

Clinical Linguistics & Phonetics



ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/iclp20

The sociolinguistics of lisping: a review

Sarah Lockenvitz, John A. Tetnowski & Judith Oxley

To cite this article: Sarah Lockenvitz , John A. Tetnowski & Judith Oxley (2020): The sociolinguistics of lisping: a review, Clinical Linguistics & Phonetics, DOI: 10.1080/02699206.2020.1788167

To link to this article: https://doi.org/10.1080/02699206.2020.1788167







The sociolinguistics of lisping: a review

Sarah Lockenvitz^a, John A. Tetnowski^b, and Judith Oxley^c

^aCommunication Sciences and Disorders, Missouri State University, Springfield, USA; ^bCommunication Sciences and Disorders, Oklahoma State University, Stillwater, USA; ^cCommunicative Disorders, University of Louisiana, Lafayette, USA

ABSTRACT

This article presents a review of the lisping research literature with the aim of providing a framework for the consideration of the sociolinguistics of lisping. We consider, in turn, the nature of lisping, the construction of identity through speech, the nature of stigma, and, in particular, stigma associated with communication disorders and especially lisping. Further, we examine two aspects of the literature on lisping in more detail: lisping as minor bodily stigma and lisping and the internet. We conclude that experiential research on identity construction at the level of the individual, and stigma theory at a collective speech community level, support the case for viewing the sociolinguistics of lisping as a legitimate field of study and establishing a framework for acknowledgment of and further investigation into the self-identified adult who lisps.

ARTICLE HISTORY

Received 28 February 2020 Revised 22 June 2020 Accepted 23 June 2020

KEYWORDS

Sociolinguistics; lisping; stigma; identity construction

Introduction

In spite of often being associated with children's speech, lisping as an isolated disturbance in an individual's otherwise intact articulation can also impact adult speech (Ellis, 1998; Larr, 1967; Mowrer et al., 1978; Silverman, 1976; Van Borsel et al., 2007; Veríssimo et al., 2012). A number of investigations into the incidence, prevalence, and general experience of adult lisping have emerged over time in literature from fields such as communication disorders and disability (Bowen, 2011; Ellis, 1998; George, 2003). Ball and Howard (2017) discuss phonetic characteristics of the misarticulations for/s/and/z/, and indeed there is no shortage of texts and studies that illustrate a number of properties of and details regarding lisping itself, as well as approaches to effective assessment and intervention (e.g., Bauman-Waengler, 2008). Presented here is a framework for substantiating a notable and comparatively neglected aspect of lisping – the personal sociolinguistics of the self-identified adult who lisps. The framework will be established through a review of the literature on lisping that focuses on what lisping is, how it contributes to an individual's identity construction, and the potential role that stigma can play in the experience of the self-identified adult who lisps as a member of a larger lisping speech community.

Lisping of [s] and [z]

The presence of lisping in an individual's articulatory repertoire is a misarticulation that may contribute to such an individual being diagnosed with a speech or articulation disorder.

Bauman-Waengler (2008) defines a speech [sound] disorder as a term that indicates "oral or verbal communication that is so deviant from the norm population that it is noticeable or interferes with communication" (p. 1) and an articulation disorder as, again, a significant deviation from the norm "through motor difficulty or an inability to produce certain sounds" (p. 9). Articulation disorders, along with phonological disorders, fit into the superordinate category of speech sound disorders. While there can be overlap between articulation disorders, as defined above, and phonological disorders, which affect the linguistic organization of sounds, they are generally accepted to be referring to two different things – and the terminology among speech-language pathologists and researchers alike is confusingly inconsistent (Fey, 1992; Walsh, 2005), resulting in clinical practice that may be misinformed and literature that may be misunderstood at best and unreliable at worst.

Given the widespread inconsistent use of terminology in the field, not only in the conditions being described but also their severities, prevalence estimates of speech sound disorders are difficult to pin down, and there is no consensus on the true numbers (Shriberg et al., 1999). Shriberg et al. (1999) found a prevalence of 3.8% for speech delay in 6-year-old children, and a systematic review of the prevalence literature found a range of 2.3% to 24.6% for speech delay in children ages 3;0 to 14;0 (Law et al., 2000). Prevalence of speech disorders in adults is variable, as well, including rates such as 1.37% for articulation disorders in college freshmen (Culton, 1986), 2.1% for articulation disorders in junior and high school students (Gillespie & Cooper, 1973), 3.7% for articulation disorders in penal institutionalized adults (Bountress & Richards, 1979), and even numbers as high as 23.3% for lisping alone in young adults (Van Borsel et al., 2007). However, this last study was conducted on a population in Belgium rather than the United States, and possible explanations for this relatively high number include a growing tolerance toward articulatory imprecision in younger adult generations, as well as a phonological difference between Dutch and English. Since Dutch has no dental or interdental sounds, the increasing imprecision is accompanied by an absence of a contrastive fricative in the dental region of the oral cavity (unlike English). Consequently, there is no danger of unacceptable speech errors if the tongue moves too far forward (Van Borsel et al., 2007). Additionally, dissimilarity in classification protocols regarding pathology may come into play when considered across various world regions. For example, it is possible that identical tongue placement for a target [s] sound may in one geographical location be regarded as pathological, i.e., a lisp, whereas in another region, it may be regarded as a production within the acceptable range for a correct target.

Many of these figures, still falling into the blanket category of speech sound disorders regardless of terminology use, include misarticulations of [s] and [z]. In fact, deviant production of [s] is one of the most common and most clinically treated speech errors (Bauman-Waengler, 2008; Smit, 1993). Shriberg (1993) established two of the top five most common clinical distortions to be dentalization and lateralization² of the voiceless sibilant fricative [s] and the voiced sibilant fricative [z]. It has been asserted that dental distortions and substitutions persist at a rate of about 10% in the 6;0 to 9;0 age group and may be as frequent as 15%-30% in children younger than that, and lateral distortions occur at about 5% or less in all child age groups up to age 9;0 (Smit, 1993). Ryan (1971) estimated that

²These terms refer to replacement of alveolar targets by dental place of articulation, and target central fricatives by lateral ones, respectively.



anywhere from 2% to 24% of children demonstrate difficulty with [s] or lisping behavior, and the studies on adult speech sound disorder prevalence mentioned above include [s] misarticulations as among their errors (in particular that of Van Borsel et al., 2007).

Ball and Howard (2017) elaborated on the notion that variants are more prone to be executed for sibilants than other fricatives. Specific substitutions have been noted as potential phonetic variants depending on the sibilant target:

Target:/s, z/

- · Dental or interdental:/s/ \rightarrow [θ], [θ];/z/ \rightarrow [δ], [δ]
- · Addental:/s/ \rightarrow [\underline{s}];/z/ \rightarrow [\underline{z}]
- · Lateral:/s/ \rightarrow [$\frac{1}{2}$];/z/ \rightarrow [$\frac{1}{2}$]
- · Palatalized:/s/ \rightarrow [s^j];/z/ \rightarrow [z^j]
- · Alveopalatal:/s/ \rightarrow [g];/z/ \rightarrow [z]
- · Palatal:/s/ \rightarrow [ς];/z/ \rightarrow [j]
- \cdot Whistled:/s/ \rightarrow [s];/z/ \rightarrow [z]

Target:/ʃ, ʒ/

- Addental:/ $\int / \rightarrow [\int]$;/ $3/ \rightarrow [3]$
- Lateral:/ $[/] \rightarrow [\frac{1}{2}]$ or $[\frac{4}{3}]$;/ $\frac{1}{3} \rightarrow [\frac{1}{3}]$ or $[\frac{4}{3}]$
- Alveopalatal:/ $\int \rightarrow [c]$;/ $3 \rightarrow [z]$
- Palatal:/ $\int / \rightarrow [\varsigma];/3/ \rightarrow [j]$
- Unrounded:/ $\int \rightarrow [\int];/3 \rightarrow [3]$

Descriptions of patterns of variance are indeed invaluable, but why is it that [s] and [z] are so prone to deviance? Shriberg (1993) categorized [s] and [z] as among the "presumably more motorically difficult ... Late 8" sounds (p. 124), indicating that they are among the last eight consonant sounds to be acquired even in normal sound development. The most common way to produce normal [s] and [z] sounds is for the tongue tip to be elevated, touching the alveolar ridge with a narrow sagittal groove that allows airflow through the contact point, with the lateral edges of the tongue elevated, as well (Bauman-Waengler, 2008, p. 256). Bauman-Waengler (2008) lists reasons why this is a difficult process relative to that of other speech sounds: [s] and [z] are fricatives, requiring narrow openings to be maintained over a period of time; they are the longest sounds in duration; and they demand a specific amount and manipulation of airflow - necessitating a precise configuration of the vocal tract (Iskarous, Shadle, & Proctor, 2011). There are several different types of misarticulations of [s] and [z], or what is referred to as lisping (Bauman-Waengler, 2008) (though other sounds may be affected, as well), three of which are the most relevant here: interdental productions, where the tongue is positioned between the upper and lower incisors, addental productions, where the tongue tip is positioned too far forward and touches or approximates the posterior surface of the upper incisors, and lateral airflow productions, where the tongue tip makes direct contact with a fixed articulator (presumably the upper incisors or the alveolar ridge) and air flows over one or both lateral edges of the tongue.

Not only are [s] and [z] difficult sounds to produce, but they are far too common to be easily disregarded if produced in a "less-than-100%-accuracy" fashion. Although voiced cognates tend to be found with lower occurrence rates than their voiceless counterparts, the/s/phoneme alone is found in about 84% of world language phonemic inventories, and cross-linguistic data indicates that languages that do in fact contain/s/will make relative frequent use of that sound (Everett, 2018). In conversational American English, the occurrence rate of the phoneme/s/(requiring, of course, at least discernible articulation of [s]) is 4.61%, placing it as the fifth most common phoneme after/ə, n, t,/and/1/(Mines et al., 1978). As the sixteenth most common phoneme,/z/occurs at a rate of 2.75%. Additionally, the top 10 phonemes (therefore including/s/) account for nearly half of all phoneme occurrences. These sounds are not only significant as far as frequency is concerned, but also functionality. For example, in English, both [s] and [z] play important morphological roles, such as in plurality, third-person singular verb forms, possessives, and contractible auxiliaries and copulas (Bauman-Waengler, 2008).

Although [s] and [z] misarticulations, or lisps, may be characteristic of or associated with any number of disorders, what is considered here is lisping that is functional as much as possible. The term "functional" indicates that it occurs in the absence of organic pathology (Gibbon et al., 1999). Other potential co-existing issues, such as visible craniofacial malformations or underlying neurological problems such as dysarthria, may contribute to an individual's sociolinguistic experience unless somehow accounted for as a confounding variable. Additionally, there are lisps, or lisping-like phenomena, associated with cultural identifiers or linguistic dialects. For example, listeners perceive male speakers as more "gaysounding" when speakers employ [s] sounds with a fronted or dental misarticulation, although production studies on men who identify as homosexual do not substantiate these perceptions (Munson & Zimmerman, 2006). In the case of African American Vernacular English (AAVE), listeners may perceive such lisping-like phenomena as a consequence of the involvement of interdental sounds in AAVE speakers' speech patterns (Pollock et al., 2001). Lastly, speakers of Castilian Spanish may be perceived as having a lisp due to their systematic employment of voiceless dental fricatives instead of [s] in certain graphemic contexts (Knouse, 2013). For individuals who have lisps that are not accounted for through organic pathology, co-existing medical issues, cultural identifiers, or linguistic dialects, the individual experience of functional lisping as a sociolinguistic identifier may in turn be highly dependent on that individual's construction of his or her own identity in terms of speech.

Speech and construction of identity

While perhaps the language component of communication may be assumed to be a more significant manifestation of identity, including aspects such as word choice and interaction styles, for instance, it has been demonstrated that speech, too, is a way of constructing one's identity. One of the most telling examples is that of theoretical physicist and cosmologist Stephen Hawking, who has a neurogenic disorder related to amyotrophic lateral sclerosis. He communicates through an artificial speech generator, which was created in the 1980s. Not only has speech synthesis come quite far in the past several decades, and compatible hardware components for his device are no longer made, but the voice Hawking depends upon uses an American dialect (Hawking is English) (Stephen Hawking says pope told him not to study beginning of universe, 2006). There are multiple reasons why Hawking might be compelled to



upgrade to a more advanced voice generator, but he chooses to continue with the original: "I keep it because I have not heard a voice I like better and because I have identified with it" (Stephen Hawking says pope told him not to study beginning of universe, 2006).

Constructing one's self through speech does not require having a degenerative neurogenic disorder - or any communication disorder, for that matter - but it is when there is a speech problem that identity construction through speech comes to the forefront of an individual's consciousness (Petrunik & Shearing, 1988). Identity, it has been argued, should be a central component of speech-language pathology, and clinicians should be aware of and sensitive to who their clients are, not just what their clients are (Daniels & Gabel, 2004; Kathard, 2006). In fact, for some people who stutter, being perceived and accepted as a fluent speaker - eliminating dysfluencies to such an extent that an unknown listener would not identify them as people who stutter - may involve a misrepresentation of the self (Petrunik & Shearing, 1988). A presentation of fluency may be a denial of their true self, a self that stutters. Additionally, individuals with lisps have reported that after reaching therapy goals and obtaining successful [s] production, using these correct productions can feel difficult, uncomfortable, and unnatural (Ellis, 1998; Larr, 1967). This is not conducive to an accepting construction of the self, which has been found to occur when an impairment is embraced or included as a part of everyday life (Kathard, 2006)

As narrative is an effective means of exploring one's self-construction through speech (Kathard et al., 2010), the autobiographies of three prominent social figures who lisp contribute relevant experience here: the renowned journalist Barbara Walters, the Olympic gold-medal swimmer Michael Phelps, and the controversial boxer Mike Tyson. Each of these three is recognized in popular culture as individuals who have lisps ("List of Famous People," 2014). They were selected among the lists of celebrities with lisps due to the fact that each has written an autobiography. While Tyson (2013) discusses his lisp and the bullying he endured as a child, Walters (2009) and Phelps (2012) are more dismissive of theirs. None of the three reports any great impact from their misarticulations, however, and although this may of course be in part because they have much more important stories to tell that are more central to their celebrity status, and may truly have not been affected much by their speech, the possibility exists that they underwent an experience akin to the Batesonian double-bind, further discussed below (Bateson et al., 1956; Ellis, 1998). As people who have reached high achievement in life, perhaps dwelling on a minor bodily stigma such as a lisp would suggest that they are selfish and ungrateful for their success and should be ashamed. As will be further explored, the absence of acknowledgment of a stigma does not mean that it is not present and experienced. It cannot be assumed that these celebrities have not been affected by their lisps simply because they chose not to include details in their autobiographies - and this in fact cannot be ruled out as possible evidence to the contrary. It has been established that stigma depends greatly upon context and can change between and within individuals. While these celebrities do not present their narrative, their construction of their identity, as something that was greatly influenced by their lisping, the literature touched on above suggests that lisping may have that potential, nonetheless.

Contemporary stigma

When Goffman created his 1963 work on stigma, he set in motion a new period of research into exploration into many different aspects of stigma that would continue into the next



century. Perhaps one of the most poignant notions from his entire work is the following declaration: "By definition, of course, we believe the person with a stigma is not quite human" (p. 3).

Attempts to define "stigma" generally describe the origins of the term. Historically, certain individuals were branded or marked to signify an undesirable difference (such as having engaged in criminal acts or prostitution, for example), to set them apart from the rest of the population and to serve as a means of indicating that such a person should be shunned (Goffman, 1963). To do so was to "stigmatize" the person. While the literal branding of such people is no longer put into practice, other means of indicating deviance have been employed, such as exile and avoidance (Coleman Brown, 2010). Although there is a relationship between stigma and other sociolinguistic concepts such as stereotypes, which are pre-existing beliefs and attitudes about social categories (Levon, 2014), given this contextual history, if a feature or difference is stigmatized, there is the inherent and necessary implication that the feature or difference is unfavorable. Language variation and change - that is, deviance from a standard form - as aspects of sociolinguistics are regarded as potential sources of social stigma, as demonstrated by William Labov's pivotal work in the 1960s. In the instance of Andalusian Spanish, characterized by Arab/Mozarab influences, its juxtaposition alongside a standard form results in potential negative outcomes for speakers regarding social value and identity (Jaspal & Sitaridou, 2013). Labov's work on speech, standard forms, and thereby stigma has been substantiated time and time again: awareness of this contrast between a standard form and a vernacular result in stylistic shifts that reflect speakers' attention to their speech in the moment, with high levels of attention associated with standard (less stigmatized) variants and lower levels of attention associated with more natural and casual (more stigmatized) variants (Gafter, 2016).

Stigma is slippery and somewhat unpredictable. What is stigmatized in one context may not be in another. Stigma depends greatly upon social context and is highly variable across people, groups, and situations (Bos et al., 2013; Major & O'Brien, 2005). Stigma, asserts Major and O'Brien (2005), resides not in an individual, but in a social context. For instance, even the person with a communicable disease, greatly stigmatized among those without the infliction, is just another member of the group among others with the same diagnosis. Or perhaps a homosexual man feels secondhand fear and discrimination while attending a vigil for a hate crime victim, although experiencing joy and confidence at a gay pride parade (Pinel & Bosson, 2013). Given the fact that stigma exists due to difference, the virtually infinite variety of human attributes - not to mention social contexts - not only demonstrates the somewhat arbitrary nature of stigma, but also suggests that most people will, at some point in their lives, either experience stigmatization directly, or care for someone who does (Coleman Brown, 2010; Quinn et al., 2014).

There are many different disciplines that have undertaken investigations into stigma, using different terminology and contexts. Researchers are careful to qualify their conclusions when making cross-disciplinary claims, for example, applying findings from gay/ lesbian/bisexual/transgender/questioning (GLBTQ) participants to mental health participants, or vice versa, cautioning that the experiences are not precisely equivalent (Corrigan et al., 2013, 2009, 2010). It appears that crossing disciplines does not necessarily invalidate the conclusions. According to Coleman Brown (2010), stigma is a multidisciplinary issue whose complexities are unraveled through contributions from each perspective. Though this may seem to be a contradiction to the above assertion that the experience of stigma is

highly variable, with interplaying factors such as severity, situation, etc., the concept of stigma is so extensive and far-reaching - again, multidisciplinary - that without generalizations, stigma research would be needlessly inhibited and possibly redundant. Whether researching "coming out" about sexuality or mental illness (Corrigan et al., 2013, 2009, 2010) or "disclosing" a propensity for stuttering (Healy et al., 2007), in the end the result is a more comprehensive analysis of the act of telling others about one's stigmatized status (ideally with the consumer being made aware of the contexts and factors). What emerges is stigma exploration that is inclusive and generalizable with acknowledgment of the individual experience.

With that said, and with established alertness to the dynamic between broad assertions and individual variability regarding stigma, the effects of stigma will be briefly addressed (the specifics of the consequences of stigma for people with communication disorders – and in particular lisping - are covered below). The literature indicates that stigma has been reported to negatively impact social status, physical health, psychological well-being, and identity perceptions (Major & O'Brien, 2005). Stigmatization amplifies vulnerability to emotional problems such as depression, anxiety, and distress (Pinel & Bosson, 2013). Reviews of the mental health literature also suggest that stigma can influence obtaining and keeping employment and finding safe housing (Ben-Zeev et al., 2010). In children, deviance is associated with being bullied (Thornberg, 2011). This complicated concept has complicated ramifications, and the literature reveals that they are overwhelmingly adverse.

The complex nature of stigma is reflected in the ways researchers have labelled its types and manifestations. Bos et al. (2013) list and describe four types of stigma, using as their basis a model proposed in 2011 by Pryor and Reeder. The first of these is public stigma, which refers to the unstigmatized's social and psychological reactions to the stigmatized. The degree to which individuals are stigmatized depends upon how much control they have over the onset of their stigmatized condition and the impressions of severity, threat, and how greatly the norm is violated. In public stigma, the focus is the actions of the unstigmatized. The second type is self-stigma, where the focus is the stigmatized, involving the social and psychological impact of having a stigma. A progressive model of self-stigma has been proposed. It begins with awareness of the stigmatization of a particular status that one has, continues into agreement that the stereotype of the stigma is true, moves into internalization or application to oneself, and finishes with harm such as reduced self-esteem (Corrigan et al., 2011). Internalization, a critical component of this model of self-stigma, occurs when the individual believes the negative stereotypes of the stigma are not only true, but true of his or her own self, and there is the desire to disengage from that identity (Quinn et al., 2014). The third type is stigma by association, which concerns either the social and psychological reactions to a person associated with a stigmatized individual, or the experience of being the associated person. The last type of stigma is structural stigma. This is a society's legitimization and perpetuation of a given stigmatized condition, making it "okay" to stigmatize within the constructs of the society's ideologies.

Another dimension of stigma is the degree of visibility, or otherwise phrased, perceptibility, or evidentness (Goffman, 1963). Goffman refers to the "discredited" and the "discreditable," the former referring to those individuals whose stigmatizing condition is readily apparent, visible, perceptible, evident, and the latter referring to those individuals whose stigmatizing condition is not. Again, whether a person is discredited or discreditable depends heavily upon the context (Chaudoir et al., 2013; Goffman, 1963). Take, for instance, the person with paraplegia who is in a wheelchair. When passing him on the street, his stigmatizing condition is obvious to anyone who is able to see him, and he is discredited. But when he uses the telephone, the person on the other end cannot see this condition, and would remain unaware of it unless explicitly informed, and the person with paraplegia is now discreditable. Another example is the person who stutters, whose label is reversed in these very same situations. In passing on the street, he appears like everybody else, and is discreditable. On the phone, he may struggle to speak and is discredited. Paraplegia is a visually discredited and an auditorily discreditable characteristic. Stuttering is an auditorily discredited and a visually discreditable characteristic. Context is critically important.

Stigma, communication disorders, and lisping

There exists a body of literature establishing an association between negative categorizations and communication disorders (Allard & Williams, 2008; Downs, 2011; Williams & Dietrich, 1996). However, according to Downs (2011), most of this literature focuses on individuals with fluency or voice disorders or who are hard-of-hearing to varying extents. This is perhaps due to the "visibility" or "perceptibility" of the stigma, as discussed by Goffman (1963). People who stutter severely, have severe voice disorders, or wear hearing aids can do little to mask their communication disorder, whereas people with lisps (even severe ones), as are the focus here, may only have a "perceptible" stigma during productions of [s], and communication is not actually impeded. Much of course depends upon the context and severity, as discussed above, but in general, even the most severe lisp in an adult has much less potential to interfere with the exchange of meaning than the most severe cases of, for example, fluency or voice disorders. Single-sound distortion errors tend not to affect intelligibility because listeners are able to easily correct for them (Overby et al., 2007). Severe articulation disorders in adults may manifest in the form of dysarthria, but as that tends to be accompanied by associated issues such as cerebral vascular accidents, parkinsonism, or cerebral palsy, these disorders carry with them additional vulnerabilities to stigmatization that may not allow the lisping behaviors to be independently analyzed. Can it be teased apart whether a person who has had a stroke is being stigmatized due to imprecise articulation - or a lisp - or to the hemiparesis of the right side of the body or slowness of speech? Although other disorders, such as stuttering and voice disorders, also may occur alongside another stigmatizing condition, they refer to and can exist as isolated speech disorders that can be stigmatized in their own right. The standard for adults is nearperfect speech sound production (Felsenfeld & Broen, 1992), and to examine severe speech sound issues in the adult population necessarily brings in the potential for additional stigma that accompanies associated conditions such as those mentioned above. The most compelling investigations into speech-related stigma may be those focusing on these potentially isolated speech disorders that do not necessarily accompany other stigmatizable features, such as fluency disorders, voice disorders, and speech sound disorders affecting only a few isolated target sounds, e.g., lisping.

Although the research into the stigma of having a lisp has indeed been limited, a few perception and impression studies are frequently cited in literature that mentions lisping, including Burroughs and Small (1990), Mowrer et al. (1978), and Silverman (1976). Each of these studies involved listeners rating adult lisping and non-lisping audio and/or video samples in terms of more positive or negative qualities, and each found that lisping was

associated with more negative evaluations in such qualities as intelligence, education, maturity, speaking ability, and weakness. The latter two studies also used non-lisping samples in comparison, and these were rated more positively. Notably, none of these studies used people with actual lisps for their samples. Each used speakers with normal articulation who simulated a lisp for the purposes of the study. In Silverman's (1976) study, using the same speaker in both conditions was considered a means of controlling for variables, to reduce the accounting of the results to only the presence or absence of a lisp. However, this could also be considered to be a limitation. Can impressions of a simulated lisp reflect those of an authentic one? This was an underlying assumption for each of these three often-cited studies, and perhaps they can. However, this has not been demonstrated, and as such, the indications that people who lisp are subject to negative evaluations by listeners will be taken here with some amount of guardedness.

So, does the stigmatization of lisping actually exist? A more recent look at adult residual misarticulations of [s] was conducted in Brazil (Veríssimo et al., 2012), but the lisping behaviors were not distinguished from misarticulations of [r], which was the other focus of this study. Here it was the perspective of the speaker that was investigated, and according to these authors, their results indicated limited impact on the speakers from their residual errors. It was found that 38.8% of the participants reported insecurity in speaking situations, and 18.8% reported interference with their work (which may be "limited," but still demonstrates an effect). While the authors suggest that this may be due to the prevalence of such errors and a high social tolerance towards them (also asserted by Van Borsel et al. in 2007 in their study in Belgium), this goes against the common assumption that lisping is associated with immaturity and "baby talk" and is something to be embarrassed about (Ellis, 1998; George, 2003; Mowrer et al., 1978). There may be other factors at work that might lead people who lisp to report minimal effect or stigma from their misarticulations on a survey such as the one used in this study - the effect of metashame, which will be discussed below alongside lisping as a minor bodily stigma.

Lisping as minor bodily stigma

Carolyn Ellis's (1998) autoethnography, entitled "I hate my voice: Coming to terms with minor bodily stigmas," is a wealth of information and insight into lisping as a minor bodily stigma. Ellis uses Goffman (1963) as a springboard, defining minor bodily stigmas as characteristics, potentially perceptible by sight, by hearing, by smell, or by presence of an aid or sign of impairment, which are involuntary and perceived by the self and/or some others to be undesirable. They may be congenital or acquired; they may be dependent upon interactional context. They are difficult to conceal, but rarely do they interfere with functioning or daily life (Ellis, 1998, p. 524). By their very nature of being "minor," these stigmas may be less likely to be brought to one's attention than more significant stigmatizing conditions. The possessor of the minor bodily stigma wonders, "Do they notice?" The interlocutor wonders, "Do they know about it?" Though other, more drastic, stigmatized conditions have forces such as lawmakers, support groups, and even media to guide the responses and actions of people with conditions such as a debilitating physical disability, there is little support for individuals with minor bodily stigmas such as a lisp. If a person who lisps mentions the lisp, or if it is mentioned by an interlocutor, does that mean the lisp is such a salient stigma that it is worth acknowledging, or does that mean it is trivial enough that it can be spoken lightly of? Here is the first Batesonian double bind the possessor of the minor bodily stigma must negotiate. This double bind, defined by Bateson et al. (1956, p. 251) as a situation in which no matter what a person does, he cannot win, requires the possessor to decide which is the most appropriate course of action. In the case of lisping, when speaking with an unfamiliar person, should the adult who self-identifies as having a lisp disclose this information, as suggested for people who stutter by Healy et al. (2007)? While these authors indicate that disclosure may be more beneficial for the speaker who stutters than the listener, Sander (1965) suggests that initial disclosure only brings more attention to the disfluencies than would otherwise occur without it. The adult who selfidentifies as having a lisp must decide whether the benefits of disclosure, such as relieving the stress of the unknown ("can they tell?") and serving as a tool for managing communicative situations (Healy et al., 2007), are worth the risk of bringing focus to something the listener may not have noticed in the first place - particularly if the lisp is slight. The selfidentified adult who lisps cannot win. Either he draws attention to something that might have gone undetected, or he suffers within himself throughout the duration of the interaction, wondering if the listener has noticed.

The second double bind is an internal dilemma involving metashame – feeling shame for feeling ashamed (Ellis, 1998). That is, a person with a minor bodily stigma may experience embarrassment or discomfort from the blemish, although at the same time they may feel guilty for or ashamed of those feelings due to the "minor" status of it. The self-identified adult who lisps may feel shame for his or her lisp. Lisping may be perceived as embarrassing, something to feel insecure about, "cute" at best (George, 2003). And yet, it is so insignificant, a self-identified adult who lisps may tell herself, compared to the plight of others. There may be no wheelchair, no absence of shelter or food, or companionship in the life of the adult who lisps. She may have a successful career, and a home, and a family. Why should something as minor as a lisp bring so much distress? Again, the self-identified adult who lisps cannot win. Either she suppresses and ignores authentic, human responses to an undesirable stressor, or she is a shallow, ungrateful, selfish, self-created victim.

In returning to Veríssimo et al. (2012), in which a minority of the participants with residual speech errors (including lisps) indicated that they experienced insecurity in speaking situations, perhaps what is going on is the effect of a double-bind. In the context of the survey-type methodology used in this study, the participants could have minimized their experiences for the very reason that they did not want to come across as overly conscious of their minor bodily stigma. Either they deny that lisping prevents them from measuring up to social expectations (Ellis, 1998), or they, as with the hypothetical self-identified adult who lisps, come across as overly focused on such a trivial blemish. Anonymity may have alleviated this effect to a certain extent, but in a study that is limited to numerical survey data, it is difficult to tease apart what factors are at play. A different sort of approach would be most useful in describing the experience of a person with a lisp, one that possesses stronger qualitative characteristics.

Qualitative approaches, including ethnography and narrative, have been shown to be particularly effective ways of exploring minor bodily stigmas (Ellis, 1998; George, 2003; Paxton, 2013). At the time of writing, one such study was identified as being a true qualitative investigation of the experience of having a lisp, Ellis's (1998) autoethnography. Ellis, a respected professor and researcher, presents her story of having a lisp, unraveling various day-to-day aspects of her minor bodily stigma, her struggles with public stigma to

self-stigma to the double binds described above. She makes the case for the narrative as a means of exploring the experience of a lisp as a minor bodily stigma. This, however, is not the only source of recounted experiences with lisping, though it may be one of the few with a name tied to it. The Internet, a realm full of individuals represented by often anonymous usernames, is another means of allowing for an exploration of ideas and experiences related to lisping without the consequences associated with having a known identity - or an audible lisp, itself.

Lisping and the internet

The following excerpt from a modern slam poet's piece on lisping expresses the frustrations faced by individuals with lisps (all quoted examples keep the authors' original spellings and errors):

So someone said to me the other day I've got a lisp. A stranger, you know, they said I've got a subtle lisp and I should know I sound a little stupid doing spoken words when all my words have "s" in them are spoken so absurd. And I'm not upset ... Okay, it just sucks. You think you're speaking normally for two decades and then shucks, find out your stuff sounds like a stanza of Severus Snape's toughest parseltongue is pronounced by Daffy Duck.

Watksy (2010), "S" for Lisp

The Internet, as a place of potential anonymity, contains many people discussing lisps: opinions, admissions, confessions, and irritations. Everything from Wikis (e.g., People who have a lisp, 2016) to blogs (e.g., Davis, 2013) to question-and-answer message boards (e.g., "Is it worth pursuing speech therapy to fix a child's lisp?, 2014) provides strategies for eliminating lisps, accepting lisps, and venting about lisps. Target audiences range from speech-language pathologists to people with lisps to parents of children with lisps. WikiHow's entry entitled People who have a lisp (2016) has had, at the time of writing, 520,994 views. The first four hits (of over 7 million) when typing "I have a lisp" into the search engine Google (again, at the time of writing) include one of the many YouTube videos by an individual with a lisp, a Wiki describing three ways to eliminate a lisp, a Wiki describing five steps to coping with a lisp, and the Wikipedia entry for the term "lisp." The Experience Project, a website where users connect with each other based on similar experiences, has 51 people - whose accounts had been active in the last 30 days before the site entered read-only mode in 2016 - with experiences related to lisping (People who have a lisp, 2016).

Through this established presence, users with lisps take advantage of the anonymous nature of the Internet to discuss their anxieties and insecurities, such as in the following examples from The Experience Project:

I have a slight lisp. I have a slight "s" or "z" lisp which is very embarrassing for me. It's barely noticeable but I'm very concerned about it. I'm not shy to face many people but because of my lisp I kind of get embarrassed to speak aloud. So, doing a report in class kinda worries me everytime. I had a boyfriend in high school and he says he find my lisp very cute, which I don't buy. I myself find it annoyin.g

yudellinger (2013)

I have a bad lisp, sometimes i cant even stand myself talk, this makes me soooo socially awkward. I am afraid of public speaking or reading out loud, and not just go i have a lisp i have multi lisp i can not say "s" words or church agenda george etc. i hate it so much. i feel like such a loser and it is ruining my life. i am very sensitive about my lisp because i hate it so much. i just i was normal. i bet people laugh at me behind my back and no guy will ever want me

dgirl95 (2013)

It is quite clear that, for some individuals with lisps on the Internet – presumably at least having reached their teenage years - lisping is a sensitive issue that affects their self-image and social interactions. However, at the same time, some users also take advantage of the topic of discussion to assert that they are not as negatively affected by their lisp:

i only have a slight lisp . . . bit whenever people heat me speak a lot of people like to point it out ... I don't care though ... plenty of people think its cute!!!!!! and my awesome friend send me this video of the dude who has a lisp and I will give you guys the link!!! I don't have a lisp I just pour "special s sauce" on my words. XD

Slothislife (2015)

Along a similar vein, Caroline Bowen includes in her website an entire page dedicated to the letters she has received from individuals who have lisps, the majority of whom are adults (Bowen, 2012). Comments in these letters are very similar to those found in The Experience **Project:**

... Anyways ... I have a lisp. It really does bug me and it is definitely not something you can run away from ... I'm very tired of being judged by my lisp and it has been haunting me all my life. Please help. Today I felt like I hit rock bottom. I'm at college and I'm kinda being bullied verbally. I can't defend myself because I'm really self- conscious of my lisp and to top it off I've got to do an oral presentation soon which I'm so worried about. I really need help.

... I had a lisp all my life. I find it hard to meet new people because they would always mention something about the way I talk. I am very self conscious when I talk. Do you think something can be done about it at my age? ... Thanks 4 giving people help, understanding how we feel.

G

The range of responses individuals have towards their lisp does not stop here. As Johnson (2013) points out, rapper and slam poet George Watsky (who is, in fact, the "dude who has a lisp" the above-cited user refers to) actually celebrates his in his performance of "S for Lisp" at the 2010 College Unions Poetry Slam Finals. As the YouTube video of the routine went viral, with approximately two and a half million views by the time of this writing (Watksy, 2010), viewers left over 4,000 comments - sharing experiences with lisping and expressing what an inspiration they found in Watsky's performance. For he does not hold back: crude yet clever, Watsky weaves for his audience [s]-centered imagery that does in fact seem to celebrate a lisp ... "See, I've heard some steamy stories of oral sex but I'm not stretching to say one time, I made a lady climax by speaking an S-y section of a Shakespeare sonnet in her split legs' general direction" (Watksy, 2010) ... as well as make no (authentic) apology for it: "... You should see that I will not desist; I'm sorry, Cupsy, if you don't like a subtle lisp, but you can simply suck on thisssssssssss" (Watksy, 2010).

In an Internet full of blogs and question-and-answer sites focused on fixing a problem, users with lisps appear to find solace in anonymously coming together, whether it be as commenters to YouTube videos or in forums such as The Experience Project, to share their experiences and offer support to each other for a speech problem that is far too often minimized, dismissed, ridiculed, and mocked.



Conclusion

Though there is certainly a valued place for literature that explores the very definition and characteristics of lisping and a therapeutic perspective with origins in communication disorders, it has been suggested that at this time the richest resources on lisping may be those that are rooted in authenticity and experience (Ellis, 1998; Lockenvitz, 2016). Thus, it is these sorts of experiential facets, identity construction on an individual level and stigma theory on a collective speech community level, that build the case for the substantiation of the sociolinguistics of lisping as a legitimate field to be explored in its own right. It may be beneficial to continue investigation into lisping in terms of the specific sociolinguistic facets of stigma as found in the literature, such as the effects of context and interlinguistic comparison (Bos et al., 2013; Major & O'Brien, 2005). Future studies should incorporate interlinguistic analysis and detailed description of phonetic characteristics of the lisps of self-identified adults who lisp, not only to contribute to the documentation of the experience of these individuals on a more varied and comprehensive level, but also to further inform the sociolinguistic framework through which lisping and stigma intertwine. The very definition of sociolinguistic stigma itself, not to mention the execution of speech intervention, may be enhanced by what the experience of the self-identified adult who lisps can offer. While it is by no means being asserted that all such individuals consider lisping to be a defining feature of their identity, or that they each undergo significant and identical stigmatization, it has been demonstrated that features such as identity and stigma, whatever the individual experience, may be potential pieces of the larger puzzle that is the legitimate field of the sociolinguistics of lisping.

Statement of interest

The authors report no conflicts of interest.

References

- Allard, E. R., & Williams, D. F. (2008). Listeners' perceptions of speech and language disorders. Journal of Communication Disorders, 41(2), 108-123. https://doi.org/10.1016/j. jcomdis.2007.05.002
- Ball, M. J., & Howard, S. J. (2017). Classifying disordered speech: 'Stridency deletion' and phonological processes. Journal of Interactional Research in Communication Disorders, 8(2), 147-161. https://doi.org/10.1558/jircd.33440
- Bateson, G., Jackson, D. D., Haley, J., & Weakland, J. (1956). Toward a theory of schizophrenia. Behavioral Science, 1(4), 251-254. https://doi.org/10.1002/bs.3830010402
- Bauman-Waengler, J. (2008). Articulatory and phonological impairments: A clinical focus (3rd ed.). Pearason Education, Inc.
- Ben-Zeev, D., Young., M. A., & Corrigan, P. W. (2010). DSM-V and the stigma of mental illness. Journal of Mental Health, 19(4), 318-327. https://doi.org/10.3109/09638237.2010.492484
- Bos, A. E. R., Pryor, J. B., Reeder, G. D., & Stutterheim, S. E. (2013). Stigma: Advances in theory and research. Basic and Applied Social Psychology, 35(1), 1-9. https://doi.org/10.1080/01973533.2012.
- Bountress, N., & Richards, J. (1979). Speech, language and hearing disorders in an adult penal institution. Journal of Speech and Hearing Disorders, 44(3), 293-300. https://doi.org/10.1044/ jshd.4403.293



- Bowen, C. (2011). Lisping: When/s/and/z/are hard to say. Speech-language-therapy.com. http:// speech-language-therapy.com/index.php?searchword=lisp&searchphrase=all&Itemid= 101&option=com_search
- Bowen, C. (2012). Lisping: Letters to a speech-language pathologist about lisping. Speech-languagetherapy.com. http://www.speech-language-therapy.com/index.php?option=com_content&view= article&id=91:letters&catid=11:admin
- Burroughs, E. I., & Small, L. H. (1990). Listeners' reactions to misarticulations of/l, r, s/. Perceptual and Motor Skills, 71(3), 1219-1224.
- Chaudoir, S. R., Earnshaw, V. A., & Andel, S. (2013). "Discredited" versus "discreditable": Understanding how shared and unique stigma mechanisms affect psychological and physical health disparities. Basic and Applied Social Psychology, 35(1), 75-87. https://doi.org/10.1080/ 01973533.2012.746612
- Coleman Brown, L. M. (2010). Stigma: An enigma demystified. In L. J. Davis (Ed.), The disability studies reader (3rd ed., pp. 179-192). Routledge.
- Corrigan, P. W., Kosyluk, K. A., & Rüsch, N. (2013). Reducing self-stigma by coming out proud. American Journal of Public Health, 103(5), 794-800. https://doi.org/10.2105/AJPH.2012.301037
- Corrigan, P. W., Larson, J. E., Hautamaki, J., Matthews, A., Kuwabara, S., Rafacz, J., Walton, J., Wassel, A., & O'Shaughnessy, J. (2009). What lessons do coming out as gay men or lesbians have for people stigmatized by mental illness? Community Mental Health Journal, 45(5), 366-374. https://doi.org/10.1007/s10597-009-9187-6
- Corrigan, P. W., Morris, S., Larson, J., Rafacz, J., Wassel, A., Michaels, P., Wilkniss, S., Batia, K., & Rüsch, N. (2010). Self-stigma and coming out about one's mental illness. Journal of Community Psychology, 38(3), 259-275. https://doi.org/10.1002/jcop.20363
- Corrigan, P. W., Rafacz, J., & Rüsch, N. (2011). Examining a progressive model of self-stigma and its impact on people with serious mental illness. Psychiatry Research, 189(3), 339–343. https://doi.org/ 10.1016/j.psychres.2011.05.024
- Culton, G. L. (1986). Speech disorders among college freshmen: A 13-year survey. The Journal of Speech and Hearing Disorders, 51(1), 3-7. https://doi.org/10.1044/jshd.5101.03
- Daniels, D. E., & Gabel, R. M. (2004). The impact of stuttering on identity construction. Topics in Language Disorders, 24(3), 200-215. https://doi.org/10.1097/00011363-200407000-00007
- Davis, V. (2013). Get help for children before the cute lisp becomes cumbersome. Cool Cat Teacher Blog. http://coolcatteacher.blogspot.com/2013/02/get-help-for-children-before-cute-lisp.html
- dgirl95. (2013). I have a lisp. The Experience Project. http://www.experienceproject.com/stories/ Have-A-Lisp/2986176
- Downs, D. (2011). How audiologists and speech-language pathologists can foster and combat stigma in people with communication disorders. In R. J. Fourie (Ed.), Therapeutic processes for communication disorders: A guide for clinicians and students (pp. 105-122). Psychology Press.
- Ellis, C. (1998). "I hate my voice": Coming to terms with minor bodily stigmas. The Sociological Quarterly, 39(4), 517–537. https://doi.org/10.1111/j.1533-8525.1998.tb00516.x
- Everett, C. (2018). The similar rates of occurrence of consonants across the world's languages: A quantitative analysis of phonetically transcribed word lists. Language Sciences, 69 September, 125–135. https://doi.org/10.1016/j.langsci.2018.07.003
- Felsenfeld, S., & Broen, P. A. (1992). A 28-year follow-up of adults with a history of moderate phonological disorder: Linguistic and personality results. Journal of Speech and Hearing Research, 35(5), 1114. https://doi.org/10.1044/jshr.3505.1114
- Fey, M. E. (1992). Articulation and phonology: Inextricable constructs in speech pathology. Language, Speech, and Hearing Services in Schools, 23(July), 225-232. https://doi.org/10.1044/ 0161-1461.2303.225
- Gafter, R. (2016). What's a stigmatized variant doing in the word list? Authenticity in reading styles and Hebrew pharyngeals. Journal of Sociolinguistics, 20(1), 31-58. https://doi.org/10.
- George, J. A. (2003). Flat chests and crossed eyes: Scrutinizing minor bodily stigmas through the lens of cosmetic surgery. University of South Florida.



- Gibbon, F., Stewart, F., Hardcastle, W. J., & Crampin, L. (1999). Widening access to electropalatography for children with persistent sound system disorders. *American Journal of Speech-Language Pathology*, 8(4), 319–334. https://doi.org/10.1044/1058-0360.0804.319
- Gillespie, S. K., & Cooper, E. B. (1973). Prevalence of speech problems in junior and senior high schools. *Journal of Speech and Hearing Research*, 16(4), 739–743. https://doi.org/10.1044/jshr. 1604.739
- Goffman, E. (1963). Stigma: Notes on the management of spoiled identity. Prentice Hall.
- Healy, E. C., Gabel, R. M., Daniels, D. E., & Kawai, N. (2007). The effects of self-disclosure and non self-disclosure of stuttering on listeners' perceptions of a person who stutters. *Journal of Fluency Disorders*, 32(1), 51–69. https://doi.org/10.1016/j.jfludis.2006.12.003
- Is it worth pursuing speech therapy to fix a child's lisp? (2014). *Ask metafilter*. http://ask.metafilter. com/265338/Is-it-worth-pursuing-speech-therapy-to-fix-a-childs-lisp
- Iskarous, K., Shadle, C., Proctor, M. (2011). Articulatory–acoustic kinematics: The production of American English /s/. *The Journal of the Acoustical Society of America*, 129(2), 944–954. https://doi.org/10.1121/1.3514537
- Jaspal, R., & Sitaridou, I. (2013). Coping with stigmatized linguistic identities: Identity and ethnolinguistic vitality among Andalusians. *Identity*, 13(2), 95–119. https://doi.org/10.1080/15283488. 2012.747439
- Johnson, A. (2013). *Mocking of speech impediments no laughing matter*. The Daily Wildcat. http://www.wildcat.arizona.edu/article/2013/01/viralgeorge-watsky-video-speaks-wonders-to-speech-impediments
- Kathard, H. (2006). On becoming someone: Self-identity as able. Advances in Speech-Language Pathology, 8(2), 79–91. https://doi.org/10.1080/14417040600657765
- Kathard, H., Norman, V., & Pillay, M. (2010). Configurations of self-identity formations of adults who stutter. *The South African Journal of Communication Disorders*, 57(1), 51–57. https://doi.org/10.4102/sajcd.v57i1.49
- Knouse, S. (2013). The acquisitions of dialectical phonemes in a study abroad context: The case of the Castilian theta. *Foreign Language Annals*, 45(4), 512–542. https://doi.org/10.1111/j.1944-9720. 2013.12003.x
- Larr, A. (1967). The persistent lisp of post-adolescents. Western Speech, 31(2), 96-102.
- Law, J., Boyle, J., Harris, F., Harkness, A., & Nye, C. (2000). Prevalence and natural history of primary speech and language delay: Findings from a systematic review of the literature. *International Journal of Language and Communication Disorders*, 35(2), 165–188. https://doi.org/10.1080/136828200247133
- Levon, E. (2014). Categories, stereotypes, and linguistic perception of sexuality. *Language in Society*, 43(5), 539–566. https://doi.org/10.1017/S0047404514000554
- Lockenvitz, S. B. (2016). *The experience of stigma in adults who lisp*. University of Louisiana at Lafayette. Major, B., & O'Brien, L. T. (2005). The social psychology of stigma. *Annual Review of Psychology*, 56 (1), 393–421. https://doi.org/10.1146/annurev.psych.56.091103.070137
- Mines, M., Hanson, B., & Shoup, J. (1978). Frequency of occurrence of phonemes in conversational English. *Language and Speech*, 21(3), 221–245. https://doi.org/10.1177/002383097802100302
- Mowrer, D. E., Wahl, P., & Doolan, S. J. (1978). Effect of liping on audience evaluation of male speakers. *Journal of Speech and Hearing Disorders*, 43(2), 140–148. https://doi.org/10.1044/jshd. 4302.140
- Munson, B., & Zimmerman, L. J. (2006). Perceptual bias and the myth of the gay lisp: Poster presentation at the annual meeting of the American speech-language-hearing association. http://www.tc.umn.edu/~munso005/MunsonAndZimmerman.pdf
- Overby, M., Carrell, T., & Bernthal, J. (2007). Teachers' perceptions of students with speech sound disorders: A quantitative and qualitative analysis. *Language, Speech, and Hearing Services in Schools*, 38(October), 327–341. https://doi.org/10.1044/0161-1461(2007/035)
- Paxton, B. (2013). Transforming minor bodily stigmas through holding onto grief: A "hair" raising possibility. *Qualitative Inquiry*, 19(5), 355–365. https://doi.org/10.1177/1077800413479561
- People who have a lisp. (2016). *The experience project*. http://www.experienceproject.com/find-people-all-age-any-in-anywhere/who/Have-A-Lisp/126237



- Petrunik, M., & Shearing, C. D. (1988). The "I," the "me," and the "it": Moving beyond the Meadian conception of self. Canadia Journal of Sociology, 13(4), 435-448. https://doi.org/10. 2307/3340815
- Phelps, M. (2012). Beneath the surface: Bringing home the gold. Sports Publishing.
- Pinel, E. C., & Bosson, J. K. (2013). Turning our attention to stigma: An objective self-awareness analysis of stigma and its consequences. Basic and Applied Social Psychology, 35(1), 55-63. https:// doi.org/10.1080/01973533.2012.746593
- Pollock, B., Berni, F., & Hinton, J., Roberts, & Weaver. (2001). Phonological features of African American Vernacular English (AAVE). University of Alberta Department of Communication Sciences and Disorders. Retrieved from http://www.rehabmed.ualberta.ca/spa/phonology/fea tures.htm
- Quinn, D. M., Williams, M. K., Quintana, F., Gaskins, J. L., Overstreet, N. M., Pishori, A., Earnshaw, V. A., Perez, G., & Chaudoir, S. R. (2014). Examining effects of anticipated stigma, centrality, salience, internalization, and outness on psychological distress for people with concealable stigmatized identities. PLoS ONE, 9(5), 1-15. https://doi.org/10.1371/journal.pone.0096977
- Ryan, B. P. (1971). A study of the effectiveness of the S-Pack program in the elimination of frontal lisping behavior in third-grade children. Journal of Speech and Hearing Disorders, 36(3), 390–396. https://doi.org/10.1044/jshd.3603.390
- Sander, E. (1965). Comments on investigating listener reaction to speech disfluency. Journal of Speech and Hearing Disorders, 30(2), 159-165. https://doi.org/10.1044/jshd.3002.159
- Shriberg, L. (1993). Four new speech and prosody-voice measures for genetics research and other studies in developmental phonological disorders. Journal of Speech and Hearing Research, 36(1), 105-140. https://doi.org/10.1044/jshr.3601.105
- Shriberg, L., Tomblin, J., & McSweeny, J. (1999). Prevalence of speech delay in 6-year-old children and comorbidity with language impairment. Journal of Speech, Language, and Hearing Research, 42 (6), 1461–1481. https://doi.org/10.1044/jslhr.4206.1461
- Silverman, E. M. (1976). Listeners' impressions of speakers with lateral lisps. Journal of Speech and Hearing Disorders, 41(4), 547-552. https://doi.org/10.1044/jshd.4104.547
- Slothislife. (2015). I have a lisp. The Experience Project. http://www.experienceproject.com/stories/ Have-A-Lisp/5455101
- Smit, A. B. (1993). Phonologic error distributions in the Iowa-Nebraska articulation norms project: Consonant singletons. Journal of Speech and Hearing Research, 36(3), 533-547. https://doi.org/10. 1044/jshr.3603.533
- Stephen Hawking says pope told him not to study beginning of universe. (2006). USA Today. http:// usatoday30.usatoday.com/life/people/2006-06-15-hawking_x.htm
- Thornberg, R. (2011). 'She's weird!'—The social construction of bullying in school: A review of qualitative research. Children & Society, 25(4), 258–267. https://doi.org/10.1111/j.1099-0860.2011. 00374.x
- Tyson, M. (2013). Undisputed truth. Penguin Group LLC.
- Van Borsel, J., Van Rentergem, S., & Verhaeghe, L. (2007). The prevalence of lisping in young adults. Journal of Communication Disorders, 40(6), 493-502. https://doi.org/10.1016/j.jcomdis.2006.12.001
- Veríssimo, A., Van Borsel, J., & De Britto Pereira, M. (2012). Residual/s/and/r/distortions: The perspective of the speaker. International Journal of Speech-Language Pathology, 14(2), 183-186. https://doi.org/10.3109/17549507.2011.616601
- Walsh, R. (2005). Meaning and purpose: A conceptual model for speech pathology terminology. International Journal of Speech-Language Pathology, 7(2), 65-76. https://doi.org/10.1080/ 14417040500125285
- Walters, B. (2009). Audition: A memoir. Vintage Books.
- Watksy, G. (2010). "S" for lisp. https://www.youtube.com/watch?v=6GvTLfV8fls
- Williams, D. F., & Dietrich, S. (1996). Effects of speech and language disorders on raters' perceptions. Journal of Communication Disorders, 29(1), 1-12. https://doi.org/10.1016/0021-9924(94)00014-X yudellinger. (2013). I have a lisp. The Experience Project. http://www.experienceproject.com/stories/ Have-A-Lisp/3618494