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Gendered voices on the airwaves: The sonic self in discourses about identity articulated by radio students in Spain

Irene Blanco-Fuente[1] y Asunción Bernárdez-Rodal[2]

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Abstract: Introduction and Objectives. This article explores the interaction between voice and gender relations in the context of radio broadcasting education. The research speaks to the gender inequalities that are increasingly being questioned, especially by younger generations. **Methodology.** We have employed Critical Discourse Analysis in a corpus of twenty texts elaborated by the students of Radio National de España's Master's Degree. They were asked to write a reflection on their personal experiences with voice, drawing connections to their gender identities. **Results and Conclusions.** The results show a previous knowledge and acceptance of gender theories, their relationship with radio dogmas, and their resistance and creativity in the face of voice normalization.
Keywords: voice, radio, gender, power, identity, education.

[en]Voces de género en las ondas: El yo sonoro en los discursos sobre la identidad articulados por estudiantes de radio en España

Resumen: Introducción y Objetivos. Este artículo explora la interacción entre la voz y las relaciones de género en el contexto de la educación radiofónica. La investigación habla de las desigualdades de género que son cada vez más cuestionadas, especialmente por las generaciones más jóvenes. **Metodología.** Hemos empleado el Análisis Crítico del Discurso en un corpus de veinte textos elaborados por los alumnos del Máster de Radio Nacional de España. Se les pidió que escribieran una reflexión sobre sus experiencias personales con la voz, estableciendo conexiones con sus identidades de género. **Resultados y Conclusiones.** Los resultados muestran un conocimiento y aceptación previos de las teorías de género, su relación con los dogmas radiofónicos y su resistencia y creatividad frente a la normalización de la voz.
Palabras clave: voz, radio, género, poder, identidad, educación.

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1. Introduction

The human voice is a complex phenomenon that does not end in language, as it stands at a crossroads where the bodily, the social and the subjective are articulated. This allows us to interpret the voice as an identity marker, opening up a range of possibilities in the study of identity construction processes. This article explores the interaction between voice and gender relations in the context of radio broadcasting education, drawing from a Master's Degree in Radio organized by Radio Nacional de España in partnership with Universidad Complutense de Madrid.

The analysis of radio voices gives rise to thought-provoking questions regarding the ways in which gender dynamics manifest in sound. Which voices do we associate with which genders, and why? What do these voices convey in each case? How does this extrapolate to the context of radio training? What implications do

[1] Universidad Complutense de Madrid, España.
ireblanc@ucm.es
ORCID: https://orcid.org/0000-0002-8275-7546
[2] Universidad Complutense de Madrid, España.
asbernar@ucm.es
ORCID: https://orcid.org/0000-0003-4081-0035

these associations have for the people involved in this field? These questions were the starting point for the development of a critical analysis of discourses articulated by the students in the above-mentioned master's program, based on their own experiences in voice construction.

1.1. Theoretical issues on voice and gender

Feminist theories have addressed the study of three main concepts: sex, gender and sexuality; the three of which relate to one another through socio-historically contextualized models. Gender was initially conceived as a cultural assignment based on biological sex. According to the so-called 'sex/gender system' (Rubin, 1986), gender constitutes a social construction articulated by society based on sex. This system understands gender as a cultural category based on sex, which is, in turn, assigned to us by nature.

Subsequent theories have argued that 'gender is the apparatus by which the production and normalization of masculine and feminine take place along with the interstitial forms of hormonal, chromosomal, psychic, and performative that gender assumes' (Butler, 2004, 42). This problematization of the idea of sex as a prior, neutral surface on which gender is inscribed (Butler, 1999) advocates for the construction of both concepts from a social perspective. Rather than denying biology, this stance brings light to the fact that biology is, as well, subject to social models that stipulate what is within the norm and what is outside of it. The complexity of bodies exceeds the binary logic that has been forcefully assigned to them by society. Therefore, a dichotomous mentality that equates sex and gender to nature versus culture results in an ahistorical and pre-existing essentialization (Fausto-Sterling, 2000; García Granero, 2017). The sex-gender system encompasses 'both a sociocultural construct and a semiotic apparatus, a system of representation which assigns meaning (identity, value, prestige, location in kinship, status in the social hierarchy, etc.)' (De Lauretis, 1989, 11).

In this article, we choose to employ the term 'gender'. However, given the idea that voice intersects with different dimensions depending on the discipline, we will sometimes talk about 'sex' differences when referring to the ways in which this is captured from a biomedical point of view. Following Sandra Harding's (1993) idea that the gendered social life is produced through three main processes: gender symbolism, gender structure, and gender identity.

How are gendered positions being reinforced through voice? The existing vocal heterogeneity makes it difficult to define what a 'normal voice' is. Despite this difficulty, some specialized theoretical works rely on the use of the aforementioned term (Cobeta, Núñez, and Fernández 2003; Heuillet-Martin, Garson-Bavard, and Legré 2003), thus giving rise to its opposite: an 'abnormal or pathological voice'. If a voice presents features that do not match those of the person's presupposed group (based on features such as sex, age or culture), it is common to consider the possibility of a disease or communication disorder (Aronson, 1990; Rosen and Murry, 2000). Such association is not only interpreted as a diagnosis, but also implies a social deviation from the norm. There is still agreement among the medical community that the identification of binary patterns are intrinsic to voice analysis. Presupposing that voice homogeneity among people of the same sex is a guarantee of good health contributes to reinforcing a classification that limits the possibilities to two, adopting an essentialist perspective of biology.

More recent and critical studies speak to the limitations of a binary and unequal conception of gender in the medical-scientific study of the voice, arguing the need for training specialists in addressing vocal diversity in all its breadth, without falling into pathologization (Azul, 2013). Other works, such as Houle and Levi's (2019), approach the human voice without reducing it to the traditional classification. In this specific study, listeners rated voices in terms of femininity/masculinity, basing their judgements on an analogous visual scale that allowed them to contemplate more nuances.

Gender can already be identified through voice in four-year-old children, despite the fact that at this age girls' and boys' anatomies are hardly distinguishable (Cartei, and Reby, 2013). Specialists (Reby, 2016), note that even a baby's cry can be classified according to gender norms by associating lower pitches to boys and higher pitches to girls, even if such associations lack a physiological basis (cited in Boston, 2019). Social factors are thus key to voice interpretation. Although anatomical differences are a determining factor in vocal plurality, models of masculinity and femininity establish a conception of sound that is both binary and unequal from very early on (Karpf, 2006).

1.2. Voices under construction. Sonic mandates of masculinity and femininity

The rules of gender, which exceed the very individuals who embody them (Butler, 2004), have strong repercussions on the way we speak. Voices are not fixed; they are, in fact, flexible. Proof of this is how we modulate them in different contexts without even being aware of it. The contexts in which our voices fluctuate have a sociocultural charge that carries a particular sound code (Wilkinson, 2019). We generally use our voice differently in a safe or intimate context than in a professional context. That is, there is an implicit regulation of the sonic self (Voegelin, 2010). Although this concept is generally used in terms of subjectivity, we extend its meaning in connection with the construction of gender, which is, as well, 'sonic'. Gender as 'a performance

with clearly punitive consequences' (Butler, 1999, 178) becomes audible through the voice. Different ways of speaking can obtain different degrees of recognition depending on the social position they hold and can be sanctioned if they do not conform to the expectations set by gender mandates.

The binary and unequal conception of voices dates back to Ancient Greece, where the high-pitched voice of subjectivities (women, catamites, eunuchs, androgynous...) was associated to an inclination to evil and loquacity, far removed from the masculine ideal of self-controlled low voices, tied to bravery and justice (Carson, 1995). Later on, during the French Revolution, the effeminate voice was also considered dangerous in the field of music. High-pitched voices were regarded as elitist and were thought to represent the perversion of the Ancien Regime. In an attempt to democratize access to music, the castrati were banned from singing during this time (Dolar, 2006). The apparent good intentions behind such actions led to the construction and legitimization of an ideal of 'rational voice', derived from the European paradigm of Modernity/Rationality (Quijano, 1992). In the face of this legacy, not only do voices perceived as feminine continue to be relegated to the margins, but there is also a long tradition of silencing the subaltern, whose identities are constructed based on difference (Spivak, 2011).

Technological advances in the nineteenth century made the recording, amplification and transmission of voice possible, challenging one of its most salient qualities: temporality (Williams, 1981). The prevalent criticism of female voices, perceived as unfit for oratory, was finally called into question by the new possibilities of technological mediation. However, the hegemonic male voice continued to be perceived as the 'voice of authority', while female voices, having inherited historical bias, continued to be seen as lacking competence and public authority and were relegated to intimate and subjective matters (Karpf, 2006). The exclusion of female voices cannot be understood by simplifying the concept of women as members of a uniform collective, since gender intersects with plurality and identitary complexity. Factors such as race or class are key to determining the degree of women's sonic absence. The legitimization of an ideal voice was thus traced in parallel to power dynamics in society.

The reconfiguration of social space and gender roles from the mid-twentieth century on, may be caused by the fact that women's voices are now louder than ever before (Karpf, 2006; Pemberton, McCormack, and Russell, 1998). Women's strategies to 'make themselves heard' in male-dominated spaces have become paradigmatic. In the European context, Margaret Thatcher trained her voice in the course of her political career in order to achieve a lower pitch and gain greater public recognition (Carson, 1995).

The repercussion of voice transcends the conveyed message, since ways of speaking can also construct meaning at a social level. In this sense, one might ask: What are the social implications of female voices that assimilate to the sonic ideal of traditional authority? Does this assimilation entail the construction of an ideal that continues to marginalize voices? Are we basing this problematization on listening policies focused on the elaboration of collective listening strategies, rather than focusing on exercising power through the individual voice?

2. State of the art

This paper revolves around radio as a medium of communication of central importance. Because of its unique features, radio allows for the observation of technological mediation of voices bringing light to the assumptions upon which the teaching of speech is built. Our goal is to analyze gender-related issues in the context of radio, but our analysis extends to other social categorizations, all of which converge in the voice.

There have been fewer studies approaching radio from a gender perspective than is the case with other media, since academic work in the field of communication has typically attached greater importance to the study of the visual over the audible (Diabah, 2018). Given the sonic nature of radio, we find ourselves in an ideal scenario for the analysis of stereotypical relations between voices and roles of masculinity and femininity (Piñeiro Otero, 2010). In the same way that gender is 'made' and bodies are molded based on assumptions of masculinity and femininity (Butler, 1999), voices—understood as corporal elements—are, too, articulated in accordance to gender mandates.

Research on stereotyping in radio advertising has revealed unequal gender representation in the medium. There is a scarcity of female voices in radio, and an even greater scarcity of women in roles of authority (Furnham, and Schofield, 1986; Furnham, and Voli, 1989; Neto, and Santos, 2004). It is related to the idea of gender apartheid in radio context, which can be linked with the division between public and private spaces in terms of the inequal participation of different voices depending on gender categories (Karpf, 1987, 2006). This unequal distribution of voices in radio finds justification in the approach of voice traits at a physical level, concluding that lower voices have greater ability to communicate than higher voices (Piñeiro Otero, 2010).

Assuming that low-pitched voices are more fit for radio advertising than high-pitched voices does not necessarily imply that male voices are preferable to female voices. Radio advertising has an underrepresentation of female voices, which are commonly subject to stereotyping and excluded from roles of authority—reserved to those voices perceived as masculine (Piñeiro Otero, 2010). But there is no justification for the pre-

dominance of masculine voices in Spanish advertising, since the ones confined to the realm of femininity are used to a lesser extent regardless of their pitch (Martín-Santana, E.M. Reinares Lara, and P.J. Reinares Lara, 2017). In other words, the argument that lower voices entail greater effectiveness ceases to be a valid argument. This situation of disparity in radio contributes to perpetuating an approach to gender based on binarism and inequality, that associates certain types of voices to women, drawing from physiological explanations, when the reality is that the range of feminine voices is considerably wide.

A significant part of the literature revolving around radio is characterized by the exclusion of women from the medium's historiography. This is not to say, however, that there were no female voices involved in radio since its birth. The presence of women in radio developed in lockstep with their increased presence in the public sphere, as they gained greater visibility and made themselves heard on the airwaves during the twentieth century (Skoog, and Badenoch, 2020). Approaching the matter from a situated position, and being aware that the knowledge put forth is partial and conditioned by our specific point of view (Haraway, 1991), we proceed to offer a brief overview of the presence of women in radio in several Western countries.

In the United States, the presence of women in radio was initially linked to the achievement of women's suffrage in 1920. The development of commercial radio gave the first female broadcasters access to the medium (MacDonald, 1979). However, if we take other factors such as class or race into consideration when reviewing the history of radio, we cannot ignore the fact the incorporation of women to the radio sector only applied to certain women—white women—, since 'the voices of African Americans did not reach the radio microphones until the mid-late 1940s' (Baptiste, 2018, 461).

The earliest radio designs were made by men and, therefore, were meant to record male voices. The fact that no tests had been carried out with other types of voices constituted a first technical limitation, which was later used as an excuse to justify why female voices were not suitable for radio broadcasting (Ehrick, 2010). Because radio was a male dominated space, women could only participate in those programs considered to be pertinent for them. In the 1970s, the National Organization for Women exposed the existence of stereotypes in radio, where women were limited to fulfilling the roles of secretaries or presenters in programs specifically aimed at women (Sterling, 2011).

Other European countries presented similar scenarios of gender segregation in radio. In Italy, Great Britain or Germany, among others, the presence of women in certain programs was also looked down upon. News programs, associated with objectivity and reliability were dominated by male voices, while female voices dealt with commercial programs or issues related to the home. However, the beginnings of radio did have a strong female presence until the professionalization of radio took the medium down a masculine path (Branciforte, 2018), which also happened in the Spanish model (Pérez Martínez, 2013). In Spain's current context, the commodification of certain identities, such as the 'Latina' voice, has become widespread. Non-hegemonic accents have thus come to serve particular commercial purposes, but do not have their own space in dominant media (Ruiz Trejo, 2014). In this sense, it is important to emphasize that women's increasing presence in the radio can only be understood when taking into account the heterogeneity of the collective, marked by its endless intersecting power relations.

Radio still does not offer many possibilities of accessing specialized education with a gender perspective. This situation is not limited to acknowledging the role of women in the medium; it also applies to those identities that remain on the margins of the system. What Jilly Boyce Kay (2020) calls 'communicative injustice' continues to operate on those identities relegated to the margins of society, reaffirming 'the need for a politics of voice that is collective, feminist and queer' (2020, 22).

Sonic selves (Voegelin, 2010) are constructed in the radio within defined areas that are susceptible to being questioned. The news section provides a good example of this, since it constitutes a space that is expected to be trustworthy, calm and safe. These qualities tie in with the aforementioned idea of self-control (Carson, 1995), associated with an ideal of hegemonic masculinity that leads, in turn, to creating expectations of a low-pitched voice for news of this kind. The studies cited throughout this section offer both a historical perspective of women's presence in radio, and key insights into the mechanisms of gender stereotyping in this medium. However, it is also vital to address the workings of identity construction through the voice in the context of radio, as well as to investigate the strategies of resistance generated through sound.

3. Methodology

For the purpose of our analysis, we have selected a corpus of twenty texts elaborated by the students of the 2019-2020 graduating class of Radio Nacional de España's Master's Degree. This is an official one-year master's program organized by two public organizations: Universidad Complutense de Madrid and Radio Nacional de España, Spain's main national public radio service. Due to the COVID-19 pandemic, students took the Introduction to Voice and Gender Studies class online. During the course of the class, students were provided with three readings and they were asked to write a reflection on their personal experiences with voice, drawing connections to their gender identities. Eleven men and nine women, ranging in age from twenty-five to forty

years old, submitted their reflections. Although the original documents include students' names and last names, the results were later anonymized, identifying each participant with a number, followed by the letter M—which stands for 'Male'—or the letter F—which stands for 'Female'.

This paper takes Haraway's (1991) 'situated knowledge' approach, according to which, in order for subjects to produce knowledge with greater objectivity their positions in the world must be made explicit. Critical Discourse Analysis (CDA) was employed to better understand the ways in which people construct their sonic selves in relation to the group or groups to which they belong. CDA is an open and multidisciplinary method of linguistic analysis (Van Dijk, 2003) that allows us to observe the domain of ideology and power struggles (Fairclough 1989, 15; 1995), developing around the construction of psychosocial identities. More specifically, this method has been used to study how gender differences are constructed and reproduced in a dichotomous and unequal model (Lazar, 2005) that materializes in stereotypical ideas to get students thinking about gender roles (Triviño-Cabrera, Bernárdez-Rodal, and Velázquez-Felipe, 2020). Our analysis of voices is based on the following proposition: 'men have a low-pitched voice that is perceived as trustworthy, while women have a high-pitched voice that is perceived as not credible'. This belief circulates in the radio and acting spheres, and is regarded as natural and as an unquestionable truth in teaching practices. However, as shown in this study, people do question this paradigm.

Our working hypothesis is that, despite the fact that the dominant ideology, which perceives masculine and feminine genders as opposites—masculinity is synonymous with qualities such as strength or reason, while femininity is commonly associated with weakness and passion—continues to operate in most aesthetic elaborations, younger generations have begun to challenge this paradigm. Such sociological change may be due to the spread of gender studies in the Spanish university system, as well as to the fact that feminist movements are currently one of the most powerful engines of ideological change in societal crises. Discourses surrounding feminism and gender identities are permeating popular culture, and younger generations have started to find ways to alter the values of the unequal gender dichotomy, giving rise to a new element of creative evolution that can be applied to media production, and more specifically to radio.

Our use of CDA responds to the assumption that all textual production, in addition to revealing concrete information about reality, establishes a communicative contract (Charaudeau, 2006); that is, and a framework of understanding between the sender and the receiver. In this case, the type of contract being established is one of veridiction, in which the student is situated in a concrete place within the enunciation: 'the teacher proposes a paper about my experience, and whatever I say about my life must be truthful'. It is assumed that both the teacher when providing data, and the students when providing answers are telling the truth. It is important to point this out because not all of the students are familiar with the concepts derived from gender studies, and thus have to 'believe' the arguments presented by the teacher and the suggested texts. In Goffman's (1974) terms, we are facing a ritualized situation—in this case a teacher-student relationship—in which there is a power dissymmetry in the use of the word, in deciding which discourses are and which are not acceptable in the classroom. For this reason, the tone present in most of the texts that constitute the corpus resembles that of a 'confession', requiring a certain degree of confidence and controlled empathy (Goffman, 1974, 161). Only one of the texts challenged the argument that the genderization of voices can result in harmful consequences for women in particular.

In order to construct our framework of analysis around subjectivity, we will draw on Émile Benveniste's work, according to which 'it is in and through language that [the human being] constitutes [itself] as a *subject*, because language alone establishes the concept of 'ego' in reality, in *its* reality which is that of the being' (1977, 70-71). We will not focus on the developments having to do with individual psychology, but on "the emergence of the self as a fundamental property of language." A person who speaks of their experience is an 'I' who says 'I' (Benveniste, 1977, 84). Our analysis will thus focus on how each speaker constructs a dialogical *self* that is established in relation to a *you*, who is the empirical reader of the texts produced (in this case, the teacher). Finally, we will use George H. Mead's (1972) concept of the 'generalized other' to explain the existence of 'the social' and of the groups that lie outside the sender-receiver relationships delineated in the analyzed texts. Mead's 'generalized other' explains the existence of a set of communicative norms existing in social contexts that individuals must learn in order to behave according to social expectations of them. Gender is one of the keys in the structure of recognition and endorsement of individuality in the collective.

4. Results

Two general observations about the corpus. If we divide the data gathered by gender, the nine students who identified as women produced almost double the textual material than the eleven students who identified as men, as shown by the word count of women's recounts of their experiences as opposed to men's. Out of the eleven texts produced by men, three of them do not mention situations of discrimination, but limit themselves to describing personal experiences regarding the ways in which they perceive their voices.

Secondly, it is worth noting that none of the students refuted the proposition that in social life there is a common perception that 'men have a low-pitched voice that is perceived as trustworthy, while women have a

high-pitched voice that is perceived as not credible'. Rather, their arguments revolved around their experiences of this diffuse idea in social life. Some of them expressed that this assignment had led them to realize, for the first time ever, that it was possible to challenge voice gendering.

4.1. Previous knowledge and acceptance of gender theories

As expected, female students presented greater knowledge of feminism and critical gender discourses than the men did. It is significant, however, that despite this fact several women expressed that they had never thought about gender stereotypes in relation to the voice, and that the lecture on these matters 'has opened my eyes to a reality that had gone totally unnoticed for me', as 'I hadn't thought about the specific relationship between voice and gender until today, which is crazy' (7F).

Two types of narratives can be identified in the discourses produced by female students. A first group comprised by those who felt that they fit into the expected radio broadcasting voice because they had a deep voice, and recognized that this was to their advantage: 'my voice is good for radio because it's deep and it sounds truthful', 'my voice is low-pitched, so I'm a good fit for news programs, and I can adopt softer registers for other formats' or 'I accepted the advice to control my high notes' (7F). And a second group of women who felt like they had encountered obstacles 'not because of my accent, but because I am a woman' (7F). Others verbalized that voice gendering made them feel insecure at times. 'I have always said that I don't have a radio voice', shared a student who perceived her own voice as higher-pitched. These perceptions made them feel 'inferior to my male and female colleagues' because 'I considered my own voice to be irritating' (3F).

Men also acknowledged their lack of awareness regarding voice gendering: 'I felt a bit dumb because I hadn't realized [...] that female media personalities usually have a deep voices' (3M). The male students' reflections showed varying degrees of involvement in discussing the discrimination suffered by female radio professionals based on their voice pitch. Their positions thus ranged from those who admitted that voice gendering is a problem, but did not feel responsible for it because they believed it to be a structural problem in society: 'I don't beat myself up either' (1M), to those who refused to acknowledge the existence of this phenomenon.

Two of the male students clearly tried to relativize the gender theory put forward during the class. Student 4M stated that even though he is a man, he, too, has suffered discrimination because of his voice. In this case, he explained that he had been reproached for sounding too 'aggressive' because of his high-pitched voice. Another male student, who claimed to be the oldest in the group, expressed skepticism towards female empowerment, and described a situation in which he was as a victim of harassment by his female boss, who, when firing him, alluded precisely to his voice: 'you have a deep, loud voice and you annoy me', she said (7M).

Other male students were able to see themselves from a critical perspective: 'from my privileged position as a man' (11M). One of the students, who seemed to be familiar with gender studies, based on his use of terms such as 'cisheteropatriarchy', commented on how the imposition of gender roles also affected those men who did not adjust to traditional masculine roles (8M). This claim highlights the fact that patriarchy does not only constrain women, but also men who do not conform to gender mandates. Male insecurities are sometimes linked to the lack of a low-pitched voice, as shown in the following statements: 'I felt a little insecure when I began my path in radio because I didn't think I had a voice from beyond the grave' (3M); 'My voice is [...] less masculine than expected' (5M). Even so, overall, male students felt confident about their voices: 'if that's happened to me I don't want to imagine what it would've been like for someone with a higher-pitched or a more 'effeminate' voice than mine' (3M).

4.2. Relationship with radio dogmas

References to the 'generalized other' take shape both in everyday life and in formative processes. Students brought up the existence of 'radio dogmas' (4M), which are based on a dichotomous axis built around two semantic axes: female voices are 'childish', 'annoying', 'less truthful', 'squeaky' (7F), 'irritating' (3F)... but they must also be 'pretty or seductive' (1F), and 'sweet' (6F).

It is understood that the 'ideal radio voice' is serious and solemn, powerful, deep (2M) and masculine, because these are the types of voices that suggest seriousness and credibility (5F, 9F). Deep voices are the ones perceived as 'confident' and 'adult' (9F), that convey strength and, therefore, power, aggressiveness and leadership (4F, 9M). Students preferred bass voices because they are 'warmer and they have a presence [...], they are more confident and believable' (8F). Male voices that fit into this canon typically embody the characters perceived as 'the good guys' in contemporary narratives, such as 'the gentleman', or 'the hero'; while male voices that do not adjust to these characteristics are usually the antiheroes, whose voices were described by one of the students as 'the heavy drinker and heavy smoker man's voice' (3M).

This dichotomy is also reproduced in the form of adult-child roles applied to male and female voices: the adult voice is perceived as 'energetic, strong and serious' (8M), 'serious and aggressive' (9M), while soft voices are typically regarded as childish. The problem with these associations is that, as it commonly happens

with stereotyped perceptions, it draws mental connections that do not necessarily match reality: 'since women are weak or inferior, they cannot be leaders'.

Student 2F brought up how the aforementioned dichotomy runs through folk wisdom. Girls' voices are often called into question with reproaches such as 'you are loud[...] you have a squeaky voice [...] you are prettier when you are quiet'. These are phrases that 'undermine our self-esteem' (2F), since they not only refer to the sound of women and girls' voices, but also, implicitly, to the content of women's speech. Student 1M shared his thoughts on the ways in which family acts as a source of social learning by recounting an anecdote from his childhood, in which he responded to his mom's scolding by saying: 'you're just a little mom, you can't scold me! [...] I guess I had learned that scolding should come from someone big, with a deep voice'. This experience, he admitted, shows that male authority is also projected onto the adult voice.

When writing about the educational context, students acknowledged having been taught what the 'correct' voice sounds like. One student talked about her experience at the school's choir: 'The first time I was sorted based on my voice was in second grade, when I was seven years old [...] I was told that I was a contralto in the choir'. She later expressed her frustration at not being able to spend time with her friends, all of whom had been classified as sopranos: 'I was trying to sing higher tones to fit in [...] I think I've had an inferiority complex ever since then' (7F). Other female students expressed similar feelings of insecurity about her voice: 'I have a nasal voice, a high-pitched voice, that I should work on changing' (5M).

Teachers are an element of authority when it comes to helping students construct their sonic selves. Participants reported to having received feedback from teachers such as: 'you sound very childish' (2F) or 'you're going to have to make your voice sound lower, because otherwise you sound very child-like' (5F), 'all the famous radio announcers have a lower voice' (5F). This is especially significant in the context of news programs: 'lower your voice one or two tones and that way you will sound more credible' (8F). Some of them admit that they have gone through a process in which they did not like to listen to their own voices. However, many students reported that, during the master's program, they had learned 'to listen to myself without exclaiming 'how awful!'. [...] I have fallen in love with radio and with the power of voice' (7F).

The double standard applied to women in the context of voice training for radio was well described by one of the male students, according to whom teachers' perceptions of low voices as aggressive are considered a positive quality when applied to men, while women are usually encouraged to try 'not to exceed [...] because it could sound too aggressive' (9M). The double standard lies in the fact that women with low tones are associated with negative profiles: the evil woman, the ugly character in movies... 'as opposed to the well-behaved lady, whose voice is not too low' (8F). However, a low pitch is required for women to have their authority be recognized. Even the female students themselves admitted that they follow these professional dynamics because 'the voices we (the women in the class) most value and most like are those of the men who have the lowest voices' (3F). As a result, they expressed that whenever they have to voice something as a group, they tend to turn to the men, even when some of them 'are not very well clear when speaking' (3F).

These dogmas have a negative impact on women working in radio, making them feel insecure when 'they are relegated to less serious programs or are forced to work on their voice with speech therapists' (1F). Discrimination occurs as a result of the naturalized perception of men covering informative, sports or economics-related programs, thus occupying 'higher positions; positions of power' (2F), which is one of the main causes of the wage gap (4F).

4.3. Resistance and creativity in the face of voice normalization

Some of the students agreed that the binary paradigm of voice gendering must be deconstructed. They affirmed that radio dynamics are based on old prejudices: 'women must make an extra effort to sound like men [...] but they also have to sound like announcers from the 40s and 50s' (8F), something that, they believe, should be changed. One of the female students shared the following reflection: 'to which extent should we transform our voices in order to please conventional radio tastes? [...] In order to rejuvenate the medium and attract young audiences [...] it is necessary to accept a plurality of voices: young, adult, with and without an accent, low and high-pitched...' (2F). Another female student argued that voice gendering is a 'mistake because the right thing would be to be judged based on the content of our messages' [...]. It is necessary to 'educate the listener or accustom him/her to female voices' (4F) referring in this case to sports, where most voices are still male in Spain.

Female students were the most combative in this sense, because they felt that this gender dichotomy is especially detrimental to them, even with regard to qualities other than the voice in media: 'a good broadcaster must have other skills, such as the ability to handle an improvised live show or to fluently carry an entertainment program'. Those who presented critical positions used a combative language: 'We have to fight [...] all of my colleagues are extremely professional and each one has her own voice, and that is what makes them special' (5F); or 'we must evolve and break with these stigmas. Transform ourselves, just like language, which is not static, but dynamic [...] we must accept the differences in pronunciation, timbre or intonation of each voice. This implies evolving with the listener' (8F), 'Things have to change so that someday that girl won't feel embarrassed for being in the second row, or that boy for being in the first row. I hope to contribute to that change' (7F).

One of the students pointed out that the root of the problem has to do with education, and argued that once education is transformed, the social problem will disappear. She based her reflection on the education she was receiving in the master's and how she limited herself in the classroom. 'When the time comes to participate, it is the men who tend to respond first (...) We are afraid of ridicule. If they fail, they are *funny*, but we have an *internalized pressure* (...).' (3F)

Male students also shared the need for a change: 'I'd like to think that, little by little, we can change things' (3M), although their tone was not so imperious: 'Plurality is the greatest virtue of the human being. This should be applied to the issue of voice [...] can't we work to have a good quality voice, regardless of our sex?' (5M), except for the male student who seemed very well versed in gender-related matters: 'Everyone, with their corresponding spectrum of voices, must conquer the sound space that the cisheteropatriarchal normativity monopolizes, and not bow to unfair, impartial and arbitrary norms' (8M). The need to change things is transferred in these claims to the generality of 'everyone', of 'society', without much reflection on what they could do to improve the situation in their particular contexts and daily practices: 'As a society we should stop associating serious voices with credibility and listen to journalists who tell good stories, well narrated, with emotion, sincerity and honesty' (11M). Almost all the texts recognize that discrimination of female voices occurs because it also exists in the social environment: 'society is not egalitarian [...] this is just another form of sexist discrimination that is causing so much damage to both men and women' (9M). In short, students believe that discrimination affects women above all because there is a lack of representation of women in positions of power caused by the constant sexualization of women, and feminine voices, in public media. Women are asked to have a deep voice in order to be perceived as powerful, but that deep voice is 'less sexually attractive and less pleasant' (10M).

5. Conclusions

The centrality of the voice in radio allows it to be an ideal medium for studying the social aspects of sound. Among the wide range of possibilities offered by this medium, this paper sought to address gender relations in the field of radio training. The choice of this context is based on the premise that education is a tool for transformation, so a critical analysis of its dynamics has the potential to generate social change.

For the purpose of this study, we conducted a discourse analysis of twenty written assignments elaborated by students of a Master's Degree in Radio, with the participation of a total of eleven men and nine women. The goal of the assignment was to help them reflect on their sonic selves (Voegelin, 2010) in radio in relation to their gender. The results coincided with the starting hypothesis, according to which in the radio context there are a series of widespread gender inequalities that are increasingly being questioned, especially by younger generations. Some students had previously identified as feminists, although when applying gender perspective to the radio context not all of them seemed to have reflected much on the relationship between voice, gender and power.

The analyzed texts show the existence of a series of radio dogmas that contribute to perpetuate in a binary and gendered society, according to which low voices associated with masculinity have greater recognition, as opposed to high-pitched voices, associated with femininity and less legitimized. In the case of female participants, this issue is experienced as a contradiction. On the one hand, they are urged in their training to achieve a deeper pitch that gives them greater authority; on the other hand, if they go beyond what is accepted for women, they are told that they come off as aggressive. This experience is not shared by male participants. However, male students did mention the problems entailed by the rigidity of these models and the difficulty of conforming to them even from positions of masculinity. These claims can be read in terms of resistance on the part of the participants as a whole.

The texts of the students show an awareness of being in a cultural change which is also taking place in voices, where we can see a higher presence of women in radio prime time (Mitchell, 2000). While it is true that the reconfiguration of social space and gender relations seems to have influenced women's voices to become more serious (Karpf, 2006; Pemberton, McCormack and, Russell, 1998), the aspiration should not be that female voices tend towards lower pitches in order to achieve the credibility they seem to lack. Forcing women to assimilate to men is problematic and equally discriminatory, more so when the apparent benefits of women having low-pitched voices only apply if their voices do not destabilize gender frames. A deeper voice than expected from a position of femininity may be the result of social sanction.

From a critical stance, with a binary and unequal conception of gender, it would be necessary to reformulate the voice ideal that we continue to legitimize; one that inspires safety, seriousness and credibility due to its low pitch, which we associate with hegemonic masculinity. It is of vital importance to question this idea, so that all voices, regardless of their pitch, gender or accent are considered legitimate. Thereby, the voice can be conceived as a productive element of agency in which dualisms have no place (Magri, 2019). Them we have the opportunity to explore the complexity of identities instead of reducing them. Otherwise, will be reproducing an obsolete notion of a single subject endowed with reason and truth, against which we should raise the alter-

native of the subject that is built from the relational and the material, whose knowledge is partial and whose vulnerability should also be considered a genuine position.

This critical analysis of radio training is a reflection of a structural problem, where gender positions continue to be constructed in a binary and asymmetrical way, despite the fact that gender mandates are increasingly being called into question. The radio news section constitutes an environment where voice is created and acted (Mol, and Law, 2012) in terms of gender, with its own specific characteristics that differentiate it from other spaces. Voice is thus understood in relational terms; that is, there is a connection between a way of using voice and the inhabiting of space that fluctuates according to the demands of a specific situation, and that 'makes gender' (Butler, 1999) through sound. In this sense, and as a future line of research, we suggest to delve deeper into the study of voice as an identity marker (Blanco Fuente, 2020), so as to expand the analysis to other social categorizations that reflect the complexity of our society from an intersectional perspective.

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