

Original articles

Training and work of speech-language-hearing public health professors in public higher education institutions in Brazil

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**ABSTRACT**

Purpose: to analyze the training and work profile of speech-language-hearing professors responsible for public health curricular components in speech-language-hearing undergraduate programs in Brazil.

Methods: a documentary analysis addressing Lattes curricula of 50 professors identified with the snowball technique. Extracted information was classified into variables, which were analyzed with descriptive statistics and multiple correspondence analysis.

Results: most professors graduated in the Southeast Region, have a doctoral degree, wrote their theses or dissertations on speech-language-hearing clinics, conduct research and public outreach projects on public health, and produce scientific literature on speech-language-hearing clinics. Moreover, some professors do not have a postgraduate degree in public health.

Conclusion: the scenario indicates possibly weakened scientific research and teaching on public health in speech-language-hearing programs, as the training and work of an important part of the professors identified in this study are not specifically focused on this field.

Keywords: Universities; Teaching; Speech, Language and Hearing Sciences; Public Health

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INTRODUCTION

The Brazilian National Curricular Guidelines and policies to induce academic training reorientation helped include curricular components on public health in the pedagogical projects and curricular frameworks of Speech-Language-Hearing (SLH) Sciences programs^{1,2}. This is seemingly due to the nature of public health, as it is a field of knowledge that aims to understand health and explain its social determinants and the context of practices especially focused on its promotion³.

However, SLH training in Brazil still faces challenges inherent to the history of the profession, as well as other difficulties shared with other fields of health. Training professionals capable of providing comprehensive care and work interprofessionally is particularly challenging⁴, even though the Curricular Guidelines indicate that graduates must be generalist SLH therapists able to meet the main needs of both the Public Health System (SUS) and the population⁵. Hence, incorporating inter-professional education, active learning methodologies, education toward citizenship, and broadened inclusion of students in the context of SUS are strategies that can be used by SLH undergraduate programs to help redirect professional training⁴.

Thus, studies must be conducted to analyze how public health training is taking place in SLH undergraduate programs in Brazil, observing the contributions and challenges of this field in the training of professionals with the profile indicated in the Curricular Guidelines.

Faculties need to be understood and constructed on political, epistemological, and cultural spheres by those who comprise them. Hence, identity processes will no longer be influenced by “loans and donations from those who pretend to be authorities in knowledge”⁶. In this field, subjects (i.e., those who both are recognized and see themselves as professors) play their role based on the training they received in the process of transformation of everyday events, information, and knowledge, carried out in formal and nonformal settings, involving this social self in significant experiences⁷.

Therefore, professors’ academic and professional paths must be analyzed to understand a given training process because they are responsible for developing and influencing the curricula that will train others⁷. Identifying professors’ work characteristics and analyzing their undergraduate and postgraduate trajectory can help infer aspects that create greater distance and nearness in their activity as public health

professors and researchers. Hence, this article aimed to analyze the work and academic profile of SLH professors who teach public health in SLH undergraduate programs in Brazil.

METHODS

This research is based on data available in a public, open-access portal. Therefore, it did not require submission to the Research Ethics Committee.

The source of data for this documentary analysis was the Lattes Platform curricula of SLH professors of Brazilian public higher education institutions (HEI). They were identified with the snowball technique⁸, considering indications from SLH program coordinators in Brazil, gathered in a virtual group of the Teaching Committee of the Brazilian SLH Society. This technique was used due to the lack of a precisely documented number and location of SLH professors working with public health curricular components in Brazilian HEI.

The survey identified 50 professors who teach public health subjects in 21 public HEI. To verify which HEI offer the program in the country, a piece of research⁹ that surveyed these institutions was used as a reference.

A matrix was developed to organize and extract the data and conduct the analysis, using the following variables: HEI where they work, HEI from which they graduated, year of SLH graduation, highest degree, the year when they obtained the highest degree, title of the thesis or dissertation, year when they defended the thesis or dissertation, the field of work recorded in Lattes, registered research projects in 2019 and 2020, registered public outreach projects in 2019 and 2020, and most relevant articles. The last variable was surveyed by verifying the articles indicated as most relevant in the professors’ Lattes. If no article was indicated, the most recently published one was used.

The theses and dissertations were categorized into fields, namely: SLH clinics, public health, and others. The fields of the professors’ research projects, public outreach projects, and publications were also categorized into SLH clinics, public health, and others. Research and public outreach projects and scientific publications of professors who focused their studies and work on SLH clinics and public health were thus categorized. Theses, dissertations, research, and public outreach projects on basic biological sciences, linguistics, and education were classified as “others”.

The categorization was based on content analysis¹⁰. The author/researcher read and interpreted the titles

and abstracts of the papers and projects in detail to classify them into the said areas. Despite the distinct definition of collective and public health¹¹, no difference was made to categorize the variables.

The resulting databank of collected information was constructed in IBM SPSS 20. These data were statistically treated, leading to descriptive statistics, and extracting relative and absolute frequencies. Correspondence analysis was also used to verify the degree of interaction between categorical variables present in the study¹².

This article is part of the results of a doctoral thesis named "Public health training in speech-language-hearing sciences undergraduate programs of public higher education institutions".

RESULTS

The study sample comprised 50 practicing SLH professors responsible for public health curricular components in Brazilian public HEI, with a predominance of females (88%), as shown in Table 1. This table also shows that the HEI from which professors graduated were mostly in the Southeast Region (58%), followed by the Northeast (15%) and South (12%).

Altogether, 40% graduated between 2001 and 2010, while 34% graduated between 1991 and 2000. Most professors graduated from private HEI (58%).

As for postgraduate studies, Table 1 shows that 82% of professors had a doctoral degree, and 18% had a master's degree. These titles were obtained in the Southeast (60%), Northeast (34%), and South (6%).

The Northeast and Southeast are the regions with the most public health professors (respectively 19 and 20). Since the Central-West has only public HEI offering an SLH undergraduate program, and only one professor responsible for public health curricular components was identified, this region was not included in the study.

Table 2 shows that most professors identify in Lattes their areas of research and public outreach as SLH clinics and public health (54.2%). Studies in public health (44%) prevailed in the topic of dissertations and theses defended by professors to obtain their highest degree (master's or doctoral). Public health prevailed in public outreach (75.8%) and research projects (46.9%). Moreover, public health appeared the most often in the most relevant published articles (37.5%), followed by SLH clinics (35.4%).

Table 1. Total and percentage of variables in the study – Brazil, 2021

Variable	Frequencies	
	N	%
Sex		
Males	6	12
Females	44	88
Total	50	100
HEI where they work, per region		
Northeast	19	38
South	11	22
Southeast	20	40
Total	50	100
HEI from which they graduated, per region		
Northeast	15	30
South	6	12
Southeast	29	58
Total	50	100
Year of graduation		
1971-1980	2	4
1981-1990	9	18
1991-2000	17	34
2001-2010	20	40
2011-2020	2	4
Total	50	100
HEI from which they graduated, per administrative category		
Public	21	42
Private	29	58
Total	50	100
Highest degree		
Master's	9	18
Doctoral	41	82
Total	50	100
HEI where they obtained a postgraduate degree, per region		
Northeast	17	34
South	3	6
Southeast	30	60
Total	50	100

Caption: HEI - Higher Education Institution

Source: Research data, 2021. Developed by the researcher.

Table 2. Description of variables related to the professors' areas of research and public outreach projects – Brazil, 2021

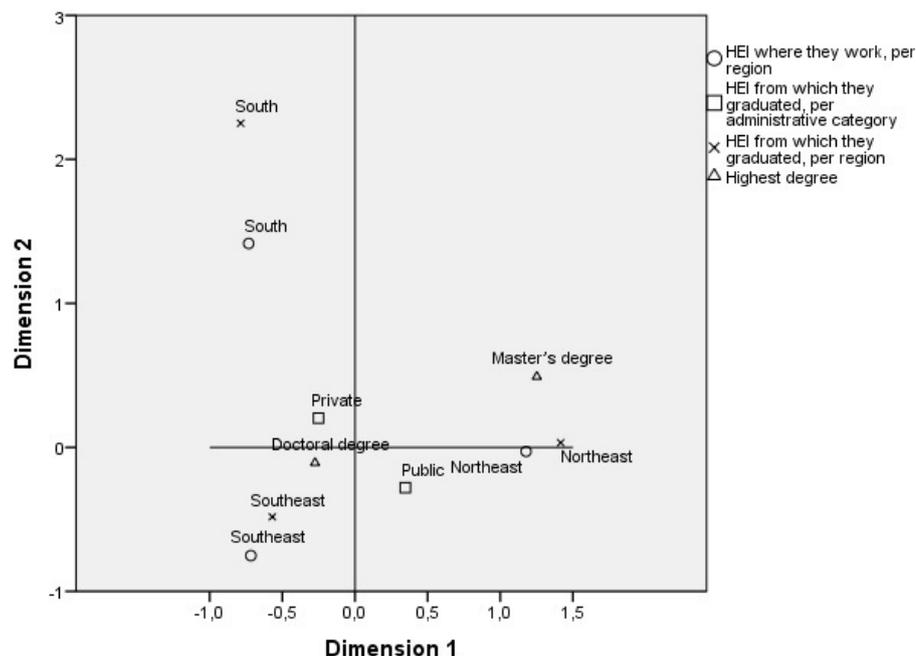
Variable	Frequencies	
	N	%
Area of the thesis or dissertation		
Speech-language-hearing clinics	21	42
Public health	22	44
Others	7	14
Total	50	100
Area of work registered in Lattes		
Speech-language-hearing clinics	7	14.6
Speech-language-hearing clinics and public health	26	54.2
Public health	2	4.2
Others	13	27.1
Total	50	100
Area of public outreach project		
Speech-language-hearing clinics	4	12.1
Public health and speech-language-hearing clinics	2	6.1
Public health	25	75.8
Others	2	6.1
Total	50	100
Area of the research project		
Speech-language-hearing clinics	5	15.6
Public health and speech-language-hearing clinics	10	31.3
public health	15	46.9
Others	2	6.3
Total	50	100
Area of article publication		
Speech-language-hearing clinics	17	35.4
Public health and Speech-language-hearing clinics	11	22.9
Public health	18	37.5
Others	2	4.2
Total	50	100

Source: Research data, 2021. Developed by the researcher.

The correspondence analysis presented in Figure 1 shows the association between the HEI where professors work and from which they graduated. This association is greater in the Southeast and Northeast Regions, as the figure shows the proximity between these variables. Doctoral degrees are the most

associated with Southeastern HEI where they work and from which they graduated.

As for the administrative category of the HEI from which they graduated, work in the Northeast Region is associated with public HEI, and professors who work in this region are associated with master's degrees.

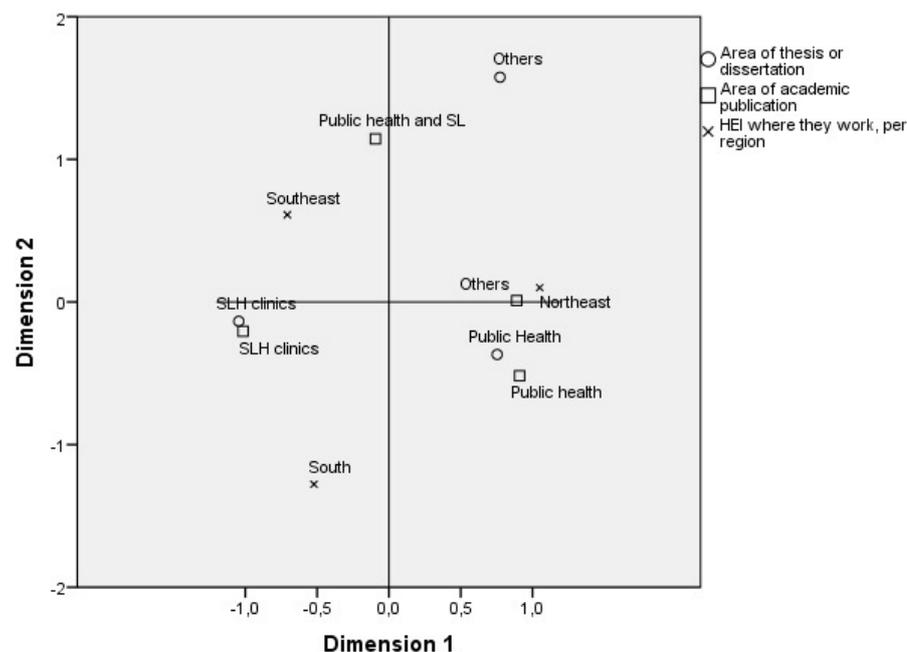


Caption: HEI - Higher Education Institution

Figure 1. Multiple correspondence analysis of the variables related to the professors' academic training – Brazil, 2021

Figure 2 shows that professors whose theses and dissertations are in SLH clinics produce scientific articles in this area. Furthermore, professors who work in the Northeast are associated with theses and dissertations on public health, also producing scientific literature in this and other areas, besides SLH clinics

and public health (e.g., basic biological sciences, linguistics, and education). Professors who work in the Southeast are associated with academic production on public health and SLH clinics, publishing articles in both areas.

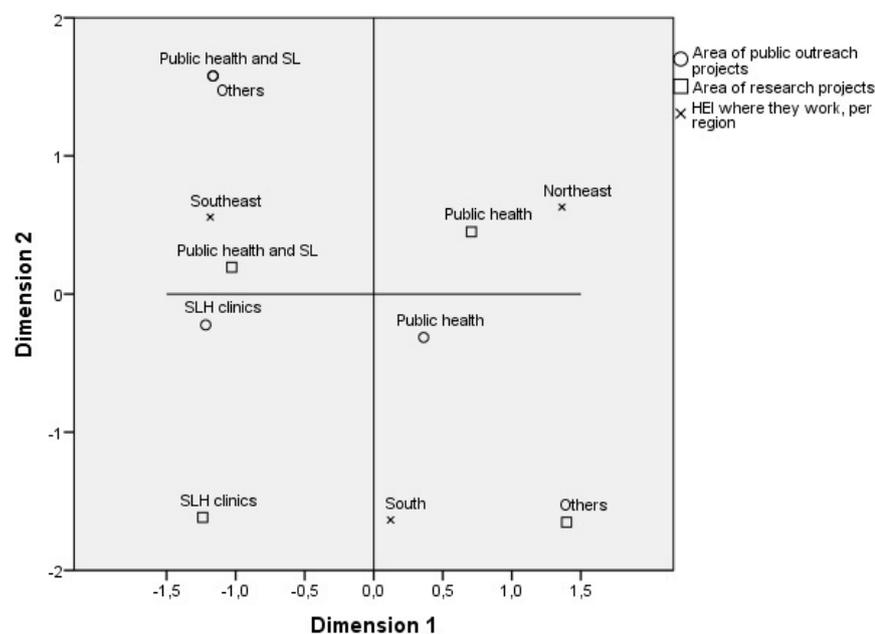


Captions: HEI - Higher Education Institution; SLH - Speech-Language-Hearing; SL- Speech-Language-Hearing clinics

Figure 2. Multiple correspondence analysis of variables related to the professors' production – Brazil, 2021

Figure 3 analyzes the areas of the professors' research and public outreach projects per region. Those who work in the Northeast are associated with public health research projects, while those who work

in the Southeast are associated with public health and SLH clinics research projects. Also, professors with research projects on public health and SLH clinics are associated with public outreach projects in SLH clinics.



Captions: HEI - Higher Education Institution; SLH - Speech-Language-Hearing; SL- Speech-Language-Hearing clinics

Figure 3. Multiple correspondence analysis of the variables related to professors' research and public outreach projects – Brazil, 2021

DISCUSSION

The context above demonstrates an important number of professors whose research and public outreach projects are not on public health – including their postgraduate theses and dissertations. This situation hinders the process of consolidating and expanding public health in SLH undergraduate programs, which may increase the distance between SLH therapists' training and the ideals of the Brazilian Health Reform. This field of knowledge and practice has experienced such a dilemma over the last years¹³. Professors, who are involved in developing curricula, are responsible for directing them according to their interests, ideologies, and experiences^{6,14}. Hence, as these professors' work addresses different public health approaches, this may reflect on weaker curricular components taught in this area.

Brazil still faces unevenly distributed SLH services between its regions, which can be observed at different healthcare and service levels. Studies indicate that the Southeast has the greatest concentration of SLH

therapists in SUS, while the North and Northeast had the smallest proportion of these professionals, despite the growth in the last years^{15,16}.

Besides the concentration of SLH therapists in the Southeast, this region has more places for students in SLH undergraduate programs and the oldest such programs, especially in the state of São Paulo¹⁷. This may explain the results in this study that indicate that most public health SLH professors obtained their undergraduate and postgraduate degrees in the Southeast. It was also verified that most professors graduated from private HEI – which is coherent with the scenario of SLH graduations in the country, as 72.4% of the programs are offered in private HEI, whereas 27.6% are in public HEI¹⁷.

The number of professors dedicated to public health courses in SLH programs in public HEI in the country is balanced between the Northeast (n = 19) and the Southeast (n = 20). However, public SLH programs prevail in the Southeast, followed by the Northeast¹⁷. This may indicate that SLH programs in Northeastern

HEI are more dedicated to public health than those in the Southeast. This would be mainly due to the characteristics of Northeastern SLH programs, which are younger and mainly created in the higher education expansion in Brazil in the 2000s^{17,18} – which is also when the National Curricular Guidelines were being discussed and approved for the SLH undergraduate programs. These guidelines highlight the relevance of training SLH therapists to work in the existing public system, aiming at the population's main health problems⁵.

Another relevant information refers to the professors' areas of research and public outreach projects. SLH professors mostly dedicate public outreach projects exclusively to public health (75.5%). Likewise, research projects predominantly focus on this area (46.9%). However, part of the professors (31.3%) is dedicated to both public health and SLH clinics.

The correspondence analysis revealed an association between the areas of research and public outreach projects and the HEI where professors work, per region. Universities conduct actions that link them to the community, with practices that contribute to the population's development and knowledge (which is the purpose of public outreach projects)¹⁹. These opportunities, which go beyond teaching, are the context of public health to which most professors actively contribute.

It must be highlighted that the subjects of this research are mostly females (88%) who graduated between 1990 and 2000. In other words, it is a relatively young population, corroborating articles in the literature that researched the profile of Brazilian SLH professors^{20,21}.

This study addressed only public HEI, as most of them have greater encouragement toward research and public outreach projects, besides teaching. Nonetheless, this choice led to a limitation in the research, as the curricula of SLH professors of private HEI were not analyzed – which concentrates most SLH undergraduate programs in Brazil. Moreover, as previously mentioned, the total number of SLH professors working in public health in the HEI approached in this study cannot be precisely indicated. Therefore, analyzing only the curricula of professors identified with the snowball technique is also a limitation of this research.

CONCLUSION

This paper found some limitations in SLH professors' training and work profiles, which may interfere with the undergraduate programs. Some professors do not have a postgraduate degree in public health, as almost half of them wrote their theses and dissertations on SLH clinics and publish articles in the same area. This further weakens scientific research and teaching on public health in undergraduate programs.

This study also identified differences in the professors' training and work profiles among the regions of the country. This indicates regional differences in public health training in SLH programs, as professors are responsible for developing curricula and putting them into practice based on their experiences and ideologies.

Public health training in SLH undergraduate programs in the country has been little studied so far. Hence, this article encourages the discussion of the role and work of SLH professors responsible for curricula in terms of scientific and pedagogical development in public health. Thus, the training of future SLH therapists will be strengthened and drawn closer to the health needs of the population and SUS, following the National Curricular Guidelines for the SLH undergraduate programs.

REFERENCES

1. Lima TFP, Acioli RM. A inserção da Fonoaudiologia na Atenção Primária do Sistema Único de Saúde. In: Silva VL, Lima MLLT, Lima TFP, Advíncula KP, editors. *A prática fonoaudiológica na Atenção Primária à Saúde*. São José dos Campos: Pulso Editorial; 2013. p. 25-42.
2. Telles MWP, Arce VAR. Training and PET-Saúde: Speech, Hearing and Language Students' experiences in Bahia. *Rev. CEFAC*. 2015;17(3):695-706.
3. Vieira-da-Silva LM, Paim JS, Schraiber LB. O que é Saúde Coletiva. In: Paim JS, Almeida-Filho N, editors. *Saúde Coletiva: Teoria e Prática*. Rio de Janeiro: Medbook; 2014. p. 3-12.
4. Telles MWP, Lima BPS. "How will be tomorrow?" – Reflections on the training of speech-language therapists/audiologists in Brazil after the Covid-19 pandemic. *Disturb. Comunic*. 2020;32(4):701-6.

5. Ministério da Educação. Conselho Nacional de Educação. Resolução CNE/CES 5, de 19 de fevereiro de 2002. Institui Diretrizes Curriculares Nacionais do Curso de Graduação em Fonoaudiologia [document on the internet]. Diário Oficial da União. 2002 Mar 4 [accessed on 2020 Set 26]; Section 1:12. Available at: <http://portal.mec.gov.br/cne/arquivos/pdf/CES052002.pdf>
6. Macedo RS. Atos de currículo e formação: o príncipe evocado. *Rev. Teias*. 2012;13(27):67-74.
7. Macedo RS. Compreender/mediar a formação: o fundante da educação. 1ª ed. Brasília: Pulso Editorial; 2010.
8. Vinuto J. A amostragem em bola de neve na pesquisa qualitativa: um debate aberto. *Temáticas*. 2014;22(44):203-20.
9. Brasil BC. Produção científica dos docentes fonoaudiólogos brasileiros: um estudo nas Instituições Públicas de Ensino Superior [dissertation]. Santa Maria (RS): Universidade Federal de Santa Maria; 2019.
10. Minayo MCS. O desafio do conhecimento: pesquisa qualitativa em saúde. 14ª ed. São Paulo: Hucitec; 2014.
11. Souza LEFP. Saúde pública ou saúde coletiva? Espaço para a Saúde. 2014;15(4):7-21.
12. Infantosi AFC, Costa JCGD; Almeida RMVR. Correspondence analysis: a theoretical basis for categorical data interpretation in health sciences. *Cad. Saúde Pública*. 2014;30(3):473-86.
13. Paim JS. A Reforma Sanitária Brasileira e a Saúde Coletiva: concepções, posições e tomadas de posição de intelectuais fundadores. In: Vieira-da-Silva, editor. *O campo da Saúde Coletiva: gênese, transformações e articulações com a Reforma Sanitária Brasileira*. 1ª ed. Salvador: EDUFBA; Rio de Janeiro: Fiocruz; 2018. p. 191-221.
14. Macedo RS. Atos de currículos: uma incessante atividade etnometódica e fonte de análise de práticas curriculares. *Rev. Currículo sem Front*. 2013;13(3):427-35.
15. Gusmão AC, Meira TC, Santos FCCN, Ferrite S. Speech, Language and Hearing Sciences in Worker's Health Reference Centres in Brazil. *Rev. CEFAC*. 2018;20(6):723-33.
16. Viégas LHT, Meira TC, Santos BS, Mise YF, Arce VAR, Ferrite S. Speech, Language and Hearing services in Primary Health Care in Brazil: an analysis of provision and an estimate of shortage, 2005-2015. *Rev. CEFAC*. 2018;20(3):353-62.
17. Brasil BC, Gomes E, Teixeira MRF. O ensino de fonoaudiologia no Brasil: retrato dos cursos de graduação. *Trab. educ. saúde [journal on the internet]* 2019 [accessed 2020 Jul 9];17(3):e0021443. Available at: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1981-77462019000300501&lng=en&nrm=iso. <https://doi.org/10.1590/1981-7746-sol00214>.
18. Sales ECSS, Rosim D, Ferreira VRS, Costa SHB. Program to Support the Plans for Restructuring and Expansion of the Federal Universities System in Brazil: an analysis of its evaluation process. *Avaliação*. 2019;24(3):658-79.
19. Silva AFL, Ribeiro CDM, Silva Júnior AG. Pensando extensão universitária como campo de formação em saúde: uma experiência na Universidade Federal Fluminense, Brasil. *Interface*. 2013;17(45):371-84.
20. Ferreira LP, Russo ICP, Adami F. Speech pathologists and audiologists whit Ph.D. in Brazil: profile from 1976 to 2008. *Pró-Fono R. Atual. Cient*. 2010;22(2):89-94.
21. De Nardi V, Cardoso C, Araujo RPC. Formação acadêmico-profissional dos docentes fonoaudiólogos do estado da Bahia. *Rev. CEFAC*. 2012;14(6):1122-38.