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SPECIALTY SECTION

This article was submitted to
Politics of Technology,
a section of the journal
Frontiers in Political Science

RECEIVED 19 June 2022

ACCEPTED 09 January 2023

PUBLISHED 09 February 2023

CITATION

Congge U, Guillamón M-D, Nurmandi A,
Salahudin and Sihidi IT (2023) Digital
democracy: A systematic literature review.
Front. Polit. Sci. 5:972802.
doi: 10.3389/fpos.2023.972802

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Digital democracy: A systematic literature review

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Digital democracy provides a new space for community involvement in democratic life. This study aims to conduct a systematic literature review to uncover the trend of concepts in the study of digital democracy. This study used descriptive analysis with data sources derived from the Scopus database from the period between 2014 and 2020 (a total of 230 articles) and processed with VOSviewer. The results showed three dominant concepts, namely democracy, the internet, and movement. In addition, it was found that the digital era provides positive and negative impacts on democracy, that public knowledge in a quality digital democracy is important, and that there is strong elite control in virtual democracy. The results of this research can be used as a basis for developing digital democracy studies. Meanwhile, this study was limited by the fact that the articles reviewed were only sourced from Scopus and did not include publications from 2022. Therefore, future studies need to take a comparative analysis approach that uses the Web of Science (WoS) database and increases the time period in which articles are sourced.

KEYWORDS

digital democracy, government, participation, social media, internet, movement

1. Introduction

The advancement of technology, information, and telecommunications (ICT) has resulted in significant changes to practically every aspect of human life in the 21st century. Nowadays, virtualization and digitalization are comprehensively affecting the pattern of people's lives, in state, social, cultural, economic, political, and religious environments (Blühdorn and Butzlaff, 2020). Particularly, in regard to democracy, there are many advancements or modern patterns caused by the rapid development of ICT. Communities and countries across the digital world can now communicate with each other very easily and accessing information is no longer a complicated process (Bastien et al., 2020). Meanwhile, democracy in the old era used conventional patterns in which it was quite difficult for people to gain access to information related to government and state issues. Additionally, people found communicating or expressing opinions challenging. This was because of the complexity of the systems in democratic countries in the old era, which led to minimal public participation in activating democracy (Dunan, 2020).

The development of the pattern of democracy through ICT advancement has brought about a great deal of change and provided many convenient benefits. Democracy in the digital era is able to provide easy access for the community, especially in terms of obtaining and expressing information (Hardiman, 2018). However, as well as the positive impacts, digital democracy is also associated with negative impacts. The misuse of digital platforms as a means of community democracy is common. The key part of democracy in the digital era that all internet users must consider is their ethics and manners when expressing their thoughts (Mahliana, 2019).

Digital democracy in its development is very much influenced by virtual space, especially social media. Meanwhile, social media is an embodiment of virtual space. The provision of internet access is the most important issue in this instance (Indianto et al., 2021). The existence of virtual space and social media is one aspect that can provide great benefits for democratic life. Social media, if used by people as a means to activate democracy, will fulfill the true purpose of digital democracy (Mahliana, 2019). The general population can readily obtain information and express their goals using social media platforms, such as Instagram, Whatsapp, Facebook, Twitter, TikTok, Line, blogs, websites, and other similar platforms. Moreover, nowadays, social media users are more likely to see content with varied meanings. This ease of access may undoubtedly be used to voice opinions, acquire information, and mobilize the populace on important topics in a democracy (Waluyo, 2019). Lower-earning citizens can also take advantage of new technologies, such as social media (e.g., Facebook), which are extremely popular, inexpensive, and simple to use. In this instance, low-income individuals may demand increased information disclosure *via* these media, and local governments may use these tools to reach out to these citizens (Guillamón et al., 2016). Additionally, candidates/politicians often use social media during political campaigns in which they use various platforms, such as Instagram, Facebook, and Twitter, to disseminate political programs and ideas that will be implemented.

When looking at the long journey of democratic methods in the past using conventional patterns and comparing them with digital democracy in the modern era, there is a fairly strong distinction. In the 1990s, internet information technology became known in the community. This had implications for how people adapted to democratic life (Waluyo, 2018). In the past, people could only access information and express opinions through mass media, such as radio, television, and printed newspapers. Now, this behavior has shifted and people generally use digital platforms. Today, the public can promote democracy freely using the internet and social media (Vittori, 2020). An additional benefit of the internet and social media is that they may be used to inspire and motivate. In the past, it was difficult to communicate directly with the government and society as they seemed so far away, but this has now been made possible by the internet and social media (Hardiman, 2018).

Digital democracy is related to the use of digital media and networks for political and government purposes. In the context of democracy, digital technology greatly influences the democratic process through political mobilization, campaign strategies, and polarization of public opinion (Gilardi, 2016). Furthermore, digital democracy is also related to the implementation of e-government (Bastick, 2017; Sundberg, 2019; Filipova, 2020), e-Voting (Yang et al., 2021; Lorenz-Spreen et al., 2022), and social movements (Treré, 2015; Canella, 2017; Agur and Frisch, 2019; Pavan and Felicetti, 2019; Leong et al., 2020; Storer and Rodriguez, 2020).

Based on some of the explanations above, studies related to digital democracy are needed. The problems that arise in a digitally democratic society are things that must be minimized and normalized. Studies related to digital democracy in the world of democracy and science are fundamental and can provide implications or benefits for future democratic life. Therefore, researchers consider this to be an important issue and are interested in studying and analyzing how digital democracy is discussed and how it should be implemented. In studies related to democracy in

the digital era, researchers try to use a structured literature review system when this method is considered to be capable of answering the researcher's basic questions and presenting relevant conclusions.

Several studies have demonstrated the development of digital democracy across the world. Bessant (2014) points out that digital democracy has succeeded in driving political change in Arab countries through the Arab Spring due to the involvement of students, who were able to use social media as a means of communication in developing resistance movements. Wells (2014) states that social media encourages the rise of civil politics because people are more concerned with political issues. Vlachokyriakos et al. (2014) show that the presence of e-voting succeeded in making the election process more efficient and effective. Lee et al. (2014) demonstrated that social media succeeded in breaking the chain of political inequality in Thailand, where young people were more active, especially in the case of the referendum. Natale and Ballatore (2014) highlighted the role of new media, specifically websites, in spreading influence and campaigning during the growth of the Five Star Movement (M5S) in Italy. Bessant and Watts (2017) show that Aboriginal tribes in Australia, as indigenous people, have succeeded in increasing their equality and political influence using social media. Vaccari and Valeriani (2018) argue that people's political participation *via* social media is greater in established democracies, such as Denmark, France, the United Kingdom, and the United States than in "third wave" democracies, such as Greece, Poland, and Spain. Michaelael (2018) looks at how the Iranian government strictly controls the internet through censorship of information to prevent the emergence of a democracy promotion movement.

Evans (2019) shows a strong correlation between massive internet use and the development of democracy in Africa. This study shows that democracy in African countries is currently heading in a new direction due to the strengthening of digital politics in the community to oversee the running of government and protest. Chitanana and Mutsvauro (2019) show how social media has succeeded in growing a repressive community resistance movement in Zimbabwe; people are using social media for citizen journalism and fighting for democracy. In Russia, Glazunova (2020) shows how YouTube has succeeded in becoming an alternative media used by Alexey Navalny as an opposition figure to organize mass protests in Russia, especially in the anti-corruption protest event in 2017. Finally, Flew and Iosifidis (2020) emphasize how populism is an aspect of the right wing that exploits the spirit of nationalism and has become stronger lately because it maximizes the use of social media. Another study analyzes the determinants of public engagement on municipal Facebook pages (Metallo et al., 2020). The sample included 170 cities in Italy and Spain that used Facebook in 2014. The data indicate that excessive publication of city information on Facebook Pages has little effect on citizen involvement. Additionally, routinely posting information does not constitute public participation. However, if it is posted and made publicly available (for example, on a holiday), the possibility of public engagement increases. Additionally, citizen engagement on the city's Facebook page is dependent on the person's income level, with a negative correlation between income and participation. In comparison to these studies, which were conducted explicitly, this research makes a novel addition by using the systematic literature review (SLR) approach to demonstrate the trend of digital democracy studies and their analysis to make them more comprehensive and comparative.

2. Literature review

2.1. Democracy in the digital era

The development of globalization has many implications for present society. The current rapid globalization has minimized limitations in the global community. This is based on the rapid development of technology and information so that it is easy for the global community to access information (Kud, 2021). Changes in the democratic patterns of society and government in each country have coincided with this massive development of information technology and globalization. Advances in technology, information, and communication have changed the democratic patterns of society and government so that they can move in digital spaces (Blühdorn and Butzlaff, 2020).

There are positive and negative sides to the study of democracy in the digital era. The positive aspects make it easier for people to express their aspirations, form groups, protest policies, control policies put forward by governments, and so on. The point is, from this perspective, democratic countries are becoming more democratic because virtual spaces and internet access can provide opportunities for users to express their opinions (Dwifatma, 2021). However, in this case, good understanding and ethics are needed so that people do not use freedom of expression to violate ethics in the virtual world as well as human rights (Nasution, 2020). On the other hand, there is a negative side to democracy in the digital era. Public understanding of social media is something that is often a problem. Many cases of ethical violations and use are out of the realm of the public in the virtual world. These cases can be in the form of hoaxes, hate speech, defamation, and so on (Masduki, 2021). The basic understanding of society in conveying and using freedom of expression on digital platforms is sometimes far beyond limits. This is one of the problems and challenges for democracy in today's digital era.

Based on the explanation above, digital democracy has a significant impact on society and government. Digital democracy can support the realization of democratization in a country. This can happen because the digital world makes it easier for people to control and express their aspirations regarding existing problems (Charnock et al., 2021). On the other hand, the government as a policymaker should also provide substantial and periodic socialization, as well as education regarding how to use digital platforms properly (Blühdorn and Butzlaff, 2020).

2.2. Virtual space and social media

Virtual space is a space that results from a simulation of reality and then becomes a hyperreality or the adoption of reality on a digital platform. Virtual space can also be interpreted as a form of virtual communication. Virtual space is present as an alternative solution for meeting human needs to socialize widely beyond limits. Meanwhile, social media is an embodiment of the virtual space. Internet access is the most important factor in this instance (Indianto et al., 2021). The existence of virtual space and social media is one aspect that can provide extraordinary benefits for democratic life. The meaning or value of democracy can be achieved through social media, which make it easier for people to actively participate in a democratic country (Mahliana, 2019). People can readily obtain information and express their goals using social media networks,

such as Facebook, Instagram, WhatsApp, Twitter, Line, blogs, and websites, among others. This ease of access can certainly be used as a means of expressing opinions and gathering and mobilizing the masses regarding certain issues in a democratic country (Waluyo, 2019).

To support this, substantial and periodic virtual political education is needed to support democratization in today's digital era. This is an important aspect for supporting the basic understanding of the community regarding how to use various digital platforms to support democracy (Malik et al., 2020). There will be complex problems if the virtual political understanding of society is not fully fulfilled. Hoaxes, hate speech, defamation, discrimination, political stereotypes, and so on are things that can arise if the social media user community is not able to use social media properly.

3. Research method

This study examines various articles that are closely associated with digital democracy. Articles of an international scale and reputation are the main sources of reference in the preparation of this study. The focus of the review discussed in this study is based on several basic factors, especially in terms of understanding the concepts, impacts, and patterns related to digital democracy. Researchers are attempting to summarize studies that have been reviewed by previous researchers to find a common thread to understand how digital democracy takes place in the current era.

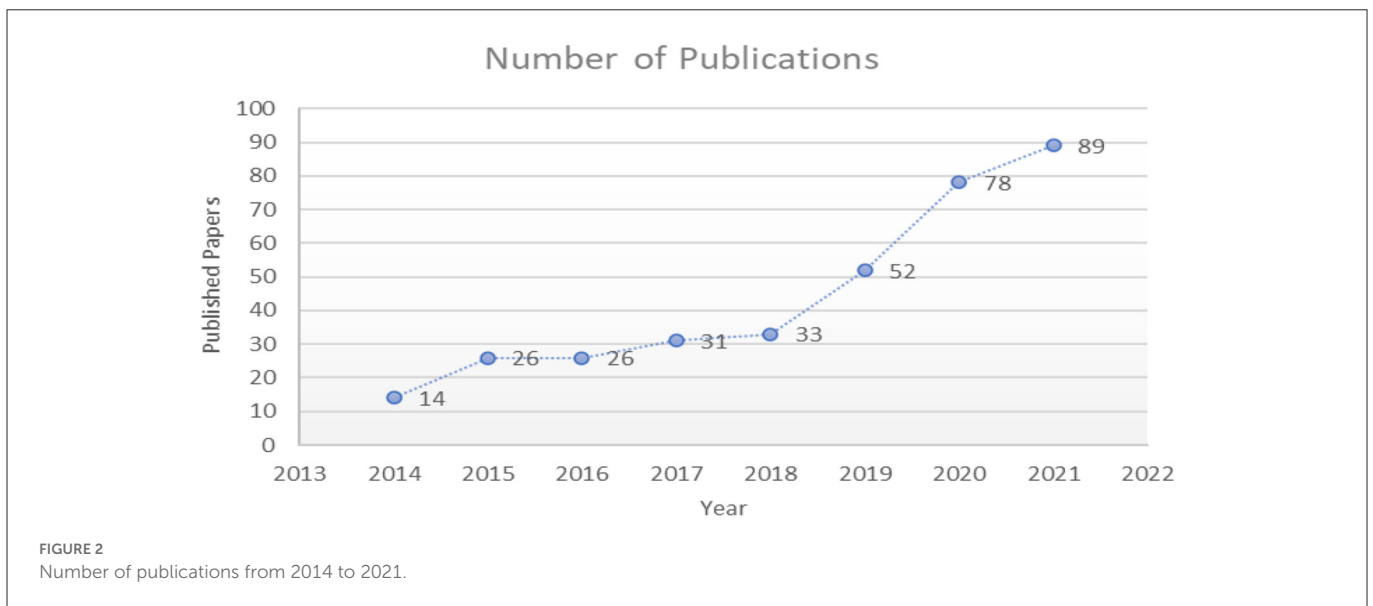
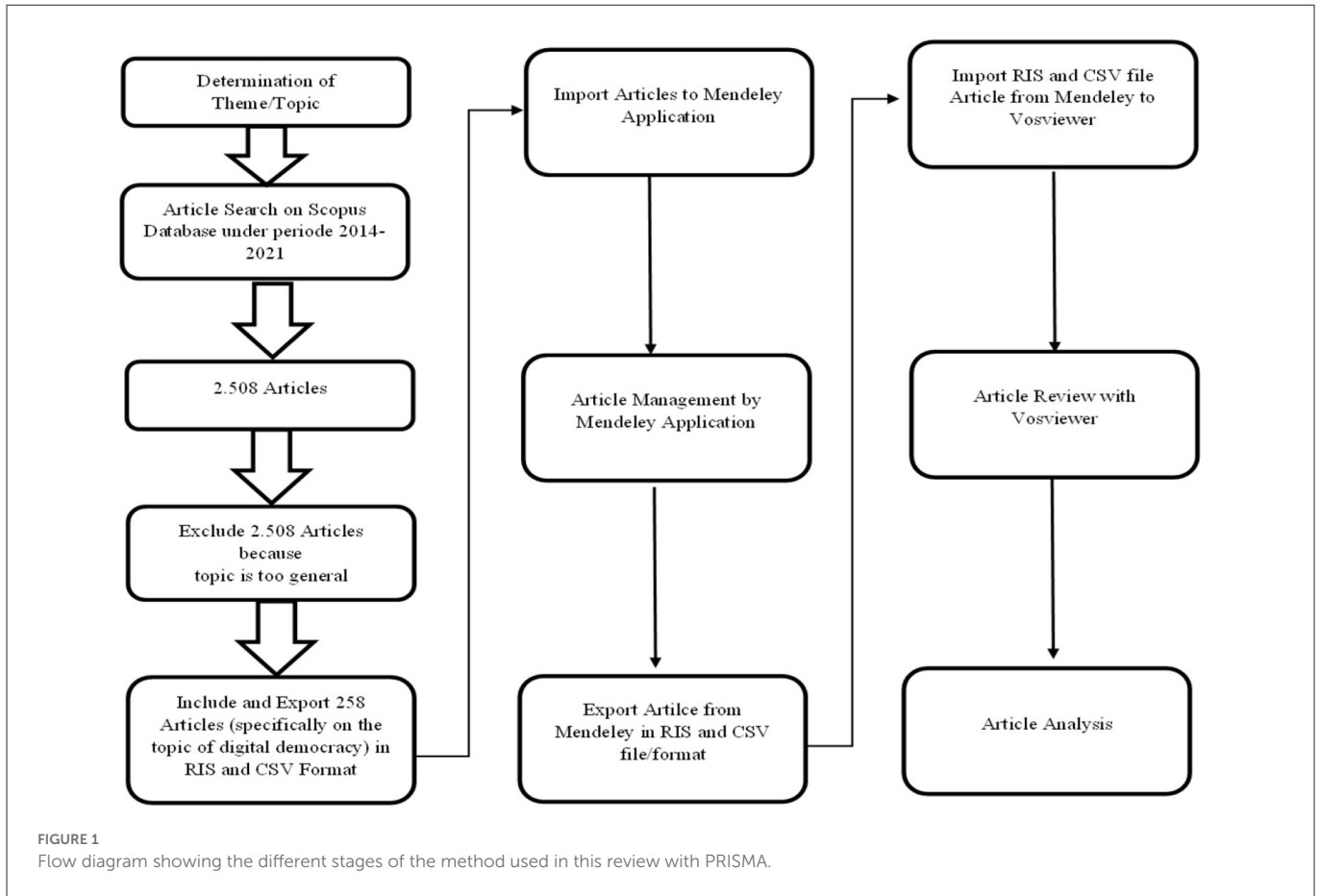
Figure 1 shows that this research began with a search for articles using the keyword "digital democracy" in the Scopus database for the 2014–2021 period. This search identified 258 articles that were then reviewed based on stages: a search for articles, import articles in the application software, and mapping of discussion topics.

Several articles that had strong links were obtained by researchers based on the following procedure: first, article identification attempted to sort and select various articles so that only those related to the topic were used. This was carried out by inputting the keywords "digital democracy" in the search column, with restrictions from 2014 to 2021. Based on the search process, 2,508 articles related to the topic were obtained. The second stage involved verifying the various articles found to determine whether they were really needed and were closely related to democracy issues in the digital era. Verification was carried out by limiting the subject area (social sciences), document type (article), publication stage (final), and language (English). The verification process identified 258 articles/journals that were relevant to digital democracy. These articles were used as a reference for studying "digital democracy".

4. Data analysis

4.1. Publication and leading author

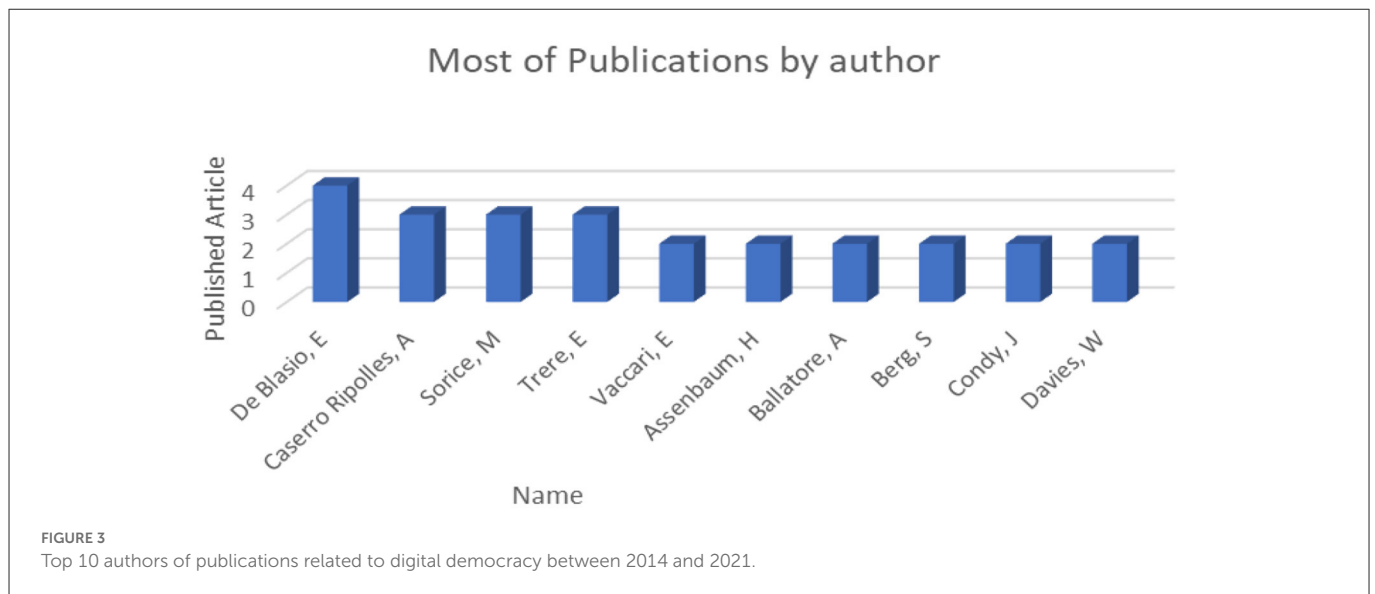
Articles on the topic of digital democracy are one of the the most popular types of study and continue to increase every year. Figure 2 shows that from 2014 to 2021, in general, there was an increase even though there was a stagnation in 2016. Furthermore, the year in which the highest number of articles were published was 2021



(89 articles). By contrast, the year in which the fewest articles were published was 2014 (14 articles).

Furthermore, the 10 authors with the highest number of publications related to digital democracy between 2014 and 2021 are shown in Figure 3. De Blasio had the

highest number of publications (four articles). Furthermore, three authors, Cassero Ripolles, Sorice, and Treme, published three articles. Finally, six authors, Vaccari, Assenbaum, Ballatore, Berg, Condy, and Davies, published two articles.



4.2. Correlation and grouping of themes in digital democracy studies

The following description is a follow-up procedure sourced from various articles/journals after the previous selection and verification process. The results of the review were processed using the VOSviewer application to categorize concepts based on groups. Figure 4 shows the various concept names displayed with cluster densities, with a total link of 511 and a total link strength of 821. The difference between cluster colors is an indication of differentiation between one discussion group and another focus group. This makes it easy for researchers to map groups of data so that they can be studied and analyzed. Regarding the study of digital democracy, Figure 4 displays different colors for each existing cluster and refers to the grouping of their respective concepts.

Figure 4 shows how the themes were grouped, and these groups were sorted for review with those that actually have a correlation based on the themes discussed. Table 1 maps concepts or themes based on clusters related to the study of digital democracy.

Table 1 shows that cluster 1 predominantly discusses how the internet or digital space can be used as a forum to participate in strengthening democracy. In cluster 1, the most dominant keyword is internet. This shows that the topic of the internet has the highest frequency, or is often mentioned, in cluster 1. This happens because all the concepts written by the author always refer to the internet.

Gauja (2021), for example, explains that the presence of digital networks can strengthen democracy as people can participate online to strengthen and activate it. Nowadays, public opinion can be channeled through digital platforms or social media. Twitter, Facebook, websites, and various other platforms can be used to communicate public opinion in a virtual form. Digital democracy, or what can also be referred to as e-democracy, on the other hand can function as campaign media. The breadth of access and the number of internet users are the main reasons why online participation is massive (Flew and Iosifidis, 2020).

A fairly monolithic scientific argument is also elaborated by Smith and Martín (2021). This study, conducted in Madrid and Barcelona in Spain, reveals that digital or technopolitical platforms

can influence democratic activity and democratize a region or country. Smith and Martín (2021) also explain that digital features have become a platform for aspirations of community involvement and activism. This underlies the notion that the pattern of digital democracy must be strengthened through socialization and strong education so that people can understand the pattern of democracy in the virtual space. Additionally, Vittori (2020) further reveals that the community can influence policymakers through the digital space, where the masses can be mobilized virtually to provide reflection so that policies made by the government or members of parliament can be influenced. Thus, the digital space is highly beneficial for activating democracy. Democracy is one thing that can be realized through the active participation of citizens, and the internet and social media can be a platform to manifest this participation (Fuchs, 2021).

Cluster 2 predominantly features the function of the community to control government policies and is also related to public understanding during political arguments in digital media. In cluster 2, the most dominant keyword is citizenship as all the concepts written by the authors always refer to the topic of citizenship because citizens participate in politics, primarily to control government policies; therefore, many authors research this topic.

To activate democracy and foster a participatory political culture, the public should massively control and oversee government policies. Democracy and participation is not only defined as using voting rights in general elections but also as guarding the elected political actors to keep the public interest first (Masduki, 2021). Feldman (2020) finds that one of the most important things in digital democracy is a good basic knowledge of digital media users. Sometimes, there is a misunderstanding in society that freedom of expression in digital media is defined as a very high level of freedom. This is biased and out of control and leads to the violation of the human rights of individuals or political actors, hoaxes, SARA, black campaigns, and so on. Therefore, it is necessary for the public to have a strong awareness about how to argue when using digital media. Understanding which words to use and which arguments to engage with exemplifies this and underpins the appropriate manner in which to express opinions or argue in the digital world (Moya, 2020).

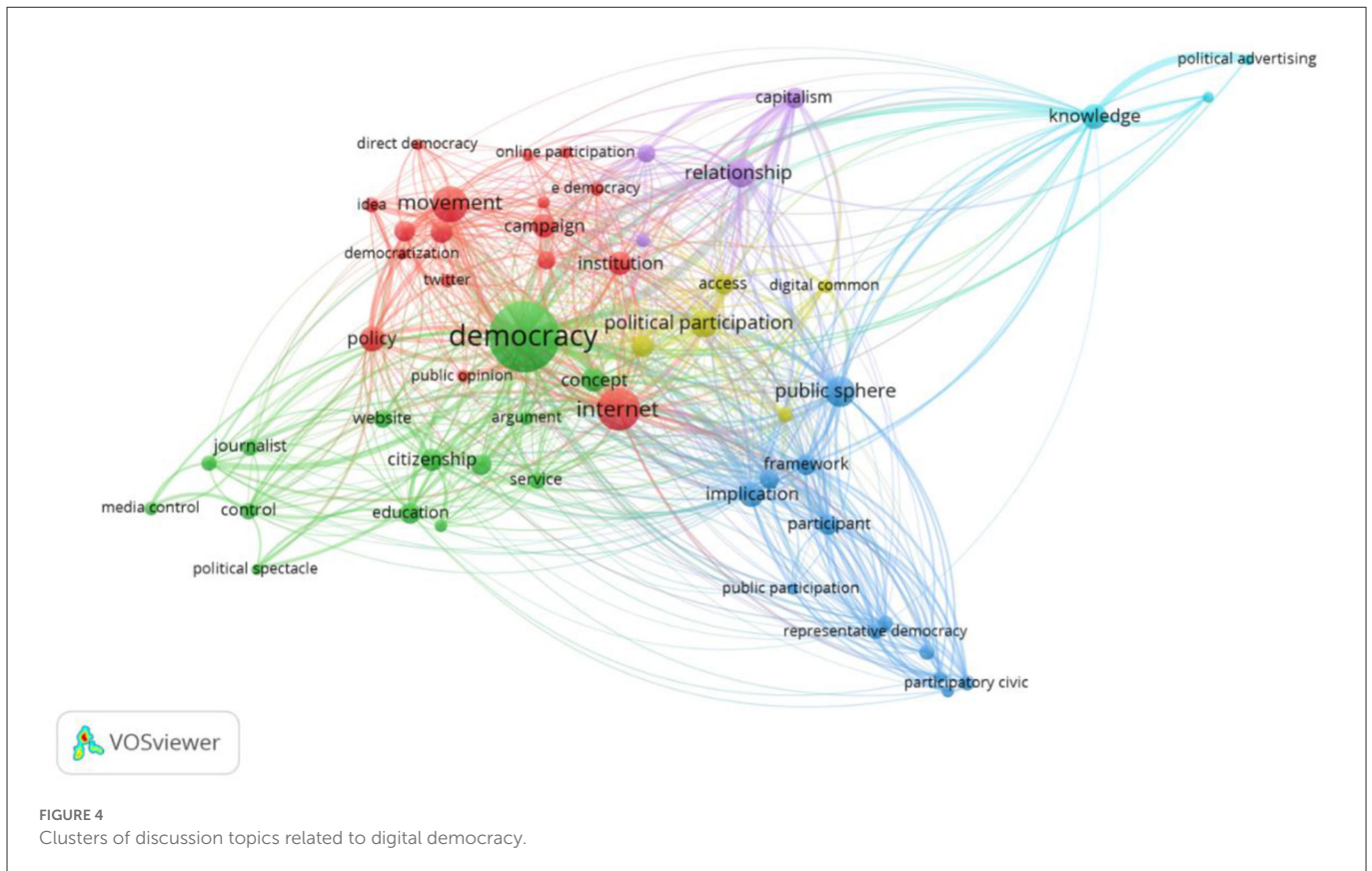


TABLE 1 Themes grouped based on clusters.

| Cluster | Concepts | Total |
|-----------|--|-------|
| Cluster 1 | Campaign, democratization, digital network, direct democracy, e-democracy, Facebook, idea, institution, internet, movement, online participation, policy, public opinion, relation, Twitter, web, and western democracy. | 17 |
| Cluster 2 | Argument, citizenship, concept, control, democracy, digital politic, education, governance, journalist, media control, political spectacle, service, smart city, and website. | 14 |
| Cluster 3 | Civic participation, deliberation, framework, implication, participant, participatory civic, participatory medium, problem, public participation, public sphere, representative democracy, and response. | 12 |
| Cluster 4 | Access, digital common, digital democracy, political engagement, and political participation. | 5 |
| Cluster 5 | Capitalism, democratic politics, difference, and relationship. | 4 |
| Cluster 6 | Alternative digital medium, knowledge, and political advertising. | 3 |

Similar to the dominant concept in the previous cluster, cluster 3 predominantly features community participation in enlivening democracy. Therefore, the dominant keyword is participant, which means all authors refer to it in cluster 3. Even though every democratic country has its own representative council, the advancement of ICT allows people to directly control policy and debate freely through digital media (Dommett et al., 2021). In terms of the implications or problems that arise because of regulations that

deviate from government, the public can use social media to raise cases and mobilize the masses to oppose government regulations. This is what is referred to as public participation in the new era of digital democracy (Siagian and Yuliarti, 2021). In the conventional era, people had to report to the government at the closest level and to representatives; however, in the era of digital democracy, people can express their opinions in digital spaces or platforms. The expression of public dissatisfaction on social media has led to governments improving policies or redelivering policy intentions. This is certainly very democratic, with the benefits of digital media positively impacting democracy (Attatfa et al., 2020).

Cluster 4 predominantly discusses the impact of the presence of the internet and digital media on democracy, which has an impact on the ease and equality of public access to participation. Therefore, the dominant keyword is access, which means all authors refer to it in cluster 4. Bastien et al. (2020) explain that the ease of access offered by the digital space can be of great benefit to marginalized and disabled people. For example, social media can be used as a forum for channeling the opinions of this group of people. Social media that does not prioritize social stratification provides a positive space for this group. A democratic system that requires any citizen to have an opinion through social media can indirectly be properly accommodated. Social media is an alternative way for people to participate in and activate democracy (Vittori, 2020). Finally, Dunan (2020) also suggests that democracy in the digital era makes people closer to the state and government. This is because of the lack of boundaries in the digital world, which allows people to easily convey their aspirations to the government. The community in this case can move away from the political culture of the subject and participate politically. In general, democracy in the digital era, putting aside its

negative impacts, can provide great benefits for the community so that they can actively participate in a democratic state system.

The dominant themes or concepts featured in cluster 5 are capitalism and digital democracy. [Marenco \(2021\)](#) explains that digital democracy has a strong causality with the capitalist system. The dominant keyword is capitalism, which is referred to by all authors. The focus of cluster 5 is to link capitalism with political democracy; in a capitalist system, political democracy must be carried out. The concentration of economic and political power in a handful of groups indicates a pattern of digital democracy mobilization. In this instance, democracy in the digital era faces challenges. Capitalist groups can control and supervise internet users. This is a real problem for democracy in the digital age. To minimize this, digital media users are required to have knowledge about verifying the information contained in various digital platforms ([De Blasio and Viviani, 2020](#)).

Finally, in cluster 6, the concept predominantly discusses the presence of digital media as an alternative to society in democracy. This is indicated by the fact that alternative digital medium is the dominant keyword, which means it is the main reference for authors in cluster 6. Democracy in the digital era requires citizens to have accounts on various social media platforms. These accounts can be used to as a weapon to convey opposing arguments against the government as a policymaker ([Gao et al., 2021](#)). Additionally, digital media are now used as a tool for political advertising by political groups and individuals. In this instance, these advertisements have positive and negative values. This requires the public to be observant so that they can understand information in advertisements delivered on digital platforms ([Gauja, 2021](#)). To support public understanding

of democracy in digital media, the government should also massively provide socialization and education regarding how digital media should be used as a means of channeling aspirations. This is considered important for democracy in today's digital era. Positives and negatives are always present in democracy in the digital era; therefore, it is important to understand how to properly express opinions on social media or the internet ([Gauja, 2021](#)).

4.3. The dominant themes in the study of digital democracy

Based on the data analysis undertaken, there are several dominant themes or themes that have a strong association with the study of digital democracy. This categorization or grouping of dominant themes aims to make the study more focused so that it can present a relevant conclusion. Additionally, the categorization and classification of dominant themes are also used because they can make it easier for the author to map out any topics that have a strong association with the topics discussed. Reviewing the studies of democracy requires verification or sorting of the data so that it is truly in line with the topic of a study. This is carried out so that the discussion or subject of the study is not too general and widespread. [Figure 5](#) shows some of the dominant concepts associated with the study of digital democracy.

Looking at the group of words featured in [Figure 5](#), it would appear that of the various previous discussions on digital democracy, several groups discussed the dominant themes or concepts that

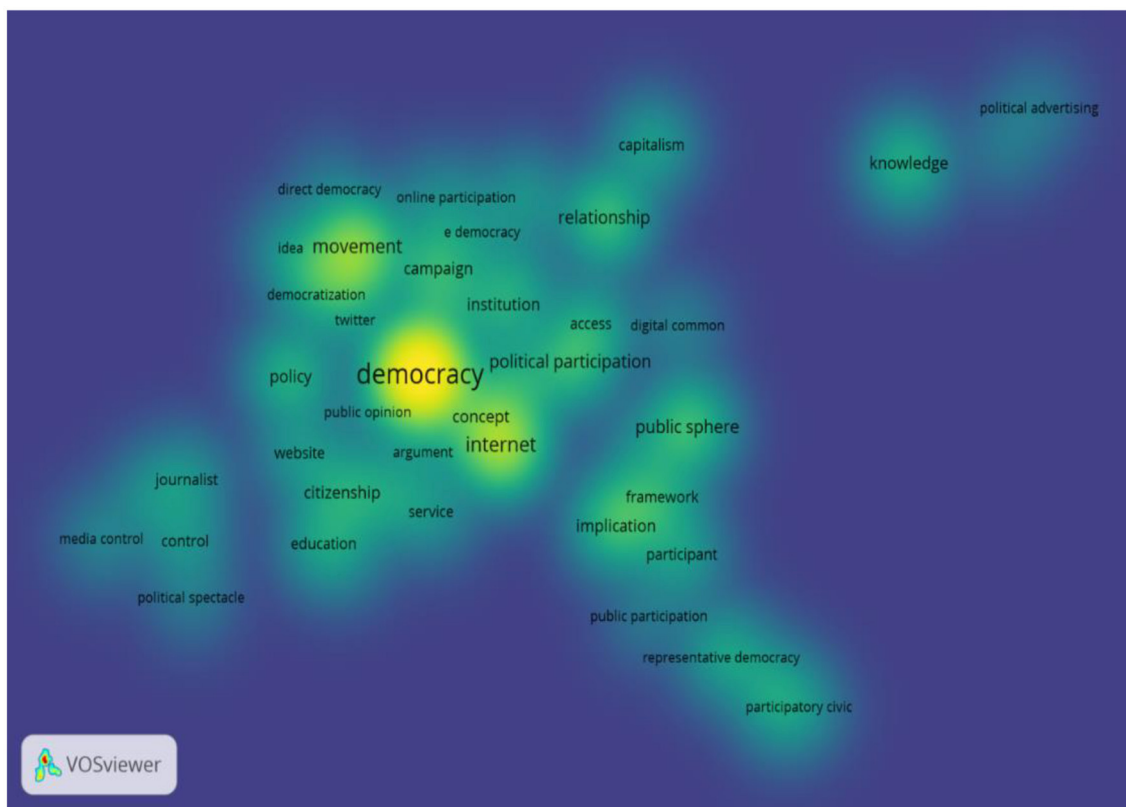


FIGURE 5
Dominant topics in the study of digital democracy.

tended to be discussed the most. Researchers in this study used an analytical tool called VOSviewer to process data and come up with dominant themes or concepts related to the study of digital democracy. The dominant concepts/themes that were often discussed by previous researchers included democracy, internet, movement, concept, public sphere, control, implication, framework, representative democracy, democratization, relationship, knowledge, participatory civic, citizenship, public opinion, media control, e-democracy, and online participation.

The color thickness in [Figure 5](#) indicates how dominant each focus group is. The group of themes with the thickest colors were discussed the most. These various groups of dominant concepts have a strong mutualism symbiosis that makes it easier for researchers to come to conclusions that are truly conical to studies related to democracy in the digital era. This review of the dominant theme was needed to provide a reference for concepts that were often discussed. Therefore, the results of the processed data are shown in [Figure 5](#).

Based on the dominant concepts or themes related to digital democracy, as described in [Figure 5](#), several topics are quite dominant or have been frequently studied. The first dominant topic, democracy, is at the center of studies related to digital democracy. Democracy in the digital era is one of the topics discussed in the modern era. The presence of digital media has strong implications for democratic life. The positives and negatives presented by democracy in the digital era are complex and interesting issues to study. This foundation is one of the reasons why “democracy” has become the dominant discussion in various previous studies. Another dominant theme indicated by color thickness in [Figure 5](#) is the internet. Democracy and the internet are groups that have strong causality in studies related to digital democracy. The presence of the internet raises the spirit of democracy in the community because of the convenience offered in the various virtual spaces in it. The internet arrived and changed people’s democratic habits. However, there are many problems associated with the digitalization of democracy. These problems have been predominantly studied by several researchers.

Another dominant theme in the study of digital democracy is knowledge. The active participation of the community in the era of digital democracy must be accompanied by strong knowledge regarding the use of digital media in democracy. This is important to discuss because there are many cases of violations and irregularities when opinions are expressed on digital platforms ([Reiter and Matthes, 2021](#)). Then there is the dominant theme of public opinion in the era of e-democracy. E-democracy, in this sense, is intended as a pattern of delivering public opinion through digital systems. In the modern era, people can more easily and freely express their opinions, conduct campaigns, and mobilize the masses ([Flew and Iosifidis, 2020](#)). The presence of the internet has improved democracy. Although there are many drawbacks with virtual democracy, the minimal limitations associated with digital platforms are positive for society in terms of activating democracy and presenting democratic values ([Gauja, 2021](#)).

There were other dominant themes that could not be fully covered by this study. Nevertheless, each dominant theme contained in [Figure 5](#) has a correlation with one another and can be used as a reference for studies related to digital democracy. When conducting studies related to digital democracy, it is necessary to first understand the dominant concepts that have been discussed by previous studies. This is important because it can make it easier for researchers to

summarize and produce relevant conclusions regarding the theme of digital democracy.

4.4. Period of article publication in digital democracy studies

The next elaboration relates to the period of publication of articles in the study of digital democracy.

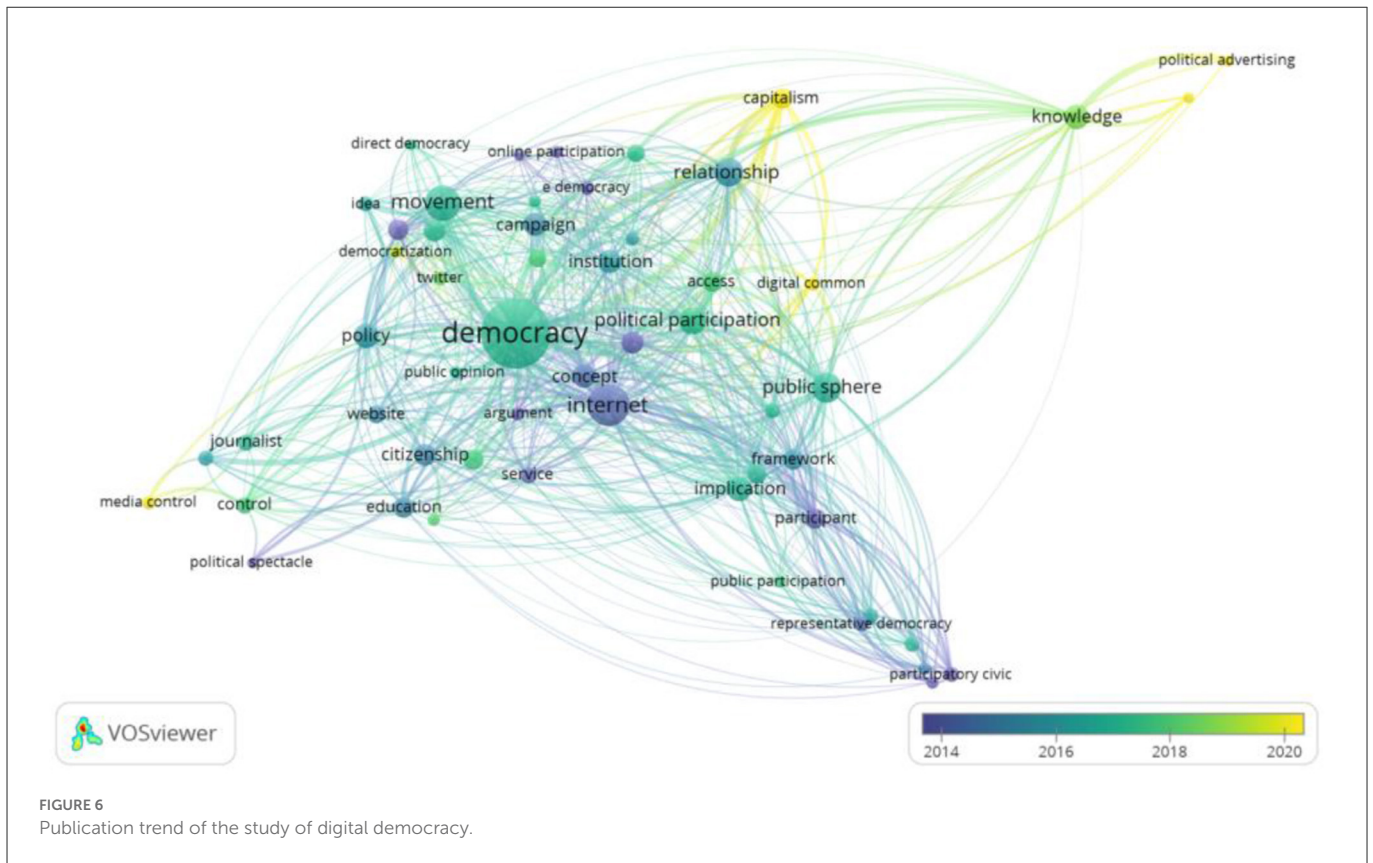
[Figure 6](#) shows articles published during the period from 2014 to 2020. When examined based on thickness or color dominance, studies related to digital democracy published between 2014 and 2016 were more dominant in discussing the internet, participants, services, and so on. This means that during the 2014–2016 period, focused or dominant studies discussed how the internet can be used as a field for community participation in democracy. From 2016 to 2018, the study that was dominant began to change and attempted to examine the benefits of the internet for presenting democracy in democratic countries. The studies in this time span were also dominant in discussing the internet as a means of control and conveying aspirations and as a space for movements that can support democracy. Then, the period from 2018 to 2020 saw the emergence of capitalism, digital advertising, and virtual space controlled by certain groups. This means that there has been a very dynamic study of digital democracy. However, in general, studies on related themes are always dominantly related to, or have implications for, “democracy”.

Studies and publication of articles on digital democracy are considered very important given the massive changes that have occurred in the modern era. Additionally, democracy in the digital era has challenges and shortcomings associated with its implementation; therefore, future studies need to be scaled up to provide updates and communicate the lessons learned about digital democracy. The novelty presented in studies related to digital democracy provides benefits as a reference and alternative solution for the future. Therefore, researchers expect to undertake large-scale studies and present new findings to provide lessons that can be incorporated into future studies related to digital democracy. One of the important studies conducted by [De Blasio and Viviani \(2020\)](#), “Platform party between digital activism and hyper-leadership: the reshaping of the public sphere”, emphasizes that politicians/political parties can maximize social media to repair their damaged image in the eyes of the public through smart and sustainable political advertising. In addition, politicians/political parties must improve their intensive communication skills through digital means (social media) to connect them with the public so that their damaged reputation can be repaired.

4.5. Co-authorship analysis

Network mapping by author’s name was also carried out in this study. The involvement of the authors in relevant studies is important because it can show the intensity of the author and the relationship between authors in this area of study. Network mapping by author can also show how active an author is in collaborating with other researchers and can also find references between authors to indicate who might collaborate with each other in the future.

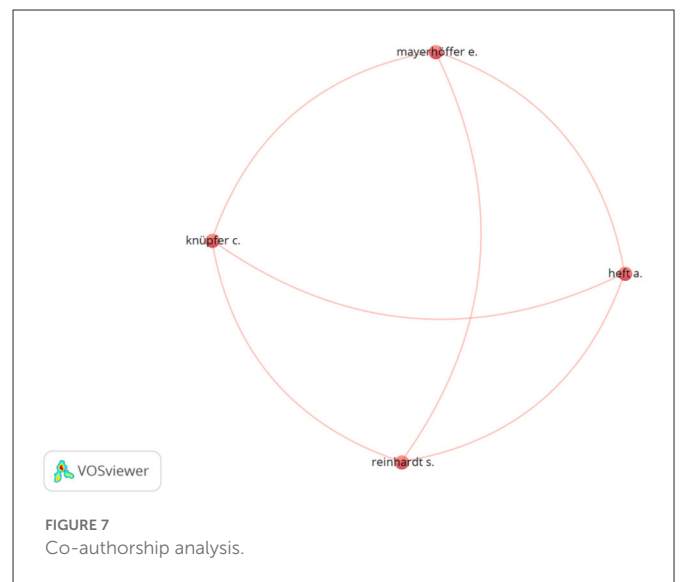
As shown in [Figure 7](#), the author with the most publications was De Blasio (four articles). However, when a co-authorship



analysis of collaboration between authors was undertaken, of the 43 selected authors with at least two articles, only one cluster with four authors (Reinhard, Knufher, Heft, and Meyerhofer) was identified and indicated a very minimal collaboration in the topic of digital democracy. De Blasio was not among those who collaborated with other authors.

5. Conclusion

Studies related to digital democracy are important and need to be widely presented. The rapid development of ICT has brought change and dynamism to the pattern of democracy in the digital era. This research reveals several dominant studies related to digital democracy. Some of the most important aspects of digital democracy were as follows: first, the digital era and its benefits for democracy—the presence of the internet has many implications for the pattern of democracy. The internet, which offers freedom and easy access for users, can be used as a forum for community participation to actively contribute to democracy. Virtual space provides a new dignity to the rise of democracy, thus democratic values can be presented in today’s digital era. A second aspect involves people’s knowledge of democracy in the digital era. In the era of digital democracy, freedom of expression is not regarded as a completely unlimited freedom. Values and ethics need to be applied when expressing opinions in virtual/digital spaces. Therefore, public knowledge is fundamental in the era of digital democracy (e-democracy). Finally, another important aspect is the presence of capitalism and control in democracy. In today’s studies of digital democracy, there are indications of control by a group of elites in the virtual democratic



pattern of society. This negativity affects democracy in the digital era, but the basic understanding of society is one of the main shields against this problem.

This research is useful for showing the development of, and urgent need for, digital democracy at a global level. However, this research also has limitations. First, the articles reviewed were only sourced from the Scopus database; therefore, there are no comparison data. Second, it excludes articles published in 2022, during which time the COVID-19 pandemic endured and even worsened in several places, which of course greatly affected virtual democracy. Therefore,

further studies need to apply a comparative analysis approach that uses the Web of Science (WoS) database as a source of highly reputable international journals and widen the time period from which to source published research.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

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