Literature Review

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Public speaking assessment and self-assessment instruments: an integrative literature review

Instrumentos de avaliação e autoavaliação da fala em público: uma revisão integrativa da literatura

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ABSTRACT

Purpose: To review and describe studies that used assessment and selfassessment instruments, investigating public speaking by adults from 2011 to 2020. Research strategy: This was an integrative literature review. Studies were searched on SciELO, PubMed and Virtual Health Library databases, which included databases from MEDLINE and LILACS. This study proposed to answer the following question: What kind of instruments assessed public speaking by adults over the last 10 years? **Selection criteria:** Original articles that presented instruments for assessing public speaking by adults were selected. The articles were available in full format and published over the last 10 years in English, Portuguese, or Spanish. Theses, dissertations, monographs, conference proceedings, studies with discourse analysis and literature review articles were excluded from the review. **Results:** A total of 2,539 articles were found, of which 21 were included in this review. Most of the studies were from Brazil carried out by college students. Studies included self-assessment instruments to investigate public speaking. **Conclusion:** The investigation instruments used to assess public speaking were all different (from each other) and there was no assessment or conceptual response category standardization. The most self-assessed aspects were public speaking anxiety, voice, speech rate, communicative competence, pitch, articulation, and loudness. The most addressed aspects in the assessment instruments were voice, speech rate, articulation, pauses, loudness, pitch, and gestures.

Keywords: Speech; Voice; Communication; Surveys and questionnaires; Scale

RESUMO

Objetivo: revisar e descrever os estudos que utilizaram instrumentos para avaliar e autoavaliar a fala em público de indivíduos adultos, no período de 2011 a 2020. **Estratégia de pesquisa**: trata-se de uma revisão integrativa da literatura. A busca dos estudos ocorreu nas bases de dados SciELO, PubMed e Biblioteca Virtual em Saúde, que abrange as bases de dados MEDLINE e LILACS. A questão norteadora desta revisão foi: "Quais os tipos, aspectos avaliados e categorias de resposta dos instrumentos que avaliaram a fala em público de indivíduos adultos nos últimos dez anos?". **Critérios de seleção**: Foram selecionados artigos originais, disponíveis na íntegra, publicados nos últimos dez anos, nos idiomas português, inglês ou espanhol, que apresentassem instrumentos de avaliação da fala em público, em adultos. Foram excluídos da revisão teses, dissertações, monografias, anais de congressos, estudos com análise do discurso e artigos de revisão de literatura. **Resultados:** foram localizados 2539 artigos, dos quais 21 foram incluídos nesta revisão. A maioria dos estudos foi desenvolvida no Brasil, realizada com universitários e utilizou instrumentos de autoavaliação para investigar a fala em público. **Conclusão:** os instrumentos de investigação para avaliação da fala em público são distintos e não há padronização conceitual dos aspectos avaliativos e das categorias de respostas. Nos instrumentos de autoavaliação, os aspectos mais avaliados são ansiedade ao falar em público, voz, velocidade de fala, competência comunicativa, *pitch,* articulação e *loudness.* Nos instrumentos de avaliação, os aspectos avaliativos mais abordados são voz, velocidade de fala, articulação, pausas, *loudness*, *pitch* e gestos.

Palavras-chave: Fala; Voz; Comunicação; Inquéritos e questionários; Escalas

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INTRODUCTION

Public speaking is a challenging skill for many people[1-3]. It is currently a top job market requirement, besides hard-skills professional qualifications and multifunctional skills[2,4]. A good public speaker is someone who shares ideas efficiently, and is able to not only inform, but influence and inspire others[1,5].

The communicated message is a central public speaking element. It needs to be aligned with the voice and the body, establishing a harmony between what is said (verbal communication) and how it is said: Voice, gestures, body posture, and facial expressions (non-verbal communication)[6,7].

Public speaking is considered a psychosocial stressor because it involves exposing the speaker to an unknown audience in which the speaker stands out[8]. In this context, the greater the individual's skills and positive coping strategies, the greater their communicative performance and public exposure stress control.

Among these skills and strategies are self-awareness development[4,9], the strengthening of self-confidence[9,10], speech domain, public speaking practice[3,5,11,12], and search for communicative advice that will help the speaker face the challenge of public exposure[2,4,10,11].

Public speaking is a topic investigated by many knowledge-based areas[8,11,13-15]. Aspects of voice, speech, language, gestures, coping strategies and public speaking anxiety are investigated in different ways and under different conceptual frameworks.

Public speech assessment instruments provide a foundation to understand the speaker's performance. Therefore, existing instruments can support a theoretical model for the public speech construct, and help in the construction of a broad assessment instrument, which could further advance the topic of public speaking, and scientific research.

PURPOSE

The purpose of this study was to review and describe studies that used instruments to assess and self-assess adult public speech from 2011 to 2020.

RESEARCH STRATEGY

This is an integrative literature review, based on national recommendations[16,17]. It sought to answer the following question: "What are the types, evaluated aspects, and response categories of the instruments that assessed adult public speech over the last 10 years?".

Descriptors used to search for subjects in the literature (MeSH- Medical Subject Headings- e DeCS- Descritores em Ciências da Saúde): Verbal and non-verbal communication, communication barriers, surveys and questionnaires, speech-language pathology, voice, clinical protocols, assessment and self-assessment studies. Keywords included: Art of public speaking, public speaking, speaking in public, public discourse, expressiveness, surveys and questionnaires, inquiry methods and questionnaires. Descriptors and keywords were combined with each other using the Boolean operators AND and OR. The search equation used was: (tw ("The Art of Public Speaking" OR "Public Speech" OR "Public Speaking" OR Oratory OR "Public Speaking" OR "Speaking, Public" OR "Verbal Behavior " OR "Verbal Conduct" OR "Verbal Behavior" OR "Nonverbal Communication" OR "No Verbal Communication" OR "Non-Verbal Communication" OR "Communication Barriers" OR "Expressivity" OR "expressiveness" OR "Speech, Language and Hearing Sciences" OR speech-language pathology OR "Voice") AND ("Surveys and Questionnaires" OR "Questions and Answers" OR "Surveys and Questionnaires" OR surveys OR "Survey Methods" OR "questionnaires" OR "Clinical Protocols" OR "Self-Assessment" OR "Assessment study" "self-assessment" OR "Self-assessment (Psychology)") AND (db :("LILACS" OR "INDEXPSI" OR "BINACIS" OR "IBECS" OR "BBO" OR "SES-SP ")).

SELECTION CRITERIA

Inclusion criteria included being an original, full-version article, from 2011 to 2020, published in English, Portuguese, or Spanish, and presenting instruments for assessing adult public speech. Theses, dissertations, monographs, conference proceedings, discourse analysis studies, and literature review articles were excluded from the review. After the search, a manual search was also performed on the references of the articles found, in order to complement the articles.

A list of published scientific literature between the years 2011 and 2020 was extracted using the following databases: *Medical Literature Analysis and Retrieval System Online* (MEDLINE), *Latin American and Caribbean Health Sciences* (LILACS), *IBECS*, and *ISI* (Web of Science).

During the initial search, 2,536 articles were found from 2011 to 2020. The articles were analyzed independently by two researchers, to determine the selection relevance and inclusion criteria in the study. Article selection was developed from the previous reading of titles and abstracts. After analyzing the title, abstract, keywords and applying the inclusion and exclusion criteria, 38 articles were selected for full reading. There was a disagreement between the researchers regarding three articles, which were ultimately included after a consensus analysis. After reading in full, 21 articles were included and 17 articles were excluded.

The selection criteria route and text analysis is represented in Figure 1.

DATA ANALYSIS

Data analysis was performed descriptively in two stages. In the first stage, data from the studies were compiled and later divided into two tables. The first table included studies exclusively on public speech self-assessment. The second table was further divided into two segments: Segment 1 included studies with public speech assessment instruments, and segment 2 included studies that contemplated the two associated proposals listed.

Tables were structured as follows: Author and year, place, sample, study design, forms of public speech assessment (self-assessment, speech-language pathologists or laypersons' assessment), specification of instrument validation, presence or absence of an instrument attached to the study, and aspects evaluated and response categories of the evaluated items.

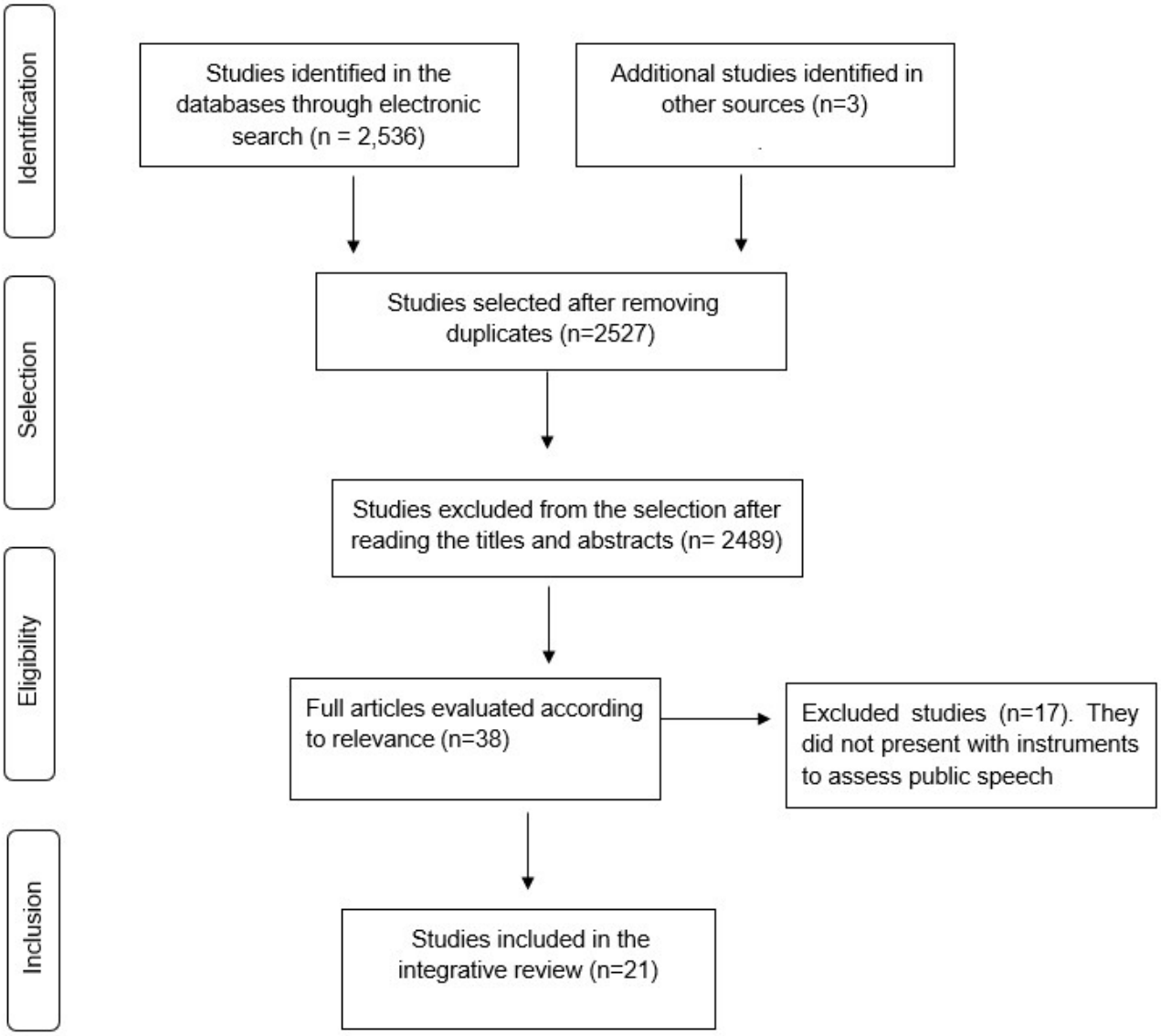

Figure 1. Study selection flowchart
Subtitle: N= Number of studies

In the second stage of the analysis, two word clouds were elaborated with the word categories of the evaluative aspects of public speech that were present in the reviewed studies. Word clouds are graphical tools that allow for visualization of words, giving greater prevalence to words that appear more frequently in the hypertext[18]. The *Wordclouds* program was used to build the clouds. The first cloud presented the most frequent words in public speaking self-assessment instruments. The second cloud presented the most frequent words in public speech assessment instruments.

RESULTS

Chart 1 presented an overview of the 14 public speaking self-assessment studies. The concentration of these studies was higher in the period between 2016 and 2020 (71.4%), developed in Brazil (85.7%), all cross-sectional, and carried out with college students, using validated instruments (71.4%). Four out of seven self-assessment studies were not attached to the research. The Likert scale was used for the response categories of the evaluated aspects (64.28%).

Chart 2 presented an overview of the four studies that used public speech assessment instruments, followed by the three studies that included public speech assessment and self-assessment. The concentration of these studies was higher in the period between 2016 and 2020 (57.1%), developed in Brazil (57.1%), all cross-sectional, and carried out with college students. Among these studies, 71.4% did not use validated instruments and did not present with the proposed instrument attached to the manuscript. Dichotomous questions were the most used (57.1%) among the response categories of the evaluated aspects. Response options were different.

Evaluated items were diversified in each instrument. Figure 2 showed a word cloud with the highest prevalence of words related to the evaluated aspects in the self-assessment

Chart 1. Data summary from public speaking self-assessment studies included in the literature review

Author (Year)	Country/ State	Sample	Outline	Validated Instrument	Evaluated aspects by the instrument	Response Categories for the evaluated aspects
Osório et al. (2012) [8] and Osório et al. (2013)[19]	Brazil/ Sao Paulo	College students	Cross-sectional Psychometric Validation	Validated	Anxiety when speaking in public (cognitive reactions): Thoughts that individuals usually have about themselves, in situations where they have to speak in public. Examples: "I am a failure", "Everything I say will seem silly."	*Likert*
Chodkiewicz and Miniszewska (2015)[20]	Poland / Lordz	College students	Cross Validation	Validated	Anxiety when speaking in public (behavioral and physiological reactions). Examples: "I am nervous", "I question whether the audience understands what I mean", I feel my heart beating."	*Likert*
García-Fernández et al. (2015)[21]	Spain/ Cordoba	College students	Cross Validation	Validated	*1 Anxiety when speaking in public. (behavioral and physiological reactions). Audience Anxiety Scale, Inventory: Subject's habitual reactions when speaking in front of an audience. Examples:"I like public speaking". 2.Assertiveness Inventory: people's degree of assertiveness in different social situations. Examples:"I express my opinion easily."*"*I am open and frank about my feelings."3. Inventory of Anxiety Situations and Responses: Anxiety in different everyday situations. Examples:"My hands are shaking"*"*I feel nauseous"*."*My mouth feels dry"*	*Likert*
Ferreira Marinho et al. (2016)[3]	Brazil Minas Gerais	College students	Cross Validation	1. Not validated and without the proposed instrument attached	1. Fear of public speaking. The influence of voice on fear of public speaking. Interest in voice therapy training. Participation frequency in public speaking activities. Voice self-perception: Adequate, hoarse, high-pitched, low-pitched, low intensity, or nasal	Dichotomous, Multiple Choice, Likert
				2. Validated	2.Self Statements during Public Speaking (SPSS)	
Pedrotti and Behlau (2017)[4]	Brazil Rio Grande do Sul	Executives & Workers	Cross Validation	Not validated and with the proposed instrument attached	Four assessment axes: Vocal behavior: Voice quality: normal, altered. Voice tone: high-pitch, low-pitch, regular. Voice intensity: strong, weak, regular. Speech rate: increased, reduced, regular. Breathing mode: nose, mouth, both. Vocal intonation: monotonous, expressive, regular. Communicative resources: Accent. Articulation. gestures. Visual contact. disinhibition. Audiovisual resources. Objectivity in speech. Positive influence resources in speech: Tone of voice. Accent. proper vocabulary. Objectivity. Breathing. Diction. Voice projection. Rate of speech. breaks. Body posture. gestures. Visual contact. disinhibition. Subject domain. Appropriate use of audiovisual resources. Creativity. Update. Correct use of the microphone. Negative influence resources on speech: Monotone voice. Weak voice. Inappropriate vocabulary. Prolixity. Diction problem. nervousness. shyness. Talk fast. Too many breaks. Speech-breathing incoordination. Inappropriate body posture. Inappropriate gestures. Absence of eye contact. Lack of didactics. Lack of mastery of the subject. Inappropriate use of time in speech. Inappropriate use of audiovisual resources. Lack of creativity. Use of slang. Criticism and Prejudice	Dichotomous, Multiple Choice, Visual Analog
Sales et al. (2016)[22]	Brazil/Sergipe	Prosecutors	Transversal	Not validated and with the proposed instrument attached	Three assessment axes: Worsening communication perception over the years of professional practice Self-perception of communication in public: Examples: "Do you notice an altered voice?". "Are you motivated to speak up? "Do you invest in interpersonal interaction?" Listener's reaction to the speaker's impression: Examples: "Do you realize that you persuade?". "Do you realize you attract?".	Dichotomous
Marinho et al. (2019)[11]	Brazil/Minas Gerais	College students	Transversal	1. Validated	1. Self Statements during Public Speaking (SPSS): Cognitive Anxiety Reactions to Public Speaking.	*Likert*
				2. Not validated and without the proposed instrument attached	2. Self-assessment of oral communication: Somatic symptoms of public speaking fear: Tremors, facial flushing, wheezing, and tachycardia. Vocal self-perception: Very bad, bad, good, very good. Ability to capture and hold the listener's attention; Ability to influence others with communication.	Dichotomous
Lira et al. (2019)[23]	Brazil/Santa Catarina	Salespeople	Transversal	Not validated and with the proposed instrument attached	Same instruments used in Pedrotti and Behlau, 2016.	Dichotomous Visual analog
Bauth et al. (2019)[24]	Brazil/ Minas Gerais	College students	Transversal	Validated	1. Self Statements during Public Speaking (SPSS): Cognitive anxiety reactions when speaking in public. Social Skills Inventory (IHSDel-Prette): Social skills repertoire.	*Likert*

Chart 1. Continued...

Author (Year)	Country/ State	Sample	Outline	Validated Instrument	Evaluated aspects by the instrument	Response Categories for the evaluated aspects
Grilo et al. (2019)[5]	Brazil/Sao Paulo	College students	Transversal	Validated	1. Anxiety state. Trace of anxiety. *Examples:"I get tense and worried when I think about my current problems","I feel secure".* 2. Interpersonal Communication Competence Scale (ICCS): Interpersonal communicative competence. 3. Self Statements during Public Speaking (SPSS): Cognition when speaking in public.	*Likert*
Tonon et al. (2020)[25]	Brazil/Minas Gerais	Professors	Transversal	Not validated and without the proposed instrument attached	Four assessment axes: Communicative behavioral profile: Pragmatic, analytical, expressive and friendly. Vocal resources: Vocal quality: negative - very bad or bad, or positive – good or very good. Tone of voice: high-pitched, low-pitched, or adequate. Vocal intensity: weak, strong, or adequate. Articulation: Bad, good. Rate of speech: Slow, fast, adequate. Speech pace: Same cadence, varied. Vocal symptoms: Hoarseness, voice fatigue, difficulty projecting the voice, monotone voice, effort to speak, dry throat, and throat clearing. Communicative aspects: Capturing the student's attention, needing to repeat the speech.	Multiple choice Dichotomous
Marinho et al. (2020)[26]	Brazil/Minas Gerais	College students	Transversal	1 e 2: Validated 3. Not validated and without the proposed instrument attached	1. Revised Cheek and Buss Shyness Scale: 13 items. Examples: "*I am socially awkward,"I get nervous when I'm talking to an authority".* 2. Self Statements during Public Speaking (SPSS): Cognitive reactions to public speaking. 3. Oral public communication self-assessment questionnaire: Participation frequency in public speaking activities: Little, a lot. Self-reported public speaking fear. Tone of voice: appropriate for age and gender, low-pitched, high-pitched. Rate of speech: adequate, fast, slow. Vocal intensity: Adequate, strong, weak. Visual contact. Use of hand gestures in public presentations: Don't know where to put their hands, use their hands naturally during speech.	*Likert* Multiple choice
Oliveira et al. (2020)[15]	Brazil/Paraíba	College students	Transversal	Validated	Public speaking anxiety (physiological, cognitive and behavioral reactions) Examples: "*My voice trembles when I give a speech","If I make a mistake in my speech, I will be unable to regain my focus".*	*Likert*

Chart 2. Data summary from self-assessment and assessment studies on public speaking included in the literature review

Public speaking assessment studies								
Author (Year)	**Country / State**	**Sample**	**Outline**	**Self-assessment**	**Assessment by judges**	**Validated Instrument**	**Evaluated aspects by the instrument**	**Response categories for the evaluated aspects**
Romano et al. (2011)[27]	Brazil/ Sao Paulo	College Professors	Transversal	No	Yes Speech-Language Pathologists and College Students	Not validated and without the proposed instrument attached	Voice type: Neutral, altered. *Loudness:* Weak, medium, strong, or normal. *Pitch:* low-pitched, medium, high-pitched. Articulation: Adequate, normal, imprecise. Rate of speech: Slow, medium, fast, normal.	Multiple choice
Ferreira et al. (2012)[28]	Brazil/ Sao Paulo	Professors	Transversal	No	Yes Speech-Language Pathologists and College Students	Not validated and with the proposed instrument attached	Vocal psychodynamics. Pauses: Restricted, average, frequent. Rate of speech: Fast, medium, slow. Articulation: Precise, imprecise. Emphasis: restricted, medium, frequent. Nature of emphasis: *pitch* variation, *loudness* increase, and syllable lengthening. Melodic patterns repetition: Restricted, medium, frequent. Intonation: Marked for *pitch* direction: Descending curve for signaling non-continuity and declarative sentences, and ascending curve for signaling continuity and interrogative sentences.	Dichotomous Visual analog
Santos and Ferreira (2020)[14]	Brazil/Sao Paulo	Voice Professionals	Prospective	No	Yes Content validation by speech-language pathologists and phoneticians	Not validated and with the proposed instrument attached	Two axes of evaluation *Initial impact of communication*: Examples: "*Does the professional speak naturally?"* Expressiveness: Vocal aspects: Vocal quality, *pitch, loudness*: Meet the professional's employment needs. Resonance: Balanced, laryngopharyngeal, pharyngeal, hyponasal, hypernasal. Verbal aspects: Articulation: precise, imprecise, locked, exaggerated. Pauses: Restricted, medium, frequent. Pause duration: Short, medium, prolonged. Rate of speech: Increased, average, decreased. Emphasis resources: Natural, excessive, few, displaced. Nature of Emphasis Resources: *loudness* increase, up/down modulation, syllable lengthening. Oral traits. Use of jargons. Speech planning and organization. Nonverbal aspects Examples: *"Are eye, lip and eyebrow movements present?"."Do you maintain natural eye contact during different speaking situations?"*	Multiple choice Open-ended questions

Chart 2. Continued...

Public speaking assessment studies								
Author (Year)	**Country / State**	**Sample**	**Outline**	**Self-assessment**	**Assessment by judges**	**Validated Instrument**	**Evaluated aspects by the instrument**	**Response categories for the evaluated aspects**
Marquezin et al. (2015)[29]	Brazil / Sao Paulo	Executives	Transversal	No	Yes Speech-language pathologists	Not validated and without the proposed instrument attached	1.Auditory perceptual assessment of executive speech expressiveness: Corporate styles: Confident, empathetic, objective and convincing. Vocal quality: Normal or altered. Resonance: Balanced, unbalanced. Articulation: precise, imprecise. *Pitch and loudness*: Variation, rate of speech, and respiratory support. Pauses: Structure: Silent, filled, signaled; Function: Breathing, discursive, expressive pauses; Timing: regular, irregular, length of pauses: long, short. 2. Acoustic analysis: Fundamental frequency (f0): Minimum f0, maximum f0, and extension of f0 in Hertz.	Dichotomous Multiple choice
Studies with the two assessment proposals: self-assessment and public speaking assessment								
Neiva et al. (2016)[30]	Brazil/ Minas Gerais	College students	Longitudinal	Yes	Yes Speech-language pathologists	Not validated and without the proposed instrument attached	1. Perceptual assessment of verbal resources and assessment of gestural resources by speech-language pathologists. Verbal resources: General expressiveness. Melodic curve. emphasis. breaks. Pitch. Loudness. Rate of speech. Resonance. Articulation. Gesture resources: Body posture. gestures. head movements and facial expression. 2. Self-assessment of expressiveness.	Dichotomous Visual analog
Celeste et al. (2018)[31]	Brazil/ Distrito Federal	College students	Longitudinal	Yes	Yes Speech-language pathologists and non-college students	Not validated and without the proposed instrument attached	Assessment and self-assessment of the general expressiveness of the following aspects: Body expression: posture, gait, gestural diversity, gestures/speech ratio, gestural amplitude. Facial expression: eye contact, gaze/disfluencies relationship, expressiveness. Speech. Voice: articulation, rate of speech, pauses, melody, vocal intensity, emphases. Dresscode.	Visual analog
Angélico et al. (2018)[13]	Brazil, Minas Gerais	College students	Transversal	Yes	Yes Psychologists	1 and 2 Validated 3.Not validated and without the proposed instrument attached	1. Self Statements during Public Speaking (SPSS): Cognitive Anxiety Reactions to Public Speaking. 2. Social Skills Inventory (IHS-Del-Prette). Social skills repertoire. Examples: *"In a classroom or meeting, if the teacher or leader makes an incorrect statement, I express my point of view."*; *"In a group of acquaintances, if I disagree with the majority, I verbally express my disagreement"*. 3. Questionnaire to assess anxiety when speaking in public. Three axes of evaluation. Behavioral anxiety markers when speaking in public: Verbal markers: Use of jargon and other negative noises: Yes, no. Paralinguistic markers: Silent breaks. Rate of speech: Appropriate, inappropriate. Nonverbal markers: Restlessness and bodily barriers.	*Likert* Dichotomous

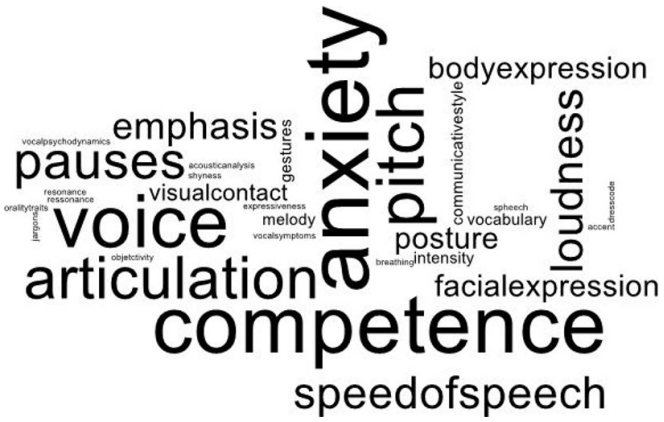

Figure 2. Generated word cloud based on evaluative aspects of public speaking self-assessment instruments

Figure 3. Generated word cloud based on the evaluative aspects of public speech assessment instruments

instruments. The terms anxiety when speaking in public, voice, articulation, pitch, loudness, rate of speech, and communicative competence were the ones that appeared the most in the instruments.

Figure 3 showed a word cloud with the highest prevalence of words related to the evaluated aspects by judges of the assessment instruments. Voice, rate of speech, articulation, pauses, loudness, pitch, and gestures were the most frequent terms in the instruments.

DISCUSSION

The articles that made up this review were predominantly from Brazil, had a cross-sectional design, were carried out with college students, and used public speech self-assessment instruments. University students composed the study sample because in higher education, students typically participate in numerous scientific and challenging activities that constantly require public speaking[3,5,24,26,31,32]. Self-assessment is a subjective analysis that brings positive benefits to the individual[23,30,31]. It helps subjects measure or question themselves about certain aspects, which can influence the willingness to change in relation to their problem[23,24,31,33]. The authors of this study believe that subjects' perceptions of their communication may improve their self-knowledge and help build coping strategies to speak in public.

Aspects evaluated in the self-assessment instruments were more focused on public speaking anxiety[5,9,15,19-21,24]. Hence, having more psychological instruments available in this area could further improve public speaking anxiety management[5,9,15,19-21,24]. Anxiety instruments investigate cognitive, somatic and behavioral reactions when speaking in public. Somatic reactions refer to physiological changes triggered under the effect of stress. Changes such as body and vocal tremors, sweating in the palms of the hands, flushing, rapid heartbeat, and dry mouth sensation[34,35]. Cognitive reactions are positive or negative thoughts that speakers have before or during public speaking[8,19]. Behavioral reactions are related to how people act in public speaking situations[35,36], hence, what they do to resolve the problem.

On the other hand, it was observed that studies with public speech assessment instruments investigated more specifically aspects of voice, speech, and prosody[14,27-31], which are aspects under the speech-language pathology domain. These aspects were expanded in the speech-language pathology domain probably around the mid-1990s[7,14]. Prior to this period, the profession concentrated mainly on the prevention and rehabilitation of communication disorders, thus later expanding to a border range of oral communication services.

Speech-language pathology can help improve public speaking by providing strategies to build expressive speech, develop good communicative performance, and build coping strategies to deal with the fear of public speaking[2,3,9]. The emphasis is on how interdisciplinary work can help understand the phenomenon of public speaking in its entirety, and how different perspectives can add up to the understanding of the subject, by complementing each other under different perspectives.

It was also observed that the evaluated aspects of emphasis, pauses and gestures, in addition to voice quality, were the most frequent aspects in the assessment instruments by judges. Prosodic elements such as emphasis and pause facilitate speech comprehension and are used to express attitudes, select information, and convey the verbal message[31]. Speech becomes monotonous with the absence of emphasis, which may lead to listener disinterest[31,37]. Pauses give speakers time to reflect on the topic, and control over what they say[37]. Gestures are important elements in the communicative process[26], that complement the verbal message[32,38,39] and transmit behavioral information from the speaker[26,31,39]. People with difficulty speaking in public often do not know how to naturally use gestures in their communication. Therefore, they end up using adaptive and decontextualized gestures, which convey nervousness and insecurity[26,39].

The evaluative aspects of the assessment and self-assessment instruments are different from each other. However, there are similar items within the two assessment proposals, such as voice, pitch, loudness, rate of speech, and articulation. The authors suggest further investigation on the voice because of its functional aspect, being a professional instrument and a powerful non-verbal resource, that provides meaning, confers emotions[23], and highlights positive or negative speech aspects, such as pleasantness, clarity, credibility, or insecurity[23,30,31,37].

Another highly valued aspect was communicative competence. This competence included skills such as capturing and maintaining the listener's attention and influencing others via communication[11,13,15,24], persuasion, and feedback[40]. These skills reinforce the importance of self-assessment in the communicative process, allowing speakers to get to know themselves better and seek help to improve their interpersonal skills.

Most instruments were not validated, regardless of the type of assessment proposal. Validation is an important process to develop an instrument objectively[41-43] allowing for a reliable measurement of evaluated phenomena[38].

The analyzed studies of this review revealed no conceptual alignment of the evaluative aspects, which made it difficult to generalize the results. Furthermore, no study addressed multidimensional aspects of public speaking, in which language, vocal and body resources, and coping strategies were part of the construct. This study suggested a need to develop validated instruments to deepen the theme.

A limitation of this study included a language restriction to English, Portuguese, and Spanish, which may have excluded studies in other languages. Another limitation was related to the difficulty in identifying the assessment items of the non-validated instruments, as they were not described in detail by the respective studies.

This review presented important considerations that may help speech-language pathologists in future public speaking assessments. This review may provide support for new theoretical models around "public speaking". Such systematization can guide the elaboration of a multidimensional public speech assessment protocol, which can favor result comparisons in future studies and offer public communication assessment parameters.

CONCLUSION

The studies selected for this review were mostly cross-sectional, carried out with a sample of college students, and used investigation tools based on speakers' self-assessment, without specification regarding validation. There was no conceptual standardization in regards to the evaluative aspects and response categories of the investigation instruments. The most evaluated aspects in the self-assessment instruments were anxiety when speaking in public, voice, rate of speech, communicative competence, pitch, articulation, and loudness. The most addressed evaluative aspects in the assessment instruments were voice, rate of speech, articulation, pauses, loudness, pitch, and gestures.

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