forumacusticum 2023

WHAT ARE THE TEACHERS' SELF-CONCEPT AND VOCAL BEHAVIORS RELATED TO THEIR VOICE AS A WORKING TOOL?

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ABSTRACT

Objective: This qualitative research aimed to determine teachers' self-concept and vocal behaviors related to their voice as a working tool.

Methods: Active school teachers were recruited to participate in a one-on-one semi-structured qualitative interview related to their self-concept of vocal health and related vocal behaviors. The structured part of the interview came from a series of questions based on a literature review. Inductive content analysis (qualitative and topic analysis) was conducted by three independent coders.

Results: The preliminary content analysis identified 42 codes grouped into three main themes and claims for each. First, Vocal Awareness: Teachers have a high self-concept regarding the dimension of awareness about the importance of their voices. Second, Vocal health: Vocal fatigue is one of the most recurrent symptoms in teachers, mainly at the end of the day. Third, Occupational issues: Teachers' concerns about their voices are mainly related to maintaining their jobs and careers.

Discussion: Although teachers have a good awareness of the importance of their voice in different contexts, they do not systematically perform voice self-care behaviors. Moreover, their main concern is related to possible work-related problems secondary to voice issues.

Keywords: *Teacher, Vocal Health, Vocal Self-Concept, Qualitative Research*

1. INTRODUCTION

Occupational voice disorders pose a substantial concern for teachers, given that their voice is a primary tool for teaching in the school context. The excessive vocal demands on teachers may lead to the development of voice problems that can significantly impact their teaching and quality of life [1]. Despite the abundant epidemiological data on the prevalence and incidence of voice disorders in teachers, previous data lacks the personal experiences and challenges teachers face in maintaining vocal health.

Voice problems are conventionally approached by voice researchers and clinicians from their own perspective as listeners, rather than from the speaker or voice user's viewpoint [2]. However, qualitative research offers a valuable approach to obtain information about a population's values, opinions, behaviors, and social contexts in a conducive and natural environment [3]. This method provides an opportunity to explore the topics teachers most frequently address regarding their vocal behaviors, voice self-care measures, and occupational voice use, leading to a comprehensive and nuanced understanding of the complexities of teachers' self-perception of their voice. Insights gleaned from qualitative research can inform future interventions to support teachers' vocal health.

Therefore, the present study investigates teachers' self-concept regarding their voice as a working tool through semi-structured interviews. The research aims to identify and analyze the topics most frequently addressed by teachers in relation to their vocal behaviors, voice self-care measures,

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and occupational use of the voice. The results will contribute to a deeper understanding of the teachers' vocal self-concept and inform the development of interventions to support and promote teachers' vocal well-being.

2. METHODS

This ongoing study employed a rigorous methodology [4] in developing the interview questions to comprehensively understand teachers' self-concept and vocal behaviors related to their occupational voice use. The research approach involved a combination of a literature review and a bibliometric analysis. The literature review examined questionnaires and surveys on the use of voice in teachers, providing valuable insights into relevant dimensions to explore. The bibliometric analysis was conducted to identify key concepts and themes related to teachers' voice and occupational voice disorders.

Building upon these findings, an expert panel comprising a voice clinician, voice scientist, expert in occupational voice, expert in communications and qualitative methods, and two experts and researchers in education contributed their valuable expertise to creating 15 semi-structured interview questions. The questions covered key categories essential for understanding teachers' experiences and perspectives. Participants were asked about their personal experiences and awareness of vocal health, common vocal behaviors, and habits during teaching, voice self-care measures employed, perceptions of the role of their voice in teaching and student learning, and available support and resources for vocal health. These questions and probes were carefully crafted to elicit rich and in-depth responses related to vocal health.

All interviews were audio-recorded and transcribed verbatim for subsequent inductive content analysis. The inductive content analysis was performed in three phases: data reduction, data grouping, and concept formation, to achieve the research aims. The first author conducted the initial data reduction, which involved reviewing and summarizing the interview transcripts to identify key concepts. Line-by-line and then chunk-by-chunk identification techniques were used to identify the codes. The data were then grouped into categories and subcategories based on their relevance to the research questions. Finally, two independent coders used NVivo 12 software (Burlington, MA, US) to perform further grouping of codes and themes and to ensure the reliability of the analysis.

3. RESULTS

These preliminary findings compromised 8 full-time elementary and high schoolteachers (5 females, 3 males) with a mean age of 39.8 years, recruited from various United States (US) locations. The sample was gender-balanced, given the higher proportion of female teachers. As such, 70% of the participants were female. The sample consisted of full-time elementary and high school teachers.

After conducting a content analysis, 42 codes were obtained that broadly follow the themes of the interviews and the dimensions of the construct "vocal self-concept." These themes include vocal self-concept, vocal health, and occupational issues. Figure 1 presents the main themes and their codes along with the number of quotations for each code.

Regarding each main theme, the following claims were proposed:

3.1 Vocal Awareness

3.1.1 Schoolteachers have a high self-concept regarding the dimension of "awareness about the importance of their voices."

Features: conscientiousness, self, responsibility, credentialism, and self-care.

During the interviews, the teachers displayed a strong awareness of the importance of their voices at all levels of communication. They recognize the voice as a working tool they must care for and maintain. Some quotations that support this claim are:

"My voice is very personal to me. It's one of my favorite pastimes. It's been my career." // "I really do think of my voice as a teaching tool. It's probably one of the biggest tools in my classroom." // "We, teachers, need to know so much about the use of the voice."

Teachers understand how voice affects student attention and are aware of how knowledge of their voices and voice care is essential to their job.
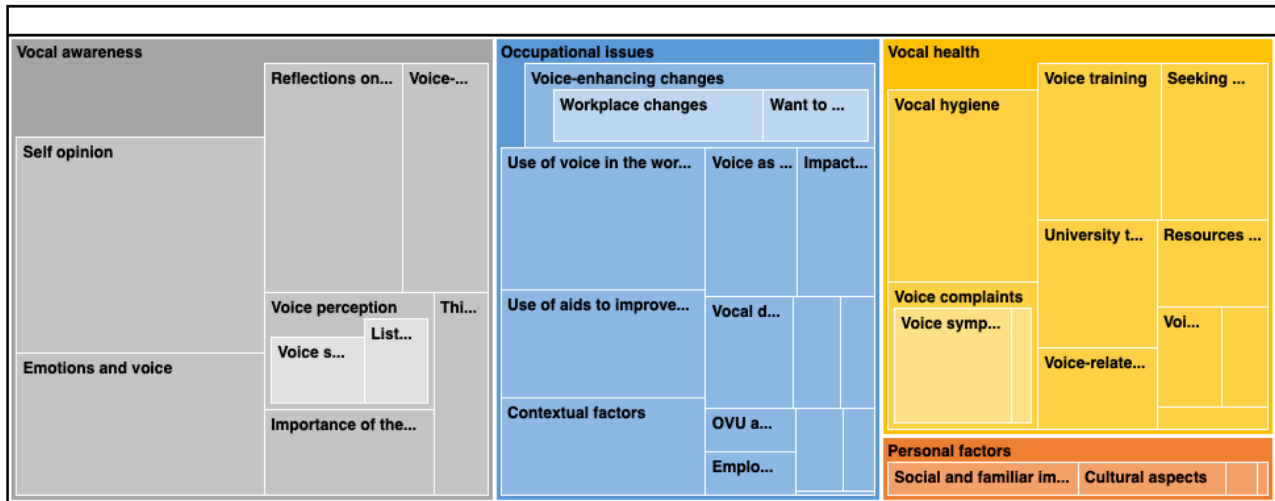
Figure 1. Treemap shows the main themes based on the number of codes within each category (color). The size of each rectangle corresponds to the amount of data it represents.

3.2 Occupational Issues

3.2.1 Teachers' concerns about their voice are mainly related to maintaining their jobs and careers.

Features: Career longevity, career obstruction, and potential handicap.

Teachers stated that their work depended fundamentally on the longevity and health of their voices. Any damage or invalidity could generate significant repercussions at the work level, even non-reversible. One of the quotes that support this claim states:

"I need to find another job like something like that does not involve communication… I like started reflecting on how my life would change if I lost my voice… like it couldn't happen, I couldn't determine it, why I couldn't teach more…That [a voice issue] made me feel that I couldn't teach."

The fear of career limitations hindered career progression, and even the possibility of having to find alternative employment due to voice problems were common themes expressed by the teachers.

3.3 Vocal health

3.3.1 Vocal fatigue is one of the most recurrent symptoms in teachers, mainly at the end of the day.

Features: self-perception, sensations, and physical discomfort.

Teachers reported experiencing vocal fatigue or tiredness, which was the most frequently mentioned symptom. They often correlated it with general fatigue or body fatigue and experienced it mainly at the end of the day or after long working days. Some teacher notes:

"Generally, at the end of the day I get tired and feels like I need to clear my throat." // "Some days I get tired like, like my throat and I get really tired" or "the strength of my voice is decreasing because I'm tired." // "I tended to lose my voice, not completely, but just lose my voice for one or for two days."

Although teachers recognized the importance of taking care of their voices, they admitted to not performing vocal warm-up exercises or vocal hygiene measures consistently.

4. DISCUSSION

This ongoing study aims to investigate the vocal self-concept and voice care behaviors of schoolteachers. These preliminary results identify three key aspects that constitute

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part of the teachers' vocal self-concept: vocal awareness, vocal health, and concerns related to occupational issues. Regarding vocal awareness, teachers exhibited a high self-concept regarding the importance of their voices in communication and teaching. They recognized their voices as essential tools and emphasized the need for knowledge and self-care. Concerning vocal health, vocal fatigue emerged as a prevalent symptom experienced by teachers, particularly at the end of the day. This finding is consistent with previous quantitative studies which states that vocal fatigue is a primary vocal symptom experienced by professional voice users, mainly teachers [5, 6]. The evidence suggests that vocal fatigue is primarily driven by the vocal demands placed on teachers and the context in which they teach, for example, the size of classrooms [7]. However, the interviews did not address aspects related to situations that generate a feeling of vocal fatigue beyond the vocal load accumulated during the day. Future research should address these issues to understand better the factors contributing to vocal fatigue among teachers.

Participants also acknowledged the importance of voice care, although consistent practices needed to be improved. Teachers should have systematically carried out a strategy for voice care and maintenance. This is a significant finding because teachers' voices are their primary working tool. The lack of voice care behaviors observed in this study is an interesting finding that warrants further investigation. It is necessary to develop strategies to understand the why of this phenomenon; voice problems among teachers have consequences not just for them but also for their students, with some research suggesting that teachers with poor voice quality have a negative impact on their students' learning [8].

In terms of occupational issues, teachers expressed concerns about maintaining their jobs and careers, recognizing the fundamental role their voices played in their work. The possibility of voice-related limitations and the potential need to pursue alternative employment caused apprehension.

Understanding voice self-concept provides insights into how individuals perceive and relate to their own voices, and how these perceptions can influence their vocal behaviors, self-care practices, and overall well-being. Our current findings shed light on the complex interplay between teachers' vocal self-concept, vocal health, and occupational considerations, emphasizing the need for interventions and support systems to address these challenges effectively.

Future studies should consider conducting on-site observations to better understand the situations or contexts in which teachers perceive or trigger vocal symptoms and the reasons for their non-use of voice self-care techniques. In addition, this study aims to get a larger sample size allowing for the achievement of saturation, which is necessary to establish the credibility and trustworthiness of qualitative research [9]. Finally, the data obtained from this study could be used as the initial stage of a future research project that employs mixed methods to develop a survey or scale that assesses teachers' vocal self-concept and behaviors [10]. Such a tool would allow for the generation of evidence-based strategies to reduce the risk of occupational voice disorders in teachers.

6. REFERENCES

[1] Phyland, D., & Miles, A. (2019). "Occupational voice is a work in progress: active risk management, habilitation and rehabilitation." *Current opinion in otolaryngology & head and neck surgery*, 27(6), 439.

[2] Novák, A., & Vokřál, J. (1995). "Acoustic Parameters for the Evaluation of Voice of Future Voice Professionals." *Folia Phoniatrica et Logopaedica*, 47(5), 279–285

[3] Ejimabo, N. O. (2015). "The Effective Research Process: Unlocking the Advantages of Ethnographic Strategies in the Qualitative Research Methods." *European Scientific Journal*, 11(23), 356–383.

[4] Rubin, H. J., & Rubin, I. S. (2011). Qualitative interviewing: The art of hearing data. *SAGE*.

[5] Fabron, E. M. G., Regaçone, S. F., Marino, V. C. D. C., Mastria, M. L., Motonaga, S. M., & Sebastião, L. T. (2015). "Self-perception, complaints and vocal quality among undergraduate students enrolled in a Pedagogy course." *CoDAS*, 27 (3), 285-291.

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[6] Nanjundeswaran, C., van Mersbergen, M., Banks, R., & Hunter, E. (2021). "Vocal fatigue index in teachers using mokken analysis." *Journal of Voice,37(2), P298.E1-298.E9.*

[7] Banks, R. E., Bottalico, P., & Hunter, E. J. (2018). "The effect of classroom capacity on vocal fatigue as quantified by the vocal fatigue index." *Folia Phoniatrica et Logopaedica*, 69(3), 85-93.

[8] Brännström, K. J., Holm, L., Lyberg-Åhlander, V., Haake, M., Kastberg, T., & Sahlén, B. (2015). "Children's subjective ratings and opinions of typical and dysphonic voice after performing a language comprehension task in background noise*." Journal of Voice*, 29(5), 624-630.

[9] Hennink, M., & Kaiser, B. N. (2022). "Sample sizes for saturation in qualitative research: A systematic review of empirical tests." *Social science & medicine*, 292, 114523.

[10] Dillman, D. A., Smyth, J. D., & Christian, L. M. (2016). "Internet, phone, mail and mixed-mode surveys: the tailored design method." *Reis*, 154, 161-176.

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