Iran's Social Sciences Issues in Web of Science (WoS): Who Said What?

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ABSTRACT

The complexity and interconnected patterns of change in the 21st century have resulted in significant transformation in Iran. During the last two decades, much academic effort from a variety of disciplines went into trying to understand, examine and predict these transformations. However, there are no in-depth studies on these profound social and cultural changes as exemplified in global scientific productions. Using a bibliometric approach, we present a comprehensive study of the image of the social sciences in Iran based on the search item "Iran's Social Sciences" in the Web of Science (WoS). The data were collected from Web of Science's Core Collections between 2000 and 2017 and was limited to document-type articles in the category of Social Science Citation Index (SSCI). Collection efforts resulted in 4,666 documents being retrieved. The majority of the documents were published in English and were written by Iranian authors. The results of this study show that international collaboration through networking and co-authorship was lower than the global average. In terms of content, health- and medical-related concepts and themes were dominant in overall publications. Given this remarkable insight, more collaboration between sociologists in Iran with scholars from other countries is needed to better highlight the desired issues and topics. Further research might focus on the current 'business models' of publishing. While we advise launching more scientific journals at the global level, it is important to evaluate whether international business models of

publishing are really encouraging or if they pose unnecessary bias and restrictions on knowledge development and participation of Iranian world-class sociologists.

Keywords: Bibliometric, image, scientific production, social sciences, sociologists

INTRODUCTION

The complexity and interconnected patterns of change in the 21st century have resulted in significant social, cultural and political transformation across the world. These transformations tend to have far-reaching repercussions, especially in developing countries. Iran is no exception due to population growth, demographic transitions, globalisation and the emergence of new information and communication technologies. Iran has encountered many profound social, cultural, economic and political changes and transformations in the last two decades. From a political point of view, three different governments called Reformist (اصلاح طلب), Conservative (اصولگرا) and Moderate,(اعتدال گرا) with their own typical discourse took power and governed the nation in that span of time. From a social point of view, due to the emergence of the Internet and the proliferation of social media, the perception of the younger generation and their way of understanding the world is critically different from those of older generations. Women's level of education has increased dramatically as have their demand for improving their quality of life and their position in society. From a cultural point of view, traditional

norms have been questioned by younger generations and social interaction and cultural traditions have profoundly changed both symbolically and substantively.

During the mentioned periods, much academic inquiry has tried to understand, examine and predict these transformations from each disciplinary point of view using interdisciplinary and multidisciplinary approaches. Some research has focussed on social, cultural (Baghestan & Hassan, 2009) and communication development (Ghanbari-Baghestan, Indriyanto, SazmandAsfaranjan, & Akhtari-Zavare, 2016), some on religious and Islamic rules in society (Tezcur & Azadarmaki, 2008), some on the younger generation (Montazeri, Sadighi, Omidvari, Farzadi, & Maftoon, 2009), social welfare (Harris, 2010), knowledge of health issues (Akhtari-Zavare, Ghanbari-Baghestan, Latiff, Matinnia, & Hoseini, 2014), especially among women (Akhtari-Zavare, Ghanbari-Baghestan, Latiff, & Khaniki, 2015) and family (Abbasi-Shavazi, Morgan, Hossein-Chavoshi, & McDonald, 2009) as well as the future of the social, cultural and religious order in society. The results of all these efforts were frequently published in local and international academic and scientific journals, books and other academic documents. However, there are no in-depth studies on how these profound social and cultural changes were presented in global scientific publications. It is very important to understand 'who said what' about these changes in Iran and make the insights available for the world's scientific and academic society. Which aspects of these

changes have been illustrated and highlighted internationally with what directions? It is also important to know if they are creating the right perception of the social and cultural issues in Iran or not. Through this study, using a bibliometric approach, we present a comprehensive study of the image of issues in Social Sciences related to Iran recorded in the Web of Science (WoS) scientific database, which is a trustworthy, large and powerful database for literature analysis. It is also the most prestigious database for scientific productions, and therefore the most appropriate database to explore.

Bibliometrics presents a useful tool to assess the large amount of literature within a field of study. Bibliometrics is defined as "a set of methods to quantitatively analyse academic literature and scholarly communication" (Das, 2015). Bibliometric methods have been used to measure scientific progress in many disciplines of science and social science. They are a common research instrument for the systematic analysis of publications (Ale Ebrahim et al., 2014; Ingwersen, 2000; Kalantari et al., 2017). Bibliometrics measures research production based on various indices such as number of publications, number of citations and average citation per year. Most bibliometric indices involve counting the number of times scientific papers are cited. This approach is based on the assumption that influential studies will be cited more frequently than less influential studies (Ibanez, Larranaga, & Bielza, 2013). Web-based citation databases such as Scopus and Web of Science and

citation search engines such as Google Scholar, Microsoft Academic Search and CiteSeerX are frequently used for deriving bibliometric data (Das, 2015).

METHOD

The data were collected from Web of Science Core Collections (WoS) on 17 January, 2018 (i.e. the collection date). The timespan searched was from 2000 to the end of 2017. Out of six databases consisting of the Science Citation Index Expanded (SCI-Expanded), Social Science Citation Index (SSCI), Arts and Humanities Citation Index (A&HCI), Conference Proceeding Citation Index Science (CPCI-S), Conference Proceeding Citation Index Social Science and Humanities (CPCI-SSH) and Emerging Sources Citation Index (ESCI), the data collection was limited to the Social Science Citation Index (SSCI) only. The data were further refined and limited to document type articles and a title search of TI = Iran*. The summary of the process of data collection is illustrated in Table 1. With the above search strain limitations, 4,666 documents were retrieved and used for data analysis. The top 500 documents based on "Average Citation per Year (ACPY)" were selected for qualitative content analysis using the Qiqqa software. The average citation per year (ACPY) is more accurate and more scientific than total citation and is used to identify documents with high impact in their field of study (Chuang, Wang, & Ho, 2011; Ho, 2014; Müller, Ansari, Ale Ebrahim, & Khoo, 2016).

Table 1
A summary of data collection

No.	Date of Data Collection	17 January, 2018
1	Database	Web of Science Core Collections (WoS)
2	WC Indexed	Social Science Citation Index (SSCI)
3	TI	Iran*
4	Timespan	2000-2017
5	Refined by Documents Type	Articles
6	Result	4,666
7	For Content Analysis	Top 500 Articles based on ACPY

RESULTS AND DISCUSSION

A total of 4,666 publications were located using a customised query in the Web of Science Database category of Social Science Citation Index (SSCI) and relevant to Iran. Figure 1 charts the growth of the total number of publications from 2000; we found that the annual number of issues on the search item "Iran's Social Sciences" that were published grew from 56 in 2000 to 533 in 2017. The growth of publications has remained constant between 2000 and 2005; however, there was significant growth in publication each year from 2005 to 2017.
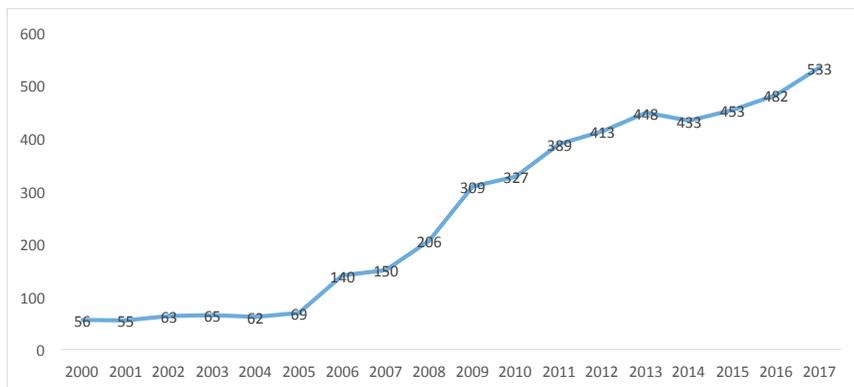
Figure 1. Publication of issues using the search item "Iran's Social Sciences" from 2000 to 2017

Publication Languages and Contribution from Top Countries

The majority of retrieved documents were published in English (4,598), while the rest were published in German (44), French (8), Turkish (7), Norwegian (4) Spanish (2), Czech (1) Polish (1) and Portuguese (1). To gain a more detailed understanding of the publication activity by country, the total number of publications related to the topic was analysed over the period of study. Iran, with 3,156 publications, is the leading

country in terms of the total number of issues published based on the search item "Iran's Social Sciences" in the 21st century. This suggests that Iranian scholars and researchers alone contributed to 67.63% of all publications. Iranian authors recorded the largest number of publication of issues on Social Sciences from the early 21st century mainly because its health and medical scientists have been aggressive in engaging social issues. Apart from Iran, scholars and researchers from 73 other countries through networking or co-authorship were involved in 1,510 scientific publications (32.37%)

and contributed to the scientific productions related to issues on the search item "Iran's Social Sciences" found in WOS. Among them, the United States (865), England (321), Australia (213), Canada (186), Sweden (160), Malaysia (90) and Germany (86) were at the top of the list. Figure 2 shows each country's contribution to world output in the research scope. A free version of StatPlanet software was used in this study for creating an interactive world map and for visualising the distribution of all papers among different countries.
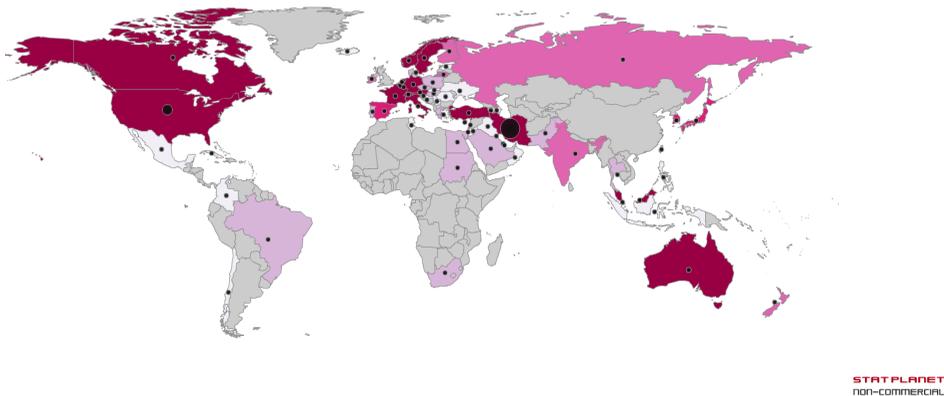
Figure 2. The contribution of different countries to publications on Iran's social sciences

Top Authors and Related Affiliations

The top 30 authors (in terms of number of publications) who were selected had in total published 840 (18%) of 4,666 documents in their areas of study. The data were sorted according to the average citation per year and the top 30 documents were selected for further qualitative content analysis. The top

30 papers alone received 2,650 citations. The average citation per year (ACPY) for these top 30 articles varied from a maximum of 11 to a minimum of 3.5 citations. Further insight can be gained from Table 2, which shows the total publications of each author cross checked with the top 30 most highly cited documents related to the topic of study.

Table 2
Top authors based on number of publication and top documents based on ACPY

No.	Top Authors	Number of Publications	Top Authors Based on "Average Citation per Year (ACPY)"	Total Citations
1	Montazeri A.	63	(Ghiassi-nejad, Mortazavi, Cameron, Niroomand-rad, & Karam, 2002)	166
2	Majdzadeh R	49	(Noorbala, Yazdi, Yasamy, & Mohammad, 2004)	162
3	Ahmadi F	42	(Saadat, Ansari-Lari, & Farhud, 2004)	140
4	Larijani B	38	(Gerritsen et al., 2006)	127
5	Pakpour Ah	37	(Wiking, Johansson, & Sundquist, 2004)	127
6	Watson Pj	36	(Kelishadi et al., 2003)	116
7	Ghorbani N	35	(Kelishadi et al., 2008)	113
8	Mohammad K	34	(Lotfalipour, Falahi, & Ashena, 2010)	98
9	Nedjat S	33	(Taleghani, Yekta, & Nasrabadi, 2006)	89
10	Salehi M	31	(Azadeh, Ghaderi, & Sohrabkhani, 2008)	88
11	Kelishadi R	30	(Montazeri, 2004)	88
12	Haghdoost Aa	27	(Rudmin & Ahmadzadeh, 2001)	86
13	Mirzazadeh A	27	(M. Zamani, 2007)	81
14	Mohammadi E	27	(Ghassemzadeh, Shahraray, & Moradi, 2008)	80
15	Heshmat R	26	(Hosseinpoor et al., 2006)	78
16	Rashidian A	25	(Farzadfar et al., 2012)	77
17	Kazemnejad A	23	(Sarrafzadegan et al., 2009)	75
18	Motlagh Me	23	(Tajvar, Arab, & Montazeri, 2008)	71
19	Qorbani M	23	(Zamani-Farahani & Henderson, 2010)	70
20	Salsali M	21	(Nobakht & Dezhkam, 2000)	68
21	Ardalan G	20	(Hood et al., 2001)	67
22	Hosseini M	20	(Hanafizadeh, Behboudi, Koshksaray, & Tabar, 2014)	66
23	Rahimi-Movaghar V	20	(Farzanegan & Markwardt, 2009)	66
24	Vaismoradi M	20	(Feizizadeh & Blaschke, 2013)	65
25	Mohammadi R	19	(Kazemi, Sharifi, Jafari, & Mousavinasab, 2009)	65
26	Takeyh R	19	(Rafiee, Mahiny, Khorasani, Darvishsefat, & Danekar, 2009)	65
27	Abbasi-Shavazi Mj	18	(Asadi-Lari, Sayyari, Akbari, & Gray, 2004)	65
28	Arab M	18	(Mohammodi et al., 2006)	64
29	Fotouhi A	18	(Min & Bozorgmehr, 2000)	64
30	Ghazinoory S	18	(S. Zamani et al., 2006)	63

In 2014, one in four scientific articles produced across the world were co-authored by foreign collaborators. In the same year the rate of international co-authorship in high income countries was 34% (one in three), in the European Union it was 46% and in low-income countries and lower middle income countries it was 86% and 38%, respectively ("UNESCO Science Report: Towards 2030," 2015). The results of this study shows that international collaboration for co-authorship in the area of study was lower than the global average. To show the importance of international collaboration in terms of the impact of a research and by cross checking of Table , a good example is "Montazeri A," who recorded the largest number of publication with 63 articles. As it can be seen in the table, he alone has appeared to be the first author with the highest number of publications. However, when it comes to the impact of the research measured by time of the citation, his highest impact publication ranked as number 11 with 88 citations.

The top 30 organisations that appeared as top affiliations listed in the articles in this study are shown in Table 3. In terms of quantity, these 30 top organisations have been affiliated in 4,084 (87.52%) out of 4,666 articles. It is worth highlight ing that 2,083 affiliations were recorded in the 4,666 articles related to issues related to the social sciences in Iran searched under "Iran's Social Sciences in WoS.

Table 3
Top recorded affiliations of the authors

No.	Affiliations	Frequency	%	No.	Affiliations	Frequency	%
1	Tehran University of Medical Sciences	820	17.574	16	University of London	77	1.65
2	Islamic Azad University	352	7.544	17	Baqiyatallah University of Medical Sciences Bmsu	71	1.522
3	University of Tehran	321	6.88	18	Mashhad University Medical Science	69	1.479
4	Shahid Beheshti University Medical Sciences	263	5.637	19	Allameh Tabataba'i University	66	1.414
5	Tarbiat Modares University	224	4.801	20	Academic Center for Education Culture Research Acecr	65	1.393
6	Iran University of Medical Sciences	203	4.351	21	Shahid Beheshti Univ	62	1.329
7	Ministry Of Health Medical Education Mohme	154	3.3	22	Qazvin University of Medical Sciences (Qums)	55	1.179
8	Isfahan University Medical Science	149	3.193	23	Sharif University of Technology	49	1.05

Table 3 *(continue)*

No.	Affiliations	Frequency	%	No.	Affiliations	Frequency	%
9	Kerman University of Medical Sciences	148	3.172	24	University of Isfahan	46	0.98
10	Shiraz University of Medical Science	144	3.086	25	Ferdowsi University Mashhad	43	0.92
11	Tabriz University of Medical Science	119	2.55	26	Hamadan Univ Med Sci	43	0.92
12	Univ Social Welf Rehabil Sci	107	2.293	27	Kermanshah University of Medical Sciences	42	0.9
13	University of California System	98	2.1	28	Ahvaz Jundishapur University Of Medical Sciences Ajums	41	0.87
14	Shiraz Univ	97	2.079	29	Iran University Science Technology	40	0.85
15	Karolinska Institute	77	1.65	30	Shahrood University Of Technology	39	0.83

As it can be seen, most of them underwent an increase in scientific production. However, the distribution of these results is not homogeneous. Surprisingly, the authors with "health & medical science" and "technical & engineering" organization affiliations appeared to have more contributions compared to none "health & medical" or "technical & Engineering" affiliations. Even though it is not possible to exactly differentiate between two categories, for example, in the case of Islamic Azad University and the University of Tehran, etc., those authors with exact affiliation of "Medic.Scie org" or "technical & engineering org" published 2,449 articles, which consisted of 52.4% of the total publications.

Iran has some long established and prominent universities and research centres with exclusive focus on the Social Sciences disciplines such as cultural studies, women and family studies, welfare and social development, anthropology and demography and rural development, among others. These include the University of Tehran's Faculty of Social Sciences, Allameh Tabataba'i University's Faculty of Social Sciences, Shahid Beheshti University's Faculty of Social and Human Science. These universities frequently and periodically conduct extensive research into social and cultural changes and transformations in the country. This can be seen from the higher-level study curriculum, which focusses on pure sociological aspects of society, and has been offered in most institutions of higher education in Iran since the 1930s. However, a look at their relative contribution shows they have had less participation in scientific production in the WoS database.

Dominant Concepts and Meaning Framework

To understand the dominant concept and meaning framework on all scientific publications related to the topic, two software (KeyWords Plus for analysing keywords in all publications and Qiqqa for qualitative content analysing of the top 500 highly cited articles) were used. KeyWords Plus used the most frequent keywords of each document based on their references and title. Therefore, analysing KeyWords plus demonstrates the trend of the current publications based on their references. KeyWords Plus is one of the essential types of information about the published documents that show important research trends for monitoring the development of science (Kalantari et al., 2017). The trend of the keywords extracted from VoSViewer output is based on each grouping's colour code. The abbreviation "VOS" in the VOSViewer stands for "visualisation of similarities" (Van Eck & Waltman, 2010). VOSviewer is a computer programme that plots a relevance distance-based map and clustered keywords from text in titles and abstracts of documents (Khalil & Crawford, 2015). Figure 3 illustrates the overall and most-used keywords and concepts of 4,666 articles related to Iran.

Figure 3. The most frequent keywords used in scientific production related to the topic

Referring to Table 1 and Table 2, the "health and medical" related concepts and keywords were dominant in the overall image. For better understanding of this overall image, the time-dependent keywords plus frequency are illustrated in Figure 4, as visualised by VOSviewer software. The trends of KeyWords Plus frequency are divided in different categories from lower to greater amounts from the year 2011 onwards. In Figure 4, concepts in green, yellow, brown and red are increasing and are the most emerging and recent concepts, respectively in the overall publications.

Figure 4. Time-dependent keywords plus frequency of issues on the social science related to Iran

Table 4 shows the results of qualitative content analysis of the top 500 articles with the highest average citation per year (ACPY). The most frequent theme in all analysed documents was "Health-Related", followed by "Rural related", "Health Care; Health Care Services" and "Mental Health". Publications that mainly focussed on "Health" and "Medical" specifically while highlighting "case studies" resulted in a large number of citations. One possible reason for this might have been due to presenting first-hand data of experimental studies related to health issues in Iran. As such, the case studies with a focus on health and health-care related issues in this study appeared to be a key strategy for getting more citations.

Table 4

The main themes of the top 500 highly cited papers

Themes	Parentage of Assigned to the Themes	Themes	Parentage of Assigned to the Themes
Health-Related Quality; Health Survey	 1. PTSD; chemical warfare; iranian; southern iran; health related quality 4. mental health; EMDR; CBT; CASPIAN-III; adult population 10. iran; road traffic; islamic republic; road traffic injuries; west azarbaijan province Others	Rural Development in Iran	 2. iran; islamic republic; EU; rural iran; spinal cord injury 3. health care; health care services; HCV; primary health care; HBV 17. tehran Others
Health Care; Health Care Services; HCV; Primary Health Care; HBV	 3. health care; health care services; HCV; primary health care; HBV 12. iranian 2. iran; islamic republic; EU; rural iran; spinal cord injury Others	Mental Health, Adult Population	 4. mental health; EMDR; CBT; CASPIAN-III; adult population 1. PTSD; chemical warfare; iranian; southern iran; health related quality 12. iranian Others
Integrative Self-Knowledge	 5. muslim; iranian; integrative self-knowledge; PSST; empirical study based 10. iran; road traffic; islamic republic; road traffic injuries; west azarbaijan province 14. iranian; iranians; iranian women; among iranian; iran Others	Iranian Immigrants, Women	 6. iranian; iranian immigrants; EPDS; iranian immigrant women; edinburgh postnatal depression s 11. iranian version; health-related quality; psychometric properties; health survey; SF-12 4. mental health; EMDR; CBT; CASPIAN-III; adult population Others
HIV/AIDS, Behaviour among Iranians	 8. hiv; HIV/AIDS; iran; behaviors among; among iranian 13. iranian; iran; qualitative study; factors affecting; cross-sectional study 17. tehran Others	Road Traffic, Injuries	 10. iran; road traffic; islamic republic; road traffic injuries; west azarbaijan province 9. iranian; among iranian; WHOQOL-BREF; iranian medical; iranian adolescents 13. iranian; iran; qualitative study; factors affecting; cross-sectional study Others

The top journals that published the highest number of articles related to the topic are illustrated in Figure 5. Quantity wise, more than 25% (1,184 articles) of all collected articles were published in 12 journals. It is important to note that 1,332 journals with a minimum number of one publication related to issues related to the social sciences in Iran based on the search item "Iran's social Sciences" were recorded in the WoS.
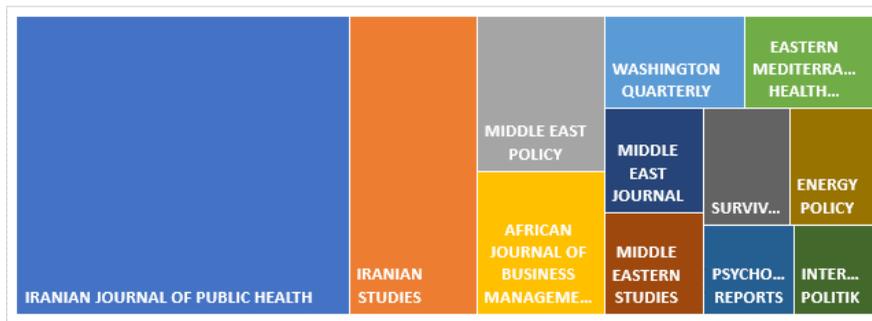
Figure 5. Main sources (journals) of the publications

CONCLUSION

Much is left to be desired in the image of issues related to the social sciences in Iran under the search item "Iran's Social Sciences" in the WoS. Even though quantity-wise the related scholarly outputs seemed to be good enough, the dominant concepts and meaning framework were highly skewed and were not homogeneous. Considering the huge social and cultural changes and development achieved in the country during the last two decades, especially from the exclusive sociological point of view, less attention has been made to properly demonstrate issues such as "social/cultural discourse of the government", "change to the nature of life", "social and cultural transformation", "youth and women's development in the country" among the international academic and scientific society.

The outcome of qualitative analysis of the study demonstrated that the most highlighted themes in the top 500 highly-cited articles were mainly on "Health and Medical" topics. Furthermore, the research in this area needs to be encouraged to concentrate more on sociology, anthropology, family and women's studies, marriage and couple of studies, social welfare and rural development, youth development, social participation and community involvement, identity and social and cultural interaction, especially in relation to new modern digital communication technology.

Given this remarkable insight enabled by the data collected in this study, perhaps more collaboration between sociologists in Iran with scholars from other countries in different regions can be conducted to better highlight the desired issues and

topics in order to increase the impact of their research. Further research might also focus on the current 'business models' of publishing in this area, both internally and at the international level. While we advise sociologists and organisations affiliated with the social sciences in the country to launch more scientific journals at the global level, it is important to evaluate whether the international business models of publishing in this area actually encourage or pose unnecessary bias and restrictions on knowledge development and participation of Iranian sociologists in the world's scientific publications.

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