

Global Research Trend of Korean Popular Music: A Bibliometric Analysis

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ABSTRACT

The goal of this research is to examine the research approaches and trends in Korean popular music (K-pop). This bibliometric study is based on data from the Scopus database over the last ten years (2011–2021). This study examined 327 publications to determine the most prolific nations, authors, organizations, and referenced publications. The most active research publications were discovered to be in South Korea, the United States, and Australia. The most prolific institution has been recognized as Seoul National University (South Korea). The most influential author was determined to be Jin D.Y. Keyword co-occurrence analysis, author and country co-authorship analysis, and bibliographic coupling of documents utilizing the most widely used open-source information visualization technologies. The most productive magazines for K-pop are *Kritika Kultura* and the *International Journal of Communication*. This article summarizes the evolution of K-pop research and provides stakeholders with a concise overview of relevant studies and applications of K-pop. To our knowledge, this is the first study of its sort to do a Scopus-based mapping of the 'K-pop and research' literature. This will help develop the central theme and establish the scholars' future research directions.

Keywords: Korean wave, Korean popular culture, Korean popular music, K-pop, Bibliometrics, Bibliometric analysis.

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INTRODUCTION

Cultural production is the process through which creative content is embedded in goods and services as a distinguishing feature.^[1] The rise of the Korean Wave, including Korean pop culture (K-Pop) and episodic TV/web dramas, has played a pivotal role in the global culture market. The surge of K-pop could not be accomplished without social media platforms such as YouTube.^[2] The K-Pop industry has long used a highly standardized trainee system to seek versatile talent and equip them with the skills needed to succeed in the international entertainment market, such as dance, vocals, fashion, foreign language, and public relations.^[3] Korean popular music (K-pop) has spread its influence outside of Korea to a worldwide fan audience. K-pop fandom increased happiness, self-esteem, and social connectedness. The application of social identity theory in a K-Pop fan context and psychological fandom research more broadly.^[4]

With the growing relevance of social media research, a recent study^[5] examined the engagement mechanisms involved in

applying social media to a K-pop video on YouTube. This is a relatively new phenomenon, therefore, it is helpful for scholars to study proper earlier research to acquire a holistic understanding of the intellectual structure of this topic and forecast how the field may develop.^[6,7] Due to the qualitative and subjective character of previous literature reviews on soft power and country rebranding, this article will focus on reshaping the Korean national identity thru cosmetic surgery tourism.^[8] The quantitative approach of the literature review will provide a deeper understanding of this subject and highlight the emphasis of prior studies throughout time and their linkages.^[4,9]

Bibliometrics is a statistical technique for analyzing publications that give quantitative information about academic literature.^[10,11] By evaluating data from the database, such as citations, authors, keywords, or the range of journals examined, the bibliometric analysis provides insight into the growth of literature and the flow of knowledge within a particular subject.^[12] Bibliometrics employs a variety of approaches depending on the data it analyzes, including citation analysis, co-citation analysis, bibliographic coupling using citations, and co-word analysis using keywords.^[13]

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LITERATURE REVIEW

Korean popular music (K-pop)

Abbreviation of Korean pop music, K-pop goes beyond a musical genre with a strong beat and influences of North American musical genres such as electronic, R&B, and hip-hop. The phenomenon also comprises the aesthetics of their colorful video clips, in which band members wear fashionable clothes and dance highly synchronized choreographies. These boy and girl bands (rarely mixed) are the results of real talent factories, recruiting kids and teenagers to have the opportunity to become idols one day. These young people are training for years to become stars that appeal to the global market.^[14]

Bibliometrics

Bibliometrics is the statistical analysis of bibliographic data included in a journal or a database of scientific publications. As defined by Siekelova A, *et al.*^[15] bibliometric analysis is concerned with the quantitative characteristics of information. Mathematical-statistical approaches, mostly descriptive statistics, are utilized to summarize the results of bibliographies or citation databases. This bibliometric technique may also be used to evaluate the relationships between themes, authors, and affiliations of organizations or nations using data from scientific papers' bibliographies. The use of data from publications, bibliographic references, and citations enables the examination of historical changes in specific scientific fields and the discovery of frequently hidden connections across disciplines or themes.^[16]

Nowadays, bibliometric analysis is gaining prominence as a tool for determining the trend of research.^[17] Bibliometric approaches are derived from all prior research conducted on a specific database having a large amount of bibliographic content.^[18] According to Sweileh and Waleed, bibliometric analysis is used to assess the amount and quality of published resources to track the trends or patterns within a particular field of study.^[19] Additionally, bibliometric analysis can offer additional data and descriptive patterns about publications by year, source type, country, author type, keywords used, number of papers published, and number of citations.^[20,21] Thus, this bibliometric study aids in determining the growth and future directions of a certain field of research.^[22]

Bibliometrics, in particular, aids in the analysis and categorization of bibliographic articles by detailing descriptive evaluations of previous research. Numerous common markers, such as publication type, authorship, affiliation, and country, have been utilized in bibliographic research.^[17] These indicators may be derived from a descriptive examination of the data sets offered by the specified databases. Additionally, prior research has utilized this approach to study journals,^[23] universities,^[24] nations,^[24] themes, citation and co-citation

analysis, keyword co-occurrence analysis, and co-authorship analysis.^[25,26]

Bibliometric analysis^[27] is the quantitative study of bibliographic material: it provides a general picture of a research field that papers, authors, and journals can classify. These studies are essential to give clues on how research has been carried out and eventually predicts the future. This study provides insights not previously identified or evaluated in such detail using bibliometric indicators since the articles were published in 2011 until 2021. Bibliometric methods employ a quantitative approach for the description, evaluation, and monitoring of published research. This technique may be used to establish a systematic, transparent, and reproducible review process, thus enhancing the quality of reviews.^[28] Bibliographic analysis shows objective criteria for evaluating the advancement of research on a topic and serves as a powerful tool for assessing the quality and productivity of scholarship.^[29] Bibliographic approaches facilitate the systematization and replication of information in a subject, highlighting gaps and possibilities that may help with the discipline's growth.^[30]

This study aims to conduct a literature review of K-pop in academic area research using bibliometrics approach. The following section presents the research objectives. The material and methodology are defined in the third section. Then the results are shown in the fourth section, they are discussed, and the conclusion is made in the fifth and sixth sections. Lastly, limitations and future research are proposed.

OBJECTIVES

The primary aim of this study is to examine the patterns and trends in worldwide research on K-pop topics.

To examine the distribution and growth of research on K-pop from 2011 to 2021, on a year-by-year basis;

To get an understanding of the most frequently referenced texts and their distribution across time; To identify influential authors, organizations, and nations that have made significant contributions;

To ascertain which the author favors sources, keywords, and connections.

METHODOLOGY

The study's methodology is depicted in Figure 1.

This paper quantitatively analyzes K-pop; a total of 567 records have been extracted by using international publication data from the Scopus database in the 'Bibtex' format covering the period (2011–2021). The search string used for data extraction is: TITLE-ABS-KEY ("K-pop" OR "Korean pop music" OR "Korean wave" OR "Korean popular music")



Figure 1: Bibliometric study workflow.

This search has been refined to limit the period from 2011 to 2021. Data filtering has been performed manually to remove irrelevant record entries. Bibliometrix Package in RStudio^[31] has been used to analyze the data, and Google sheets have been used for tabulation and visualization of Results.

This study examines the general research trends, authors, universities, keywords, publications, citation structures, and temporal evolution of research. For data retrieval and data collection, Bibliometrix and Biblioshiny, software packages of RStudio^[31] were used to connect with the Scopus API to automatically collect a list of scholars' productions. The data were processed using the Biblioshiny from Bibliometrix for the R package.^[31] Mapping network analysis with VOSviewer^[32] was used to sketch visualization graphs of citations and the studied data results.

The search and selection criteria for the bibliometric analysis are depicted in Figure 2. The data was extracted from Scopus's most frequently cited archives. To avoid picking irrelevant articles, this study used the search terms "K-pop" OR "Korean pop music" OR "Korean wave" OR "Korean popular music" to include studies linked to Korean popular culture with a focus on Korean pop music (K-pop) sector. The quest began in 1995. The total number of extracted papers was 567, which was reduced to 514 when publications from the last decade, i.e., 2011–2021, were excluded. When the document type

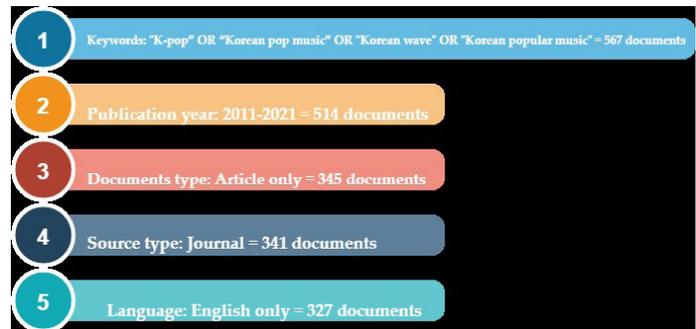


Figure 2: Article selection process.

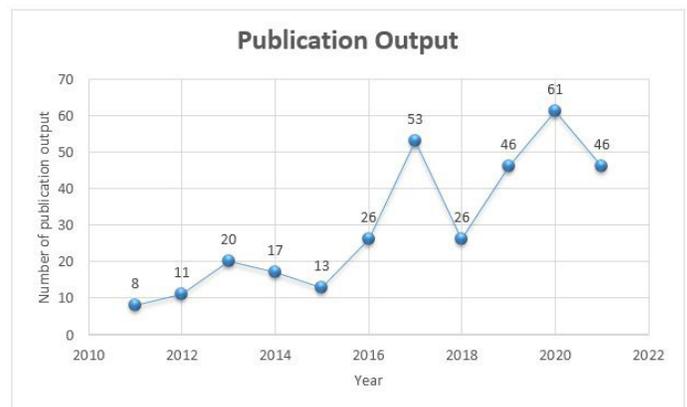


Figure 3: Publication output.

was limited to "article" and the source type was limited to "journal," the total number of articles was 341. There were only 327 English-language documents. As a consequence, 327 publications were subjected to bibliometric analysis. The article selection procedure is depicted in Figure 2.

RESULTS

The data collected were analyzed to identify Source Type, Document Type, Year, Language, Subject Area, Country, Keyword, Author Count, and Citations. For quantitative analysis, the data were presented as frequency and percentage.

Descriptive analysis Publication output

Figure 3 shows a significant increase in the number of research articles published over the previous decade, indicating the academic community's growing interest. The annual growth rate has grown from 8 to 61 documents in 2011 alone. (recorded in 2020). From publishing studies, we may deduce that K-pop is exceptionally young, with only eight pieces published in 2011. The Scopus database has 327 documents spanning barely ten years. This trend is expected to continue thru 2021 and future years (during this analyzing not yet the end of the year).

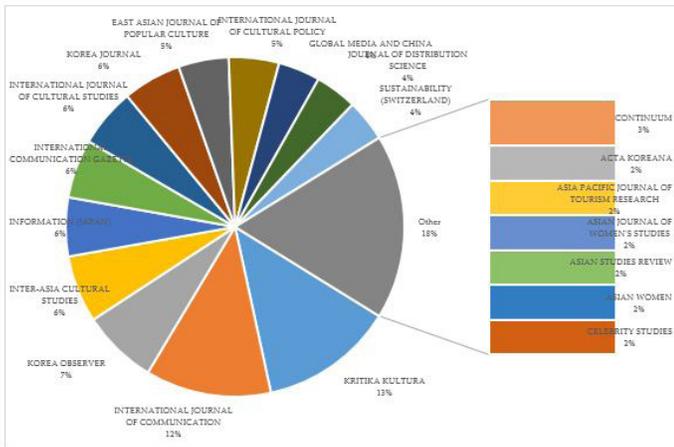


Figure 4: Distribution of documents across titles.

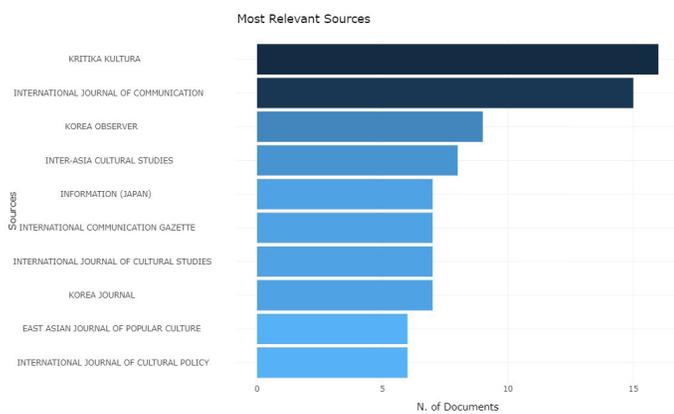


Figure 5: Most Relevant Sources.

Discipline-wise analysis

K-pop has been extensively researched in the KRITIKA KULTURA journal (13%), as shown in Figure 4. The second is the International Journal of Communication (12%), and the third most relevant journal is in Korea Observer journal (7%) (excepted other journal groups).

The chart in Figure 5 illustrates the articles published by each publication in order of their importance to K-pop research. Additionally, the data indicates the most frequently published journals and papers, ranging from 0 to 16.

The leading countries and institutions

As part of our quest, we conducted an analysis of the world's leading countries and institutions as part of our quest. South Korea was revealed to be the most prolific country, with 226 total publications (TPC). The United States of America (USA) (TPC, 96) and Australia followed (TPC, 29). Figure 6 includes a list of other top nations. Seoul National University in South Korea leads the top ten institutions with a total publication index (TPI) of 16, followed by Korea University in South

Country Scientific Production

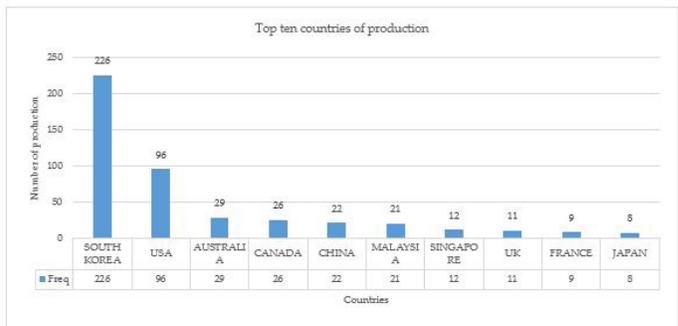
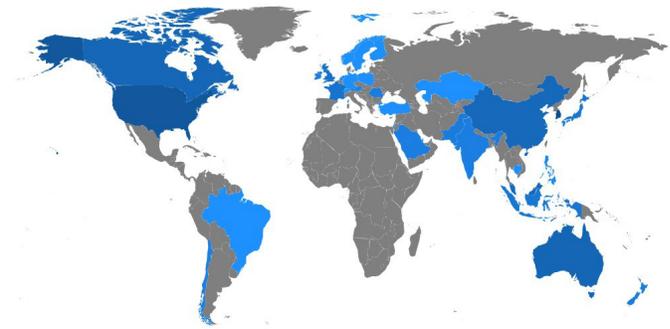


Figure 6: Top ten countries and institutions.

Table 1: The top ten institutions are published articles.

Affiliations	Articles
Seoul National University	16
Korea University	15
Kyung Hee University	14
Yonsei University	14
Simon Fraser University	12
Hankuk University of Foreign Studies	11
Hanyang University	11
University of California	10
Yeungnam University	8
Purdue University	7

Korea with 15 TPI. Other eminent institutions are included in Table 1.

Bibliometric Three Fields Plot

The three-field plot depicts three aspects, including a list of journal names, authors, and keywords. The titles of the journals are mentioned first, followed by the writers' names, and then each author is connected to the publication's keywords. Additionally, gray-colored links connect these three parts to demonstrate their connectedness. Each rectangle size on the lists corresponds to the number of articles associated with that

element, with journals first on the left. Scopus indexes twelve journals, with the most articles appearing in “International Journal of Communication (8).” It is represented as a purple rectangle that is connected to numerous other journals. The key part is the list of the writers. The major elements are related to the authors of publications published in reputable journals. This map provides a list of the top nineteen writers, with the size of the rectangles representing the number of articles each author has produced. In this plot, Jin D.Y.’s rectangle is the largest (20), while Kim S. and Parc J.’s rectangles are equal in size (13). The third element contains the most frequently used terms associated with the topic. Each subject is related to the writers who have published the most on the subject. There are nineteen keyword topics, including K-pop (32), korean wave (19), hallyu (11), bts (8), social media (8), youtube (5), the korean wave (5), fandom (4), globalization (4), and others (as displayed in Figure 7).

Co-authorship of countries

The minimal number of nations for the co-authorship of countries’ analysis, which demonstrates the participation of writers from diverse geographical regions, was set at five (meaning a minimum of 5 published documents per country). As a consequence, 13 countries out of 38 satisfied the requirement. In Figure six, “roughly situated nations” refers to their close association.

We determined that South Korea has the greatest international affiliations, with 38 links and a total link strength (TLS) of 30. By comparison, it has 997 papers published and 139 citations. The United States of America (links: 7, TLS: 26, documents: 80, and citations: 464) and Australia were next (links: 7, TLS: 11, documents: 25, citations: 146). Table 2 contains a list of all 13 nations and their association strength, document count, and total citations. Figure 8 illustrates the affiliations of the nations using a snapshot from the VOSviewer.

Collaboration amongst scientists is critical for enhancing the quality and impact of research.^[33] International cooperation

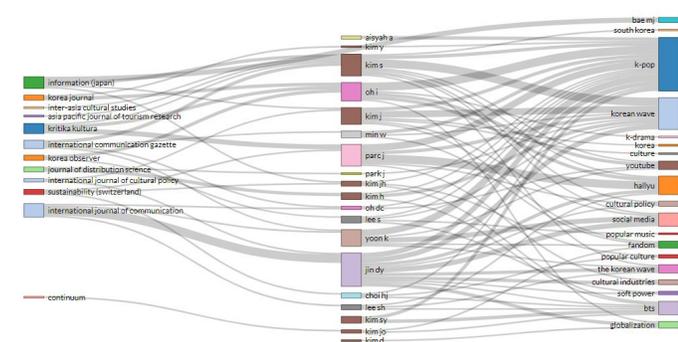


Figure 7: Three Fields Plot screenshot.

Table 2: Results of co-authorship analysis of countries.

ID	Country	Documents	Citations	TLS
30	South Korea	139	997	34
36	United states	80	464	26
1	Australia	25	146	11
11	Hong Kong	7	59	8
5	Canada	20	200	7
18	Malaysia	13	31	6
35	United Kingdom	11	59	5
9	France	8	26	4
16	Japan	7	22	4
7	China	8	20	3
29	Singapore	10	207	3
33	Taiwan	7	105	3
13	Indonesia	7	38	2

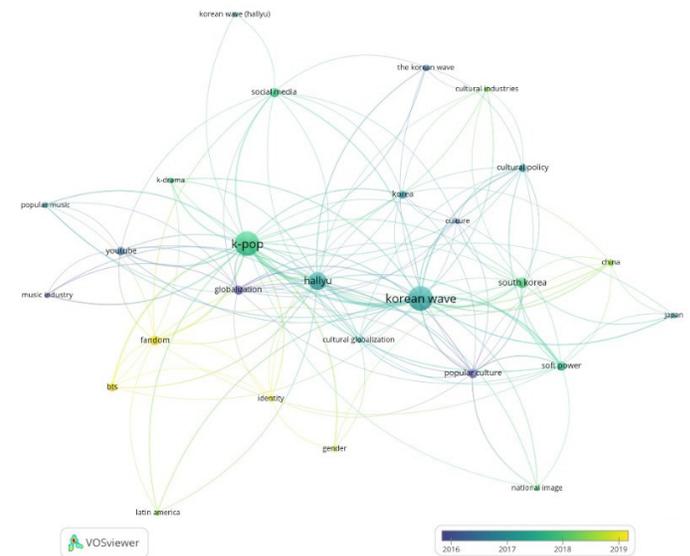


Figure 8: The Bibliometric Map Illustrating the Co-Authorship of Country-Specific Analyzes.

may be boosted in various ways, including increasing the number of visiting researchers, forging diverse partnerships, and giving significant research money. It is necessary to have a solid and responsive research policy.^[34]

Co-authorship (authors)

Co-authorship analysis is the primary research method for research collaboration (RC).^[35] The authors’ co-authorship is analyzed to determine the collaborative network and writers who made significant contributions to the field thru their collaboration. The connections represent the number of times the researcher has collaborated with other researchers. The term “total link strength” refers to the strength of a researcher’s co-authorship relationships with other researchers.^[36] The

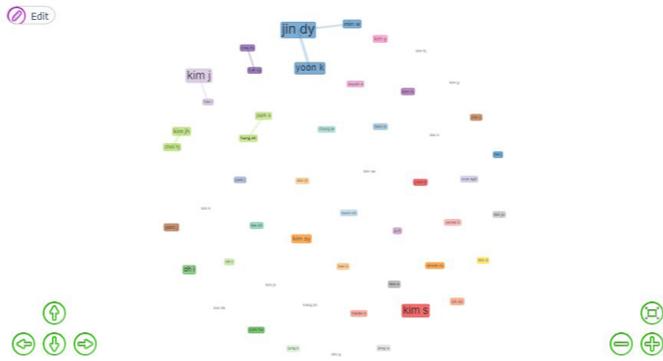


Figure 9: The authors’ co-authorship analysis is depicted on the bibliometric map.

Table 3: Co-authorship analysis of authors.

ID	Author	Documents	Citations	TLS
126	Jin d.y.	13	179	3
173	Kim j.	8	63	1
187	Kim s.	11	61	1
190	Kim s.-y.	5	14	0
304	Oh i.	6	114	0
318	Parc j.	5	40	0
433	Yoon k.	7	87	3

minimum number of authors required for co-authorship analysis was set at five, while the minimum number of citations required for an author was set at ten. Seven authors satisfied the criterion out of a total of 484 authors. Seven writers connected by email established five clusters from these 477 authors (as displayed in Figure 9). This demonstrates that these 11 writers are well-connected and have made significant contributions to literature thru their collaborative efforts.

It was found that Jin D.Y. and Yoon K. have same the highest total link strength (TLS=3) with 13 and 7 published documents and 179 and 87 citations, followed by Kim J. (TLS=1, documents=8, and citations=63) and Kim S. (TLS=1, documents=11, and citations=61). Similarly, the links, TLS, documents, and citations for all of the seven authors are shown in Table 3.

Co-occurrence author keywords

As with author keywords, the various portions of publications preserved in scientific databases are of critical importance. To measure the frequency with which a keyword appears many times in a document, we use the term “co-occurrence”.^[37] The overall link strength of a term in a document is a measure of its frequency of occurrence. The size of nodes may gauge keyword frequency: the bigger the node, the more often the keyword appears.

The thickness of the line links two keywords; a thicker line indicates a stronger connection. There were 1,081 keywords found out of a total of 1,304 when data from Scopus was imported into VOSviewer for keyword analysis. In the end, 1,081 keywords were generated, of which 27 matched the requirement since similar ones had substituted the original ones. In other words, there were only 27 keywords with at least five occurrences. Five clusters of keywords were created since the number of times a single keyword was used was set to 5. “ Some of the identified keywords with top occurrences are k-pop, korean wave, hallyu, popular culture, soft power, south korea, globalization, fandom, cultural policy, youtube, cultural globalization, social media, and bts.

Oppositely, some of the keywords with a minor number of occurrences are china, culture, k-drama, korea, identity, popular music, cultural industries, japan, latin America, music industry, national image, the korean wave, gender, and korean wave (hallyu) (as displayed in Figure 10). This result shows that more research is required to understand the concept and extend the literature in the area, as mentioned earlier.

Using Table 4, we can see how many times each of the top ten author terms have been linked to, TLS used, cited, and so on.

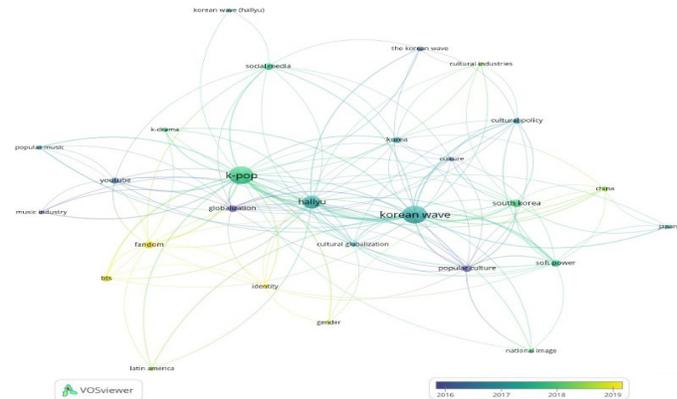


Figure 10: Co-occurrences of words are shown in this bibliometric map.

Table 4: Top 10 author keywords.

ID	Keyword	Occurrences	TLS
527	K-pop	90	109
590	Korean wave	89	101
413	Hallyu	48	76
789	Popular culture	14	30
919	Soft power	14	29
921	South korea	16	29
406	Globalization	14	24
337	Fandom	15	23
209	Cultural policy	9	19
1079	Youtube	12	18

Bibliographic coupling (documents)

A VOSviewer with bibliographical coupling was used for the analysis. The field’s current status is represented by the bibliographic coupling that connects papers that quote the same sources. Our unit of analysis was specified, and our counting process was thorough. An article must have a minimum of 10 citations to meet our standards. Sixty-two papers have been found to fulfill this criterion, and for each of them, the total strength of the bibliographical coupling ties to other documents will be determined. There are a total of 56 entries in the most comprehensive group. Clusters with 547 linkages and 915 link strengths have been constructed out of 56 items (TLS).

Figures 11 and 12 demonstrate how papers are linked together bibliographically. Figures illustrate that the wider the circle, the more bibliographic coupling. According to a study, Lee B.’s 2015 paper had the greatest total link strength (TLS) of 70, with 14 citations. Following the TLS, the top 10 articles (documents) are shown in Table 5.

DISCUSSION AND CONCLUSION

The scientometric analysis of global research output on K-pop research has been the central theme of the paper. The analysis

Table 5: Bibliographic coupling of documents (top 10) as per TLS.

ID	Document	Citations	TLS
261	Lee b. (2015)	14	70
160	Yoon k. (2018)	13	69
248	Chen s. (2016)	21	69
322	Cho y. (2011)	61	66
308	Hong s. (2013)	13	64
317	Kim s. (2012)	22	63
299	Hwy-chang m. (2013)	20	61
303	Park g.-s. (2013)	12	60
241	Jin d.y. (2016)	37	59
327	Huang s. (2011)	71	56

was carried out on the basis of 327 documents retrieved from the Scopus database. The average citation per document is registered as 6.36. The collaborative index has been calculated as 2.05. The top 10 authors contributed around 10 percent of the documents.

With this study’s findings and recommendations as a basis, researchers and academics alike will be better equipped to address the challenges of making a seamless shift to Korean popular music in the near term and for years to come. This article offers insights and chances for further research (post-COVID-19 era).

This research conducted a complete bibliometric analysis on the frontier of “Korean pop music: K-pop.” With bibliometric analysis, we learned how this field of study has evolved and grown. The outcomes of this study indicate that the number of research articles in the Korean wave field is steadily expanding. Even though academics and practitioners are becoming more and more interested, this trend is predicted to continue since Korean popular music is becoming more and more popular throughout the world as internet technology has taken over. Korea, the United States, and Australia lead the pack of K-pop research countries in research output. Seoul National University, Korea University, and Kyung Hee University are the most productive universities in South Korea. There was a three-way tie between Jin DY, Kim S., and Kim J. regarding the number of publications, with 13 each. Most K-pop research is published in the social sciences and information sciences. The top three journals contributing to the area were Kritika Kultura, International Journal of Communication, and Korea Observer.

Our research findings were investigated by visualizing the most common keywords with bibliometric analysis in the Biblioshiny package in RStudio and VOSviewer software. As a result, the significance of K-pop as a research topic is growing, opening it up to study further and allowing the

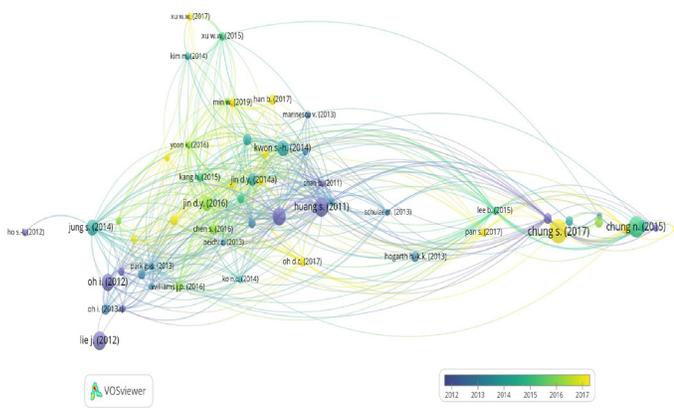


Figure 11: The bibliographic coupling based on TLS (connected documents) screenshot.

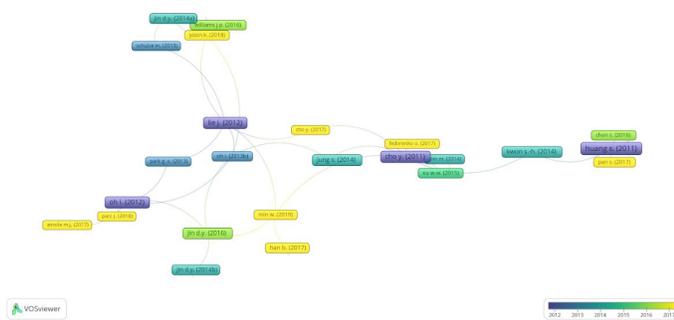


Figure 12: The bibliographic coupling on citations screenshot.

accumulated information to be shared with the academic community to support and promote new research.

LIMITATIONS AND FUTURE RESEARCH

It is important to note that just one database was used while compiling the literature for this study. It is possible that this database does not include all periodicals that deal with the study of K-pop. In addition to Scopus, it is possible to locate more journal articles by searching other databases, such as Web of Science, Google Scholar, and others that reflect the material in regional languages. Future research might incorporate articles from multiple databases and perform a review.

Results from other databases might be compared in future research as well. Additionally, new bibliometric methods might be used to do additional research. A few examples are co-citation analysis, page rank analysis, and data clustering. We also looked into design, human factors, artificial neural networks, crucial success factors, data science, semantic web, neural networks, developing economies, collaborative academics, and process mining. Future studies on K-pop might include in-depth examinations of these issues.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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