

An elaboration on the causes of plagiarism in Iran: a grounded theory study

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Abstract

Background: Plagiarism is an ethical and academic issue in which several factors are effective. The presents study is an attempt to introduce a model for elaborating on the causes of plagiarism in Iran.

Methods: The study was carried out as a qualitative grounded theory study. The data was collected through deep semi-structured interviews with 32 university professors and postgraduate students at Iranian universities of medical sciences. The participants were selected through purposeful and theoretical sampling. Data analysis was done following Strauss and Crobin (1998). To ensure study vigor, Guba and Lincoln measures were used.

Results: A conceptual model of the causes of plagiarism was developed based on analyzing and coding the data. The main core of the model was the emergence of plagiarism and other cores were 1- causal condition: lack of skill, pressure by education system, and lack of awareness; 2- intervening factors: technological advances, legal gaps, and lack of efficient supervision; 3- ground factors: personal traits and attitudes of the academic community; 4- strategy and interventions: role model, supervision, national/international coordination, higher awareness; 5- outcomes; regeneration of plagiarism and negative attitudes towards Iranian authors in academic communities in the world.

Conclusion: Several factors affect plagiarism. Among the approaches to attenuate plagiarism in Iranian academic communities are improving self-esteem and self-efficacy in Iranian researchers, emphasizing on quality rather than quantity of published works, discouraging boasting attitudes in the practitioners, denouncing intense competition among researchers, and introducing clear laws and severe punishments for plagiarism.

Background

The term “plagiarism” refers to different ways of copying of ideas, methods, results, and words without mentioning the source and the original author(1). It covers a wide range of behaviors like intentional or unintentional self-plagiarism or copying diagrams, figures, and tables(2–4).

Plagiarism is an unethical phenomenon(5) with a long history and deep root in the history science. It has become a more common issue in the modern age of information(6). Currently, plagiarism is recognized as an unacceptable and most destructive academic behavior(7). It actually, is a major challenge of today universities(8, 9) and many research institutes and universities have introduced principles and standards based on a clear definition of plagiarism. Several guidelines and educational initiatives have been introduced to prevent plagiarism and promote responsible research behavior(10, 11).

Over the past years, plagiarism has become a main area of interest for researchers so that a large body of literature has been created to examine different aspects of the phenomenon like individuals’ awareness and attitude(12, 13), and the causes of committing plagiarism(14–16).

Like many other countries, Iran is faced with the issue of plagiarism in its academic communities (17). Recent years have witnessed a surge in the number of higher education institutes and postgraduate students in Iran(18). Consequently, the number of scientific and research works has increased notably in Iran(17). However, plagiarism has become a ubiquitous phenomenon in Iran so that according to Scimago, 1.5 paper out of every 1000 papers from Iranian authors have been rejected due to plagiarism between 2013 and 2015(19). In addition, copying materials from the Internet has become a normal way of doing assignments and writing essays and dissertations in Iran(20).

Several factors are effective in committing plagiarism. Fatima et al. surveyed the internal and external factors effective in plagiarism in 176 students from five state universities in China. They found the factors effective in plagiarism so that behavior control and educational factors had a positive effect on plagiarism and information technology (IT) did not have a notable effect on plagiarism. Among the external factors, plagiarism has a positive and significant relationship with pride, and plagiarism; while there was no significant relationship between academic skills and plagiarism(21). In another study by Smith et al. on plagiarism in students showed that lack of knowledge, lack of awareness, lack of skills, personal attitudes, and the facilities provided by the Internet were the main reasons for plagiarism in students(22). Zamani et al. (2012) studied 370 university students in Iran and showed that elements like attitude, ease of access to the Internet, lack of self-efficacy in doing a research work, mental and psychological pressure, and the unique role of the online world were effective in committing plagiarism by students(9). A qualitative study by Amiri and Razmjou (2015) in Iran revealed that the lack of awareness in university professors about plagiarism, lack of writing and research skills, peers' pressure, the pressure on submitting a quality work, and ease of plagiarism were the main factors in doing plagiarism(20) .

Plagiarism is a complicated phenomenon that happens within an academic community; although, the reasons for it might be beyond the community and extended to the whole society. Depending on the society, environment, and culture, the reasons for plagiarism differ. To fight this, we need to find its roots and see the phenomenon as a process that emerges over time and in the society. Given the fact that the majority of studies on plagiarism have been of quantitative and experimental nature(12, 23) and there has been no study on this topic based on a grounded theory approach in Iran and other countries, the present study is a grounded theory work to examine plagiarism qualitatively. Therefore, the objective of the study is to propose a model to elaborate on the causes of plagiarism in Iran based on a grounded theory approach.

Methods

Study design

Since plagiarism is a multifaceted and complicated phenomenon, we needed a grounded theory and qualitative approach to elaborate on it. Qualitative method is recommended as the best method to comprehend complicated phenomena(24). In addition, the reason for adopting a grounded theory

approach was its potential to model the hidden layers of social structures using continuous comparison. This approach is also suitable for gathering and analyzing the data needed to develop a theory(25).

The study population consisted of all university professors and postgraduate students in the medical sciences universities in Iran who had a history of research work. Sampling was done using purposeful method followed by theoretical sampling(26). That is, after finding the primary categories, the next participants would be selected based on their ability to contribute to shed more light on the emerging categories(27). Inclusion criteria were postgraduate students or faculty board members in medical sciences universities, having a published paper, being an active researcher, and desire to participate. Exclusion criteria were refusal to answer all questions in the interview or to allow voice recording the interviews.

Ethical concerns observed in the study were making the require arrangements before entering the research environment, briefing the participants about the objectives and method of interviews, ensuring the participants about confidentiality of their personal information like their identity, securing their informed consent for participation and voice recording the interviews, and reminding their right to leave the study at whatever stage.

Data gathering process consisted of deep, semi-structured, private, and face-to-face interviews at the faculties and research and educational centers at different occasions. The interviews would be started by asking demographical questions followed by asking the participants opinions about the nature of plagiarism, the way it happens, what they think about plagiarism in Iran, the condition that lead to plagiarism, the reasons for committing plagiarism, and how it happens in Iran. Data gathering process continued until theoretical abundance. Totally, 32 participants took part in the study. The interviews took between 35 and 60 min and the time and place of interviews were selected to the convenience of the participants (mostly in the university and educational and treatment facilities).

Data analyses were done following Straus and Korbin's approach(28) .so that after completion of the first interview, it was transcribed verbatim as soon as possible and the analyzing process was continued along with the interviews. The findings of data analyses would constitute the basis for the following interviews and this process was continued until the last interview. Three coding stages including open coding, axial coding, and selective coding were performed. The open coding stage was in fact a microscopic data analysis process where all possible meanings were extracted. The interview's texts were reviewed several times at this stage and the research team concentrated on developing concepts based on the data. The axial coding stage used the codes and categories obtained throughout the open coding and similar categories were combined based on common axes. The codes were continuously compared at this stage and then each category was compared with other categories to make sure that the categories are distinguishable. Afterwards and based on the conditions that led to plagiarism, the grounds of plagiarism and strategies to control it were determined based on selective coding. In fact, this stage was about integrating and refining the findings and achieve the main pattern to elaborate on plagiarism (Fig. 1).

To ensure reliability and validity of the study, Guba and Lincoln's measures were used(29). As to credibility of the data, the author had a prolonged engagement with the participants to win their trust and have a better perception of their experiences. In addition, the coding and analyses results were forwarded to some of the participants to check if the results reflect their opinions and viewpoints (member check). Moreover, a widest diversity in the participants added to the authenticity of the data. Confirmability was ensured through observing neutrality; asking experts in plagiarism and qualitative research to check the codes and themes; and reviewing the interviews texts, codes, and categories through peer check. To ensure stability of the findings, the interviews were transcribed as soon as possible and experts were asked to check the data (external check). Transferability was ensured by selecting diverse participants and using direct quotes.

Ethical consideration

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Results

The study was conducted on 32 medical sciences university students and professors in Iran. The majority of the participants were at the age range 30–40 years, male, PhD student, and h-index range of 1–5 (Table 1). In addition, the paradigm structure of themes and subthemes were formed after data analyses (Table 2).

Table 1
Demographics of the participants

Variable	Dimensions	F (%)
Age	20–30	10(31.25)
	30–40	13 (40.62)
	> 40	9(28.12)
Gender	M	18(56.25)
	F	14(43.75)
Marital status	Married	20(62.5)
	Unmarried	12(37.5)
Education	MSc	8(25)
	PhD	10(31.25)
	Assistant prof.	7(21.78)
	Associate prof.	4(12.5)
	Professor	3(9.73)
h-index	With h	9(28.12)
	1–5	13(40.62)
	> 5	10(31.25)
Committing plagiarism	Positive	12(37.5)
	Negative	20(62.5)

Table 2
Categories and subcategories emerged from interviews

Structure based on paradigm model	Categories	Subcategories
Background factors	Characteristics	Boasting, seeking fame, laziness, lack of self-confidence, poor ethical beliefs, competitiveness
	Attitudes of academic community	Paying attention to high h-index, valuing the number of published papers
Causal condition	Lack of skills	Lack of article writing skills, lack of English writing skill, lack of skill to work with plagiarism software, lack of skill to search for articles in databases, lack of skill to work with referencing software
	Education system pressure	Work pressure, emphasis on educational degree, inconsistency between courses and expectations
	Lack of awareness	Lack of awareness about different plagiarism techniques, lack of awareness of plagiarism software
Intervening factors	Technological advances	Expansion of the Internet, easy and inexpensive access to information
	Legal gap	Lack of clear and strict laws against plagiarism
	Lack of extensive supervision	Lack of adequate supervision on plagiarism
Strategies	National and international supervision and coordination	Stricter supervision on dissertations, introduction of stricter laws and penalty for committing plagiarism, promoting the use of plagiarism check software by journals, and clarification of laws
	Role model	Following faculty board members, following friends and colleagues, plagiarism as a common practice
	Increasing awareness	Holding article writing workshops, holding plagiarism workshops in academic environment
Outcomes	Regeneration of plagiarism	Increase in the number of copied papers, emergence of a black market of papers and dissertation outside academic environment
	Negative attitudes toward Iranian authors in academic communities	Rejection of the papers submitted by Iranian authors, stricter review of the papers submitted by Iranian authors, stricter standards for accepting the papers submitted by Iranian authors

Causal condition

The causal condition of plagiarism in Iran contained three categories of lack of skill, pressure by education structure, and lack of awareness.

Lack of skill

This category was comprised of subcategories like lack of article writing skills, lack of English writing skills, lack of skills to search for articles in scientific databases, and lack of skills to use referencing software.

An associate professor, 30–40 years old, commented “Many students and even professors have a very low skills as to English language. Therefore, they tend to use the clauses used in other papers, which are easier for them to understand.”

“We students do not know how to write a paper and there is nothing in the courses about it. That is why many try to do the job through plagiarism” (MSc student, 20–30 years old).

“Many of the students do not know how to do a search on the Internet for they dissertation. They do not even know how to make a reference in their paper. Therefore, they commit plagiarism intentionally or unintentionally” (Assistant professor, 30–40 years old).

“Every year, several workshops are held for different things but there is nothing about plagiarism. That is way many do not know much or at all about plagiarism or if they have done it” (PhD student, 30–40 years old).

The point is students and professors do not receive trainings about writing or referencing skills. This lack of skill is one of the main reasons for plagiarism.

Education system pressure

This category was comprised of subcategories namely work pressure, emphasis on educational degree, and inconsistency between courses and expectations.

“We are under pressure to promote ourselves and it needs publishing papers. Some of the professors who are too busy for this, use plagiarism for writing dissertation” (full professor, > 40 years old).

“What matters in Iran is the educational degree and competency and capability do not matter. That is why everyone is chasing an educational degree no matter how it is achieved.” (Assistant prof. 30–40 years old).

“They do not teach us that much, but they expect a lot by heavy assignments that we cannot handle them. Therefore, we pay others to do those assignments or copy others’ papers” (MSc student, 20–30 years old).

“Here, we only care about quantity and number of papers published by an individual. Quality of paper does not matter and therefore to increase the number of papers, many students and professors turn to plagiarism” (Associate prof, > 40 years old).

Over the past few decades, the education system in Iran has put more emphasis on the number of published papers to compete with other countries in the region. Therefore, students and professors are under pressure to publish more papers while they have received no education for this, and they turn to plagiarism consequently.

Lack of awareness

This category includes subcategories lack of awareness about different forms of plagiarism and lack of awareness about plagiarism check software.

“It happened to my friends and I one of our papers was rejected due to plagiarism. The fact is I myself knew nothing about plagiarism check software two months ago” (PhD student, 20–30 years old).

“I extracted two papers out of a research work and naturally, the both papers had identical methodology. I did not know that is a plagiarism at that time” (MSc student, 20–30 years old).

In fact, many researchers lack an adequate knowledge about plagiarism and different ways of it. In many cases, they commit plagiarism unintentionally.

Background factors

The background factors in plagiarism were personal traits and attitudes of the academic community.

Personal traits

This category consisted of boasting, seeking fame, laziness, lack of self-confidence, poor ethical beliefs, and competitiveness.

“Today, many of the professors tend to boast about their h-index and having a higher h-index, they try to publish as many papers as they could no matter how” (Assistant Prof., 30–40 years old).

“To become famous, many of the colleagues try to increase their h-index. Therefore, the quality of papers is not important for them. What matters for them is to publish more paper and even they publish one paper in more than one journal” (PhD student, 20–30 years old).

“The moment they become professor, they stop working and assign everything to students. To meet the administrative requirements, they even publish papers written by students while they have not made any contribution to the paper” (MSc student, 20–30 years old).

“Some of the students and professor do not have the confidence to write and publish a quality paper in the creditable journals. Therefore, they turn to copying and plagiarism” (Professor, > 40 years old).

“Unfortunately, unethical behaviors are very common in Iran academic community. Some do not feel a bit of guilt when they turn to plagiarism; they might even be proud of themselves” (Professor, > 40 years old).

“Unfortunately, there is an intense competition among faculty board members so that they do anything to publish more papers. Sometimes, they even turn to plagiarism” (Assistant prof., 30–40 years old).

Like other social issues, committing plagiarism has to do, to some extent, to one's characteristics. That is, individuals with specific characteristics have more tendency to plagiarism.

Attitudes in academic community

Emphasis on h-index and emphasis on the number of published papers constituted the subcategories of this category.

"Iranian academic community values h-index too much while the quality of teaching and other aspects are neglected. That is why everyone are obsessed with h-index." (PhD student, 30–40 years old)

Since Iranian academic community overemphasizes on the number of published papers and h-index, increasing the number of published papers has become the first priority for many researchers and to this end some turn to plagiarism.

Intervening factors

Technology advances, legal gap, and lack of strict supervision constituted the categories of intervening factors.

Technology advances

Subcategories in the category were expansion of the Internet and easy and inexpensive access to information.

"Today, everyone can access the whole online information all around the world. Therefore, it is very easy to use others' works without giving reference" (PhD student, 20–30 years old).

"Technology advances have given us easy access to a great volume of resources and it is easy to copy small pieces from several papers and create a new paper without leaving a trace behind" (MSc. Student, 20–30 years old).

Therefore, technology advance and ease of access to the Internet facilitate plagiarism.

Legal gap

Lack of clear and strict laws about plagiarism constitute the subcategories of this category.

"There is almost no penalty for plagiarism in our education system" (Associate prof., 30–40 years old).

"There are no reliable laws to punish plagiarism in Iran. That is why it is spreading" (Associate prof. >40 years old).

"I have not heard anyone being punished by being fired from university for plagiarism. Even a PhD dissertation that is copied is punished only by giving a low score" (PhD student, 20–30 years old).

Thereby, there are no clear laws about plagiarism and it does not bring serious consequence for the offenders. This is an effective factor in spread of plagiarism in Iran.

Lack efficient supervision

This category contains the subcategory, lack of adequate supervision about plagiarism.

“Most of the dissertations are copied and nobody cares. It is an irony that the genuine dissertations receive lower scores” (MSc student, 20–30 years old).

There is no serious supervision on research works in Iran and in absence of supervision, some researchers turn to plagiarism.

Strategies

Role model, supervision, national and internal arrangements, and improving awareness constituted the categories of this theme.

Role model: This category was comprised of following faculty board members, following friends and colleagues, and widespread of plagiarism in Iranian academic communities.

“When the majority of professors do it, you cannot expect students to avoid plagiarism (associate professor, > 40 years old).

“Many professors motivate students to do plagiarism, intentionally or unintentionally. In some cases they make the student do so. My own advising professor made me to divide a research work into several parts and publish each part in different journals under different titles, while the papers overlapped by 80%” (PhD student, 30–40 years old).

“Nowadays, rather than being considered as a wrong action, plagiarism is considered as a good thing and those do you brag about it and how smart they are. Some of my colleagues have told me and others stories about their plagiarism” (Assistant prof. 30–40 years old).

“Out of eight students in the class, three purchased dissertations available in the market, and their professors did nothing about it; although they knew” (MSc. Student, 20–30 years old).

Since, plagiarism has become a prevalent phenomenon in Iran and many including university professors commit plagiarism, students and other professors might follow their path and intensify the problem of plagiarism in Iran.

Supervision and coordination at national and international levels

The subcategories were stricter supervision on dissertations, introducing stricter laws and penalties, and using plagiarism check software by Iranian and foreign journals.

“Recently, advising professors are required to have stricter supervision on dissertations to control plagiarism” (Assistant prof., 30–40 years old).

“New laws are going to be ratified to introduce harsh punishments for plagiarism by students and professor including getting fired” (professor, > 40 years old).

“Before the plagiarism check software, plagiarism was very common in Iran. However, journals are now checking every paper for plagiarism and reject them when similarity is above a specific threshold” (Associate prof., > 40 years old).

Another strategy to deal with the spread of plagiarism is supervisions and coordination at national and international level so that many universities have introduced stricter regulation and supervision on using plagiarism software to control the problem.

Raising awareness

This category contained subcategories namely holding article writing and plagiarism workshops at universities.

“Following the recent spread of plagiarism, many universities are holding plagiarism workshops to raise awareness in students and professors about the problem” (PhD student, 30–40 years old).

“Recently one of the universities held workshops to raise awareness about plagiarism and improve writing skills in students and prevent plagiarism in students” (Assistant prof., 30–40 years old).

In fact, by holding workshops, universities and other academic bodies help researchers to improve their awareness and skills to avoid plagiarism.

Outcomes

This theme contained two categories including regeneration of plagiarism and reinforcement of negative attitudes towards Iranian researchers.

Regeneration of plagiarism

Copied papers and emergence of a black market for dissertation outside universities were the two subcategories.

“It is easy to find dissertations in any major and at any level in Enghelab Square market, Tehran” (PhD student, 30–40 years old).

“Many create a resume by spending money and buying one or two papers in Enghelab Square market, which are then published” (MSc student, 20–30 years old).

“One of the professors publishes more than 40 papers every year and in fact he contributes in a few of them. What they do is that they add their colleagues’ names in their own papers and those colleagues return the favor by adding their name in their own papers. In this way, they can publish this many papers every year” (Assistant prof. 30–40 years old).

Therefore, an outcome of plagiarism is its regeneration in the academic communities, so that it has become a common problem in Iran higher education system. It is even common at highest academic level and among professors.

Development of negative attitudes

One of the outcomes of the spread of plagiarism among Iranian authors is that journals follow a stricter review process for Iranian papers.

“Recently, we see that creditable journals do not trust the data provided by Iranian authors and reject our papers easily” (PhD student, 30–40 years old).

“It appears that credible journals have become more sensitive about Iranian papers so that they have stricter review process for Iranian papers” (PhD student, 20–30 years old).

“Recently, foreign credible journals reject Iranian papers without reviewing them. Because of this, Iranian authors try to add a foreign author’s name to the paper to avoid this” (Associate prof, 30–40 years old).

Therefore, the spread of plagiarism in Iranian academic community has reinforced negative attitudes towards Iranian researchers and journals tend to have stricter review process for the papers submitted by Iranian authors.

The phenomenon of plagiarism in Iran is affected by several factors. The background factors that lead to plagiarism are personality traits like competitiveness, boasting about the number of published papers, and the attitudes in the academic community in Iran that emphasize on quantity of paper rather than quality. In this regard, the causal factors that affect this phenomenon are lack of skill, the pressure induced by the education system, and lack of awareness, which are intensified by intervening factors like technology advance and lack of efficient regulation and supervision. In addition, expansion of plagiarism triggers strategies and approaches like role model, national and internal supervision and coordination, and higher awareness. Since the adopted approaches to this phenomenon have not been effective so far, we see regeneration of plagiarism and reinforcement of negative attitudes towards Iranian authors.

Discussion

A model to elaborate on the causes of plagiarism in medical sciences universities in Iran was introduced. Among the main causes of plagiarism in Iran were the lack of research and article writing skills and lack of awareness. Many of the students and even professors do not have the skills to write a quality research paper and therefore, they turn to plagiarism. In some cases, they committed plagiarism without knowing that. This finding is consistent with other studies in this field (30–32). In the study of Smith et al 2007 Lack of knowledge, lack of skills(22), and In the study of Ryan et al 2009 lack of awareness about plagiarism in students have been mentioned as the main causes of plagiarism(33). One key finding was that many of the students and even professors did not have a clear and right understanding of plagiarism and even many of them had committed plagiarism without knowing so. It is essential, therefore, to familiarize researchers with plagiarism and its instances.

The pressures caused by the educational system was another casual condition of plagiarism. In the study of Koh et al, 2011, the authors showed that educational and environment pressures like tight schedule to submit assignments and keeping pressure on students to graduate as soon as possible lure students towards plagiarism(34). Recent decades in Iran have witnessed more emphasis on educational degrees so that degrees have become a measure of one’s value. Therefore, the society is full of students who only seek a diploma without having slightest interest in learning the material. Many enter postgraduate programs only to receive a diploma and since many of them have a job at the same time, it is not easy for them find the time to learn research methods. As a result, many of them turn to plagiarism.

In addition, the public policy to improve the scientific ranking of the county in the region has put more emphasis on quantity of published papers. Students and professors need to publish papers to enjoy promotion and since many of them do not have the time to do research work, the turn to plagiarism to keep their jobs.

Among the background conditions of plagiarism, personality traits and attitudes of the academic community were notable. Individuals with personality traits like boasting, seeking fame, laziness, lack of confidence, competitiveness, and poor ethical beliefs had more tendency to commit plagiarism. Other studies have also highlighted personality traits as a reason for plagiarism(35, 36). In fact, major personality traits that motivated plagiarism in Iran were seeking fame and competitiveness. Since, Iran education system puts more emphasis on quantity, some of the students and professor are tempted to publish as many papers as possible to improve their prestige and to overtake their competitors they choose plagiarism. On the other hand, some of the students and professors copy others' works due to laziness and poor ethical beliefs. In the study of Batane laziness was highlighted as the main reason for plagiarism in students (37).

The results showed that one of the intervening factors in plagiarism in Iran was technology advance. This is consistent with other studies in this field(14, 22, 38); so that ease of access to the Internet facilitates plagiarism(39).. In the study of Scanlon & Neumann IT development and spread of websites were named as the reasons for the expansion of plagiarism(40). In fact, the technological advances of the past decade and ease of access to the Internet have made scientific resources more accessible. People can easily access a wide range of scientific resources nowadays, and copy the content without giving reference to the source. However, by using the technology in the right way, we can fight plagiarism.

One of the most notable findings here, which has been barely covered by previous works, was the legal gaps and lack of supervision. These factors were categorized as intervening factors in the growth of plagiarism. There is no efficient supervision on research activities in Iran and even when a clear case of plagiarism is found, there are no clear laws about how to deal with the offender. Therefore, many find it easy to commit plagiarism without any fear of the consequence. In the study of Ryan et al, 2009, penalty was noted as one of the main organs of plagiarism management so that without an effective punishment, no plagiarism management initiative will be effective(33). In fact, researcher should be convinced that plagiarism brings serious consequences to them. However, in the absence of clear laws, researchers find plagiarism a safe path to take.

As to the strategies and concerns, three categories including role model, national and international supervision and coordination, and raising awareness about plagiarism are notable.

Plagiarism in Iran, in fact, has become a norm and many professors and students follow their friends and colleague and commit plagiarism. The prevalence of the problem is growing day by day, which is supported by other studies as well (9,16, 18).

One of the interesting results was that despite other countries where plagiarism is considered as a bad and wrong action(13, 22), there is no serious negative attitude towards it in Iran. In some cases, the participants did not find it as an unethical action. One reason for this can be the spread of plagiarism so that it has become a norm in the society and individuals in that society find it a normal phenomenon.

Another strategy was the emergence of initiatives to fight plagiarism. The past one or two years in Iranian universities have witnessed a rise of reactions to plagiarism so that the highest legislative bodies have expressed their concerns. The Islamic parliament has examined the issue and called for introducing regulations to punish plagiarism. There have been a series of regulations enacted by the parliament to force the universities to introduce stricter supervision on research works and dissertation done by students and fight plagiarism. In addition, another initiative by universities is to hold plagiarism workshops to introduce students and professors to plagiarism and prevent unintentional plagiarism.

The results showed that one of the outcomes of plagiarism in Iran is its regeneration. In fact, we observe a growing trend of plagiarism as confirmed by other studies in this field(20). The number of papers that are copies of other papers and dissertations is growing in Iran and even large black markets have emerged where students can buy dissertation and articles with different quality levels and even some have merits to be published in journals with high impact factors.

Reinforcement of negative attitudes towards Iranian authors is another negative consequence of plagiarism. Following plagiarism scandals of Iranian authors, journals have become more sensitive to Iranian papers and employ a stricter review process on them. In some cases, they do not even examine the papers from Iran and reject them without reviewing them. There have been cases that plagiarism of a submitted paper was revealed after the publication and the journal was forced to withdraw the article and reject it(19).

Conclusion

Plagiarism in Iran is affected by different and complicated factors like lack of skills, pressures by the education system, personality traits, technological advances, legal gaps, and lack of supervision. The outspread of plagiarism in society has triggered reactions like role model, national and international supervision and coordination, and rise of awareness. Plagiarism has negative consequences like regeneration of plagiarism and reinforcement of negative attitudes towards Iranian authors in academic communities all around the world. Therefore, increasing students' awareness and skills as to article writing and research work, improving confidence and self-efficacy in researchers, alleviating boasting and competitiveness traits in researchers, and introducing the concepts and instances of plagiarism can help researchers to avoid plagiarism. In addition, emphasizing on the quality of papers rather than the quantity, promoting the use of plagiarism check software, and introducing clear laws and penalties for plagiarism can prevent the spread of plagiarism.

Strengths And Limitations

This study is the first of its kind in Iran and even the world that approaches to plagiarism using a grounded theory method. The results are comprehensive and valuable information for policy makers and activists in academic communities to introduce effective programs and regulations to fight plagiarism. Diversity of the participants including university students and professors who took part in the interviews in different situations was another advantage of the study. However, the study was not free of limitations as some of the participants had concerns about voice recording the interviews. To solve their concerns, they were informed about the objectives and necessity of the study and that the recorded content will be used only for research purposes and remain confidential. In addition, the authors ensured the participants that their identity will not be divulged to any institute or organization.

Declarations

Ethics approval and consent to participate

This study was drawn from a research project (No. IR.KUMS.REC. 1398.661; 980601) sponsored by the Deputy of Research and Technology at Kermanshah University of Medical sciences, Kermanshah, Iran. All participants received a participant information sheet and a consent form prior to taking part and written consent gained.

Consent for publication

Not applicable.

Availability of data and materials

Authors report that the data supporting their findings can be publicly shared.

Competing interests

The authors declare that they have no competing interests

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Authors' contributions

All authors participated and approved the study design. JYL and AZ contributed in designing the study, AJ, PN and PA collected the data, and analyzed by SAA, MSH and JA. The final report and article were written by AZ and JUL and All authors read and approved the final manuscript.

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Author Information

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Figures

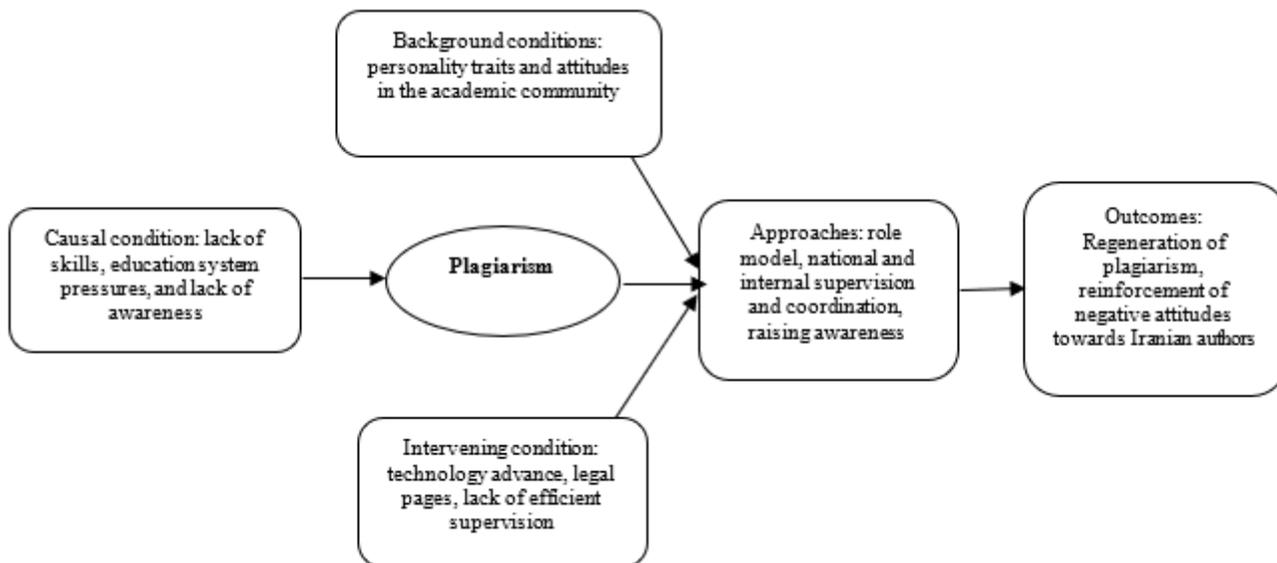


Figure 1

Emergence pattern of plagiarism in Iran