

An Examination of Postgraduate Theses on Auditory Processing Skills in Türkiye

This study aims to identify academic trends, methodological tendencies, and research gaps in the field of auditory processing in Türkiye by systematically examining postgraduate theses. A total of 27 master's and doctoral theses were accessed through the Turkish Higher Education Institution (YÖK) database and analyzed using the document analysis method, a qualitative research approach. The inclusion criteria required that the theses be completed at Turkish universities, be at the master's or doctoral level, focus on auditory processing skills, and have accessible full texts. The analysis revealed that academic interest in auditory processing has increased, particularly in the last five years. However, the majority of the theses were at the master's degree level ($n=21$), while only six were doctoral dissertations, showing that advanced research with stronger theoretical depth remains limited. Another key finding was that all the theses employed quantitative methods, indicating a lack of methodological diversity. This reliance on numerical data restricts opportunities to capture subjective experiences and contextual variables that could be addressed through qualitative or mixed-method approaches. In terms of participants, the distribution was balanced between children and adults, yet only one thesis investigated both groups together, suggesting a gap in lifespan-oriented research. Disciplinary distribution showed that most theses were conducted in audiology (70.3%), with fewer contributions from education, psychology, or medicine. This imbalance highlights the need for interdisciplinary collaboration, as auditory processing is a complex and multifaceted phenomenon extending beyond health sciences alone. This review article offers valuable insights into the current state of postgraduate research in auditory processing in Türkiye and provides direction for future scholarly efforts in this area.

Keywords: auditory processing, postgraduate theses, document analysis, review

Eine Untersuchung von Postgraduiertenarbeiten zum Thema auditive Verarbeitungsfähigkeiten in der Türkei

Diese Studie hat das Ziel, akademische Trends, methodologische Tendenzen und Forschungslücken im Bereich der auditiven Verarbeitung in der Türkei systematisch anhand von Postgraduiertenarbeiten zu identifizieren. Insgesamt wurden 27 Master- und Doktorarbeiten aus der Datenbank des Türkischen Hochschulrats (YÖK) erfasst und mittels Dokumentenanalyse, einem qualitativen Forschungsansatz, ausgewertet. Die Einschlusskriterien erforderten, dass die Arbeiten an türkischen Universitäten abgeschlossen wurden, sich auf Master- oder Doktorgrade beziehen, den Schwerpunkt auf auditive Verarbeitungsfähigkeiten legen und als Volltext zugänglich sind. Die Analyse ergab, dass das wissenschaftliche Interesse an der auditiven Verarbeitung insbesondere in den letzten fünf Jahren deutlich zugenommen hat. Allerdings handelte es sich bei der Mehrheit um Masterarbeiten ($n=21$), während nur sechs Dissertationen auf Doktoratsniveau verfasst wurden. Dies zeigt, dass weiterführende Forschungen mit stärkerer theoretischer Tiefe bislang begrenzt sind. Ein weiteres zentrales Ergebnis war, dass alle Arbeiten quantitative Methoden anwendeten, was auf einen Mangel an methodischer Vielfalt hinweist. Diese Abhängigkeit von numerischen Daten schränkt die

Möglichkeit ein, subjektive Erfahrungen und kontextuelle Variablen zu erfassen, die durch qualitative oder Mixed-Methods-Ansätze berücksichtigt werden könnten. Hinsichtlich der Teilnehmergruppen war die Verteilung zwischen Kindern und Erwachsenen ausgeglichen, jedoch untersuchte nur eine Arbeit beide Gruppen gemeinsam, was auf eine Forschungslücke über die gesamte Lebensspanne hinweg hinweist. Fachlich zeigte sich, dass die meisten Arbeiten im Bereich der Audiologie (70,3 %) durchgeführt wurden, mit geringeren Beiträgen aus Pädagogik, Psychologie oder Medizin. Dieses Ungleichgewicht unterstreicht den Bedarf an interdisziplinärer Zusammenarbeit, da auditive Verarbeitung ein komplexes und facettenreiches Phänomen ist, das über die Gesundheitswissenschaften hinausgeht. Der vorliegende Übersichtsartikel liefert wertvolle Einblicke in den aktuellen Stand der Postgraduiertenforschung zur auditiven Verarbeitung in der Türkei und weist auf zukünftige wissenschaftliche Entwicklungsmöglichkeiten hin.

Schlüsselwörter: auditive verarbeitung, postgraduale abschlussarbeiten, dokumentenanalyse, übersichtsarbeit

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1. Introduction

Auditory processing is a complex set of skills that includes cognitive processes such as recognizing, discriminating, sorting, orienting, and making sense of the sounds heard by the individual (ASHA¹ 2005). These skills are closely related to areas such as language acquisition (e.g. Moore 2007), literacy development (e.g. Blachman 1994), attention (e.g. Dawes/Bishop 2009), and memory (e.g. Broadbent 1954). Auditory processing disorder (APD) is defined as an individual's inability to effectively process auditory information – such as sound localization, lateralization, auditory discrimination, and the temporal aspects of audition – at the level of the central nervous system, despite having normal hearing; this disorder can lead to various difficulties in the educational process (cf. e.g. Moore 2006, Musiek/Chermak 2007, Miller 2011, Chermak/Musiek 2014).

Recently, scientific awareness of auditory processing has increased in Türkiye, and several postgraduate studies have been conducted on theoretical knowledge and assessment methods in this field. However, there has been no systematic evaluation of the general trends, subject distribution, data collection methods, and sample characteristics of these studies. This situation points to the lack of a guiding framework in both research and practice.

In this context, the aim of this study is to examine the master's and doctoral theses on auditory processing in Türkiye, to reveal the trends in the field, to analyse the

¹ ASHA is American Speech-Language-Hearing Association founded in 1925 in Iowa City, an association of speech-language pathologists, audiologists, and speech, language, and hearing scientists in the United States and internationally. The association currently has over 200,000 registered members. The Council for Academic Accreditation in Audiology and Speech-Language Pathology (CAA) is the accreditation unit of the ASHA. And established standards for graduate program accreditation that meet entry-level preparation in the speech and hearing field.

methodological and contextual diversity, and to offer suggestions that will shed light on future studies. Thus, the aim is to offer a comprehensive perspective on the current state of auditory processing research.

2. Methods

This study was conducted using the document analysis method, one of the qualitative research designs. Data were retrieved from the Turkish Higher Education Institution (YÖK) database using keywords such as “auditory processing”, “auditory processing disorder”, and “central auditory processing”. The theses that met the following criteria were included in the study: the thesis must have been completed at a university in Türkiye, be at the master’s or doctoral level, have auditory processing skills as the main topic, and have full-text accessibility. The theses were evaluated using the content analysis method. In the analysis process, categories such as the year of the thesis, type (master’s/doctoral), field of study, main themes addressed, data collection tools used, age group (child, adult, or both), and research method (qualitative/quantitative/mixed) were examined. The findings were interpreted through descriptive analysis.

3. Results and Discussion

A total of 27 theses were included in the study. The findings accessed from the Turkish Higher Education Institution (YÖK) database show that academic production in this field has increased significantly, especially in the last five years. The fact that the majority of the theses are at the master’s level ($n=21$; 77,8%) shows that, although the topic of auditory processing is receiving increasing attention, in-depth and theoretically based research at the doctoral level has not yet reached a sufficient level. Table 1 shows the distribution of theses by year.

Year	Master’s Theses	Doctoral Theses	Total
2011	1	–	1
2015	1	–	1
2017	1	–	1
2018	1	–	1
2019	1	2	3
2020	1	1	2
2021	5	–	5
2022	3	1	4
2023	3	1	4
2024	4	1	5

Tab. 1. Distribution of Theses by Year

In terms of research designs, it is noteworthy that all theses were conducted with quantitative methods. This situation reveals that a complex and multidimensional subject such as auditory processing is handled only with numerical data. The lack of qualitative and mixed methods suggests that individuals' experiences, perceptions, and interactions with environmental factors have not been sufficiently examined. It is important to fill this gap with qualitative research in the future.

When the theses were analyzed according to age groups, 13 theses were conducted with the child group (48,1%), 13 with the adult group (48,1%), and 1 with both groups (3,7%). This finding reveals the lack of a holistic approach to auditory processing processes across the lifespan.

The highest number of theses was found in the audiology department (n=19; 70.3%) (Table 2). This result shows that the subject is mostly addressed from the perspective of health sciences and that adequate collaboration with fields such as education, psychology, language development, and neuroscience has not yet been established.

Academic Department	n	%
Department of Audiology	19	70.3
Department of Primary Education	3	11.1
Otorhinolaryngology (Ear-Nose-Throat)	3	11.1
Department of Child Development and Education	1	3.7
Child Health and Diseases	1	3.7
Total	27	100

Tab. 2. Distribution of Theses by Academic Department

When the theses were analysed according to their subjects, a total of 27 categories emerged, ranging in frequency from 1 to 19 (Table 3). The majority of the analysed theses focused on spectral and central auditory processing skills (n=19), while a small number of studies addressed the relationships between auditory processing and subjects such as music perception, depression, Alzheimer's disease, epilepsy, and visual perception. This shows that the field has the potential to expand in terms of different disciplines and subtopics, but this potential has not yet been sufficiently utilized.

Subject	n	%
Spectral and central auditory processing skills	19	35.8
Developing a scale	3	5.6
Specific learning disorder	3	5.6
Effect of the auditory processing programs	2	3.7
Suprathreshold auditory processing skills	2	3.7
Hearing loss	2	3.7
Cochlear implant	2	3.7
Validity and reliability study	1	1.8

Subject	n	%
Cleft lip palate	1	1.8
Developmental language disorder	1	1.8
Delayed speech and language	1	1.8
Reading and writing difficulties	1	1.8
Working memory	1	1.8
Stuttering	1	1.8
Tinnitus	1	1.8
Hearing aid processing	1	1.8
Auricular vagus nerve stimulation	1	1.8
Ventilation tube history	1	1.8
Alzheimer's disease	1	1.8
Chronic noise exposure	1	1.8
Depression	1	1.8
Chronic kidney disease	1	1.8
Hand and foot preferences	1	1.8
Visual perception	1	1.8
Music perception	1	1.8
Musicians	1	1.8
Epilepsy	1	1.8
Total	53	100

Tab. 3. Distribution of Theses by Subject

Table 4 shows the distribution of theses by data collection tools used. Although the frequency varied between 1 and 12, the most preferred tests were Frequency and Duration Pattern Tests. This finding indicates an overdependence on certain tests. Diversification of data collection tools will provide more comprehensive and reliable results.

Data Collection Tools Used	n	%
Frequency Pattern Test (FPT)	12	15.1
Duration Pattern Test (DPT)	12	15.1
Random Gap Detection Test (RGDT)	5	6.3
Auditory Processing Test (İŞTE)	4	5.06
Spectral Temporally Modulated Ripple Test (SMRT)	3	3.7
Turkish Matrix Test (TMT)	3	3.7
Montreal Cognitive Assessment Test (MoCa)	3	3.7
Temporal Modulation Transfer Function Test (TMTF)	2	2.5
Temporal Fine Structure Sensitivity Test (TFS)	2	2.5
Gaps-In-Noise Test (GIN)	2	2.5
Word Discrimination in Noise	2	2.5
Test for Auditory Processing Disorders in Children-Revised (SCAN-C)	2	2.5

Data Collection Tools Used	n	%
Konukseven Central Auditory Processing Scale (KOSİİ)	2	2.5
Consonant Identification Test	2	2.5
Wechsler Intelligence for Children Scale (WISC)	2	2.5
Auditory Evoked Cortical Potential (AECp)	1	1.2
Temporal Envelope (TE) Sensitivity Test	1	1.2
University of Cincinnati Audio Processing Inventory (UCAPI)	1	1.2
Frequency Following Response Test (FFR)	1	1.2
The Visual Aural Digit Span Test	1	1.2
Dichotic Word and Sentences Tests	1	1.2
P300 Test	1	1.2
Children's Auditory Performance Rating Scale (CIPDS)	1	1.2
Auditory Verbal Learning Test	1	1.2
Special Learning Disability (SLD) Battery	1	1.2
Turkish Expressive and Receptive Language Test (TEDİL)	1	1.2
Turkish Expressive and Receptive Language Assessment (TİFALDI)	1	1.2
Gazi Reading Writing Education Program (GRWEP)	1	1.2
Speech, Spatial and Qualities of Hearing Scale (SSQ)	1	1.2
Tinnitus Handicap Inventory (THI)	1	1.2
The Head Right-Left Discrimination Test	1	1.2
Harris Lateralization Test	1	1.2
Mini Mental Test (MMT)	1	1.2
Beck Depression Scale	1	1.2
Frostig Visual Perception Test	1	1.2
Clinical Assessment of Music Perception Test (CAMP)	1	1.2
Total	79	100

Tab. 4. Distribution of Theses by Data Collection Tools Used

4. Conclusion and Recommendations

This study was conducted to identify the academic trends, methodological preferences, and existing research gaps in the field of auditory processing in Türkiye by systematically examining master's and doctoral theses. The analysis of these postgraduate studies provides a comprehensive overview of how auditory processing has been investigated, which populations have been focused on, and the types of research designs and assessment tools that have been employed. The findings offer valuable insights into both the current state of research and the directions for future investigation.

In conclusion, the number of postgraduate theses in the field of auditory processing in Türkiye is increasing; however, there is room for improvement in terms of methodological, theoretical, and interdisciplinary aspects (cf. e.g. Katz/

Henderson/Stecker 1992, Kamhi 2011). In this context, the following suggestions can be developed:

- Encouraging qualitative and mixed methods will contribute to a multidimensional approach to auditory processing;
- Increasing the number of doctoral-level studies with high theoretical depth will support scientific development in the field;
- Interdisciplinary studies to be conducted in cooperation with fields such as education, psychology, and neuroscience will help illuminate different aspects of the subject;
- Holistic studies covering lifelong auditory processing skills are needed.

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