, H. (2004). Experiences of and responses to social discrimination among asian and pacific islander gay men: Their relationship to HIV risk. *AIDS Education and Prevention*, 16(1), 68–83. <https://doi.org/10.1521/aeap.16.1.68.27724>
- Wong, C. F., Schrager, S. M., Holloway, I. W., Meyer, I. H., & Kipke, M. D. (2014). Minority stress experiences and psychological well-being: The impact of support from and connection to social networks within the los angeles house and ball communities. *Prevention Science*, 15(1), 44–55. <https://doi.org/10.1007/s11121-012-0348-4>
- Wypych, M., & Bilewicz, M. (2022). Psychological toll of hate speech: The role of acculturation stress in the effects of exposure to ethnic slurs on mental health among Ukrainian immigrants in Poland. *Cultural Diversity and Ethnic Minority Psychology*. <https://doi.org/10.1037/cdp0000522>

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.