



# Are predatory journals contaminating science? An analysis on the Cabells' Predatory Report

Sümeyye Akça<sup>a,\*</sup>, Müge Akbulut<sup>b</sup>

<sup>a</sup> Marmara University, Faculty of Arts and Sciences, Department of Information and Records Management, Istanbul, Turkey

<sup>b</sup> Ankara Yıldırım Beyazıt University, Faculty of Humanities and Social Sciences, Department of Information Management, Ankara, Turkey

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## ABSTRACT

Predatory journals, which are a major concern of the academic community, generally do not properly fulfill the reviewing and editorial processes which are the most important pillars of scientific communication. In line with the principle of the accumulation of science, the papers that have not been faithfully reviewed in these journals cause a bad effect on the scholarly communication. In this study, the impact of 17 journals with addresses in Turkey in Cabells' Predatory Report (formerly Cabells' Journal Blacklist) to the literature were examined. For this purpose, the journal and article level descriptive statistics were examined for the aforementioned journals, and analyses were made for the citations from the papers published in the journals indexed in the Web of Science citation database. A total of 3427 papers were published in these journals, which started to be published between 2010 and 2015, and 389 citations were made to these papers from the journals listed in the WoS. Such highest citations come from Turkey (24.16%), then China (7.20%) addressed papers. In addition, although there are no papers in fields such as art, humanities and physics, it has been seen that there are citations to papers from these fields. This is important in terms of showing the widespread impact of science. A paper published without serious peer review in any predatory journal affects all fields of science in terms of its method, findings and discussions. Therefore, to reduce the misleading or false effect of predatory journals on the literature, a more skeptical behavior should be displayed about citing the papers published in these journals.

## Introduction

The traditional information economy is mostly based on printed sources and in connection with this it has heavy distribution expenses. With the transition to the digital environment, these expenses have decreased considerably (Akbulut, 2015, p. 17). This has caused some companies and publishers to turn their scientific productions into a commercial application (Taşkın & Doğan, 2019). At this point, the necessity to remove barriers to access to scientific publications has emerged and the open access movement has started.

All scientific processes in a traditional journal are also implemented in open access journals (Baker et al., 2019; Cortegiani, Longhini, et al., 2018; Cortegiani, Sanfilippo, et al., 2018; Shen & Björk, 2015). Journals called predatory in the literature also use an open access model, but they do not comply with scientific evaluation and publication standards. The most notable practices of these journals are that they do not run the peer review process, publish deceptive information about the journal (for example, regarding the journal's impact factor and where the journal is

indexed), and use unsolicited (spam) e-mails to collect articles (Cobey et al., 2018; Cortegiani, Longhini, et al., 2018; Cortegiani, Sanfilippo, et al., 2018; Memon, 2018; Oermann et al., 2016). In general terms, the papers published in these journals are accessible from the journal's website, but the articles in question cannot be accessed from the databases they claim to be indexed. Also, many predatory journals stopped their publication after a few issues (Oermann et al., 2016). Editorial board and reviewers board members in these journals usually consist of fake names, and journal names are similar enough to be distinguished from respected journal names only by a nuance. Thus, it is ensured that the authors who have been added to the network think that they have submitted their works to reputable journals. Because all processes of such journals lack transparency, there is a clear plagiarism problem in some papers since the papers being published are not seriously reviewed by referees and editors (Baker et al., 2019; Cobey et al., 2018; Cortegiani, Longhini, et al., 2018; Cortegiani, Sanfilippo, et al., 2018; Cortegiani, Sanfilippo, et al., 2018; Forero et al., 2018; Memon, 2018; Owens & Nicoll, 2019; Wicherts, 2016).

\* Corresponding author.

E-mail addresses: [sumeeyesakca@gmail.com](mailto:sumeeyesakca@gmail.com) (S. Akça), [mugeakbulut@gmail.com](mailto:mugeakbulut@gmail.com) (M. Akbulut).

Jeffrey Beall introduced the predatory journal concept to the literature for the first time (Deprez & Chen, 2017). After this time, the subject of predatory journals has started to be discussed a lot in both national and international literature. Although there is a lot of information in the literature about the common features of predatory journals, a general definition of these journals was not made until 2019. The general definition determined by the joint acceptance of 10 countries and 43 participants is: "Predatory journals and publishers are the entities which prioritize self-interest at the expense of financial gain and are characterized by false or misleading information, deviation from best editorial and publishing practices, lack of transparency, and/or persistent and random requests." (Grudniewicz et al., 2019, p. 211). With this definition, the characteristics of predatory journals are reduced to five main criteria: the presence of false and misleading information on their web sites, deviation from the best editorial and publishing practices, lack of transparency, aggressive and indiscriminate demands, and financially managed with personal interests.

There are lists to make it easier for researchers and scientists to avoid these journals. A blacklist of these journals was started to be created in 2010 by Jeffrey Beall, a librarian at the University of Colorado in Denver (Deprez & Chen, 2017). Although this initiative was stopped in 2017 with the criticisms made to this list, the list is still updated by an anonymous person (s). In 2017, the publisher named Cabell's started to create a list of these journals with a large staff. As a result of a considerable study, a database of predatory journals and good journals was created in the form of a blacklist (Predatory Reports) and a whitelist (Journalytics). However, access to these lists is paid.

One of the most important features of science is that it is cumulative. When a study is cited in an article, the information goes beyond the original source and the situation contributes to the cumulative nature of science (Kokol et al., 2017). When the articles published in non-predatory journals are cited to predatory journal articles, the citation content spreads to the scientific literature. This has the potential to compromise the fundamental components of science. Papers that help to reveal this cumulative process in quantitative and qualitative terms are citation analysis. With citation analysis, the transfer and circulation of information through the literature and how it is used by other authors can be revealed.

The aim of this study is to examine the effects of the papers published in predatory journals on the literature using the citation analysis method.

We address the following research question:

- Are there differences in the dissemination of the studies published without serious peer and editorial process in the scientific literature according to the fields?
- In which field are these journals with addresses in Turkey in Cabell's Predatory Report published more frequently?
- In which field are publications in these journals with addresses in Turkey in Cabell's Predatory Report cited more frequently?
- Is there a pattern or correlation between the number of articles and the number of citations?
- Do these journals publish their issues regularly?

For this purpose, the articles published in the journals addressed in Turkey that received Cabell's Predatory Reports (formerly Cabell's Journal Blacklist) have been analyzed and the citations to these articles have been evaluated. In this direction, it was examined how these papers, which were published without a serious peer review process and editorial evaluation, spread in the scientific literature.

## Literature review

In the literature, while there is a large volume of published papers aiming to define the predatory journals by determining the characteristics of these journals and the quality of authors and articles (Cobey

et al., 2018; Frandsen, 2017; Shamseer et al., 2017; Shen & Björk, 2015), the papers offer solutions to this problem are also appeared (Bartholomew, 2014; Clark & Smith, 2015; Lalu et al., 2017; Moher et al., 2017; Smart, 2017). The prominent point in these offers has been to increase the awareness of both researchers and institutions against these journals. While Bartholomew (2014) specified that peer-review is the most important pillar of scientific evaluation despite its deficiencies in itself, Clark and Smith (2015), suggested to being optimized publication literacy in low- and middle-income countries, especially for young researchers. Besides Moher et al. (2017) offered Institutions to receive declaration from researchers promising to work with their institutional resources, such as librarians. Smart (2017) underlined that imposing western journal operational systems on the world is no longer functional, and it is necessary to invest in education instead of more criticism. However, despite all these papers in the literature, the number of predatory journals has been increasing (Shen & Björk, 2015). There are currently around 30,000 academic journals in the world and also, it is known that nearly 10,000 ones are predatory journals (Cress, 2017). The most important reason for this situation is shown as a lack of variable criteria and a clear definition of predatory journals (Grudniewicz et al., 2019).

Although the definition of predatory journals has conclusively been created in the forementioned study (Grudniewicz et al., 2019), it has not been expected to be established a preventive policy for funders and research institutions in the short term due to the lack of a clear stance and implementation in the literature and the difficulty of doing this (Berger, 2017). Likewise, the absence of sharp corners of the situation creates difficulties in informing researchers about how to avoid from these journals. Also, in the literature, there have been most intense reactions to use the term predatory journal. Because this term also puts journals that do not meet the expected professional publication standards due to the lack of knowledge, resources and infrastructure but do not behave deliberately deceiving (Anderson, 2019; Eriksson & Helgesson, 2018; Shamseer & Moher, 2017; Wager, 2017). While in some papers it is said that the definition of "hijacked-illegitimate" is appropriate instead of the definition of predator (Cobey, 2017; Moher et al., 2017; Moher & Moher, 2016), some authors suggest the terms "bad faith", "deceptive" and "dark journals" (Anderson, 2015a, 2015b, 2019; Butler, 2013; Eriksson & Helgesson, 2018).

To better describe the characteristics of predatory journals, Cobey et al. (2018) conducted a comprehensive review of predatory journals in the literature. Within the scope of the study, 38 empirical articles were examined and more than 100 features related to predatory journals were determined and these were then reduced to six areas as (1) journal operations, (2) articles, (3) editor and referee evaluation, (4) communication, (5) article processing charges and (6) distribution, indexing and archiving. In this category of journals published in many different fields, the editorial and peer review processes, the frequency of publication, the quality of the editors and editorial board, the content of the articles are open to discussion in terms of quality, and the information on the journal's website is misleading (Edie & Conklin, 2019; McCann & Polacsek, 2018; Oermann et al., 2016, 2018). This kind of predatory journals usually have been published one or two issues and then either published fewer articles or the journal stops being published (Oermann et al., 2016). In addition, these journals also earn significant income from funders under the name of article processing charge (APC) (Moher et al., 2017). Grudniewicz et al. (2019), on the other hand, determined five main criteria for journals to be considered predators. These; websites are categorized as having false and misleading information, deviating from the best editorial and publishing practices, lack of transparency, having aggressive and indiscriminate demands, and being managed with personal interests in financial terms.

It is known that predatory journals typically ask potential authors for their work by emailing them. Lewinski and Oermann (2018) examined 206 electronic mail invitations sent to faculty and students at the nursing school over 10 weeks in their study. The use of flattering language,

strange expressions, and mostly grammatical errors in e-mail content was determined in the study. However, many e-mails ( $n = 119$ , 57.8%) did not show any clue that the journal or the publisher was a predator. While some researchers deliberately send their papers to these entities collecting publications to their journals via electronic mail (Cobey, 2017), others are unwittingly attached to the network (Kolata, 2017; Meadows, 2017). In a study conducted in Italy, 5% of 46,000 researchers publish in such journals (Bagues et al., 2019). In another study, it was seen that 23% of 145 veterinarians and medical writers in Canada were aware of predatory journals (Christopher & Young, 2015).

Papers investigating the citation patterns of predatory journals are relatively few in the literature. In a study by Nwagwu and Ojemeni (2015) in 32 journals published by two predatory publishers from Nigeria, it was determined that a total of 12,596 citations from Google Scholar to these journals; an average of 394 citations per journal and 2 citations per article were made. In another study, citations to 124 predatory journals were followed by Frandsen (2017) at Scopus. It was observed that these journals were cited 1295 times and less than 10 citations were made per journal in a four years. With this result, the author concluded that citations from non-predatory journals to predatory literature are limited. Ross-White et al. (2019) examined the degree of to which articles in journals published by one of the major predatory publishers are cited in systematic reviews. From the list of more than 1000 journals on the publisher's website, 459 publications on health and biomedical sciences were identified, and the article citations to these journals were checked in Google Scholar. 157 systematic reviews have been found citing an article from this publisher.

In another study examining the citations of predatory publishers and journals in the field of nursing, besides the analysis of the citations to the papers, the characteristics of the authors who published in these journals, the characteristics of the journals that citing to the published articles in these journals were examined. Basically, Beall list was used to identify predatory journals in the field of nursing, and 814 citations were found by Scopus to the seven predatory journals in the sample. Also, the average time between publication and being cited in papers is 2.95 years

(Oermann et al., 2019). Another study looked at the frequency of getting citations from Elsevier, PLOS One, and Web of Science (WoS) platforms for articles published in seven predatory journals determined using different techniques (uploading a fake study, uploading a non-scientific study, and submitting a fake editorial resume). In the findings of the study, it was determined that two out of seven journals did not receive any citations from these databases. According to the findings, although one of these journals started its publication life with a highly prestigious publisher, it was later sold to another publisher and after that, no articles were published. No citations have been made to these journals from PLOS One but only the papers published in the pre-transfer issues of the journal whose publisher has changed. In this case, it was stated that the number of journals having each database has is also a factor. Besides, the citations are more like self-citations. It was concluded in the study that predatory journals receive relatively few citations from these databases, and this is a good news. However, considering the number of papers of the journals, the citation rates were high. The serious problem is the papers in these journals, three of which are in the field of Pharmacy, are deemed valid in the literature with the citations from good journals (Anderson, 2019). It has been a global threat that papers that have not undergone serious peer review process and have been published with ethical problems (Grudniewicz et al., 2019) in predatory journals also infect good science and contaminate potential knowledge.

## Method

In this study, the preferred method used to describe and explain the phenomena studied is “descriptive method” (Johnson, 1953, p. 241). For this method, journal and article level data were used. The research process is illustrated in Fig. 1. First, 17 journals with addresses in Turkey in Cabells' Predatory Report are examined in detail. These 17 journals are identified by selecting Turkey from country field at Cabells's Predators Report database on March 16, 2020. Turkey is in the top three in many studies analyzing predatory journals (Akça & Akbulut, 2018; Demir, 2018). We chose Turkey to see how the local predatory journals

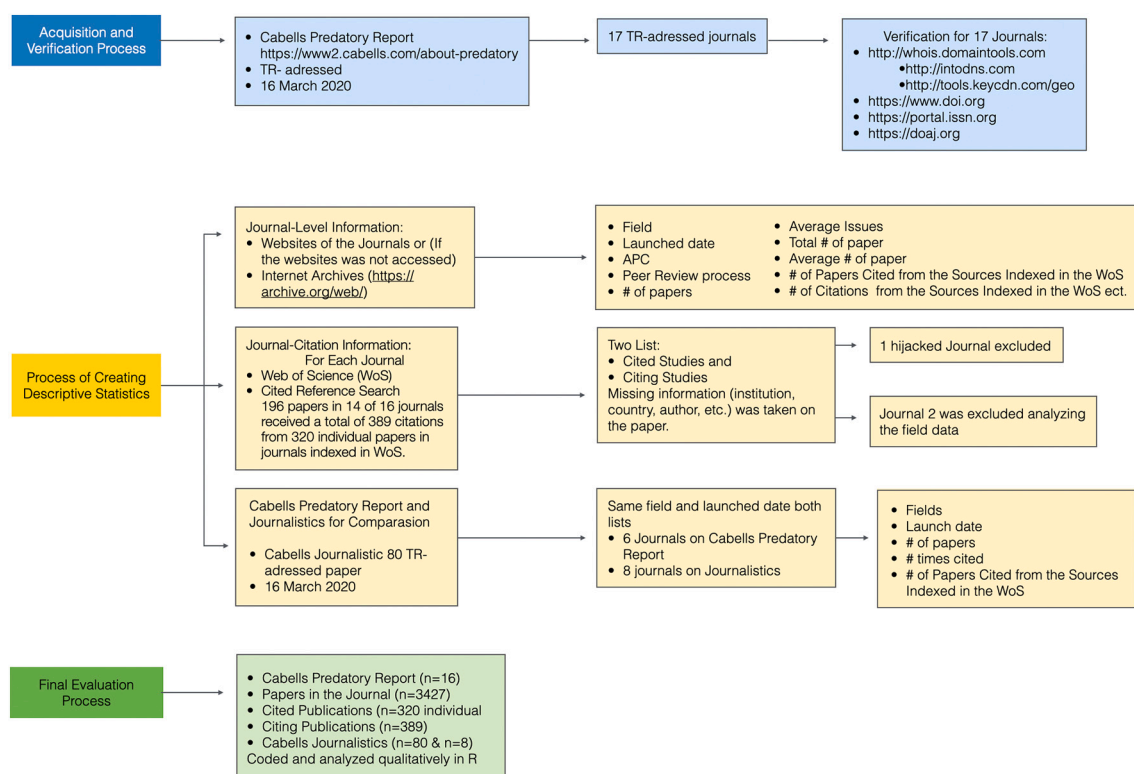


Fig. 1. The research process.

affect the entire scientific literature. Data were collected in two stages. First, descriptive data about the journals (how many issues they publish in a year, whether they publish regularly, how many articles they publish in total, etc.) were gathered by going to the websites of the journals. Internet Archive records were checked for journals that do not have an up-to-date Web site. There was no consensus on the criteria used to identify predatory journals until quite recently. Cabells, on the other hand, offers up-to-date information that is indicated as entry-level, even behind the paywalls (Dony et al., 2020). In this context, Cabells concentrates on four main concepts: transparency, ethics, professional standards, peer review and other services (Koerber et al., 2020). On the other hand, studies have also revealed Cabells's lack of rigor in the way he applies his procedures (da Silva & Tsigaris, 2018; Dony et al., 2020).

We checked the accuracy of journals listed as predatory in the Cabells' Predatory Report using online verified tools (Asadi et al., 2017; Nwagwu & Ojemeni, 2015). First, we searched the International Standard Serial Number (ISSN) of the journals through portal website (<https://portal.issn.org/>). After that, comparing with the Cabells', we also checked the origin of the journals using Whois website (<https://www.whois.com/>) and DOI numbers (<https://www.doi.org/>). According to the records of this website (Whois) only three journals have addresses in Turkey, and this discrepancy could be attributed to being one of the predatory features. Because of DOAJ has been indexed open access scholarly research journals globally using robust evaluation process, we also used DOAJ database to follow the situation of the journals listed Cabells' Predatory Report (<https://doaj.org/>). In this study the APC (Article Processing Charges), PeerReview and Editor Chief information of the journals also acquired. Additionally, we checked these journals in ULAKBIM TrDizin of that one of the main missions is to develop products to reflect the scientific knowledge of Turkey and also these journals' usage of DergiPark which is Journal Management System platform for TR addressed journals (see Table 1).

After collecting the journal-level data, in the second stage, the information about the citations from the papers published in the journals in the WoS citation database were collected. Because the indexing criteria of WoS are a bit stricter than the other citation databases, it was chosen for tracking citations to the predatory journals. Nonetheless, WoS is also more convenient to answer the basic exit problem of the study. For WoS, by searching the name of the journal from the Cited Reference Search section, the information of the citations from the papers in WoS was taken for each journal. The information is organized in two lists as cited papers and citing papers. Especially in the cited papers, missing records were encountered in the citing metadata information. For these records, the information was also completed by going to the papers personally (institution, country, etc. of the author of the cited paper). After determining which papers in the journal were cited, to minimize the errors caused by the misspelling of the journal name and incorrect entry of the metadata, a search was made in the Cited Reference Search section with the article title, and the missing records were completed. According to these data, 196 papers in 14 of 17 journals received a total of 389 citations from 320 individual papers in journals indexed in WoS.

When the papers cited from WoS and included in the journals with addresses in Turkey in Cabells' Predatory Report are examined, the highest number of papers after Turkey is Iran. It is important to be noted that there is no institution and country information for 29 of the papers published in 17 journals on the list. Also, because we cannot access the whole Cabells' Predatory Report, the current situation of Turkey compared to other countries cannot be assessed.

Finally, for the purpose of analysis the difference between the citation pattern of a non-predatory journal and predatory one, control journals were selected from The Cabells' Journalytics. Searching in this database, 80 journals with addresses in Turkey were identified. The publication years of these journals were collected through the website. Since the launched dates of our predatory dataset were between 2010 and 2015, same with them, 20 non-predatory journals with addresses in

Turkey were selected. Considering the importance of the fields in the citation network, the field of these 20 journals were detected. Finally, 8 non-predatory journals with the same field as predatory journals were compared with the 6 journals in the Cabells Predatory Report, which had the same publication year and field. For comparison, the website of 8 non-predatory journals was analyzed and the total number of publications was acquired. Also, the frequency of citing these journals from WoS was determined in the Cited Reference Search section of WoS (see Fig. 1).

A major limitation of the study is that the citations network of the predatory journals traced for this study is only those included in WoS journals. And it is explicitly known WoS is not indexed in all good journals. Therefore, we did not have the chance to get citation data out of WoS in this study. The biggest factor that causes this limitation is the inaccessibility content of the predatory journals. Unfortunately, a great majority in the information of the papers is not available.

## Findings

### Journal level analysis

Descriptive statistics about journals with an address in Turkey in Cabells' Predatory Report was obtained from the websites of the journals. One of the 17 journals on the list is a hijacked journal, so it was copied from the original. The original of the journal is included in the Social Sciences Citation Index - SSCI. This journal uses the same ISSN as the original journal. The website of the journal is accessed from the Internet Archive and the content of the journal cannot be seen. Because the journal is hijacked, citations from WoS cannot be traced. Therefore, the citation level information of the journal in question is beyond the scope of this study. Although the Journal#16 launched its publication life in 2014, only a few articles could be accessed. Since the website of the journal is not active, the accessed issues are also monitored on the Internet Archive. Only issues of this journal between 2014 and 2017 can be seen (see Table 2). The journal subject area information in Tables 1 and 2 was taken from Cabells database.

The average number of papers in the journals included in Cabells' Predatory Report is 53 and the median is 44. The number of papers (1542) of the Journal 2 contributes to the difference (see Table 2). Three journals (3rd, 4th and 16th journals) in the fields of Mathematics, Biological Sciences, Engineering, Chemistry; Medicine and Engineering, Computer Science, which started to be published in 2013, 2012 and 2014, the resources indexed in the WoS are uncited (see Table 2).

When the number of papers is evaluated, considering the year each journal started to be published, it is seen that the most senior launched its publication life in 2010. In this respect, it is seen that the number of papers is higher than the number promised. The number of articles in the journals and the number of journals were found on their websites. It has been observed that journals deviate from their promised annual issues at a certain stage and increase their publication frequency. For example, although the Journal#9 in the list started its publication life with four issues per year, it increased its publication frequency to 12. Likewise, the Journal#15 continues its publishing life, which started with two issues, monthly. Also, as can be understood from Table 1, most of these journals accept papers from many fields rather than serving in a single field. This situation is accepted as one of the features of the predator concept (Cress, 2017). The field of one of the 17 journals has been registered as multidisciplinary by Cabells. However, that the two journals in the list accept papers from a wide variety of fields (for example, as can be seen in Table 1, the Journal#16 contains papers from both astronomy and biology.)

Providing misleading information on the website of the journal, which is accepted as one of the predatory journal criteria, can be easily monitored in some journals (Journal#1, Journal#10, Journal#11, Journal#12 and Journal#14). Although these journals stated that they were listed in indexes such as EBSCO, ProQuest, Ulrich's and ESCI



**Table 1**  
Additional identification information of journals with addresses in Turkey.

Journal no	Journal subject field	The year of the journal launched	APC	PeerReview time	EditorChief	DergiPark	TRDizin	Claimed ISSN	Indexed in DOAJ	Indexed in ESCI	RandomCheck on DOI.org	Whois.com check for journal country of origin
1	Computer Science	2010	Yes but not spesicified	At least 6 mounth	Yes	Yes	Yest	Yes	No	No	Fake DOI	Turkey
2	Medicine	2010	1000 TL	30 days	Yes	No	No	Yes	No	Yes	Fake DOI	United States
3 <sup>a</sup>	Medicine, Physics, Computer Science, Mathematics, Biological Sciences, Engineering, Chemistry	2013	Not accessed	Not accessed	Not accessed	Not accessed	Not accessed	Yes	No	No	No information	No information
4	Medicine	2012	No	No Information	Yes	No	No	Yes	No	No	Fake DOI	United States
5	Engineering	2012	No	4–6 mounth	Yes	Yes	Yest	Yes	No	No	Valid DOI	DergiPark
6	Multidisciplinary	2015	Not accessed	Not accessed	Not accessed	No	No	Yes	No	No	No DOI	Turkey
7	Medicine, Biological Sciences	2011	Not accessed	Not accessed	Not accessed	No	No	Yes	No	No	No DOI	Poland
8	Management, Accounting, Economics & Finance, Marketing	2013	Not accessed	Not accessed	Not accessed	No	No	Yes	No	No	Fake DOI	Singapore
9	Biological Sciences	2012	Not accessed	Not accessed	Not accessed	No	No	Yes	No	No	Valid DOI	Iran
10	Economics, Finance, Management	2012	Yes but not spesified	30 days	Yes	Yes	No	Yes	No	No	Valid DOI	Iran
11	Economics, Finance, Management	2014	Yes but not spesified	30 days	Yes	Yes	No	Yes	No	No	Valid DOI	Iran
12	Management, Marketing	2014	Yes but not spesified	30 days	No information	Yes	No	Yes	No	No	Valid DOI	Iran
13	Humanities	2014	Not accessed	Not accessed	Not accessed	No	No	Yes	No	No	Valid DOI	Turkey
14	Management	2014	Yes but not spesified	30 days	No information	Yes	No	Yes	No	No	Valid DOI	DergiPark
15	Medicine, Biological Sciences	2013	Not accessed	Not accessed	Not accessed	No	No	Yes	No	No	No information	Taiwan
16	Engineering, Computer Science	2014	Not accessed	Not accessed	Not accessed	No	No	Yes	No	No	No DOI	No information
17	Astronomy, Biological Science, Chemistry, Geology, Physics	2014	Not accessed	Not accessed	Not accessed	No	No	Yes	No	No	No information	China

<sup>a</sup> This journal is hijacked.

**Table 2**  
Information of journals with addresses in Turkey in Cabells' Predatory Report.

Journal no	Journal field	The year of the journal launched	Average issues	Total # of paper	Average # of paper	The # of papers cited from the sources indexed in the WoS	# of Citations from the Sources Indexed in the WoS	Average citations per paper per year
1	Computer Science	2010	4	253	65	10	11	0.01
2	Medicine	2010	6	1542	271	1	1	–
3 <sup>a</sup>	Medicine, Physics, Computer Science, Mathematics, Biological Sciences, Engineering, Chemistry	2013	2	n/a	n/a	0	0	–
4	Medicine	2012	2	102	43	0	0	–
5	Engineering	2012	4	143	33	26	53	0.14
6	Multidisciplinary	2015	1	35	44	5	7	0.07
7	Medicine, Biological Sciences	2011	2	n/a	n/a	4	13	1.06
8	Management, Accounting, Economics & Finance, Marketing	2013	6	326	59	13	19	0.01
9	Biological Sciences	2012	4	48	13	23	41	0.22
10	Economics, Finance, Management	2012	4	263	66	38	124	0.12
11	Economics, Finance, Management	2014	4	211	53	24	37	0.06
12	Management, Marketing	2014	4	186	47	18	26	0.06
13	Humanities	2014	2	34	16	1	1	0.01
14	Management	2014	3	154	46	28	48	0.10
15	Medicine, Biological Sciences	2013	4	81	21	3	5	0.02
16	Engineering, Computer Science	2014	3	9	3	0	0	–
17	Astronomy, Biological Science, Chemistry, Geology, Physics	2014	2	40	22	3	3	0.03

<sup>a</sup> This journal is hijacked.

(Emerging Source Citation Index) on their websites, it was observed that these journals were not indexed in these databases. On the other hand, the Journal#1 has been published since 2010, and the number of papers per issue doubled on average in 2017. It published a special issue in 2017–2018, but there was a decrease in the number of papers in 2019. At this point, it is worth noting that in addition to the hijacked journal (Journal#3), the Journal#8, which launched its publication life in 2013, is also incomplete because the web page cannot be accessed.

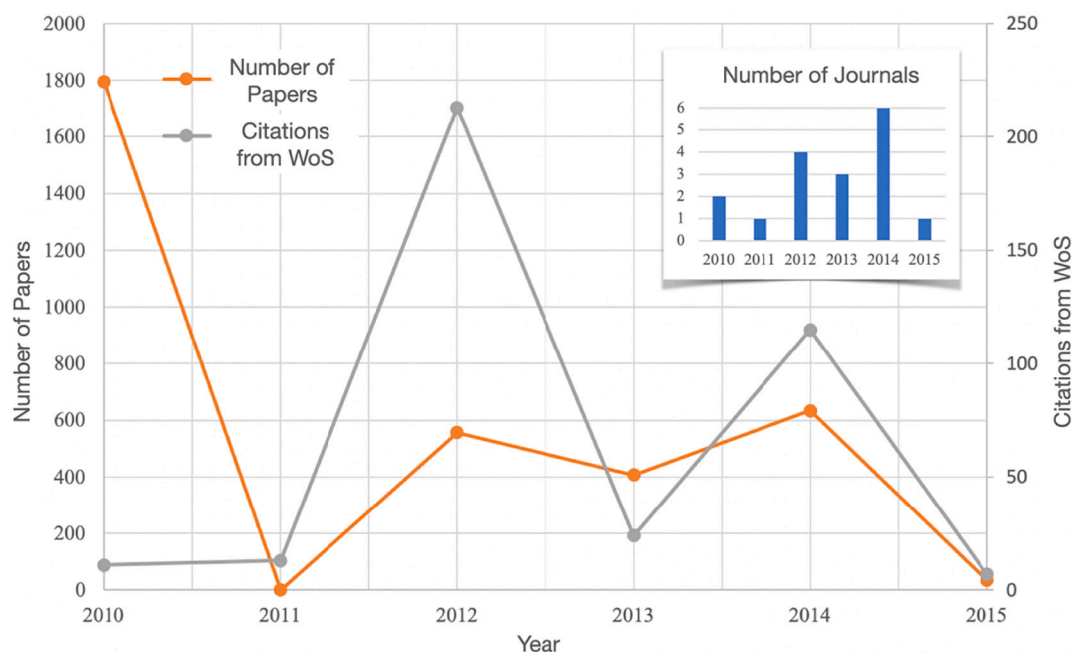
#### Analysis of citations to papers

The launch date of the journals with addresses in Turkey included in Cabells' Predatory Report are between 2010 and 2015. There were 3427 papers in 16 journals and a total of 389 citations were made to these

papers from the journals indexed in the WoS (see Fig. 2).

Approximately one-third of 16 journals launched their publication life in 2014, and 19% of 3427 papers published are in these six journals that launched publication in 2014. On the other hand, although 16% of all papers were included in four journals that launched publication in 2012, a total of 213 citations were received from the papers in WoS to 556 papers. In other words, more than half (56%) of the total citations to papers in these journals were made to 556 papers in four journals that started to be published in 2012. It should also be taken into account that the subject areas and launch dates of journals are different. Although other journals are not active in terms of paper and citation numbers, there is no specific order in the number of papers.

The blocking of access to content, which is accepted as one of the features of predatory journals, is also seen in the journals included in the



**Fig. 2.** Distribution of the papers and citations from WoS by launch years of the journals with addresses in Turkey from Cabells' Predatory Report.

report. However, although the content is not accessible, citations to published papers continue to come. For example, the Journal#6 launched its publication life in 2015 and the number of papers cited from WoS is 5. These 5 papers published in between 2015 and 2016 received a total of seven citations, one in 2017, four in 2018, and two in 2019, from WoS. Despite the inaccessibility of the paper, its continued citation can be considered as a result of the tendency to cite without seeing the source in the literature.

In Cabells' Predatory Report, the distribution of papers in journals with addresses in Turkey and the citations from WoS is given in Fig. 3. The Journal#10 is one of the four journals mentioned above that launched in 2012, and 263 papers in this journal received 119 citations from the papers in the journals in the WoS. For the Journal#2, which launched in 2010 and contains far more papers than the others, only one reference was made to 1542 papers from the sources listed in the WoS. When examined on a paper basis, the most cited paper among the papers published in these journals was published in the Journal#10 in the field of Economics, Finance and Management. This launch dated 2012, addressed Turkey has received 29 citations in which this ratio meets approximately 8% of the total citations from papers in the journal. The paper was published in the first issue of the journal (the year 2012), and has been cited from 19 different countries. Citations have come from journals in different fields such as Economics, Finance, Management as well as Architecture, Psychology and Applied Sciences. When looking at how each citation is cited semantically (positive, negative or neutral), it was observed that 20 citations from the accessible texts were neutral. Besides, the average duration of the first citations after publishing to the papers in these journals was found to be 4.11 years. These times can be viewed in Fig. 4.

In Fig. 5, there is a scatter chart for the number of papers in journals with addresses in Turkey in Cabells' Predatory Report and the citations to these papers from WoS. There is no pattern or correlation between the number of papers and the number of citations.

In the Journal#21542 papers, which stand out as an extreme value in the subsequent calculations of the text, were excluded. This pre-treatment is also important for the readability of the graphics. Fig. 6, on the other hand, shows the distribution of the papers in the 16 journals with addresses in Turkey by field. It is striking that most publications are in Social Sciences. Fields come from the Cabells' Predatory Report. If the areas in question are very special, they have been adapted to the most general areas from the research areas ([https://images.webofknowledge.com/images/help/WOS/hp\\_research\\_areas\\_easca.html](https://images.webofknowledge.com/images/help/WOS/hp_research_areas_easca.html)) determined by WoS. A journal that accepts publications from a large number of fields is left multidisciplinary.

In boxplots, the upper lines show the highest value, the middle line shows the median value and the bottom line shows the lowest value. Boxes represent the first and third quartile values. When the box graphs

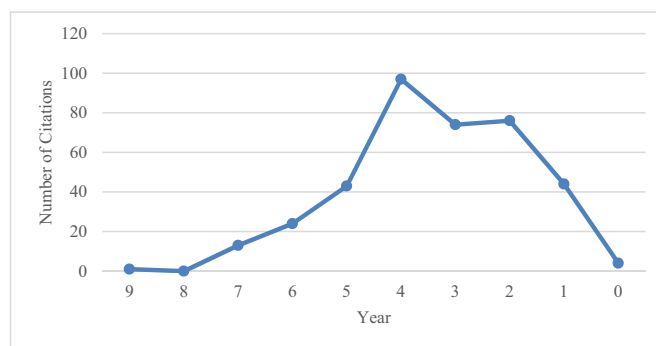


Fig. 4. Time when papers in predatory journals received first citations.

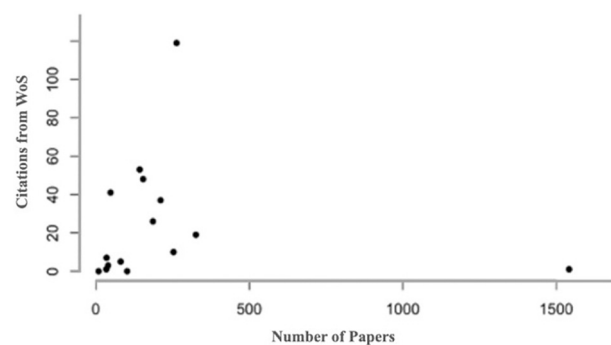


Fig. 5. Publications and citation numbers of TR addressed journals in Cabells' Predatory Report (interactive version is available at: <https://tinyurl.com/2nk84j6v>).

are examined, it is observed that the Life Sciences & Biomedicine field averages the median box, that is, the data is spread symmetrically around the median. Data are skewed to the left for the Social Sciences field and to the right for the Technology field.

Box charts created using fields and citation numbers from WoS are as in Fig. 7. It is seen that the papers in the journals with addresses in Turkey in Cabells' Predatory Report receive many citations from the journals in the field of Social Sciences in WoS. For the Social Sciences and Life Sciences & Biomedicine fields, the third quarter (75%) range is wide. Citations in the field of technology are observed to be similar to the normal distribution.

In more detail, the densities of papers and citations made to journals with addresses in Turkey in Cabells' Predatory Report were also examined. For example, when we consider the field of Social Sciences, the

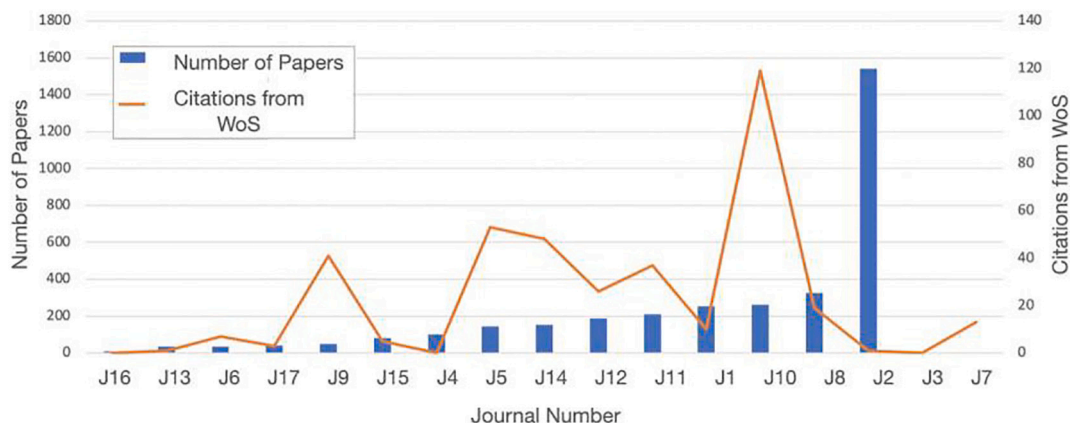


Fig. 3. Distribution of papers and citation numbers from WoS of journals with addresses in Turkey in Cabells' Predatory Report by the journal.

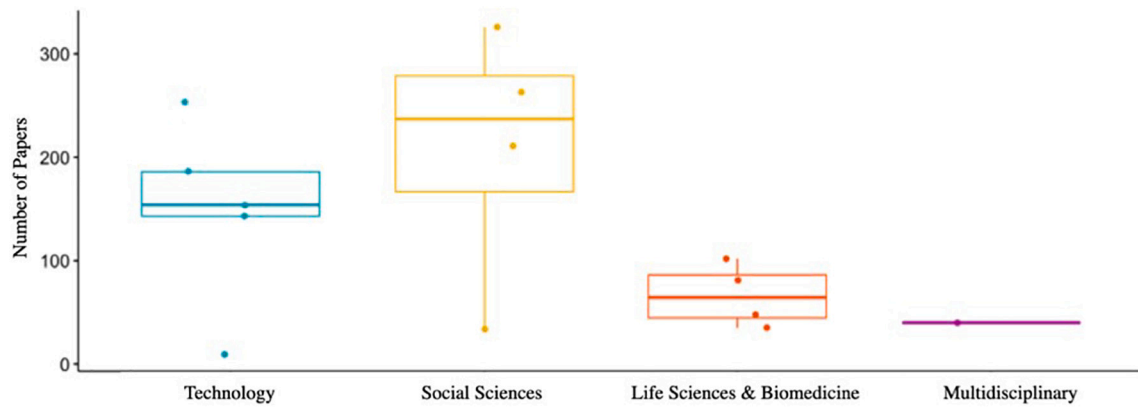


Fig. 6. Distribution of publications in journals with addresses in Turkey by Fields in Cabells' Predatory Report.

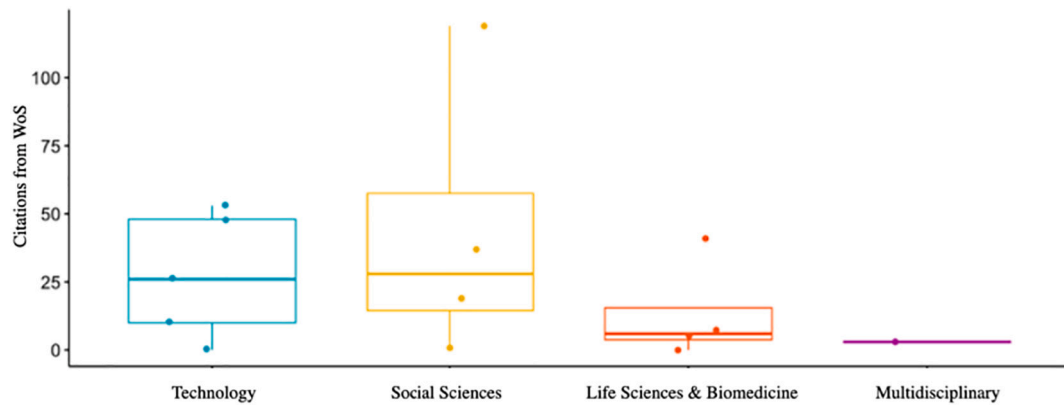


Fig. 7. Distribution of citations from WoS to publications in journals with addresses in Turkey in Cabells' Predatory Report by fields.

number of papers in this field is quite intense in the 250 band. On the other hand, when the citations made to these papers are analyzed, there is a relatively low number of citations. In other words, the density values in terms of the number of papers and citations in the field of Social Sciences are positioned opposite each other. When examined in terms of Life Sciences & Biomedicine, it is observed that relatively low number of publications receive citations, albeit low. In the field of technology, while the density of the number of papers was fluctuating, densities between 0 and 50 citations from WoS were almost the same in terms of citations coming from the same field (see Figs. 8–9).

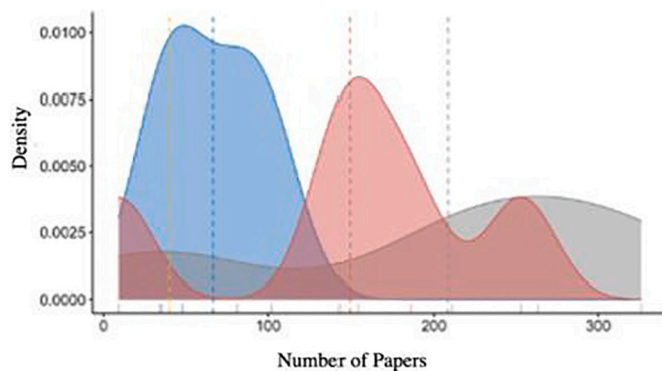


Fig. 8. Distribution of papers in journals with Addresses in Turkey in Cabells' Predatory Report

Explanatory note: While preparing the density charts, extreme values (1542 papers in the Journal#2) and empty values (Journal#3 and Journal with inaccessible paper numbers) were not included in the calculation.

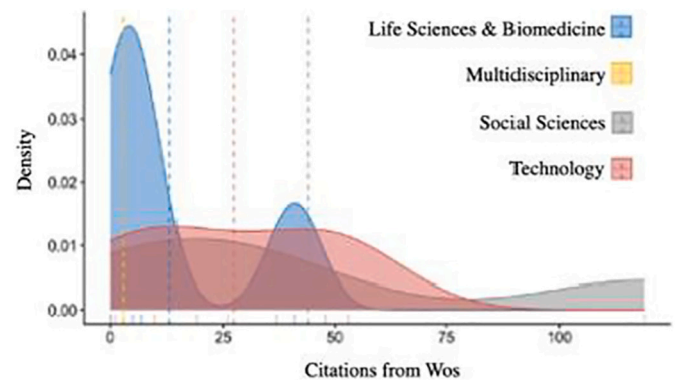


Fig. 9. Distribution of citations from WoS to Journals with Addresses in Turkey in Cabells' Predatory Report by fields

Explanatory note: While preparing the density charts, extreme values (1542 papers in the Journal#2) and empty values (Journal#3 and Journal with inaccessible paper numbers) were not included in the calculation.

Table 3 and Fig. 10 are the papers in the journals with *journals with addresses in Turkey* in Cabells' Predatory Report, the distribution of the cited papers according to the fields and the percentages of the fields from which the citations came from WoS. When these values are examined as a percentage, they overlap with each other.

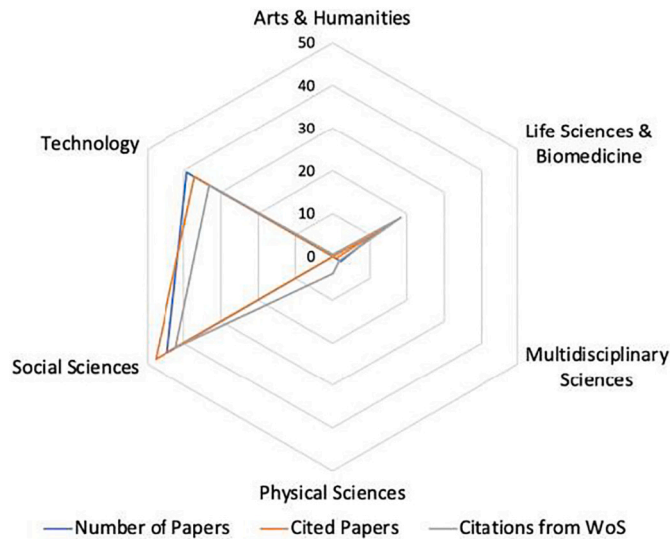
For example, in the field of Physics, there is no paper in the journals with addresses in Turkey in Cabells' Predatory Report. However, when the citations from WoS are examined, it is understood that 4% (15 citations) come from a paper in Physics. Similarly, although there are no



**Table 3**

Papers in journals with addresses in Turkey in Cabells' Predatory Report, distribution of cited papers by fields and percentage distribution of citations from WoS.

	Art and humanities %	Life sciences & biomedicine %	Multidisciplinary %	Physics %	Social sciences %	Technology %
Number of Papers	0	14,2	2,1	0	44,5	39,2
Cited papers	0	14,4	0,8	0	47,7	37,1
Citations from WoS	0,5	18,3	1,8	3,9	42,3	33,2

**Fig. 10.** Papers in journals with addresses in Turkey in Cabells' Predatory Report, Distribution of Cited Papers by Field and Percentage of Citations from WoS.

papers in the field of Arts and Humanities in the journals with addresses in Turkey, there have been cited papers from the papers classified in this field. This situation is important in terms of showing the widespread effect of science. A paper published in any predatory journal without serious peer review process affects all fields of science in terms of its findings and discussions.

26% ( $n = 100$ ) of total citations come from journals belonging to large-scale publishers such as Emerald, Elsevier and Taylor & Francis. Such citations are most in Turkey addressed papers (24.16%), then comes China addressed papers (7.20%). The 10 countries with the most citations to the papers in the aforementioned journals are shown in Table 4.

#### Comparison with journalytics

Cabells also examines academic journals and lists qualified journals that are suitable for publication. There are over 11,000 academic journals included in the list called Journalytics (Journalytics, 2021). When the journals with addresses in Turkey in Journalytics and the journals in

**Table 4**

Author addresses of papers citing journals with addressed in Turkey Listed in Cabells.

Rank	Country	N	%
1	Turkey	94	24.16
2	China	28	7.20
3	India	26	6.68
4	Malaysia	25	6.43
5	Iran	20	5.14
6	USA	16	4.11
7	United Kingdom	14	3.60
8	Pakistan	14	3.60
9	Poland	13	3.34
10	Indonesia	11	2.83

the same field and the same launched date in our predatory journal data set are compared, it was seen that the number of citations per publication is not much different from the predatory ones. In Table 5, journals indexed in the Journalytics with the same field and launched data being matched with predatory journals are shown in the same color for each row.

It is observed that journals in the Journalytics are cited more frequently than predatory journals, except for the Journal#25 (in Journalytics) that started its publication life in 2015. On the other hand, the number of citations per publication of the Journal#6 (in Journal Predatory Report) with the Journal#25 is the same (0.20/0.21).

A possible explanation for this might be that journals in Journalytics publish regularly and are more accessible, because of that they have more citations per publication than the predatory ones.

#### Conclusion and discussion

The Cabells' Predatory Report is an important database for listing predatory journals that have been widely discussed recently. In this study, journals with addresses in Turkey in the mentioned database are examined to recognize and see the effects on the science of these predatory journals which occupies the Turkish scientific community.

The principle of regular publication, which is one of the important criteria showing the quality of scientific journals, is frequently violated in predatory journals. In the findings of the study conducted by Akça and Akbulut (2018) on the Beall list, it was stated that the journals listed were published irregularly. While seven of the journals subject to this study are publishing regularly, the papers of ten journals are publishing irregularly. In this regard, there is an inconsistent view of the number of journals' issues and the frequency of papers.

Considering that the oldest of these journals launched its publication life in 2010, it is mentioned that it has a nine-year citation potential. Because all of them have different launch dates, it is not possible to create a single publication or citation window in the context of the year. Therefore, assessing by year is out of the context of this study.

Accordingly, when comparing the average number of papers of the journals with the citations from WoS, it was seen that these papers were not cited from the journals that could be considered as quality journals. In Anderson's (2019) study, the number of citations from good journals to papers in predatory journals was found to be relatively low. Looking at the general picture, it is not easy to talk about a systematic citation pattern. While some journals are not cited at all, some are more cited than others. For example, the average number of papers in the Journal#10 is 38 with 66 WoS citations, while the total number of citations is the highest compared to other journals (124). There is no regularity in the number of papers or citation frequency of journals. Different fields and launch dates of journals may also affect this situation.

It is seen that both the number of papers and the number of citations of the journals decreased in 2019. Since the data of the study were collected in March 2020, the fact that the citation period still continues may also be a factor. Again, the awareness created in the academic community and the papers may have created a focus on citing the publications in these journals. In addition, YÖK's (CoHE - Council of Higher Education) refusal to accept papers published in predatory journals in the criteria of associate professorship can be considered one of the reasons for this decline.

The relevance ranking algorithm of the searched platform is also a very important variable in terms of its citation potential. For example,

**Table 5**  
Comparison of Journal Predatory Report and journalytics.

Journal Predatory Report						Journalytics					
Journal ID	The Year of the journal launched	Journal Field	# of papers	Times cited	Number of citation per paper	Journal ID	The year of the journal launched	Journal field	# of papers	Times cited	Number of citation per paper
7	2011	Life Sciences & Biomedicine	-	13	-	57	2011	Life Sciences & Biomedicine	371	7	0.02
10	2012	Social Sciences	263	124	0.47	8	2012	Social Sciences	123	106	0.86
						20	2012	Social Sciences	144	349	2.42
						78	2012	Social Sciences	65	6	0.09
3	2013	Life Sciences& Biomedicine	-	-	-	26	2013	Life Sciences & Biomedicine	236	282	1.19
15	2013	Life Sciences & Biomedicine	81	5	0.06						
8	2013	Social Sciences	-	19	-	40	2013	Social Sciences	162	19	0.12
						1	2013	Social Sciences	96	186	1.94
6	2015	Multidisciplinary	35	7	0.20	25	2015	Multidisciplinary	224	48	0.21

the most cited works related to the subject searched in Google Scholar are at the top. A possible interpretation for this may be as the probability of taking citation of a study which had the first citation increases (matthew effect). Nonetheless, as the number of citations of the studies in Google scholar-style directories, where predatory journals also being indexed easily, have increased, the probability of being included in the bibliography of the studies indexed in WoS or similar indexes has also increased, as well.

Wide-ranging publishers in the world have been the most cited publishers to these journals. Most of the citations came from journals belonging to the Emerald publication group. Considering that 20.4% of the journals in the Master Journal List consist of these publishers (Emerald, Elsevier and Taylor & Francis), the result is normal. The authors of the papers that cited these journals the most are addressed in Turkey. The USA ranks sixth. Although the scientific publications of the USA are numerous, they appear in the lower place in this list. After Turkey came authors from China. In the top ten, there are six countries from Central Asian countries (Beall, 2012; Nwagwu & Ojemeni, 2015; Oermann et al., 2016; Shen & Björk, 2015; Xia et al., 2015).

The outputs of this study will provide important data to academics, legislators and policy makers. The results show that even in the international community, there is no awareness of citing papers published in these journals. However, the possibility that a good paper could have been published in a predatory journal should also be considered. There are a few studies that measure the quality of the studies published in predatory journals. Oermann et al. (2018) found that 50% of the predatory journal articles in the field of nursing provided useful content for the field and 32% had flaws such as incomplete and incorrect research design. Although the authors stated that only 5% of the articles in their sample were potentially harmful, they concluded that the lack of quality was evident in these articles representing insufficient peer and editor review. McCutcheon et al. (2016) compared 25 psychology articles published in peer-reviewed journals with 25 articles in predatory journals through five criteria. The authors stated that the results are subject to differences in opinion and for this reason, two or three reviewers and a strict editor evaluation are needed in the scholarly communication.

Although the irregular issues and papers of journals are not available from the findings, it can be observed that the papers are cited from all over the world. Even if the papers published in these journals are not accessible, these papers continue their existence in the literature as a result of the tendency to cite without going to the source, which is addressed as the problem of citation copying in the scientific community (Wetterer, 2006). It is also a problem that, regardless of whether they were published in a journal in the category of predator, it is difficult to say clearly whether these papers were ethically violated or whether the papers were prepared with scientific methods and techniques. Therefore, it cannot be said that citations to papers published in these journals

are definitely problematic.

However, it should be stressed that the journals in question do not fulfill the control mechanism of the quality of scientific communication like the peer review process. At the same time, these journals prioritize their financial interests. Considering all these situations, being mindful when citing the papers published in these journals will prevent possible negligence and the spread of false/misleading information arising from this negligence.

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**Sümeyye Akça** is an Assistant Professor at Marmara University, Department of Information and Records Management. Her research interests are information and library science, digital humanities, cultural heritage, digital history, network analysis, Ottoman history and manuscripts. She has served as Editor for Information World since 2016. She is a member of Association for Information Science and Technology (assist) and European Association for Digital Humanities (EADH). She completed her PhD at the Hacettepe University in April, 2017, entitled “Increasing the visibility and usage of cultural heritage objects with the digital humanities approach: A proposal of a conceptual model for Turkey”. For a full record of activity, see her web site (<http://sumeyyeakca.wordpress.com>).

**Müge Akbulut** is a Research Assistant at the Department of Information Management at the University of Yıldırım Beyazıt in Ankara, Turkey. She carries out research on information retrieval, bibliometrics and research methods. Ms. Akbulut received the certificates of Google Qualified Developer Programme, Software and Algorithms (from Microsoft Virtual Academy), Computer Operating (from Ministry of National Education); and she worked in the department of software at Informascope, Mikro Bilgi and ANKAREF in the past. Ms. Akbulut has also been serving as the Turkish co-editor of E-LIS (E-prints in Library and Information Science), open access repository of LIS papers and advisor of Türk Kütüphaneciliği, the quarterly journal of the Turkish Librarians' Association (TKD). Ms. Akbulut is the member of International Society for Scientometrics and Informetrics (member no: 00296), the Informatics Association of Turkey (member no: 99008214) and University and Research Librarians Association. She received her graduate degrees in information studies from Hacettepe University and IVA-Royal School of Library & Information Science (via Erasmus exchange programme) and she is currently continuing her education as a masters student in Hacettepe University. She currently carries out her master's dissertation at Hacettepe University. For further information please visit her web site (<http://mugeakbulut.com>).