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## Foreigners' point of view towards collaboration with Iranian authors

### [Mahsa Nikzad](#)

Ph.D candidate, Department of Library and Information Science, Islamic Azad University - Science and Research Branch, Tehran, Iran. E-mail: [nikzad.mahsa \(at\) gmail.com](mailto:nikzad.mahsa@gmail.com)

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### Abstract

*Co-authorship is a process in which two or more authors share their ideas, resources and data to create a joint work. This study examines the motivations of non-Iranians who had a joint work with Iranian authors. A web questionnaire was sent by e-mail to 320 non-Iranian researchers who had published a joint work with Iranian authors in the first half of 2012. Results showed that most of non-Iranian co-authors were once the supervisors of their Iranian co-authors, and the main reason for this collaboration was getting new ideas. The majority of respondents were satisfied with their cooperation and the benefits they gained. In general, non-Iranians and Iranians got familiar because Iranians studied abroad.*

### Keywords

*Co-authorship; Co-publication; Scientific collaboration; Scientometric; Motivations; Non-Iranian authors; Iran*

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### Introduction

Co-authorship is a kind of scientific collaboration in which two or more authors share their ideas, resources and data to create a joint work ([Inzelt et al.](#), 2009). Studies show that co-authorship is increasing and researchers tend to have more co-authorship ([Wagner](#), 2005; [Barabási et al.](#), 2002; [Katz & Martin](#), 1997; [Acedo et al.](#), 2006). This situation also exists in Iran and Iranians' co-authorship is growing in number ([Nikzad et al.](#), 2011). International co-authorship has become of high interest for the Iranian government and policy makers. Researchers working in Iran have been encouraged by Iran's Ministry of Science, Research, and Technology to have their articles published in highly ranked international scientific journals ([Harirchi et al.](#), 2007), and Iranian government has emphasized the importance of international collaboration and encouraged it ([Supreme Council of Cultural Revolution](#), 2011).

As Katz and Martin mentioned in their study, "co-authorship can occur at several levels and include collaboration between individuals, groups, departments, institutions, sectors and countries" ([Katz & Martin](#), 1997). Also [Acedo et al.](#) (2006) believe "co-authorship studies have taken two different approaches. The first one analyzes the reasons why authors collaborate and the consequences of such decision; the second approach is based

on the idea that co-authorship creates a social network of researchers". The latter was studied in Iran before ([Nikzad et al.](#), 2011) and because the motivations of international co-authorship in Iran are still unclear and there is no research showing why non-Iranians collaborate with Iranians in science, we chose to study international co-authorship of Iranians and non-Iranians. Therefore, the aim of this article is to find out about non-Iranian authors' motivations for and satisfaction with co-authorship with Iranians. We chose non-Iranians as they have never been studied before and we know nothing about their point of view of the matter. The findings of this study can help facilitate international collaboration of Iranian researchers. Specifically this study seeks to answer the following questions:

1. How Iranian and non-Iranian co-authors know each other?
2. To what extent Iranians and non-Iranians have had previous co-authorship?
3. What is the main reason for their co-authorship?

## Literature review

[Price](#) (1964) in *Little Science, Big Science* took the first step in co-authorship research and since then lots of studies have been conducted on motivations of scientific collaboration.

In Iran, [Sedighi Sarvestani](#) (2002) was one of the first researchers of co-authorship motivations. He studied about *the lack of co-authorship* in Iran and results showed that specialization and application of science are the most important reasons that people collaborate. [Osareh and Wilson](#) (2002) found out that "End of the [Iran-Iraq] war, better economic conditions, and changes in government scientific policies, development of national publications and returning students who studied abroad" were the reasons for which researchers collaborated from 1985 to 1999 in Iran. [Harirchi et al.](#) (2007) and also [Thakur et al.](#) (2011) mentioned using of laboratory equipment, familiarity with new technologies, reducing project time and increased accuracy of project as the reasons of co-authorship. [Georghiou](#) (1998) stated that emigration of scientists who maintain links with colleagues in their country of origin play an important part in initiating international collaborations.

Katz and Martin found out that saving money by funding agencies, the growing availability and falling (real) cost of transport and communication, the desire for intellectual interactions with other scientists, the need for a division of labor in more specialized or capital-intensive areas of science, the requirements of interdisciplinary research, and government encouragement of international and cross-sectoral collaboration are the most important motivations of co-authorship ([Katz & Martin](#), 1997). In addition, other factors motivating collaboration are knowledge sharing and information transmission, access to equipment and resources, the division of labor, sharing costs, and higher quality of the research ([Bordon & Gomez](#), 2000; [Beaver](#), 2001; [Melin](#), 2000). [Kim](#) (2006) maintained that developing countries often have international collaboration to attain knowledge and techniques from advanced countries and [Glänzel and Schubert](#) (2001) showed that internationally co-authored papers enjoy higher citation impact in comparison with domestic papers. However, [Must](#) (2000) mentioned that most of co-authorships reflect economic, political and language problems rather than personal problems. However, the geographical proximity has a significant role in international co-authorship in [Okubo and Zitt's](#) (2004) belief. [Wagner](#) (2005) stated that sharing ideas, cooperating around equipment, cooperating around resources, and exchanging data are possible cases for co-authorship. [Maglaughlin and Sonnenwald](#) (2005) divided scientific collaboration motivations into four categories including *personal reasons, motivations, common background and resources*. Some researchers ([Bozeman & Corley](#), 2004; [Laudel](#), 2002) believe continuing relations with supervisors and advisers are important motivations of co-authorship.

Overall, the review of the literature reveals that although there have been studies of motivations of collaboration and scientific production, few studied Iranians' motivations and none of them studied non-Iranians motivations for collaborating with Iranians.

## Materials and Methods

We designed a web-based questionnaire including questions related to respondents' demographic characteristics, co-authorship motivations, the ways they know each other, duration of collaboration, and their willingness for future collaboration. At first, we searched for all non-Iranian researchers who had published at least one joint article with Iranian authors in the first half of 2012 (until 28 May 2012) in Scopus. During this period, 12,805 Iranian articles were indexed in Scopus, from which 1,911 were internationally co-authored. Since we only wanted to survey non-Iranian authors, these 1,911 articles were considered as the sampling framework, and the rest of articles (those solely authored by Iranians) were removed from the data. Then using [Krejcie and Morgan's](#) table (1970), the sample size was calculated 320 out of 1911 articles. We chose the first non-Iranian author (those with non-Iranian affiliations) of each article and found their email addresses from the Web. After a pilot study of the questionnaire with 20 respondents, the questionnaire was sent to 320 authors. In the end 178 respondents completed the questionnaires. This is about 55 percent response rate which can be considered an acceptable rate for a web-based survey. The questionnaire (that is still accessible [here](#)) was composed of nine questions about respondents' background and demographics; and the rest of questions covered their motivations for and satisfactions with collaborations.

## Findings

Of the 178 respondents, 161 had Ph.D. degree and 10 had Master's and 3 had MD degree. Four respondents did not answer the question concerning their education. Also 154 respondents were men and remaining 24 were women.

Table 1 shows the subject field of respondents. Engineering and technology with 28, chemistry and chemical engineering with 22 and Mathematics with 21 respondents were the top three popular subjects.

**Table 1. Subject field of respondents**

Subject	No.	%
Engineering and technology	28	15.5
Chemistry and Chemical Engineering	22	12.4
Mathematics	21	11.7
Medicine, Allied health	18	10.1
Materials Science	12	6.7
Biological Science	12	6.7
Earth and Planetary Science	9	5.1
Agriculture	8	4.5
Environmental Science	8	4.5
Physics and Astronomy	7	3.9
Biochemistry, Genetics and Molecular biology	5	2.8
Computer Science and IT	4	2.2
Psychology	4	2.2
Social Science	4	2.2
Neuroscience	3	1.7

Pharmacology, Toxicology and Pharmaceutics	3	1.7
Immunology and Microbiology	3	1.7
Management	2	1.1
Dentistry	2	1.1
Other*	4	2.2

\* Economics, Business, Energy, Decision Science

Regarding the nationality of the authors, United States with 22, Canada, Germany, and UK each with 15 respondents were the top countries. Table 2 relates.

**Table 2. Nationality of respondents**

Country	No.	Country	No.
United States	22	France	4
Canada	15	New Zealand	4
Germany	15	Switzerland	4
United Kingdom	15	Austria	3
Italy	14	Brazil	3
Australia	11	Sweden	3
India	6	Turkey	3
Malaysia	6	China	2
Netherlands	6	Czech Republic	2
Spain	6	Greece	2
Afghanistan	5	Portugal	2
Belgium	5	Romania	2
South Korea	5	Other*	9
Denmark	4		

\* Russian Federation, Palestine, Norway, Iraq, Iceland, Hungary, Hong Kong, Estonia, Colombia

Table 3 shows the age of respondents, in which most of the respondents (54) were 36-45, and just 5 people were under 26.

**Table 3. Age of respondents**

Age	No.
Under 26	5
26-35	41
36-45	54
46-55	44
56-65	26
Over 65	8

The first question asked respondents 'How do you mainly know your Iranian co-author?' As Table 4 shows, a considerable number of respondents (25.8 Percent) had been the supervisor or advisor of their Iranian co-authors. This indicates that a considerable part of Iranian collaboration with non-Iranians is the result of the collaboration of Iranian students

who go abroad to study and then they keep in touch with their supervisors once they return.

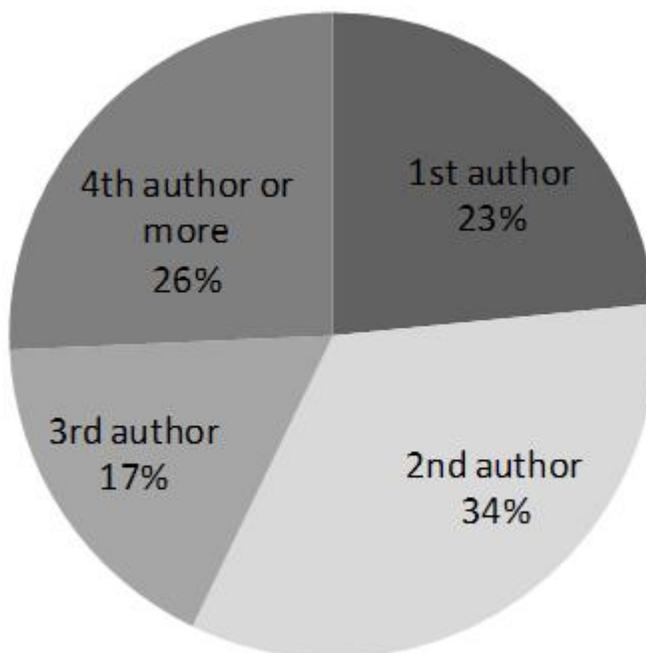
**Table 4. "How do you mainly know Iranian co-author?"**

<b>The reason of knowing each other</b>	<b>No.</b>	<b>%</b>
I was her/his Supervisor	46	25.5
I was her/his Advisor	24	13.5
He found me and asked me for collaboration in a given research	17	9.6
I don't know him/her directly; we are co-authors through a third person	16	9.0
I met him/her in a conference/ meeting /seminar etc.	15	8.4
I found him/her and asked him/her for collaboration in a given research	12	6.4
I was her/his Classmate	9	5.1
I was her/his Student	9	5.1
He/she was a visitor of our group	8	4.5
We were colleagues	8	4.5
Email discussion group	7	4.0
I was her/his Lecturer	4	2.2
Other*	4	2.2

**\* Through a third person; but not a co-author, The student was paid by the Iranian government, Research Exchange, We were family**

Then the respondents were asked about the background of their co-authorship with their Iranian co-authors and whether the article was their first joint work, and for how long they have had collaborations. 118 of 178 respondents stated that this was not their first work with their Iranian co-author. Out of 118, 48 respondents expressed that they had collaborations for more than 5 years. 46 respondents had collaboration for 2-5 years and remaining (24), had collaboration less than 2 years. The most number of respondents who had collaboration more than 5 years with Iranian co-author (36 out of 118) were Iranians' supervisors.

Figure 1 shows the respondents' place in their papers' author list. As we can see 23 percent were the first author, 34 percent were the second, 17 percent were the third and the remaining 26 percent were the fourth author or above.



**Figure 1. "What was your place in the paper's author list?"**

About the leadership (i.e. being the leader or the manager of the research project), in 82 cases, Iranian co-author and in 78 cases, respondents were leader of the study. Only in 18 cases, another one was leader. When we asked for the motivation for participating in that collaboration, 32 out of 178 stated "to get new ideas". Other answers are presented in Table 5.

**Table 5. "What was the main reason or motivation for this collaboration?"**

Motivation	No.	Motivation	No.
To get new ideas	32	To get familiar with new technologies	8
To exchange data	19	Personal reasons	7
To increase the citation of the paper	18	To use information resources	5
To use equipments	16	Access to Iranian samples	4
To increase the accuracy of research	14	To get funding	2
To keep in touch with him/her	14	Joint project	2
To reduce the time of doing research	12	To help my country mate	2
To help a young researcher	12	*other	7

\* **Geographical proximity, Mutual interest in research subject, Political reasons, enjoy working with him, to do science, to exchange expertise, to get more publications**

In the next question, we were interested in the respondents' willingness to have collaboration with Iranian co-authored in future. 167 out of 178 respondents were eager to collaborate with him or her in future and only 9 people had not willingness. Some of the reasons for their unwillingness will be discussed in conclusion. Finally, we asked respondents to state their agreement or disagreement with some statements in Table 6. A five-point Likert scale was used (1= strongly disagree to 5=strongly agree). Most people, who mentioned getting new ideas as the reason for the cooperation, were satisfied and benefited from the joint work with Iranian co-authors.

**Table 6. "State your agreement or disagreement with following statement" (%)**

	<b>1 (Strongly disagree) to 5</b>
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	<b>(Strongly agree)</b>				
	1	2	3	4	5
His/her collaboration increased the quality of the paper	3.4	8.4	16.9	30.3	40.4
I feel I benefited from this collaboration	2.8	6.7	13.5	34.8	41
It improved my professional network (I got familiar with other researcher through him/her)	15.2	14.6	33.1	25.3	11.2
It increase my knowledge and skills	9.6	14.6	28.1	33.1	14

## Discussion and Conclusion

Our study was not limited a specific field of science and the findings confirm [Melin's](#) (2000) findings that student-supervisor relation was the reason for collaboration in 14% of the cases. But this study reached more (25.5%). [Harirchi et al.](#) (2007) stated that student-supervisor relation is not explicitly the reason for the collaboration but it is how the collaborators met. So it can be argued that studying abroad is the most important factor in international cooperation of Iranian researchers in all areas of science.

The majority of respondents had previous collaboration with the Iranian researcher for about more than 5 years. This indicates that it has been a productive cooperation with Iranian scholars and this cooperation has continuity. It can also acknowledge that in most cases, student-supervisor relation continues after graduation of Iranian students and leads to further research.

The most important factor for co-authorship was getting new ideas. This finding is very promising, because it probably shows that Iranians have creative ideas that non-Iranian scholars are willing to use it. As many of the respondents noted in the questionnaire, Iranian students and scholars are very active, creative and well-educated. These features encourage non-Iranians to cooperate with the Iranians. But in general, respondents acknowledged that working with an Iranian co-author, raised the quality of paper. They also stated that this cooperation improved their knowledge and abilities.

At the end of the questionnaire, the respondents were asked to express any comments they might have. Many comments indicated the effectiveness of cooperation with Iranians and the respondents were satisfied with this cooperation and expressed their views. One respondent stated that "Iranian researchers are so hardworking, self-motivated, active and well-educated, have a great attitude and they are great in statistical and practical works". Some others stated that they enjoyed working with Iranians" and "it was a very strong and lasting collaboration". Despite these comments, some negative comments were also seen such as: "The level of Iranians' education is not sufficiently high to be able to aim for very good journals", or " they are too week in teamwork and need training for collaboration". One of the respondents said:

*"Iranian Researchers always are in hurry to publish and don't have time. I believe, by extra working on professional writing and analysis, they can publish their work in very good journals, but they are usually inpatient and once the research has minimum requirement to publish in a average (or low quality) journal, they give up and don't want to work more on the paper. And Iranian researchers just want to publish. As I think their work is valuable, they should practice to publish in high quality journals although it may take a bit more time".*

Another respondent mentioned that the main problems with Iranian researchers are two: "Language problem; they are not good enough in scientific language, namely English. Discipline problems; they cannot adjust themselves with deadlines. However, they are

good in statistical and practical works." Another respondent stated that "I really like to have more collaboration with Iranian groups, but we have more and more restriction such as funding, equipment, lack of data accuracy because of the old test devices in Iran". One respondent pointed to political problems and wrote: "Research should have no political boundaries. I strongly feel that knowledge can be gained through discussion and active participation of persons from various backgrounds".

Among the comments of respondents, several complained of the ethical problems of Iranian scholars and stated that they are no more keen to collaborate with them. One of them expressed "An Iranian PhD student came to visit our group for 6 months. It took 18 months to get his visa organized and once he got here, he decided that he wanted to be with his wife and left after 3 months - without even apologizing. I will not be accepting any more Iranian student easily." In another case,

*"An Iranian researcher asked me if she could write a paper with me since she saw my papers. She wanted to get into a dermatology residency program which helps a great deal if she had multiple publications. I did not know the article was published until I received an email about this survey. I looked it up on Pubmed and saw that the first author added another one (who I have never heard of) and changed the title". Finally, several respondents acknowledged that: "The origin of researchers is of little importance. What is important is the quality of their work and their willingness to collaborate in order to advance knowledge".*

This study shed some light on strengths and weaknesses of collaboration of non-Iranians with Iranian authors. There seems to be some unethical behavior among Iranians who seek foreign co-authors. Many Iranians would like to go abroad for postgraduate studies and because of the pressure sometimes they do things which cannot be ethically sound. However, most of foreigners were happy with their collaboration with Iranians and the quality of their co-authorship. The results also showed that most of collaborations started as student-supervisor relations, which indicates the importance of abroad students for knowledge transfer between countries.

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