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Acknowledging language variation and its power: Keys to justice and equity in applied psycholinguistics

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Abstract

Recent studies have demonstrated incontrovertibly that *person perception* influences language perception. Much of this research is predicated on the notion that social categories are stable constructs that are perceived similarly by members of various speech communities. Power differentials necessarily impact the legibility of the social performances circumscribed by macrosociological categories and thus bely any claim to objectivity in these categorization systems. Developing a more just applied psycholinguistics requires researchers to explicitly consider the role of power in language, how power shapes fields' notions of what research questions are important and meaningful, and therefore how research data are collected, analyzed, and disseminated. We argue that psycholinguists should widely adopt approaches to studying linguistic processing in ways which acknowledge the role of social ideologies in shaping their outcome, and which reckon with how asymmetrical power relations shape the perception, acquisition, and judgment of both social and linguistic variation. We conclude with a series of guidelines intended to promote characterizations of social and linguistic diversity which accurately reflect the importance of power differentials and which engage ethically with sociopolitical goals of justice and equity.

Long-standing tradition prizes the presentation of scientific perspectives as maximally detached and objective. In this view, scientific enterprises ought to create descriptions of phenomena which are factually faithful, lacking in subjective content, and wholly resistant to perspectival diversity. This characterization of science is consistent with great ideological value placed on representative processes which are putatively "unmediated by human minds and other 'distortions'" (Reiss & Sprenger, 2020). However, as a field, applied psycholinguistics intrinsically troubles

this idealization. As psycholinguists, the very object of our study *is* those various processes by which human minds mediate and potentially "distort" sensory input in the process of extracting linguistic content. As such, accounting for diversity in perceptual experience should be considered a central goal in the description of any psycholinguistic phenomena.

Although decades of research inform us that "non-linguistic" social cues can significantly impact the time course and outcome of linguistic processing, we currently have only a weak understanding of the structural relationships between sociolinguistic perception of distinct *kinds* of language users and the psychophysical processes which drive individual linguistic perception and learning. However, various accounts of socially significant *kinds* of language users present a critical source of insight into the common psycholinguistic processes all language users must recruit to discriminate among interlocutors, acquire, and interpret language. To find psycholinguistic commonalities amid immense sociolinguistic variation, we must evaluate language outcomes with an eye to the shared structural *and* experiential contexts of societal hierarchies.

It is not possible to illuminate the role of complex sociolinguistic competencies in attention and learning by simply limiting stimuli and participants to reflect a narrow range of linguistic behaviors and social statuses. Further, even with highly homogenous study materials and participant pools, evidence suggests that language users continue to infer the presence of meaningful sociolinguistic distinctions between language users, which in turn shapes their psycholinguistic processing and interpretation of language. A study by Reinisch (2016) examining categorical perception in the context of speech rate variation provides a useful illustration of how talker-specific and language-specific knowledge jointly produce emergent patterns of responses to generalized *kinds* of talkers.

Linguistic social difference perception and its social implications

In the study by Reinisch (2016), participants were tested for their perception of a sound as either the short vowel [a] or the long vowel [aː], as in the German words [ʁat] (Eng. *rat*) or (ʁaːt] (Eng. *rate*). A view of language as "unmediated by human minds" might propose that people who know German rely strictly on language-specific information to complete this task. This account could predict participants' experience to be that of perceiving a raw duration which is then deterministically mapped onto one of the vowel categories. Instead, individuals appear to use their experience with specific individuals to selectively apply different interpretations to the same sounds. In the Reinisch (2016) study, when participants were led to believe that a token had been produced by someone who they knew to habitually talk quickly, they were more likely to interpret the token as an instance of the word *rate*, and when they were led to believe that it was produced by a slow talker, they were more likely to report perceiving the word *rat*. That is, the minds of the participants "distort" the sensory input according to understanding of not only what language is used, but *what sort of language user is believed to have produced it*.

Reinisch (2016) concludes that in order to interpret the language-specific contrast in meaning encoded in vowel length, participants track individuals' habitual speech rate as a speaker-specific property, experiencing their words as, effectively,

having an *intended* speech rate. Participants' status as *knowers of German* is central in explaining their ability to anticipate and discriminate the form of linguistic utterances and to generalize *differing linguistic intentions* of different *kinds* of German speakers.

Taking an "objective" approach to applied psycholinguistics – one that would model language as drawing on a universalist understanding of psychophysics, making direct mappings between parametric signals and abstract percepts – requires a disavowal of the truth, that each of us are in fact uniquely limited in our linguistic perception not only by our exposure to language and knowledge of its structure, but by sociolinguistic judgments which contrast kinds of language-knowers and assign social value to associated behaviors. In the controlled environment of the Reinisch (2016) study, experience with the talkers allowed participants to make inferences about how a not-yet-heard word should sound – what its vowel duration would be, and what the interpretation of that duration ought to be – based on their knowledge of a talker as either a comparatively slow or fast speaker.

In the case of Reinisch (2016), although fast and slow talkers were perceived differently, neither can be said to experience profound social disadvantage associated with this contrast. However, other findings demonstrating the role of social perception in understanding language are not so clearly anodyne, implicating psycholinguistic processes in discriminatory and violent social behavior (Craft et al., 2020). Just as socially dominant groups have been historically overrepresented in psycholinguistic inquiries, dominant paradigms of defining social difference have likewise shaped our understanding of how linguistic perception generally proceeds. Advancing the field requires us to explicitly address linguistic perception as co-occurring with the social evaluation of linguistic and non-linguistic differences, and therefore to reckon with the immensely variable weight and impact of such perceptions on broader discourses.

Power dynamics and psychophysical phenomena mutually influence one another during language processing, creating patterns in agreement regarding these experiences construed linguistically, affectively, and holistically. To promote characterizations of social and linguistic diversity which critically engage with the role of power differentials in producing linguistic patterns, we must ground the understanding of language and identity offered by first-, second-, and third-wave sociolinguistics in an ethical framework which opposes the reification of linguistic differences, but instead positions perception thereof as a contingently experienced impression of social belonging. This can only be achieved through a careful negotiation of subjectivity.

Reflexivity and positionality shape social difference perception

Because investigators and participants alike may have distinctive experiences of linguistic and non-linguistic *Social Difference Perception* (SDP), reflexivity must not only be considered both an indispensable tool and an ethical obligation. By *reflexivity*, we mean critical consciousness of the capacity for investigators to shape the outcome of their research, and the ability to exert power in the broader discursive construction of their topics and participants which is facilitated by their

positionality (Soedirgo & Glas, 2020). By *positionality*, we do not mean identities themselves, but rather the social stations within a hierarchy which determine individuals' access to various identities and the credibility to be deemed authentic in their performances. We argue that the inherent subjectivities in the field of applied psycholinguistics are not a weakness, but a unique strength of this discipline, as they invite a systematic interrogation of the origins and consequences of experiential and cognitive differences. Given that meta-linguistic and sociolinguistic knowledge shape the design and results of psycholinguistic inquiries, we should recognize reflexivity as fundamentally impacting the process of interpreting outcomes, and the potential to reach consensus, both for investigators and for participants. Manipulations to the meta-linguistic knowledge and attitudes of experimental participants should be regarded as potentially altering the underlying structure of psycholinguistic tasks, rather than merely introducing additional "non-linguistic" information.

We therefore frame language knowledge as intrinsically collaborative, rendering applied psycholinguistics and language learning as *meta-epistemological* projects. Understandings of language only proceed from putatively shared epistemological commitments, or beliefs about what it is possible to know. In perceiving social and linguistic differences, we reveal our beliefs about the material and social significance of perceptible differences – that is, how and why we come to know things through language, and the consequences of constructing such knowledge.

Just and equitable applications of linguistic theory must therefore actively seek to treat SDP as a central factor in constructing both linguistic and sociopolitical difference. To actively identify and mitigate the influence of oppressive systems on the construction and application of psycholinguistic theory, we make two suggestions:

1) Investigators must practice transparency with respect to positionality. We must proactively identify the ways that our professional activities and scholarship constitute an expression of institutional power and explicitly detail the social ideologies which guide our linguistic inquiries and practices.
2) Experimental paradigms must be presented with analysis of how explicitly and implicitly available social contexts may characteristically shape participant outcomes.

The remainder of the paper describes evidence that numerous kinds of social knowledge influence how participants identify both the form and meaning of linguistic utterances. We then discuss evidence that psycholinguistic processes are implicated in the construction of societal structures which sanction violence against marginalized individuals. We propose that psycholinguistics be understood as a meta-epistemological project, which seeks to find commonality in the mechanisms different language communities use to construct their uniquely shared ways of being and knowing. We conclude that perception of power dynamics and psychophysical phenomena mutually influence language processing, creating patterns in agreement regarding these experiences. Finally, we offer some recommendations for how to apply this framework.

Author positionality

Both authors are employed full time as academic linguists at an R1 University. Our individual statements follow:

Dr. Alayo Tripp: I am a Black non-binary person, and although the academy is exclusive of these identities, I benefit from being a light-skinned, transmisogyny exempt, hearing individual and a member of the bourgeoisie. My academic interests are profoundly shaped by my experiences navigating visibility. My work centers a DisCrit lens, using intersectional analysis to challenge deficit models of language knowledge and advance an anti-disciplinary program of research which reimagines diversity in psycho-socio-linguistic cognition as encompassing expressions of community care and resilience.

Mx. Ben Munson: I am a Queer, masculine-presenting person who is 50 years old at the time of writing this. I have experienced the privileges of being White and masculine-presenting throughout my career in academia, and my life outside of academia. As of the writing of this paper, I serve as a department chair and as program director for clinical training programs in audiology and speech-language pathology, two professions in which SDP is pervasive and often unacknowledged. I am motivated by the responsibility to transform those disciplines to be more equitable and to actively combat linguistic discrimination.

Psycholinguistic perception includes the social

Applied psycholinguistics examines, among other things, the perception and acquisition of language. These processes are tied inexplicably to *person perception* – the perception of individuals and groups with particular *body-minds*, that is, particular ways of existing, behaving, and knowing. Individuals likewise readily demonstrate the ability to link ways of languaging with contrastively defined social groups, or *person-kinds*. Numerous studies show that individuals assign different attributes to real (or imagined) individuals based on associations with language behaviors. For example, Walker (2007) found that people's perception of an individual social class is affected by a variety of phonetic variables, including whether they produce an intrusive /r/ and whether or not they glottalize final /t/. Mack and Munson (2012) found that individuals rate men's voices as gayer-sounding if they contain variants of /s/ with especially high spectral peak frequencies. Purnell et al. (1999) showed that individuals accurately rated the racial/ethnic guise (White, Black, or Latinx) used in a single tri-dialectal individual's production of a single word, *hello,* in different guises.

In addition to facilitating the identification and categorization of language users, perception of people from both auditory and visual signals demonstrably shapes perception of linguistic structure. In other words, the presence of social information can induce people to judge identical stimuli as having contrastive form and meaning. Strand and Johnson (1996) investigated this phenomenon using a synthetic speech continuum from /s/ to /ʃ/ combined with vowel-consonant sequences produced by four individuals: two men and two women. This resulted in four speech continua from *sod* to *shod*. Seeking to find an effect of visual cues to gender on

speech perception, Strand and Johnson synched these *sod-shod* continua with videos of a man and a woman mouthing these words. They found that listeners identified the stimuli differently depending on the gender of the person depicted in the video. The direction of the effect is consistent with production studies that have shown that anglophone men and women produce /s/ and /ʃ/ differently from one another. These studies demonstrate that there is a frequency range corresponding with /s/ when produced by a man and /ʃ/ when it is produced by a woman. When hearing sounds from an ambiguous range, experimental participants can impose different expectations depending on who they think is talking. This effect has been replicated with different stimuli and different listener groups (Calloway & Calloway, 2021; Munson, 2011; Munson et al., 2017). Such effects on phonetic perception can also be found when participants are only told to imagine the talker's gender, rather than accessing visual cues (Johnson et al., 1999). These studies demonstrate that the perception of the smallest speech segments can be altered by the presentation of abstract information regarding social groupings.

Staum Casasanto (2008) presents evidence that the perception of person-kinds can also affect syntactic processing. For speakers of African American Language, the pronunciation [mæs] can index the word *mass* and the word *mast*. For White varieties spoken in the US, [mæs] can only index *mass*. Staum Casasanto found that following auditory sequences like "the [mæs] lasted," participants were faster at judging the sensibility of written endings consistent with sentences using [mæs] to index the word *mast* (like "the [mæs] lasted" through the storm) when the auditory forms were paired with a Black person's face, and not when they were paired with a White person's face.

Effects of presented social differences on language processing can also be found in studies of lexical ambiguity resolution (Nygaard & Lunders, 2002) and discourse comprehension (Rubin, 1992). However, we must be careful in attempting to generalize findings, given the rich literature demonstrating that characteristics of participants can also be an important source of variation in SDP.

Babel (2012) examined how perception of an individual's race affected the extent to which participants imitated the phonetic detail in that person's speech. In the context of the White model talker, there was an interaction between imitation and ratings of attractiveness, such that for *female* participants, imitation correlated positively with attractiveness ratings, whereas for *male* participants, it correlated negatively. Accounting for this kind of language behavior, which diverges within social groups, requires treating differences in how language users recruit and interpret features of stimuli to arrive at perceptions of social sameness, difference, and salience as the product of diverging perceptions of commonality intragroup identity. The complexity and lability of linguistic representations should also lead us to anticipate that *investigator* differences may also impact reports of SDP in language studies (Tripp & Munson, 2022).

Psycholinguistic perception includes the anti-social

Perception of speech is shaped both by knowledge of individual language users' identities and by coexisting knowledge of social stations. We use "social stations" to emphasize the quotidian construction of hierarchical relationships between

contrastive identities and modes of speech. Hegemonic narratives assign certain identities low rank, target these identities with misrepresentation and caricature, and incite both psychological and physical violence against them. Linguistic communities which are born in such a context of existential violence therefore become visible against a backdrop of oppression, through their existential acts of resistance to hegemonic norms. Conversely, identities which are hegemonically associated with power are often treated as inconspicuous, implicitly imbued with approbation, normalcy, and moral authority (Brighenti, 2007; Simpson & Lewis, 2005). These biases in turn shape the production of academic knowledge (Buggs et al., 2020; Settles et al., 2020).

Taking language to be a human behavior, we can also syllogistically assert that the behavior of making linguistic arguments for or against the admission of persons or groups into socially defined categories is *also* a uniquely "human behavior." Thus, the use of language behavior to affirm, neutrally represent, or even *deny* the humanity of referenced persons or groups should be considered a linguistic universal. This theoretical stance allows us to predict that, in concert with non-linguistic perception, language users must acquire the ability to perceive the hierarchical distinctions between the social stations occupied by familiar linguistic varieties and their constitutive language users. Such a prediction cannot be made using asocial theories of language development and acquisition. By treating psycholinguistic processing as a type of SDP, psycholinguistic investigations may seek to illuminate how language is situated within broader social functions. This approach unites accounts of linguistic and non-linguistic forms of discrimination, characterizing them as built upon shared representations of person-kinds, their rights, abilities, and other social powers.

For example, although the contrast between *native* and *non-native* language users has been commonly used in the past to define inclusion criteria for study participants, its nebulous definition is increasingly being recognized as a source of harm to marginalized communities and an obstacle to constructing rigorous theories of psycholinguistic perception (Cheng et al., 2021). Ignoring the influence of social power in constructing these categories hinders our understanding of their significance and functionally perpetuates hegemonic political biases. For example, the way listeners racialize language users according to their physical appearance can influence whether their speech is subsequently characterized as accented or standard (Kutlu, 2020; Rosa & Flores, 2017). The use of the "native/non-native" dichotomy therefore reflects a subjective definition and valuation of "native speaker" status which includes beliefs about racialization and social belonging. Conversely, taking variable perception of social power and linguistic forms jointly allows us to reconcile psycholinguistic contrasts between populations as outcomes of uniquely adapted, but structurally universal SDP processes.

Far from linguistic information being construed in an asocial way, language behavior, both receptive and productive, evinces the social and metalinguistic perception of language sources. Words are understood to have speakers, authors, pronunciations, and mispronunciations. However, formalist linguistic theory often abstracts over those and focuses its study on what can be learned from positing "idealized" asocial representations. These formal approaches represent a theoretical tradition which regards the human *Faculty of Language* as a separate object of study

from *languages and language behavior*, and which thus justifies the abstraction of linguistic capacity as independent of socially constructed differences in language behavior (Mendívil-Giró, 2019). A functionalist perspective leads us to hold these idealizations as socio-discursive constructions, created from a position of power. Idealized models transparently cannot be socially neutral in their conception or implementation. The (re)production of these idealizations in the discourse is itself a product of social prestige, which implicitly expresses an investment in preserving, rather than disrupting the way power has been distributed within our fields.

Although characterizing linguistic ability as species-specific endeavors to depoliticize the study of language, questions of how linguistics may be applied are still necessarily interpreted through ideological frames which position the identities of language users as having contrastive relevance. Only by accounting for the real intrusion of non-linguistic context and social hierarchy into psycholinguistic processes, can we purport to advance a more equitable and accurate program of linguistic study.

Our perception of social categories is limited by our positionality

Although social categories are now popularly understood to be locally constructed, rather than biologically determined, much of the psycholinguistic literature has been predicated on the notion that social categories are stable constructs that are perceived similarly by members of various speech communities. This notion is imbued in early, "first wave" work on variationist sociolinguistics (Labov, 1972) which documents language differences related to macrosociological categories like region, age, race, and sex. However, these categories are known not to be defined in any static or universal way. For example, a man who is married to a woman and who self-identifies as heterosexual, and who also has sex with other men, would be regarded as gay or bisexual by a group of individuals who judge sexuality solely on the basis of sexual behaviors, and as heterosexual by a different group of people who judge sexuality based on family structure and self-identification. Indeed, the existence of varying legislation regarding the correct interpretation of labels for categories like race and sexuality provides an obvious example of how factors that are cross-culturally relevant (including age, which is nearly universally relevant in human societies) are nonetheless interpreted for social significance with a high degree of geographic and cultural specificity.

The first-wave approach nevertheless constructs macrosociological variables as static, interpreting the variation in natural language behavior which is most useful to understand as "the most spontaneous and least studied" styles of communication, which can ostensibly deterministically reveal social category membership (Labov, 1972, p. 112). This outlook conspicuously subtracts the role of *agency* in defining and distinguishing sources of variation and conceptually conflates linguistic and non-linguistic differences. As Penelope Eckert writes "in this way, speakers emerge as human tokens – bundles of demographic characteristics" (Eckert, 2012, p. 88). Early sociolinguistic theories were therefore unable to capture the dynamism of socially valenced linguistic variation, inspiring new approaches examining how these differences manifested in processes of language change and the enregisterment of linguistic styles (Eckert, 2012).

Current approaches which hold linguistics as an objective scientific enterprise cannot overcome limitations which reside in the investigator's perception of the components in "bundles of demographic characteristics," or intuitions about their contrastive significance. Whereas the first wave of sociolinguistics construes social categories as concrete and stable, third-wave approaches characterize the same categories as fluid and continually being constructed through discursive practice. The tension between these two approaches is captured in Kate Harris' identification of two "communication myths," (a) "discourse mirrors reality" and (b) discourse is "disconnected from social/historical context." (Harris, 2018, p. 158). Adopting James Gee's contrast of d/Discourse to identify contrasts in the scope of social construction (Gee, 2004, 2015), Harris applies this distinction to examine the connection between assumptions made by scholars studying rape and the broader discursive construction of sexual consent. Her analysis reveals that anti-violence educators/activists, in advancing simplistic slogans like "no means no," neglect the complexity of how local discourses (like conversations between sexual partners) are connected to broader social and historical Discourses (like those which legally define consent). Examining psycholinguistic effects as evidence of SDP requires us to account for how different positionalities possess different levels of influence on mainstream narratives. As Harris observes, "although Discourse informs discourse, it does not determine the available ways communicators can use discourse to influence Discourse." (Harris, 2018, p. 158).

To effectively capture the nature of linguistic diversity, we must place our investigations within frameworks which explicitly characterize the ecological co-constituency of linguistic and non-linguistic social behavior and their joint production of SDP. Language behavior therefore is not simply a site of social *action*, but of contrastive social *valuation and empowerment*, which is co-constructed with non-linguistic social positions which can be likewise valued and empowered by d/Discursive construction. This perspective allows us to contextualize linguistic and non-linguistic knowledge as working together to define manifestations of SDP. The Discursive construction of difference thus delimits individuals' participation and differentially shapes the quality of subjective experiences associated with SDP.

Our explanations of social effects are limited by our perception

The approach of treating variation between speakers as an expression of individual identity is consistent with theories of speech perception which treat the cognition of linguistic content as requiring dissociation or extraction from its embodied form. However, the idea that effects of linguistic and non-linguistic perception may be effectively divorced in linguistic inquiries effectively denies the fact that SDP is known to affect language perception pervasively and ignores the role that SDP might have in studies that are ostensibly designed to be asocial. Conceptualizing variation as an *obstacle* to linguistic comprehension, normalization accounts of perception purport to "lend coherence to speech in the face of linguistic/phonetic variation" (Johnson & Sjerps, 2018, p. 32). However, by positing that "low level" information is lost, such accounts cannot anticipate findings such as Reinisch

(2016), which demonstrates that this detailed information is fruitfully used by participants to perceptually adapt to individual talkers.

Third-wave sociolinguistics (Hall-Lew et al., 2021) describes social identities as transient, uniquely and mutually constructed performances. Moving away from, but not entirely rejecting essentialized categories, third-wave approaches to understanding linguistic diversity characterize languaging as the utilization of linguistic resources to position oneself in a social landscape (Eckert, 2012). Rather than simply referencing bundles of demographic characteristics as sources of variation, third-wave variationists understand these "macro-level" systems of categorization as a backdrop against which local, culturally instantiated processes are enacted to create and index "identities" (Bucholtz & Hall, 2005). However, macrosociological categories such as sex and race are not pre-historic realities, but "ideal construct[s]" which are "forcibly materialized through time" (Butler, 2014, p. xii). It is necessary for psycholinguistics to reconcile the understanding of language behaviors as effecting local, culturally significant performances with the understanding that sociopolitical positioning may imbue language behavior with power in a *global* context. Further, this global power is necessarily founded in inimical ideologies such as colonialism and anti-Blackness.

Rather than treating indexical processes which commoditize identity as neutral (Silverstein, 2003), we must confront the historical role of social power in constructing certain forms of SDP as sites of violence. Whereas historically "identity" has been reified as a locus of variation, in interactions, individual identities may share social positions – the Discursively constructed products of historical projects gating access to health, wealth, and social acceptance. The impact of identity on d/Discourse thus always occurs within contexts defined by epistemologies of hierarchical social power. An anti-racist approach requires us to challenge the way whiteness pervades the construction of individual ability (Flores & Rosa, 2015) and address the way meaning-making is understood to be distributed over groups, producing the construction of person-kinds and relationships between them. Our approach to applied psycholinguistics should reflect the fact that our metaphysical understanding of the world intimately connects language behavior (*what is being said?*) with person-kinds (*what kinds of people could say such a thing?*) and normative social behavior (*is this combination of person-kind and languaging acceptable?*).

Beyond third-wave sociolinguistics

Third-wave approaches, construing social identity as mutually co-constructed, cannot fully incorporate important differences arising from contrasts in language users' security, agency, and social power. It follows from the concept of mutual co-construction that cooperation from others is a prerequisite for anyone to construct the social identity they desire. However, the ability to secure this cooperation depends on social status, which is definitionally unevenly distributed. Power differentials therefore necessarily impact the legibility of the social performances circumscribed by macrosociological categories and bely any claim to objectivity in these categorization systems.

Each social category schema invoked, for example, *womanhood* and *femininity*, necessarily defines the locus for potential disparities in power. These words define axes of social difference which are perceptually salient for determining both surpluses and deficits of social power across all contexts. It is not enough to observationally note the existence of social disparities between identities and the concomitant differences in behaviors displayed by language users; instead, our ethical mandate must be to resist leveraging these observations in ways which further naturalize social inequity. For example, although research into the putative difference in vocabulary size between children of different socioeconomic backgrounds purports to advance the interests of disadvantaged children, one effect of this line of study has been to naturalize deficit accounts of language acquisition in linguistic discourse (Fernald & Weisleder, 2015; Figueroa, 2022). Deficit accounts and the essentialized categories they rely upon for relevance, ultimately function to reinforce the underlying hegemonic logic of violence and segregation.

A major obstacle to understanding the effects of social differences is the common practice of conflating societally constructed social stations, such as local notions of appropriately performed gender and race, with the actual identities held by persons who are perceptually assigned by observers to such stations. For example, numerous studies of gendered speech have preferentially used stimuli which are associated both with cisgender identity, and with cissexist and heteronormative performances of these identities. A study of gender which only studies responses to feminine women and masculine men, but neither masculine women nor feminine men, cannot rightly said to be a study of the perception of gender, but more accurately a study of the perception of cissexist cues to social power (Tripp & Munson, 2022).

In other words, although the behavior of language users can rightly be interpreted as following from expressions of identity, it must also be understood as necessarily *constrained* by the landscape of (un)available social positioning. Rather than considering variation in linguistic performance solely as affirmatively agentive, we must also reckon with how differing social and linguistic demands placed on identities animate the construction and meaning of linguistic performance.

For example, explanations of social effects on language processing which appeal to linguistic bias (e.g., Rubin 1992) and listener expectations (e.g., McGowan 2015) all rely upon positing *shared faculties* of social differentiation. These two approaches emphasize alternately, shared knowledge of societal norms and shared psychological experiences of cues to group membership. The meta-epistemological approach provides a way to reconcile these explanations by emphasizing the role of *introspection* in determining the significance of speech variation. It is only along with learning about what social divisions are extant, significant, desirable, and normative, that we discover the links between speech varieties and the alternative ways of knowing they represent.

Being mindful that the salience of hegemonic narratives is such that there is no perception which may occur outside of its context, as psycholinguists we must identify ourselves as actors within this context, and refuse fictions of empirical neutrality. Given evidence that perception of asymmetrical power relations shapes the report and interpretation of psychophysical experience, we must treat the

acquisition, application, and generalization of psycholinguistic knowledge as reflective of sociopolitical positioning.

For example, it has been shown that African-American children may begin using racial cues to guide attention to linguistic information at an earlier age than their White peers (Kinzler & Dautel, 2012). Despite this finding suggesting that the White children's development was comparatively slow, it has not been interpreted as indicating a deficit in the linguistic knowledge or environment of White children. Contrastively, findings which demonstrate that White children possess advantages on linguistic tasks are consistently used to pathologize marginalized populations and their linguistic practices (Figueroa, 2022). We must move beyond characterizations of tasks as socially neutral and attend to how divergences in SDP, both psychoaffectively and psycholinguistically, correlate with experiences of disparity in social power. To achieve this, anti-racist psycholinguistics must draw on scholarship from other fields theorizing race (Charity Hudley et al., 2020) and include racialized research subjectivities (Clemons & Lawrence, 2020). Approaches to linguistic variation cannot make credible claims to advancing objective scientific agendas in a context of historical inequity but instead must be understood as either attempting to abet or oppose hegemonic ideologies of language.

Psycholinguistics as an meta-epistemological project: The positionality of knowledge construction

When we experience and understand language, we also experience an understanding of the social actors around us, and our relationships to the social positionalities they (appear to) occupy. Common beliefs about the linguistic capacities of individuals are demonstrably confounded with beliefs about capacities of *normativity*, *agency*, *ability*, *morality*, and *value*. A meta-epistemological approach to characterizing psycholinguistic response acknowledges language knowledge as inseparable from the social and affective knowledge that contextualizes its deployment. In this way, the comprehension of linguistic performances is entirely contingent upon assemblages of meta-linguistic perceptions (Pennycook, 2018).

Human linguistic behavior also encompasses the leveraging of language knowledge in affective expressions, including pride and bigotry. As experts on language, we cannot suppose ourselves invulnerable to such biases. To occupy a position of authority on language is to be faced with choices in the portrayal of social dimensions. These choices represent an ethical burden which may or may not be taken up.

For example, Purnell et al. (1999) situates their investigation of dialect identification within a context of racial discrimination, explicitly interpreting their results with respect to the enforcement of the Fair Housing and Civil Rights Acts. The study evinces a stance that claims of discrimination should be taken seriously, and it is conjectured that its empirical data could be used to improve legal protections for racialized persons seeking housing and employment. Comparatively, Walker (2007) and Mack and Munson (2012) treat the social variables investigated, age, social class, and sexual orientation, as neutrally perceptible features, do not discuss the role of inequity in producing the results, nor a need for interventions. Given our current understanding of the lability social differences introduce into

psychophysical perception, when approaching the perception of features which are associated with inequity, we must be mindful of the capacity for our narrative framing of SDP to evince stances which either explicitly oppose or implicitly normalize discriminatory behavior.

This problem has been well discussed in literature on English Language Teaching, wherein "native-speakerism" has been identified as a pervasive ideology associating desirable ELT strategies and outcomes as the exclusive purview of Western culture (Holliday, 2006, 2013). Endeavoring to theorize connections between the construct of the "native speaker" with that of the "authoritative" language knower, Lowe and Pinner (2016) conclude that these constructs are mutually constitutive. In other words, "cultural legitimacy is awarded through culturist notions of authenticity" (Lowe & Pinner, 2016, p. 46). Notions of ideal language users and ideal language are mutually constitutive in ways which obscure the role of socioeconomic and political power in establishing the material significance of SDP norms. The collection of psycholinguistic data therefore carries an ethical burden, one which is distinctive to the specific participants *and* to the groups they represent. The aims of any applied linguistic venture are undeniably shaped with respect to beliefs about the rights, welfare, and dignity of a specific group of people within a specific societal frame.

Rather than striving for an impossible ideal of objectively approaching applied psycholinguistics, we must instead embrace the fact that psycholinguistic experiences have intrinsic subjectivity, which is constantly and asymmetrically shaped by positionality and self-reflection.

In the example of Reinisch (2016), positionality includes the participants' access to the social positioning required of participants to be considered reasonably authoritative users of the German language, and therefore eligible to participate in the study. The included participants were all characterized as "native speakers," a label which broadly reproduces normative assumptions about the relationship between language knowledge, culture, behavior, experience, and identity (Cheng et al., 2021).

Rather than the ability of participants to identify speech segments, we should interpret the results of Reinisch (2016) as an aggregate measure of the participants' ability and *willingness* to perform the task in a way which demonstrates the *putative shared subjectivity* which made them eligible for participation in the study. Crucially, each participant is *invited* to occupy a role which is established as normative regardless of individuals' choices to participate, and each participant *affirms* that they believe themselves to authentically and naturally embody that role.

Responses provided by participants in psycholinguistic experiments are then often leveraged as evidence of generalizable psycholinguistic mechanisms existing outside of that frame. In other words, any given psycholinguistic experiment seeks to add to our knowledge of how it is that cognition of language proceeds in persons *other than its participants*. The scope of such generalizations must be carefully considered. One way this can be approached is by thinking about not only psycholinguistic studies but also the mechanisms themselves under study as methods of knowledge production. Both psycholinguistic studies *and the cognitive capacities they enumerate*, by their very existence, facilitate our engagement in the creation of shared linguistic knowledge. As van Dijk writes, "knowledge is

shared belief that has been or can be certified by the knowledge criteria of some community ... Obviously since these criteria may change historically, and vary culturally, knowledge is by definition relative, as it should be" (van Dijk, 2008, p. 245).

Though participants' ability to exercise their individual agency must be maintained throughout a study, importantly, the significance of the data is not constrained by any individual but instead is construed to reflect an accurate generalization of the target population. Insofar as applied psycholinguistics seeks to make useful predictions regarding the capacity of participants to contribute to linguistic interactions, we therefore must situate language as a form of shared knowledge and linguistic processing as a form of *shared knowledge production*. Psycholinguistic data can then be characterized as evidence regarding the questions of whether the participants share *knowledge, ways of knowing*, and *ways of performing*.

So for example, in a task which asks participants to discriminate speech sounds, like the difference between /ba/ and /da/, participant responses represent evidence regarding not only their possession of such a faculty allows them to produce *for themselves* knowledge of difference but also can shed light on the extent to which various individuals putatively able to produce this knowledge actually *cooperatively demonstrate the ability* in response to elicitations. In other words, the psycholinguistic faculty not only encompasses the production of linguistic knowledge but also how such information can or should be *shared* with other language users.

Toward understanding language knowledge as shared epistemology

A common-sense understanding of defining inclusion criteria for a psycholinguistic study is that collecting the wrong data hinders the ability of the study to produce knowledge. The social positioning of individuals not meeting the inclusion criteria effectively prohibits them from contributing data. This social distinction is implicitly justified by the understanding that, for example, non-"native German speakers" definitionally *lack access* to a specific pertinent way of knowing. This way of knowing, or *epistemology*, is likewise imputed to be *shared* by the included participants, who meet the inclusion criteria. However, the logic used to justify the reinforcement of epistemological hierarchies in psycholinguistic work is often not made explicit. We must oppose the reproduction of normative stigma Discursively attached to categories such as "non-native speakers." Our goal, rather than objectivity, should be commitment to a professional *ethic* which allows us to confront and explain sources of perceptual variance through research methods which are sensitive to perspectival context, and which are explicitly and proactively anti-racist.

Any psycholinguistic investigation thus necessarily socially constructs its included participants as *providing access to a relevant way of knowing*, with the accompanying implication that an identical way of knowing putatively *cannot* be reliably accessed by the excluded. Reinisch (2016) measured perception of

differences in intended speaking rate and intended phonemic segment in "native German speakers" as this group is agreed not to intrinsically possess any disability but instead is empowered to express an authoritative consensus regarding how differences in the intentionality of German speakers should be detected, identified, and treated. This is not to say that we should simply abandon such distinctions but to emphasize that they must be critically assessed, then explicitly operationalized. Conflating, for example, adult learners of German and "native German speakers" is not only incorrect, but also it is unethical, as it obscures the material significance of membership in these groups, and the significance of contested borders between them for psycholinguistic outcomes. If we wish to gain insight into psycholinguistic and psychoaffective differences between groups, we must urgently attend to how their very definition *produces and is produced by* material differences such as legal status, health, and wealth and by the social tension attendant to inequity.

Perception of power dynamics and psychophysical phenomena mutually influence one another during language processing, creating patterns in agreement regarding these experiences. To promote characterizations of social and linguistic diversity which critically engage with the role of power differentials in producing linguistic patterns, we must ground the understanding of language and identity offered by first-, second-, and third-wave sociolinguistics in an ethical framework which opposes the reification of linguistic differences, instead confronting the role of positionality in shaping the function, form, and understanding of psycholinguistic processes.

Prescriptions and conclusion

We offer the following rudimentary guidelines for approaching investigations of linguistic behavior as meta-epistemological.

1. Engage in a continuous process of evaluating researcher positionality. "Active reflexivity" represents a posture toward evaluating one's social location, how it may be perceived by others, and proactively engaging the consequences of discrepancies between these perspectives (Soedirgo & Glas, 2020).
2. Do not attempt to treat sites of SDP (e.g., sex, gender, class, race) as empirically neutral. These schema and the categories they include are not static but instead represent ongoing productions of sociolinguistic epistemology. Definitions of social categories like race and gender are continuously and dynamically evolving alongside sociopolitical landscapes. Forsaking the fiction of objectivity, applied psycholinguists should instead explicitly approach their work as politically significant, making their ideological positions clear.
3. Do not exclude psychoaffective factors from consideration – members of language communities definitionally have their own ways of experiencing and understanding the world, which include psychoaffective dimensions. Experimental paradigms must be presented with analysis of how explicitly and implicitly available social contexts may characteristically shape participant experiences and outcomes. In trying to generalize descriptions of

phenomena across populations, researchers should supplement quantitative investigations with qualitative assessments inviting participants to characterize their perception of their own sociopolitical identities and the perceived relevance of these identities to the investigation. For example, participants recruited to record speech for a corpus of American English varied greatly when asked to report what features are associated with a "stereotypical English speaker" (Opusunju, 2021).

Applied linguistics is political. The understanding of language which is used in public planning and policy affects outcomes in contexts as varied as education, language preservation, criminal justice, and medicine. Moving beyond the unachievable ideal of objectivity, we must articulate professional standards which uphold ideals of equity and justice, attending to how power is wielded to shape not only language behavior but also *cognitive and discursive access thereto* at all levels of linguistic analysis. In applied linguistics, we must always critically interrogate *whose* minds and whose language behavior are considered sources of distortion, whose are *not*, *by whom*, and *why*.

A more just and equitable applied linguistics must engage linguistic claims to authority as carrying distinctive ethical burdens. Universalist claims about language principally represent claims about *human* ability, even in discussions of machine systems, wherein human ability is simulated, mimicked, or otherwise the target of reproduction.

Many advances in psycholinguistics have come from using linguistic models to make processing predictions from linguistic models. However, models have traditionally been limited by the exclusion of contextual information used in concurrent non-linguistic social perception and learning. Relying on asocially construed language models assumes that in all contexts, perceivers are equally likely to believe their interlocutors are utilizing a shared universal epistemology of human experience. However, we must also be eager to interrogate the way that listeners perceive language produced by sources not readily recognized as peers – especially persons who are systemically othered and excluded.

Rather than treating identity as itself a source of psycholinguistic variation, we must instead seek to understand how knowledge of conventional linguistic behaviors is paired with the attribution and experience of psychoaffective and affiliative states. Social positioning mediates the apprehension and expression of identity, with experiences of being seen, recognized, accepted, or rejected themselves being pervasively mediated by linguistic knowledge.

A more just and equitable applied psycholinguistics must directly engage with notions of how language knowledge, or lack thereof, is used to socially position language users with respect to differences of social power, critically assessing how studies comport or contest the social construction of oppressed groups and their language knowledge as substandard.

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