

The Current Publication Rate of Audiology Master's and Doctoral Theses in Peer-Reviewed Journals: 2023

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Citation: Çelikgün B. The current publication rate of audiology master's and doctoral theses in peer-reviewed journals: 2023. Tr-ENT 2024;34(1):18-23. <https://doi.org/10.26650/Tr-ENT.2024.1386594>

ABSTRACT

Objective: This study aims to compare the publication rates of audiology master's and doctoral theses completed in 2017 and to investigate the effectiveness of the "publication of theses before graduation" rule applied by some universities.

Materials and Methods: The participants' age range, gender, degrees, graduation year, private/state university graduation, institutions where they proceeded to their business life, and publication status of their master's and doctoral theses were questioned using a survey consisting of 16 multiple-choice as well as two open-ended questions. The study comprised 71 participants who completed their master's or doctoral degrees in audiology in 2017 and later. The descriptive statistic and Chi-Squared test were used for statistical analysis using the Statistical Package for the Social Sciences (SPSS) version 23.0.

Results: Thirty-five of the 62 (56.45%) master's theses were presented at an international (n=21, 33.87%) or national (n=14, 22.58%) congress as oral/poster presentations. Thirty-three of the 62 (53.22%) master's theses were published as articles in national and international peer-reviewed journals. Additionally, of the 16 doctoral theses, two (12.5%) were presented as oral/posters at a national and five (31.25%) at an international congress. Ten of the 16 theses (62.5%) were published in an international SCI/SCIE journal.

Conclusion: The rate of publication of master's and doctoral theses in national journals has decreased while the rate of publication in international journals has more than doubled. It was concluded that the "publishing theses before graduation" rule significantly increased the publication rates in international journals.

Keywords: Publication, thesis, dissertation, Audiology

INTRODUCTION

Master's and doctoral degrees are gateways to an academic life. In all branches of science, master's and doctoral degrees are awarded to candidates for completion within a certain period. Candidates generally complete their theses at the end of a process in which the literature is scanned based on a hypothesis, data are systematically collected, necessary statistical analysis is performed, and the findings are written on paper. At the end of this process, candidates develop academic study disciplines and skills in using scientific language.

In addition, thesis studies are one of the important indicators of the scientific productivity of universities (1, 2). However, for these to reach wider audiences, they must be published in international academic databases. Articles published in scientific journal databases such as the Web of Science (WoS),

Scopus, and Emerging Science Citation Index (ESCI) reach wider audiences and contribute more effectively to the literature (3).

However, not all theses or dissertations have been published in peer-reviewed scientific journals for various reasons. According to a 2015 study in "Neurosurgery," the rates were insufficient in graduation theses in Türkiye. While only 5% of theses completed between 2004 and 2013 were published as SCI/SCIE publications, 13% were published in national journals (4). Of the 538 theses in "Public Health" in Türkiye, 18% were published in national journals and 11.9% of these were published in international journals (5). In a study conducted in 2020, publication rates of graduation theses in the field of general surgery in Türkiye were examined between 1998 and 2018. According to the study findings, 20.5% of the dissertations were published in a journal, whereas only 14.4% were published in an SCI/SCIE journal (6). Additionally, the rates

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Submitted: 06.11.2023 • **Revision Requested:** 26.12.2023 • **Last Revision Received:** 02.01.2024 • **Accepted:** 31.01.2024 • **Published Online:** 21.02.2024



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of publication in national and international journals were 26.1% and 36.3% in “Otolaryngology”, respectively (7).

There have been a few studies on the publication rates of master’s and doctoral theses in other countries. Only 21.6% of theses completed in the Family Medicine field between 1982 and 2014 were published in Egypt. While 68.9% of these were published in national journals, 31.1% were published in international journals (8). In the US, a study reported that approximately half of the completed doctoral theses in Library and Information Science up to the year 2000 were published as articles (9). In addition, in a study performed in 2018 in the US, the overall weighted estimate showed that 25.6% of psychology doctoral theses were published in peer-reviewed journals within the period 0-7 years following their completion (10). There has been no research in international journals on the publication rate of master’s and doctoral theses completed in audiology. In our research published in a national journal in 2016, the publication rate of master’s and doctoral theses in the field of audiology in an international journal was 15.9% for master’s degrees, while the rate was 26.6% for doctoral theses. The publication rates in national journals are 18.1% and 13.3%, respectively (11).

From 2017, some universities in Türkiye require theses to be published in national/international peer-reviewed journals before the thesis final exam for master’s and doctoral graduation in audiology depending on the university. Therefore, this study aims to investigate the publication rates of audiology master’s and doctoral theses completed in 2017 and later in national/international journals and the effectiveness of the “publication of the theses” rule.

MATERIAL AND METHODS

Participants

The study sample consisted of individuals who completed their master’s and/or doctoral degrees in audiology in 2017 and later.

Study design

Data was collected using a survey consisting of 16 multiple-choice and two open-ended questions. In this survey, the participants’ age range, gender, degrees, graduation year, private/state university graduation, institutions where they proceeded to their business life, and publication status of their master’s and doctoral theses were questioned. In the open-ended questions in the survey, participants who did not publish were asked “Why did not you publish your master’s or doctoral theses?”

The survey questions are as follows: What is your age? What is your gender? What education did you complete in 2017 or later (master’s and/or doctoral education)? In what year did you complete your master’s and/or doctoral education? At which institution did you complete your master’s and doctoral education (“state” or “private” university)? Are you continuing your academic career (yes or no)? Please provide information

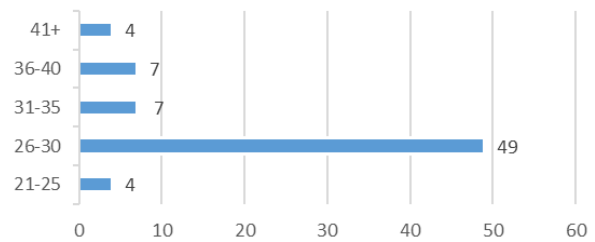


Figure 1: Age distribution of participants

about your academic title and the institution where you work. Have you published or presented your master’s and doctoral theses in a national or international journal or congress? If so, please provide details about the presentation or article. What was the topic of your thesis? If you did not publish them, could you explain why?

The questions were presented to the participants online, with separate multiple-choice items for master’s and doctoral education.

Statistical analysis

Data was analyzed using the Statistical Package for the Social Sciences (IBM SPSS Corp., Armonk, NY, USA) version 22.0. The Chi-square test was used to determine the differences between the publishing styles of master’s and doctoral theses. In addition, descriptive statistics were used to present information on participants’ status.

This study was performed in accordance with the ethical standards of the Declaration of Helsinki and approved by the Ethics Committee of Istanbul Medipol University (Date: 31.08.2023, No: 714).

RESULTS

A total of 71 participants who completed their postgraduate education in audiology participated in the study by completely filling out the survey. Of the participants, 54 (76.1 %) were women, and 17 (23.9 %) were men. Four participants were 21-25 (5.6%), 49 participants were 25-30 (69%), 7 participants were 30-35 (9.9%), 7 were 35-40 (9.9%), and 4 were in the 40+ (5.6%) age range (Figure 1).

A total of 78 theses completed by 71 participants between 2017 and 2023 were evaluated in this study. Of these, 62 (87.3%) were master’s theses and 16 (22.5%) were doctoral theses. The distribution of these by years is shown in figure 2. Accordingly, more than half of the Master’s theses (56.45%) and most doctoral theses (81.25%) were completed in 2021 and later.

Nine participants were included in the study only with their doctoral theses because they completed their master’s theses before 2017. Nevertheless, of the 71 participants, including participants who completed their master’s theses before 2017, 39 (54.90%) completed their master’s degree at a state university and 32 (45.10%) at a private/foundation university

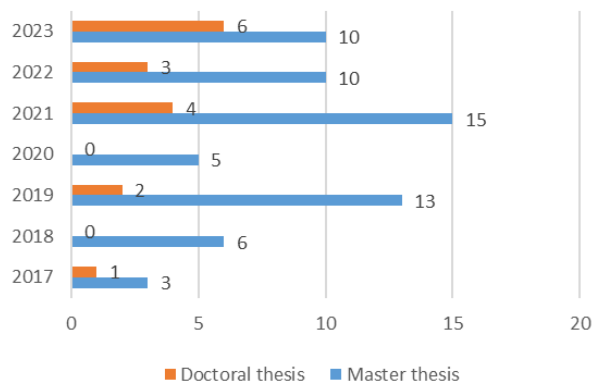


Figure 2: Distribution of graduation of master's and doctoral education

for a fee. This distribution is 12 (75%) and 4 (25%) in doctoral education.

While 43 (60.56%) of the participants who completed their master's or doctoral education proceeded to their academic careers as academics in a university, 28 (39.44%) worked in different positions. Of the participants working at a university, 16 (37.21%) were research assistants, 19 (44.19%) were lecturers, and 8 (18.60%) were assistant professors. Of the 43 universities where academic work continued, 22 (51.16%) were state universities and 21 (48.84%) were private universities. Of the participants who did not work as academics, four (14.28%) worked in a private or public university hospital, one (3.57%) worked in a state hospital, three (10.71%) worked in a private hospital, 6 (21.42%) worked in a hearing aid/cochlear

implant company, seven (25%) worked in an auditory-verbal rehabilitation center, and one (3.57%) worked in a private ENT clinic. While 3 participants (10.71%) declared that they worked in a different sector other than audiology, 3 participants (10.71%) stated that they proceeded with their academic education without working in a job (Table 1).

Thirty-five of the 62 (56.45%) master's theses were presented at an international (n=21, 33.87%) or national (n=14, 22.58%) congress as oral/poster presentations. In addition, 53.22% (33 out of 62) of the master's theses were published as articles in various databases. These databases include the National Academic Network and Information Center (ULAKBIM) (12.90%), national journals other than ULAKBIM (n=1, 1.61%), SCI/SCIE international journals (n=16, 25.80%), and international journals other than SCI/SCIE (n=8, 12.90%). Additionally, 8 (12.90%) participants stated that their publication is under evaluation in a SCI/SCIE journal and the number of pending publications in international journals published in non-SCI/SCIE databases is 2 (3.22%). The number of participants who did not publish their master's theses as an article or did not attempt to publish it was 19 (30.65%) (Table 2).

Of the 16 doctoral theses completed in audiology between 2017 and 2023, 2 (12.5%) were presented as oral/posters at a national congress and 5 (31.25%) at an international congress. More than half of these theses (56.25%) were not presented at any congress. In addition, 10 of the 16 theses (62.5%) were published in an international SCI/SCIE journal, whereas one publication (6.25%) was stated to be under evaluation in an

Table 1: Distribution of participants according to their job

Work at a university			Work at different positions except a university		
	n	%		n	%
Research assistant	16	37.21	University hospital	4	14.28
Lecturers	19	44.19	State hospital	1	3.57
Assistant professor	8	18.60	Private hospital	3	10.71
			Hearing aid/Cochlear implant company	6	21.42
			Rehabilitation center	7	25
			Private ENT clinic	1	3.57
			Different sector other than Audiology	3	10.71
			Unemployed	3	10.71

Table 2: The publication rates of all master's and doctoral thesis

	Oral/poster presentation n=42, (59.15%)				Article n=43, (60.56%)							
	Oral/poster presentation at a national congress		Oral/poster presentation at an international congress		National Academic Network and Information Center (ULAKBIM)		National journals other than ULAKBIM		SCI/SCIE international journals		International journals other than SCI/SCIE	
	n	%	n	%	n	%	n	%	n	%	n	%
Master thesis	14	22.58	21	33.87	8	12.90	1	1.61	16	25.80	8	12.90
Doctoral thesis	2	12.5	5	31.25	0	0	0	0	10	62.50	0	0

Table 3: The distribution of master's and doctoral thesis topics

Topic	Master's thesis		Doctoral thesis	
	n	%	n	%
Diagnostic	10	14	2	12.5
Electrophysiology	5	7	3	18.75
Hearing aids	8	11	2	12.5
Cochlear implants	12	17	2	12.5
Bone anchored hearing systems (BAHS) & middle ear implants	0	0	0	0
Vestibular system	17	24	2	12.5
Aural rehabilitation	4	6	1	6.25
Experimental studies	4	6	1	6.25
Tinnitus	7	10	1	6.25
Central auditory processing	3	4	2	12.5
Voice disorders	1	1	0	0
Total	71	100	16	100

SCI/SCIE journal. Five participants (31.25%) did not publish their theses as articles or send them to any journal (Table 2).

The rates of participants presenting their theses orally at national/international congresses and publishing them as articles in national/international journals were analyzed using a chi-square test. Oral/poster presentations of master's and doctoral theses in national and international congresses were evaluated using Fisher's Exact Chi-Square test results. Accordingly, although master's theses are presented at more national and international congresses than doctoral theses, the difference is not statistically significant ($p=0.690$). In addition, the publication rates of master's and doctoral theses in ULAKBIM, national journals other than ULAKBIM, SCI/SCIE, and international journals other than SCI/SCIE were analyzed according to the Monte Carlo Chi-Square test results. According to the test results, participants tend to publish their master's and doctoral theses significantly more in SCI/SCIE journals, $\chi^2(3, n=43) = 8.52, p=0.036$.

Considering the distribution of master's thesis topics completed in the field of audiology between 2017 and 2023, most theses concerned the vestibular system ($n=17, 23.94\%$). Then come cochlear implant ($n=12, 16.90\%$) and diagnostic audiology ($n=10, 14.08\%$). This distribution is quite balanced in doctoral studies. The detailed distribution of master's and doctoral theses according to audiological topic is presented in Table 3.

In the survey, participants were also asked an optional open-ended question about their master's and doctoral theses: "Why did not you publish your master's or doctoral theses?" The answers given to this question are generally clustered under four headings: "not finding enough time", "communication problems with the advisor", "motivation problems" and "inexperience in academic studies". Academics, particularly those working in audiology clinics at university hospitals, stated that they could not find enough time for academic work. The

fact that advisors do not allocate sufficient "effective" time to students has also emerged as an important reason. In addition, the stress experienced during the education and this thesis period manifests itself as a "loss of motivation" after graduation. One participant expressed this issue as follows: "Since the thesis writing process during my master's degree was tiring and stressful for me, I could not find enough energy and motivation to turn my thesis into an article and publish it". Finally, a participant expressed inexperience in academic studies in a way that was conspicuous among all participants: "By the time I felt competent in this regard, the data of my thesis was outdated."

DISCUSSION

Master's theses are doors to academic life in positive science. The theses, written after master's education, are very comprehensive practical training that includes hypotheses determination, literature review, study design, and statistics. Generally, doctoral theses consist of comprehensive study designs that significantly contribute to the literature. For this reason, presenting both theses at congresses and publishing them as articles in journals enables them to be available to large audiences. In particular, studies published in "English" in international journals appeal to a wider academic community. Additionally, publishing theses in international journals, especially SCI/SCIE journals, also proves the quality of post-graduate education and theses.

The only global study on the publication of theses in audiology was conducted by Çelikkün et al. in 2016 (11). A total of 58 theses, 45 master's theses, and 13 doctoral theses, were evaluated in the study. Accordingly, the oral/poster presentation rate of the 58 theses at a national/international congress was 62.06%. In the present study, the rate was 59.15%. While the rate of theses published as articles in a national/international journal was 36% in 2016, it was 60.56% in this study.

In a study conducted in 2016, 45.4% of master's theses were presented orally/poster at a national congress, and 20.4% at an international congress. Additionally, 18.1% of master's theses were published as articles in a national journal and 15.9% in an international journal. In the current study, these rates are 22.58%, 33.87%, 14.51% (ULAKBIM and other national journals, respectively), and 38.7% (SCI/SCIE and other international journals).

Moreover, in a study published in 2016, 26.6% of doctoral theses were presented as oral/posters at a national congress, and 33.3% at an international congress. The rates of doctoral theses converted into articles for publication in national and international journals were 13.3% and 26.6%, respectively. In this study, national oral/poster presentation in doctoral theses is 12.5%, and international is 31.25%. In addition, the publication rate as an article in the SCI/SCIE journal is 62.6%. No publication turned into an article from a doctoral thesis among non-SCI/SCIE journals.

When both studies are looked at from a wide perspective, two important points stand out. First, the rate of presentation of master's and doctoral theses as oral/poster presentations at national congresses has decreased by approximately 50% compared to the study in 2016. While there was no significant difference between 2016 and this study in terms of oral/poster presentations of doctoral theses at international congresses, an important increase was found in terms of master's theses. The increase in "online" international meetings that started during the COVID-19 pandemic and continued afterward may be considered as a factor in the increase in master's theses presentations at international congresses. However, the pandemic and Türkiye's economic conditions in recent years may negatively affect these presentations at national congresses. Second, compared to the study conducted in 2016, while the demand for national journals decreased, interest in international journals, particularly SCI/SCIE, increased by more than 100%. All doctoral theses converted into articles were published in the SCI/SCIE journals. This may be because many universities are increasingly requiring SCI/SCIE publications for graduation, especially in doctoral education. Additionally, the increase in audiology schools with reduced clinical burden established within health sciences faculties may have also supported academic productivity (12). Moreover, the more widespread use of artificial intelligence applications and academic writing websites that facilitate article writing in English might have increased the rate of international publications (13). Additionally, individuals with a doctoral degree are more likely to continue their academic lives and produce publications (14).

In the literature, only two studies were conducted in 2020 on the topic of later conversion of theses to publication. In the first study, the authors investigated the publication rate of "general surgery" dissertations completed in Türkiye between 1998 and 2018 (6). Between these years, 1,996 theses were completed, 20.5% of which were converted into publications. Only 14.4% were published in the SCI/SCIE journal. Another study

investigated the conversion rate of dissertations completed in "public health" to publication (15). When theses completed between 2000 and 2018 were reviewed, 30.3% were published as articles in a journal. The distribution of publication rates is as follows: 10.4% for SCI/SCIE, 12.9% for international journals that are not within the scope of SCI/SCIE, and 7% for national journals. When assessing studies conducted in the field of audiology in 2016 and the other studies in medicine, it is seen that the "publication of the theses before graduation" rule put into effect by some universities significantly increases the rate of publication rate of master's and doctoral theses in peer-reviewed journals.

Although the rate of publication of theses as articles, particularly in international journals, has doubled compared to 2016, it seems that it is still not enough. In addition to quantitative questions, a qualitative question was asked to participants to ask "why" this was the case. The answers to the open-ended question pointed to important solutions: saving time for academic studies by reducing academics' clinical working hours, the coaching/mentoring skills of supervisors might be increased through training provided by universities to increase the quality of communication between students and supervisors as well as keep student's motivation at a high level after graduation (16, 17). In addition, planning some additional training on academic literacy during the master's period may facilitate the publication process. Furthermore, requiring all universities in Türkiye to publish theses in national or international peer-reviewed journals prior to the final thesis examination for Masters and Doctoral degrees in all fields may ensure much better publication rates.

The distribution of postgraduate graduation was balanced between state/private university graduations in master's degrees (state university n=39, 54.9%), while most participants (n=12, 75%) graduated from a state university with a doctoral degree. The fact that the doctorate education is longer than the master's and the doctorate is more expensive compared to the master's education may have caused the doctoral graduation rate to be lower in private universities.

When the distribution of audiology postgraduate theses by subject is investigated, it is seen that most studies in master's degree are completed in the fields of the vestibular system (n=17, 24%), cochlear implants (n=12, 17%) and diagnostic audiology (n=10, 14%). In doctoral studies, it is seen that doctoral theses are distributed similarly to different fields related to audiology. Interestingly, there was no study on BAHS and middle ear implants in any of the master's and doctoral theses.

Generally, studies on the publication rate of graduation theses are conducted by searching and analyzing national and international journal databases. Our study was carried out by reaching people directly through a survey. Therefore, a larger study sample could not be reached in the study. This might be considered as a limitation of the study. However, reaching people directly through a survey also eliminated factors that

could negatively affect the study findings, such as spelling errors during database searches, changes in the author's surname because of different reasons (particularly for women due to marriage), incorrect data collection where multiple authors with similar names exist in the country, and the possibility of changing the thesis title in the article form.

CONCLUSION

As a result of the study, compared to the study published in 2016, the presentation of master's and doctoral theses as oral/poster at a national congress decreased by half, while the presentation of master's theses at international congresses increased by more than 50%. In addition, while the rate of publication of master's and doctoral theses in ULAKBIM and other national journals has decreased, the rate of publication in international journals, particularly SCI/SCIE journals, has more than doubled. In general, it was observed that the rule of "publishing theses before graduation" significantly increased the publication rates in international journals.

Acknowledgment: No funding was received for this study. The authors thank the volunteers and their colleagues.

Data Availability Statement: The data analyzed and created during the study is not included in the submission; all data is reserved by the corresponding author. However, when necessary, the corresponding author will share the data with the journal.

Ethics Committee Approval: This study was approved by the Ethics Committee of Istanbul Medipol University (Date: 31.08.2023, No: 714).

Informed Consent: Online consent was obtained from the participants.

Peer Review: Externally peer-reviewed

Conflict of Interest: The author have no conflicts of interest to declare.

Financial Disclosure: The author declared that this study has received no financial support.

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