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High School Choice and the Social Meanings of Sound Change in Chicago

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Abstract

As sound changes advance across large geographic areas, they progress unevenly across populations. The speakers who lead these changes often share macro-social identities, like place or social class affiliations (e.g. Nesbitt 2018; Wagner et al. 2016). But the features undergoing these macro-level sound changes also hold social meanings related to more micro-level, interactional contexts (Bucholtz & Hall 2005; Eckert 1989). Recently, the Northern Cities Vowel Shift (NCS) has been observed to be reversing in the Inland North (D'Onofrio & Benheim 2020; McCarthy 2011). In this dissertation, I explore the relationship between these macro- and micro-scale social meanings by examining how an ongoing sound change, the reversal of the Northern Cities Vowel Shift (NCS), is unfolding among Chicago-area adolescents. Using sociolinguistic interviews, social evaluation tasks, and meta-commentary drawn from interviews and perceptual dialectology, I ask how the local-level social contexts created by various high school types may influence the social meanings that are attached to regional features associated with white speakers in perceptual evaluations, and how this might in turn influence adolescents' uptake of these features in production, contributing to this macro-scale sound change. Adolescents appear to navigate a series of dichotomies, balancing ideologies depicting the Midwest as standardized or normative in linguistic terms with opposing ideologies considering urban areas like Chicago to be racially, socioeconomically, and linguistically marked.

I find that schools and other institutions play a critical role in students' understandings of their own positionalities within the broader social and linguistic landscape. Through circulating discourses surrounding high school choice, students are socialized into ideologies about institutionally-based social hierarchies *and* what it means to sound "elite" with respect to the NCS, via their exposure to similarly positioned peers in school. That is, high school choice

guides adolescents' understandings of their social positions along a hierarchy of school elite-ness, which itself is mapped onto the degree to which students engage with particular socially meaningful elements of the NCS. In social evaluations, participants associated Northern Cities-shifted vowels with lower socioeconomic status. In production, they recruit these same vowels – Northern Cities-shifted TRAP and LOT – to index a different, though related, hierarchy: school elite-ness. This demonstrates how the social meaning associations formed in local-level contexts like schools might scale up towards macro-social demographic factors, leading to broader patterns of sociolinguistic variation in the context of a sound change reversal. More generally, I argue that institutions like schools serve as organizing forces in structuring who interacts with whom and, consequently, serve as points of connection between micro- and macro-level social meaning.

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For

Shlomo Benheim (z''l), Syma Benheim,

Beverly Klein (z''l), and Sheldon Klein (z''l)

והודעתם לבניך ולבני בניך

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Chapter 1. Introduction

Sound changes occur across large populations and regions, but the features involved in sound changes are recruited in more local interactions between individual speakers to index locally-relevant social positions and stances (Eckert 1989; Eckert & McConnell-Ginet 1992). In this dissertation, I consider how the social meanings at large-scale, macro-social and more localized, micro-social levels are interrelated. To do so, I explore how these features are ideologized, perceived, and produced by Chicago-area adolescents. I argue that institutions like schools serve as points of connection between micro-level indexical moves and macro-level sound changes.

1.1 Social meaning, linguistic change, and adolescents

Identity is hyper-salient during adolescence: teenagers make use of semiotic resources in order to situate themselves socially in local environments, while developing the identity characteristics that they will carry into adulthood (Eckert 2000). This has linguistic consequences, as adolescents often push linguistic change forward (Labov 2001). Progressively younger speakers do not simply advance ongoing changes in progress. Rather, linguistic change tends to peak among adolescents as they begin to diverge from speech styles produced by older community members (Labov 2001; Tagliamonte & D'Arcy 2009). For this reason, studies of adolescents provide insight into the social processes underlying sound change. Adolescents' use or avoidance of certain linguistic features or styles is considered to be reflective of their orientation towards or away from the social meanings associated with those features (e.g., Eckert 2000). As social changes necessitate the construction of new styles and personae, young people recontextualize pre-existing semiotic resources by incorporating them into new styles (Eckert

2016; Zhang 2008) or, alternatively, overshoot the target and advance a sound change (e.g., Eckert 2011).

Individual linguistic features are underspecified for social meaning. They are instead associated with an indexical field (Eckert 2008a) of potential social meanings. Through bricolage (Eckert 2012), these social meanings are narrowed down through the combination of a given feature with other features in a style (Coupland 2007). Features become available for further stylistic use as they become recognizably linked with particular social types (*enregisterment;* Agha 2003). Speakers draw upon pre-existing socially meaningful linguistic resources to construct styles. As speakers recruit these pre-existing semiotic resources in new contexts and situations (*recontextualization*; Zhang 2008) to index newly relevant identities, they enable these features to attain higher orders of indexicality and take on new, related social meanings (Eckert 2008a; Eckert 2016; Silverstein 2003). This in turns paves the way for sociolinguistic change (Eckert 2016).

Such processes of recontextualization and shifts in the social meanings attached to linguistic features necessarily unfold in interactions (Bucholtz & Hall 2005). As a given linguistic feature is repeatedly reproduced in successive interactions, "moments of reproduction are sites of possible shifts in [indexical] relations that can be picked up and redeployed in subsequent interactions" (Jaffe 2016:92). As such, much work on language use among adolescents has centered on ethnographies conducted within high schools (e.g., Bucholtz 2011; Drager 2015; Eckert 1989, 2000; Mendoza-Denton 2008; Pratt 2018; Rosa 2019; Samant 2010; Shankar 2008; *inter alia*). Previous work has explored the relationship between local production patterns within schools and community-wide patterns (e.g., Wagner 2014; Snell 2017), as well as the relationship between perception and production of the same variants that are used to index

social category membership within a school (e.g., Drager 2015). But local concerns are not entirely divorced from community-wide patterns; individuals draw upon features' pre-existing social meanings in the broader community in order to index new, related meanings (Silverstein 2003). Indeed, work on adults has found that the high school an individual attended can influence engagement with place-linked features into adulthood (Dodsworth & Benton 2017; D'Onofrio & Benheim 2020; Duncan 2021; Labov et al. 2016; Sneller 2018), suggesting that the indexical moves unfolding "on the ground" within individual schools accrete upwards in relation to the macro-social categories that condition large-scale sociolinguistic variation and change in cities and regions.

This dissertation explores the social meanings Chicago-area adolescents attach to the vowels involved in the Northern Cities Vowel Shift, with a focus on the TRAP and LOT[1] vowels. I explore the social meanings these and other linguistic features take on within the broader community in meta-commentary (assessed through sociolinguistic interviews and a perceptual dialectology task) and social evaluations (through a matched guise study). I then explore how these features are deployed by speakers in production and how these macro-level associations with class- and place-based meanings take on micro-level meanings based on adolescents' high school environments. By exploring how these features are socially evaluated and produced by participants from multiple high schools, I connect adolescents' understandings of locally-meaningful features with their socialization into social positionalities within the wider community.

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[1] Throughout this dissertation, I use Wells's (1982) lexical sets to refer to vowel classes.

1.2 Whiteness, place, and school choice

Sociolinguistic studies of regional variation and sound change sometimes take for granted that "regional" features are representative of white speakers. Features associated with racialized minorities are often treated as indices of speakers' racial identities, or alternatively, discussed in terms of their convergence or divergence with local white varieties (Gordon 2001; Yaeger-Dror & Thomas 2010), though a growing body of work is beginning to contest this framing by exploring regional variation within non-white racial and ethnic groups (e.g., Eckert 2008b; King 2016; Wong & Hall-Lew 2014). In many studies, however, white speakers continue to be treated as a default: place-linked regional variation among white speakers is often assumed to be straightforwardly indexical of place identity alone, rather than a resource for indexing specifically *white* localness. Research on whiteness in sociolinguistics has, to date, generally focused on phonetic and discourse variables which are not known to vary by region (Bucholtz 2011; Hill 2008; Kiesling 2001). Explorations of whiteness in terms of regional features have been limited to discussions of inter-ethnic differences in the use of these features by various white ethnic groups (e.g., Becker 2014; Labov 1966; Wagner 2014), or associations between white ethnic identity and particular place-linked features (e.g., Benor 2010; Johnstone 2017). Such studies have found links between white ethnic (especially Irish, Italian, or Polish) identity, the working class, and regional features in Pittsburgh (Johnstone, Andrus, & Danielson 2006; Johnstone 2017), New Orleans (Carmichael 2014), New York (Becker 2014; Becker & Newlin-Łukowicz 2018), and Chicago (D'Onofrio & Benheim 2020). That place-linked features are used differentially by various white social groups within these locations suggests that they are socially meaningful to speakers beyond their place associations alone.

In the Inland North, for example, Van Herk (2008) has suggested that white speakers may have advanced the Northern Cities Shift (NCS) as a form of "symbolic white flight" during the 20th century, heightening differences between local white and Black vowel spaces. This positions this sound change in more agentive terms: linguistic variation connected with white speakers is not simply a reflex of white speakers' orientation to place, but a symbolic resource with social meanings linked to race and place. From an ideological standpoint, whiteness is a means of accumulating material and symbolic resources (Bonilla-Silva 2019; Lipsitz 2006; Omi & Winant 2014; Roediger 1991). As linguistic resources can serve as symbolic capital (Bourdieu 1977), this framing necessitates explorations of the social meanings – and social value – behind linguistic features recruited by white speakers for indexical purposes.

As a result of the racialized residential segregation common to many United States cities, especially those in the North (Meyer 2000), race and place are often intertwined. In a study of speakers from Washington, D.C., for example, Grieser notes that: "To talk about the heavily black Southeast neighborhood of Anacostia is to talk about blackness, to talk about the predominantly white neighborhoods in the upper Northwest is to talk about whiteness… to talk about D.C. as physical space is to implicitly talk about race" (2013:87). The same holds true in urban areas like Chicago, with areas like "the South Side" and "the West Side" of the city ideologized as Black and Latinx[2], respectively, as well as in broader regions like "the Midwest,"

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[2] Throughout this dissertation, I use the term "Latinx" to refer to the overall ethnoracial category of people with ancestry in Latin America. However, given the numerous possible labels for this group (e.g., Latino/a, Hispanic, Chicano, etc.), I refer to individual participants by their self-reported racial/ethnic identification from the open-response item in the interview and/or matched guise task questionnaire (Chapter 2, Chapter 4). In referring to other research, I default to using the terms utilized by each study's author(s), in part because some of these studies delineate particular demographic groups within this larger category (e.g., specifically "Mexicans" rather than all Latinx national origins).

which is itself ideologized as white (Gordon 2019), contributing to the erasure (Irvine & Gal 2000) of racialized diversity within these areas. And of course, these place- and race-based ideologies are themselves mapped onto linguistic ideologies, with "the Midwest" commonly considered normative, standardized, or unmarked with respect to accent (e.g., Preston 1999).

Differential use of place-linked features along racialized lines is typically attributed to the residential segregation common to U.S. cities (Labov 2014; Yaeger-Dror & Thomas 2010). Yet contact between racialized groups is mediated not only by residence, but also by institutions. School is of primary importance to adolescents' social lives (Eckert 2000), yet high school systems are becoming increasingly segregated (Thompson Dorsey 2013). While this is partially due to residential segregation and districting policies (Frankenberg 2009), school choice and the self-selection of white students into private schools are also contributing factors (Clotfelter 2004; Minow 2010). White families' decisions to attend private schools or move to suburban school districts have been considered a contemporary form of white flight, an extension of earlier patterns of residential white flight (Sander 2015).

Furthermore, schools are important sites for adolescents' socialization into ideologies regarding race and class. Work in sociology and social psychology contends that childhood and adolescence are important developmental stages for racial socialization, including for white children. White parents often fail to discuss issues of race with their children beyond "colorblind" (Bonilla-Silva 2003) ideologies, leaving schools and social networks as the primary sites for white children to develop racialized attitudes and identities (Loyd & Gaither 2018; Hagerman 2018). Contact with racialized diversity in school – or the lack thereof – "can positively and negatively affect how white children perceive race and ethnicity, which also affects how they view themselves (e.g., social position)" (Loyd & Gaither 2018: 61).

Schools are similarly important sites for adolescents' development and awareness of class consciousness. While parents' socioeconomic status is related to but not deterministic of the type of school their children attend (attending a private or suburban public school necessitates having the financial resources to pay tuition or live in a suburb, for example), work in sociology has documented how parents' socialization of class-based values in the home interacts with students' class-based socialization within schools (Calarco 2018; Jack 2019; Weis, Cipollone & Jenkins 2014). In high schools, adolescents learn class-linked social behaviors related to interactions with authority (Jack 2019), asking for help (Calarco 2018; Jack 2019), and expectations for their future socioeconomic potential, itself linked with ideologies about the role of attending a prestigious college in securing a "successful" financial future (Weis et al. 2014). While high schools can certainly be internally socioeconomically diverse (Calarco 2018; Eckert 2000; Hagerman 2018; Jack 2019), school selectivity, material differences in school funding, and differences in the racialized makeup of particular schools all contribute to perceptions of school quality (Goyette, Farrie & Freely 2012).

In addition to geographic and economic factors, white parents' decisions about high school choice can be racially motivated. For instance, as schools become racially diverse, white parents become increasingly likely to view them as poor quality, regardless of students' actual academic performance as assessed by metrics like standardized test scores and graduation rates (Goyette et al. 2012). Indeed, even white parents who claim that they view racialized diversity as an important factor in selecting a school often rely on racist stereotypes in their ultimate school choice decisions (Evans 2021). The result is a hierarchical system in which many urban neighborhood public schools are viewed as "bad" schools, while suburban public schools, selective admissions magnet schools, and private schools are perceived as better-quality

alternatives. Importantly, non-white families in urban areas also seek to send their children to what they perceive as high-quality schools. However, barriers to accessing "elite" schools disproportionately affect low-income Black and Latinx families (for example, geographic barriers leaving magnet schools out of range of a reasonable commuting distance from low-income Black and Latinx neighborhoods; Pattillo 2015).

As a consequence of these macro-social patterns related to classed and racialized positionality, school choice has linguistic ramifications: while individuals do shift their use of some linguistic features as they graduate high school (Prichard 2016; Prichard & Tamminga 2012; Wagner 2008), the high schools they attend continue to impact sociolinguistic production into adulthood (Dodsworth & Benton 2017). This pattern has been attributed to the classed (Carmichael 2014) and racialized (D'Onofrio & Benheim 2020; Labov et al. 2016) demographics of various school types, the selectivity of schools' admissions policies (Labov et al. 2016), and the role of high schools as social group markers (Duncan 2021). Interestingly, white adults' use of place-linked linguistic features in U.S. cities has been demonstrated to correspond to specific types of school enrollments: those who attended Catholic school tend to produce more traditionally white, working class regional features, compared to those who attended public schools or private schools with selective admissions policies, a pattern which has been observed in Philadelphia (Labov et al. 2016; Sneller 2018), South St. Louis (Duncan 2021), and Chicago (D'Onofrio & Benheim 2020), though cf. Carmichael (2014), who observed that attending Catholic school in Great New Orleans was correlated with higher socioeconomic status and extra-local orientation, and therefore fewer local working class-linked variants. This work suggests that these patterns may emerge due to the relationship between place, class, and school

choice in a particular locale. At the same time, that similar patterns have been found in cities throughout the United States suggests that similar social factors may underlie these processes.

However, sociolinguistic work on school choice effects has so far only focused on adult alumni of these schools. As linguistic styles are used to position the self in relation to the surrounding social landscape (Coupland 2007; Eckert 1989), understanding the roles of schools in mediating the link between local-level interactions and more macro-level sound change at a city-wide level necessarily involves studying the speech styles of high school students themselves. In this dissertation, I explore the social meanings that adolescents attending different school types in the Chicago area attribute to features of the Northern Cities Vowel Shift (NCS), a vocalic system associated with white speakers in the region that is currently undergoing reversal (D'Onofrio & Benheim 2020; McCarthy 2011). I am especially focused on the role that social meaning plays in how white adolescents – those historically most likely to produce Northern Cities-shifted vowel spaces – orient towards or away from the NCS in the context of this dynamic sound change.

1.3 The Northern Cities Shift in Chicago

The Northern Cities Shift (NCS), or the clockwise rotation of the low and mid vowels (Figure 1.1, reproduced from D'Onofrio & Benheim 2020), is the regional vocalic pattern historically described as typical of white speakers in the Inland North, including Chicago (Herndobler 1977; Labov, Ash, & Boberg 2006; McCarthy 2011; *inter alia*).

Figure 1.1. The Northern Cities Shift
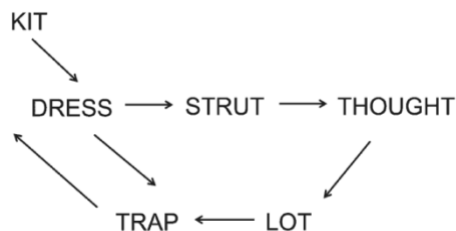
The NCS is ideologically linked with white Inland Northerners (Gordon 2001) and is argued to

have been brought to the Inland North as a result of westward migration from New England in

the 19th century (Labov 2007). Using correlational evidence, Van Herk (2008) proposes that the

NCS unfolded across the Inland North over the course of the mid-twentieth century as a form of

"linguistic white flight." The NCS pattern heightens differences between white and Black

speakers' vowel spaces in the region, and it advanced concurrently with late-20th century

physical white flight away from majority-Black neighborhoods in Northern cities like Chicago.

Today, ideologies prevalent in metalinguistic commentary (Benheim & D'Onofrio 2023;

D'Onofrio & Benheim 2020; D'Onofrio, Benheim & Foster 2020) and performances (e.g.,

Hallett & Hallett 2014) suggest that NCS features – particularly raised/fronted TRAP and fronted

LOT – are enregistered (Agha 2003) with working class, "white ethnic" (Irish, Polish, or Italian)

personae and neighborhoods.

These ideological links are corroborated in actual production patterns by some of these

speakers. In one community area, white speakers as a whole produced more Northern Cities-

shifted vowels than Black speakers (D'Onofrio et al. 2020) and older Irish Catholic speakers

were more Northern Cities-shifted than their Protestant neighbors (D'Onofrio & Benheim 2020).

However, there was not a straightforward mapping of NCS vowels to ethnoreligious identity:

Catholic speakers who were alumni of Catholic schools displayed more Northern Cities-shifted

vowels than their religiously-Catholic peers who had attended public or non-parochial private schools (D'Onofrio & Benheim 2020).

Recently, the NCS – and specifically, the TRAP and LOT vowels – has been observed to be reversing throughout the Inland North (Driscoll & Lape 2015; Thiel & Dinkin 2020; Wagner et al. 2016), including in Chicago (Durian & Cameron 2018; McCarthy 2011), such that TRAP backs and lowers and LOT backs in apparent time. In various Inland North locales, this reversal has been attributed to economic changes leading individuals to orient away from Lansing, Michigan (Wagner et al. 2016) and Rochester, New York (King 2018) and to increasing meta-linguistic awareness and negative evaluations of the NCS (Driscoll & Lape 2015; Thiel & Dinkin 2020; Wagner et al. 2016). Attitudinal opposition to "white flight"-linked personae – those ideologically associated with the NCS – has been argued to be a potential driver of NCS reversal among at least some speakers in Chicago. Younger speakers who discuss racialized diversity as a positive attribute in their neighborhoods, often promoting "colorblind" (Bonilla-Silva 2003; Hill 2008) ideologies of diversity, were found to produce more reversed (less NCS) vowels than those who view this diversity as a source of tension (D'Onofrio & Benheim 2020).

1.3.1 Whiteness and the Northern Cities Shift

As a set of features enregistered (Agha 2003) with both white ethnic identity and the white working class, as well as higher-order indexical associations (Eckert 2008; Silverstein 2003) to attitudes related to racialized diversity, NCS features are likewise linked to ideologies related to the white ethnic working class itself. Work in the field of whiteness studies has suggested that, while white ethnic and working class identities are perhaps marked relative to the supposed "default" status of other white identities, these positionalities also imbue individuals with symbolic privileges specifically associated with these marked instantiations of whiteness

(Roediger 1991). The historical and ideological associations between white ethnics and the working class allow for white ethnic identity to serve as a shorthand for class affiliation in and of itself, as well as related indexical ideologies (Silverstein 2003) about values linked with this race-class status, such as being hardworking or self-sufficient (Lindquist 2003; Nayak 2007; Painter 2010). Bucholtz (2011), for example, describes the tendency of many of her white participants to label themselves not just as white but as white ethnic, choosing ethnically-coded pseudonyms or explicitly describing themselves as Jewish or Irish American, and asserts that these students felt that "white" was not a sufficient category to capture their cultural experiences. Although white ethnics once predominated the urban working class in Chicago and elsewhere in the United States, changes in white ethnics' socioeconomic status, increasing racialized diversity in cities like Chicago, and changes to the nature of many working-class jobs (from manufacturing to service oriented; Wagner et al. 2016) has led to a weakening of the connections between white ethnics as a group and the working class.

While broad-sweeping sound changes occur at city or even region-wide levels, work in the third wave tradition in sociolinguistics has found that the linguistic features involved in sound change are utilized by speakers at a more micro-scale as a way of indexing identities, positions, and stances within local contexts and communities of practice (Eckert 1989; Eckert & McConnell-Ginet 1992). Given that high school attendance mediates engagement with NCS features in Chicago adults (D'Onofrio & Benheim 2020), it is important to explore the role of high schools as sites where linguistic features and styles are employed in local-level interactions. Institutions like schools, then, mediate the connections between these small-scale indexical moves and macro-level of regional sound change.

1.4 School choice in Chicago

As discussed above, white families' self-selection into private schools has been considered a form of contemporary white flight, drawing students and financial resources away from predominantly Black and Latinx urban public schools (Lauen 2007; Sander 2015). In Chicago, more than half of all white students attend private schools, with a two-thirds majority of these attending Catholic schools. White children opt out – or rather, are opted out by their parents – of the Chicago Public School system at dramatically higher rates than students of color (Sander 2015). The result is a starkly segregated education system: Chicago is 45% white (United States Census Bureau 2022), but white students comprise just 11% of Chicago Public School students (CPS 2020), which includes neighborhood, charter, and "selective enrollment" (magnet) high schools. The public-private distinction is further complicated by the tendency for white families moving out of the city to take advantage of allegedly "higher quality" public schools in suburban districts (Sander 2015). In this dissertation, my participants attend five broad high school types: neighborhood public schools within Chicago, "selective enrollment" magnet schools in Chicago, suburban public schools, Catholic schools, and non-parochial private schools.

These categories reflect the social landscape of school choice within the Chicago metropolitan area. Importantly, previous sociolinguistic studies of school choice in other urban areas have not focused on this full set of contrasting school types. Sneller (2018) and Labov et al. (2016) compared alumni of either Catholic or magnet high schools in Philadelphia, and Duncan (2021) and Carmichael (2014) compared suburban public and Catholic schools in South St. Louis and Greater New Orleans, respectively. Sneller (2018) notes that very few white students in Philadelphia attend non-magnet (i.e., neighborhood) public schools, whereas Duncan (2021)

observes that even magnet school attendance is uncommon among white students in Greater St. Louis. Chicago is unique in comparison to these other cities in that, though small, a sizeable number of white students do attend neighborhood public schools, though this population is restricted to a handful of schools in majority-white neighborhoods with white plurality student bodies.

The term "school choice" is often used broadly by politicians and policy-makers to refer to specific policies, such as voucher programs[3] directing public funds towards private school tuition or the opening of charter schools which receive public funding but are run by private organizations (though evidence for the effectiveness of this intervention on student achievement is mixed at best; Rouse & Barrow 2009). In this dissertation, however, I follow Ben-Porath and Johanek (2019) in defining school choice as the ability for families to determine where their children attend school from among multiple options. As Ben-Porath and Johanek write (emphasis theirs), "The question [for policy-makers] is not *whether* to have school choice. The question is *how* we will regulate *who* has *which* choices in our mixed market for schooling – and what we want to accomplish as a nation with that mix of choices" (2019: 1). This is mainly because the primary strategy that well-resourced parents use to "choose" schools is residential choice: deliberately living in neighborhoods that district into their favored schools (Sander 2015). In countries like the United States, Ben-Porath and Johanek argue that education is a "public/private/positional" good, in that while public options exist, so does a private market, and that as a "positional good," education quality creates an ordered hierarchy which confers greater benefits on some individuals compared to others (2019).

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[3] Chicago does not have a voucher program of this type.

Neighborhood schools in the Chicago Public School (CPS) system are in some ways the default option as the local public schools to which urban residents are districted. However, most white families in the metro Chicago area elect to send their children to other school types (Sander 2015). In this dissertation, those participants who remain in CPS neighborhood schools sometimes do so for socioeconomic reasons, as they are financially prohibited from attending a private school or living in the suburbs. In other cases, however, parents or students themselves deliberately select into their neighborhood schools (see Chapter 2). However, these students' families still demonstrated some strategizing regarding school choice, for example, by choosing to live in neighborhoods that are districted to plurality-white public schools rather than similar-income neighborhoods elsewhere in the city. Some took the admissions test for selective enrollment (magnet) schools but did not score highly enough to gain admission; others were tracked into advanced or IB programs within their neighborhood schools and opted to remain enrolled there rather than apply to a selective enrollment school.

Other participants were successfully admitted to *selective enrollment high schools*. Importantly for thinking about how school choice socializes adolescents into classed positionalities, it is important to note that Chicago's selective enrollment schools follow a class-based affirmative action policy: 30% of seats available are reserved for the students who achieve the top 30% of scores on the admissions exam, regardless of family income. Beyond that, however, the remaining seats are allocated proportionally based on neighborhood-level income, itself effectively a proxy for race. Though this policy is controversial, particularly among families who live in more affluent neighborhoods, the result is that these schools are among the most racially and socioeconomically diverse in the city (Lauen 2007). However, many students interviewed for this dissertation discussed their families' alternative plans had they not been

admitted to selective enrollment schools: while some would have attended their neighborhood

public school for financial reasons, many discussed tentative plans to move to the suburbs or

attend a private school in order to avoid their neighborhood CPS schools.

Families who opted out of the public school system did so for a variety of stated reasons.

Among *Catholic school* attendees, some participants explicitly discussed that their parents did

not want them to attend their neighborhood public school (a reason shared by *non-parochial*

private school attendees, in addition to a desire for smaller class sizes or other features

unavailable in either Catholic or public schools). Others discuss their parents' desire that they be

educated within a Catholic religious and cultural tradition. While the few participants who

attended non-parochial private schools were from families which occupied by far the highest

socioeconomic positions in the sample, Catholic school attendees came from a broader

socioeconomic range, as tuition is subsidized by the archdiocese.

Finally, all but one suburban resident attended a *suburban public school*. While the

suburbs are, on the whole, more affluent than the city, individual suburbs – and their residents –

occupy a range of socioeconomic positions. In contrast to Chicago residents, however, suburban

participants uniformly explicitly describe their parents' decisions to live in particular areas as

motivated by the availability of perceived high-quality public schools. Indeed, most suburban

participants discuss how their families chose to live in more expensive areas, further from their

own jobs in the city, in the interest of sending their children to "high-quality" (and better funded)

public schools. A few even discuss their parents' disappointment in purchasing a house only to

discover that it was districted into what they perceived as a "lower-quality" suburban school than

the one they intended to enroll their children in.

As exemplified above, high school choice is commonly discussed among participants and their families; nearly all participants in sociolinguistic interviews were able to share details regarding their families' decision-making processes about high school choice, resulting in a process viewed as agentive and motivated by the perceived poor quality of neighborhood schools within the Chicago Public School system (see Chapter 2). In this dissertation, I argue that this agentive process leads to adolescents' socialization into the social meaning associations of NCS features, and that these features are subsequently recruited in production as adolescents index their own social positionalities as developed through high school choice.

1.5 Organization of the dissertation

The bulk of the data for this dissertation was collected via sociolinguistic interviews (Labov 1972). In Chapter 2, I discuss the recruitment methods and interview procedures, the participants in the study, and my own positionality in relation to these participants. I conclude by considering students' discourses regarding their families' school choice decisions.

In Chapter 3, I turn to the ideological landscape of linguistic variation in Chicagoland, evidenced by the attitudes present in participants' meta-commentary in sociolinguistic interviews and in perceptual dialectology tasks. In Chapter 4, I discuss how social meanings related to Northern Cities-shifted TRAP and LOT vowels emerge in social evaluations through a matched guise task. I discuss the indexical associations that emerge between NCS TRAP and LOT and social meanings linked with class and age. In particular, I discuss the role of style in social meaning associations, as the juxtaposition of TRAP and LOT with a linguistic cue to low-socioeconomic status, (dh)-stopping, leads to differences in evaluations of the speakers.

In Chapters 5, 6, and 7, I turn to the production side of the equation. In Chapter 5, I discuss the macro-social and structural concerns at issue with the reversal of the NCS. In Chapter

6, I return to the issue of school choice, demonstrating that despite the class-linked associations of NCS TRAP and LOT in perception (Chapter 4), school choice mediates engagement with these vowels to a greater extent than does socioeconomic background. I discuss the implications of this finding in terms of changing indexical orders (Silverstein 2003) for these vowels. In Chapter 7, I compare spontaneous speech data to wordlist productions, finding that the directionality of participants' style-shifting in the wordlist context is structured by their attitudes towards elite schooling.

Finally, in Chapter 8, I conclude by discussing the role of institutions like schools in socializing individuals into their positionalities within the larger speech communities. I argue that as regional sound changes unfold, institutions mediate the link between macro-social sound changes across broad areas of geographic space and the social meanings these changes take on within micro-level contexts.

Chapter 2. "You've gotta find the right school for you": Participants, positionality and school choice

2.1 Participants

The majority of the data in this dissertation (Chapters 3, 5-7) are drawn from sociolinguistic interviews conducted with 42 Chicago-area adolescents, though the perceptual dialectology task (Chapter 3) and matched guise task (Chapter 4) include expanded samples. I discuss the methods for each of these studies in their respective chapters.

Participant recruitment was ongoing between 2020 and 2022. The inclusion criteria were that participants must be from the Chicago area (defined broadly), have spoken American English since childhood, and enrolled in or just completed tenth-twelfth grade at the time of interview. I chose to exclude ninth grade students because I wanted participants to have spent sufficient time in high school to be able to build relationships with their peers and engage in local communities of practice within schools (Eckert 1989). Additionally, at the start of interviewing during summer 2020, many incoming ninth grade students had never attended high school in-person and it was not yet clear when this might change. In practice, this meant that I interviewed participants from the high school classes of 2020-2024, with participants in the class of 2020 interviewed in the summer following their high school graduation. While I acknowledge that it's possible that these students might have shifted their linguistic productions somewhat as they anticipated joining new speech communities and communities of practice after high school (e.g. Wagner 2008), I opted to include them in order to broaden the participation criteria as much as possible. Additionally, Wagner's (2008) study focused on a feature under stable variation ([ɪn]/[ɪŋ]), rather than vocalic features. While I leave open this possibility, recent high school graduates did not appear to systematically differ from other students in terms of their vocalic

productions in this data. During the 2021-2022 academic year, I began interviewing members of the class of 2024, who had been in ninth grade during the first year of interviewing.

Participants were recruited primarily through social media posts in neighborhood and parenting groups local to the Chicago area, as well as through snowball sampling. Though I initially attempted other recruitment methods as well, including asking schools to share study information with parents and posting flyers in public locations, these methods proved to be dramatically less effective than social media. I also found recruitment to be much more successful during school vacations than during the academic year, likely because students were less busy with schoolwork and activities, and I attempted to align my recruitment efforts with this schedule.

As the Northern Cities Shift is primarily associated with white speakers, I directed most of my recruitment efforts towards neighborhoods and suburbs with white majorities and pluralities, though I did not exclude participants from other neighborhoods and occasionally posted study information in social media groups from majority non-white areas as well. This sampling procedure is reflected in the participant demographics outlined in Table 2.1 below. I discuss the specifics of school types in Chapter 1, and the designation of school types into overarching categories (elite v. non-elite v. suburban) in section 2.4.

Table 2.1 Self-reported demographics of interview participants. All school and participant names are pseudonyms.

School type	School	Participant	Year of birth	Gender	Race/ethnicity	City/ Suburb
			Elite Schools			
Private	Audubon Byrne	Michelle Olivia Jenna	2003 2006 2006	Female Female Female	Caucasian/white white Latina	City City City

Selective Enrollment High School (SEHS)	Anning	Candace	2003	Female	white	City
		Sarah	2003	Female	Black	City
		Vivian	2004	Female	White	City
		Sydney	2004	Female	white	City
	Banneker	Sophie	2005	Female	Chinese - Asian	City
	Carson	Adam	2004	Male	white	City
		Spencer	2006	Male	white	City
	Darwin	Ariel	2004	Female	White/Caucasian	City
	Einstein	Kara	2004	Female	Race: white Ethnicity: Hispanic/Latina	City
		Emily	2006	Female	white	City

Non-Elite Schools

Catholic	St. Andrew	Christina	2003	Female	Mexican	City
	St. Beatrix	Trinity	2004	Female	white	City
	St. Catherine	Kylie	2004	Female	White and Italian	City
		Kendall	2003	Female	White European	City
	St. Dominic	Ezekiel	2005	Male	white	City
	St. Edward	Chloe	2002	Female	white	Suburb
		Eden	2006	Female	Caucasian	Suburb
	St. Felicitas	Mackenzie	2003	Female	white	City
	St. Gabriel	Ranger	2006	Male	German	City
Chicago Public Schools (CPS)	Addams	Mary	2002	Female	Armenian	City
		Chelsea	2006	Female	white	City
	Bristo	Bartholomew	2003	Male	white	City
	Colvin	Valerie	2002	Female	Black and Hispanic	City
	Davis	Hannah	2006	Female	white	City
Charter	Arendt	Pilar	2004	Female	Hispanic	City
	Beauvoir	Miranda	2002	Female	Hispanic	City
	Camus	Ashley	2003	Female	Asian & Pakistani	City

Suburban Public Schools

Suburban Public	Angelou	Piper	2005	Female	white	Suburb
	Blake	Leah	2005	Female	white	Suburb
	Cisneros	Elyse	2004	Female	Caucasian	Suburb
	Dickinson	Jeremy	2002	Male	Native American	Suburb
		Audrey	2006	Female	Caucasian/White	Suburb
		Ava	2005	Cis Female	white (Polish & Ashkenazi Jewish)	Suburb

	Eliot	Roman	2002	Male	Mexican American	Suburb
		Elaina	2005	Female	white	Suburb
		Harper	2006	Female	white	Suburb
	Frost	Allie	2003	Female	white	Suburb
	Gibran	Peter	2005	Male	white	Suburb
	Hughes	Brandon	2005	Male	Caucasian	Suburb

2.2 Sociolinguistic interview procedure

2.2.1 Recording methods

Sociolinguistic interviews were conducted over Zoom, lasting between forty-five minutes and an hour and a half. Zoom's screen-sharing functionality was used to provide participants with consent/assent documents, the demographic questionnaire, and the wordlist. However, Zoom's built-in recording functionality results in compressed MP3 files (Freeman & De Decker 2021), rendering it a dispreferred option for acoustic analyses. Instead of Zoom, audio was recorded using Zencastr, which records locally (on each participant's device) in lossless 16-bit 44.1 kHz WAV format. Since I began data collection, a newer version of Zencastr was released that enables video-conferencing, but as screensharing was still unavailable I chose to continue to use Zoom for video (not recorded) and use Zencastr only for recording audio. Participants received a $10 digital gift card in exchange for participating in an interview.

Upon beginning the Zoom meeting, I first obtained consent/assent from participants (and permission from parents of minors). I then sent a link through the chat to open a Zencastr recording. Participants were informed that they could decide whether to keep their cameras on or off. Though this was infrequent, if the internet connection seemed unstable at any point during the interview, I instructed participants to turn off their cameras to preserve bandwidth.

I began the interview by having participants complete a demographic questionnaire (Appendix A), shared via Google Forms. With the exception of their grade in school, all

questions on this form were open-response boxes. I recognize that throughout this dissertation I have collapsed students' various self-reported backgrounds into aggregate categories (for example, combining participants who listed their ethnicities as "white," "Caucasian," "German," and "Armenian" into a singular "white" category) that may not reflect smaller scale divisions within these groups or students own affiliations. Given discourses surrounding race and ethnicity by these participants and in the Chicago-area more generally, however, I feel comfortable discussing these broader racialized categories, even as more localized distinctions may still exist.

All interview participants identified binarily as either "female" or "male" (with one participant specifying that she is a "cis female"). I refer to participants throughout this dissertation as "boys" and "girls" to emphasize my assumption that any gender-related differences that emerged are related to social, rather than physiological, identities.

Participants were given the option of selecting a pseudonym. In cases where a participant declined to provide a pseudonym, I assigned one to them by selecting randomly from a list of common first names for children born in the United States between 2000 and 2010. I also assigned pseudonyms for individual schools. Throughout this dissertation, I refer to individual neighborhoods and suburbs by their actual names while defaulting to pseudonyms for schools and participants. However, as high school catchment areas in Chicagoland are often districted at the neighborhood or suburb level (with entire neighborhoods or suburbs districted to the same public school), in quotations where participants are discussing their own neighborhoods or suburbs by name (or discussing other neighborhoods in relation to local public schools), I have replaced these names with more general descriptions of geographic area in question. In places where I have done this, the replacement is indicated by square brackets (e.g., [the Northwest Side] or [a Northern suburb]).

These sociolinguistic interviews differed from traditional sociolinguistic interviews (e.g., Labov 1972) in several ways. First, participants were given the option of having a parent with them as they completed the interview. Parents typically left the room after giving permission for their children to participate, but sometimes a participant or parent requested that the parent remain present. Though interviews with adolescents are usually conducted without authority figures present under the assumption that such adults might influence linguistic production (e.g., Eckert 1989), I felt that participant comfort during the interview was a higher priority than ensuring that I was receiving their "most vernacular" (Labov 1972) productions. Further, as many interviews were conducted during the early part of the Covid-19 pandemic, when many parents were working from home, it was highly likely that parents and other family members could overhear portions of the conversation even if they were not in the immediate environment, and that this fact was known to participants (e.g., Bell 1984's overhearers). I occasionally had to remind parents not to answer questions for their children, as in the following exchange between Sophie and her mother while filling out the demographic questionnaire:

Sophie: Um I'm Chinese Cantonese.

Sophie's mother: You're Asian. It's Asian on forms.

JB: It's however you want to put it.

Sophie: Um. Chinese is okay. Asian, Chinese.

Participants also sometimes demonstrated awareness during the interview that their parents were present:

Ranger: Apparently the – the – when you graduate you smoke a cigar in the like celebratory thing. Yeah she's [indicating his mother] *looking at me – she's looking cause she didn't know that.*

For the most part, however, parents who were present were relatively unobtrusive, though I assume that participants were likely monitoring the content of their speech in the presence of their parents at least to some extent.

Relatedly, I did not follow Labov's (1972) method of deliberately targeting highly emotional conversation topics for the sake of eliciting participants' least guarded speech styles. I felt that "danger-of-death" style questions were inappropriate to use with adolescents (see also Grieser 2019, who found that these questions did not elicit significant topic-based effects on African American English morphosyntax), especially in the middle of a global health crisis (see section 2.2.2), and while I occasionally asked participants about experiences from their childhoods, this line of questioning was usually met with some confusion about why I would be interested in their early grade school years beyond academic experiences. Given the recency of "childhood" for adolescents, I speculate that they perceived this topic as infantilizing, rather than nostalgic.

That is not to say that interviews did not cover emotion-laden topics, or that I did not ask pre-planned questions. Though I generally allowed participants to take the lead on discussions, and followed up on topics that they initiated, there were certain topics that I aimed to cover in every interview, including:

- Do you know why your family decided to live in the neighborhood/suburb you do? How do you think it compares to other parts of the Chicago area?

- School choice questions:

    - *If attending a school other than their neighborhood public school*: How did you or your parents decide on attending [school]? What was that process like?

- o *If attending their neighborhood public school:* Were you always going to attend [school], or did your parents consider other options?

- Do you have a sense for how friend groups are formed at your school?

- Are there stereotypes about your school? What about other schools in the area?

- Have you thought about what you might want to do after high school? Do you think you'll want to stay in the Chicago area as an adult (as a measure of rootedness; Reed 2020).

- How do you think Chicago compares to other parts of the country?

For the most part, interviews tended to center on academic and social experiences in high school, opinions about the Chicago area, plans for the future, and thoughts about contemporary adolescents (who participants often referred to as "Gen Z") more generally. Since participants knew that I was interested in studying language, many volunteered information about language courses they had taken in school, additional languages that they speak, or language-related school activities with which they were involved, like debate team or French club.

At the end of the interview, participants read a wordlist aloud (see Chapter 7). Following the wordlist, I asked them several questions aimed at eliciting meta-linguistic commentary, including whether they thought there was a Chicago accent, who might be likely to use this accent and where they were likely to hear it, and whether they thought there were things that younger people said differently from older people.

2.2.2 A note on Covid-19

Given the timing of data collection, the Covid-19 pandemic was an unavoidable influence on nearly every aspect of this dissertation. Data collection was conducted entirely remotely, necessitating the adoption of remote recording methods that had previously been disfavored in

sociophonetic work (De Decker & Nycz 2011; Sanker et al. 2021). I was fortunate to be working with a population that had computers with internet access and was accustomed to using them, but background noise due to the presence of other people in the household and spotty internet connections were persistent issues.

Most importantly, however, were the ways in which the pandemic affected my participants. Students were variably in and out of in-person, hybrid, or remote schooling and were physically separated from their peers for long periods of time. The pandemic highlighted pre-existing social stratification within and across schools. For example, Kendall, interviewed in February 2021, reported:

> *But really with coronavirus I've seen that there's a complete like lack of understanding of the world around us and I think that a lot of it has to do with like the sense of privilege. Because um like before coronavirus what was happening is like everyone was having parties, you can obviously tell like who has more money than others sometimes… Um but once coronavirus happened it's just like there were some kids that truly feel that like their financial status or just like social status is like cannot be defeated in any way and those parties have continued to go on.*

The pandemic also highlighted disparities between schools. Participants discussed dramatically different experiences in remote schooling as a consequence of their schools' resources. For example, many students at neighborhood public schools discussed having difficulty making friends or gaining their teachers' attention to ask questions during remote classes, whereas many private and Catholic schools were conducting classes in-person on at least a hybrid schedule beginning in Fall 2020. Students at selective enrollment high schools discussed what they felt were relaxed academic standards and a greater focus on mental health throughout the pandemic,

but many at less well-resourced schools discussed feeling pressure from their teachers to learn

large amounts of new material independently despite the ongoing crisis.

2.3 My positionality as a researcher

My own identity (at least, as it was perceived by participants) certainly impacted the

interview dynamic. I am not from Chicago – I lived in the Mid-Atlantic region of the United

States (Labov et al. 2006) until I was 22 – so it is of course possible that these participants

converged to some extent to my Mid-Atlantic vowels. I often told participants that I was non-

local in asking them questions about Chicago and the local school system(s) because this enabled

me to ask questions that might have seemed "obvious" to someone from the area (for example,

questions about why certain schools were perceived as "good" or "bad," or how the application

process to Selective Enrollment Schools worked).

Perhaps most importantly, however, I was an unfamiliar adult. Unlike studies of

adolescents that rely on ethnographic methods (Eckert 1989; Bucholtz 2011; Pratt 2018; Rosa

2019; Shankar 2008; Wagner 2008; *inter alia*), I did not have extended time with which to build

relationships with my participants. As a result, participants generally reacted to me with what I

perceived to be a degree of distance, at least initially. I tried to mitigate this to the extent possible

by allowing the interview to take a more conversational format rather than a series of questions

and answers, and by trying to demonstrate indifference when they deviated from expected norms

of "polite" conversation with adults, such as swearing, making comments that were critical of

schools and teachers, or discussing illicit activities like underage alcohol consumption.

Alongside my status as an adult, I was also a researcher affiliated with a university. On

more than one occasion, in the prelude to the assent/permission process, a parent referred to the

interview as good "practice" for their child (presumably for future academic- or career-related

interviews). Parents also sometimes attempted to ask me questions about the undergraduate admissions process at Northwestern. Though I informed participants that I was a graduate student, this comment was understandably opaque to most of them, and many seemed to assume that I was an undergraduate student, occasionally asking me if I thought I would get a good grade on this "project," whether I was in a sorority, or if the dining hall food was any good (this aligns with Pratt's 2018 experience at an Arts high school in California). In some ways this misconception helped to mitigate some of the effects of my age discussed above; though I was in fact nearly a decade older than most participants when I conducted these interviews (25-27), believing that I was only a few years out of high school may have helped to reduce this barrier. I never attempted to hide my age; for example, I would often ask about their social media usage by noting that "Snapchat and Instagram weren't popular until I was in college" or refer to myself as a Millennial when they discussed perceived generational differences. On the other hand, my age also made it possible for me to believably ask questions about "Gen Z slang[4]" terms they thought I was unfamiliar with or other aspects of youth culture that a younger interlocutor might be expected to know a priori.

In addition to my age, I am also white. This almost definitely affected the interview dynamic with non-white participants, both in terms of linguistic production, in that I assume these students were likely accommodating to my speech (e.g., Rickford & McNair-Knox 1994; Purnell 2009) and to the expectations of the – in this case literal – white listening subject (Flores & Rosa 2015) and in terms of interview content. While for the most part these students initiated discussions related to race without prompting on my part, they sometimes expressed uncertainty

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[4]Nearly all of these terms have existed in African American English for decades, if not longer, and most have also been in use by white speakers prior to Gen Z's entrance into adolescence.

in discussing white people specifically. Several students who easily applied group-level labels to non-white individuals hesitated to do the same for white individuals. For example, in discussing friend groups at her school, Christina said, "*I would say I'm in the Mexican group,*" then repeated the discourse marker "like" three times before landing on a label for the contrasting group: "*But there's more of like like like the whites.*" Valerie, who is Black and Hispanic, expressed a similar hesitation in discussing the racialized demographics of her school (emphasis mine):

> *Valerie: The Hispanics would usually hang out with the Hispanics. Like African Americans usually hanged out with them* [African Americans]*… But I wouldn't really see like – well* **there wasn't really that many um** [**3 second pause**] *like Caucasian people.*
>
> *JB: With the neighborhoods that feed into Colvin, do you have a sense for why there were so few white kids there?*
>
> *Valerie: I'm not sure. Um* **not in the sense of being offensive***, but I always kind of wondered that also, just because like the neighborhood is mostly like white and Caucasian… I expected going into Colvin that I would probably be like maybe the only like person of color there or one of a few, so yeah I'm not sure why that happens.*

I cannot say for certain whether this hesitation in applying labels for white people or Valerie's verbalized insistence that she did not intend to be "offensive" by noting the discrepancy between the proportions of white students at her school versus in her neighborhood were responses to my perceived racialization. However, as a white adult interviewer, I am cognizant that I held a certain amount of power in the interview and that participants were reacting to this dynamic.

In contrast, I often had the sense that my whiteness enabled white participants to take for granted that a number of circulating Discourses (Gee 2015) regarding race and whiteness were in

the common ground. White participants routinely used terms like "political" as a shorthand for discussions about race (for example, "*Like over the summer* [2020] *I feel like everything just became **political** and that's not like healthy for anyone*") and understood that I would recognize this meaning. Participants also frequently espoused colorblind ideologies (e.g., Hagerman 2018; Bonilla-Silva 2003) and suggested that measures of success like good grades or acceptance at a prestigious university were the result of individualized "hard work" (e.g., Roediger 1991) without acknowledging the racist systems that result in those neighborhoods and schools which are considered "good" or "safe" being predominantly white (e.g. Roediger 1991, Warikoo 2022). I discuss some of these discourses related to high school choice in greater detail in section 2.4.

Beyond these colorblind discourses, however, some participants also demonstrate what Leonardo (2020) terms "post-colorblind discourses." Whereas colorblindness deliberately obscures race as a factor impacting social structures, post-colorblindness highlights whiteness as a racial category but deliberately erases its hegemonic power from the discourse. Post-colorblindness thereby "differs from color blindness precisely because it does not turn a blind eye to race. This time, white America uses race as a public weapon to address its grievance as a targeted group" (Leonardo 2020:26). Post-colorblind discourses are thus recruited, for example, to argue against affirmative action programs or DEI initiatives on the grounds that they are discriminatory towards white people (Leonardo 2020). On several occasions, white participants in my sample framed the response of the public or people of color to racism as overreacting or being overly sensitive. For example, in discussing diversity at her suburban public school, I had the following conversation with Elyse:

> Elyse: I think they do too much to make it diverse, honestly. Because of what's happening right now.

JB: Like in what – like in what way?

Elyse: BLM, this and that. Yeah just and like there was this whole… thing where like now juniors like one of them wore like a KKK costume, it was like this whole scandal, but that was like two years ago so I was like, why is this a scandal? Yeah so they found the picture and everyone was like 'this is bad.'

In this statement, Elyse frames the 2020 Black Lives Matter protests over the murder of George Floyd as prompting overreactions. She views her school's administration as "do[ing] too much to make it diverse." I interpret Elyse's use of "diverse" here to mean something like "devoting attention to racial justice," though she may intend something different. In terms of demographic diversity, her high school is majority white and less than 2% Black. Elyse similarly views the unearthing of a past racist incident as not being worth considering a "scandal" because it happened "like two years ago," again suggesting that continued attention on this incident and consequences for the students involved were unnecessary.

Similarly, Kylie, a Catholic school student, reported the following:

Kylie: If I could change one thing [about my school] *it would probably be the stereotypes that like people have. I'm not trying to be like racist or anything but like some of like um the people of color at my school like **they generally stereotype like white people like that they're racist** and like that they don't like Black people. But I'm like the complete opposite of that like I – I feel for them and **I just don't like how they become like defensive like when they talk to like white people**.*

This commentary promotes a post-colorblind discourse in which race is recognized as a relevant social category, but the problematic race-based stereotypes that emerge are those which consider white people to be "racist" rather than those which uphold white hegemonic power. Meanwhile,

over two months in 2020, an Instagram account created by alumni of Kylie's high school collected and shared hundreds of descriptions of racist practices against Black, Latinx, and Indigenous students at the school. Again, this is not to say that students like Elyse and Kylie would not have shared these perspectives with a non-white researcher (see e.g. Evans 2021), but my racial background created an environment in which they could share them without, in turn, being accused of being "racist." For my part, when such perspectives came up, I attempted to frame them as the *participant's* beliefs in my follow-up questioning, rather than endorsing them myself, though of course this created the exact environment in which it was "safe" for these participants to promote these ideologies.

Finally, I grew up in the suburbs of Washington, D.C. and attended a private Jewish high school. While I did not share this with participants, I have no doubt that it influenced my interpretation of this data. As a result of living in a majority-white suburb, I lived in the type of neighborhood (i.e., a majority white, socioeconomically upper middle class one) that districted into "good" public schools (compared to schools in more heavily Black or Latinx areas) and was immersed in discourses regarding why these schools were "better" than other schools in the area in ways that never quite explicitly named the racist underpinnings of residential segregation and its consequences for school funding (Lipsitz 2006). My county was also home to a magnet school consistently ranked among the top high schools in the country (alongside several Chicago-area selective enrollment schools). In 2020, the school was promptly sued for alleged racialized discrimination for attempting to diversify its student body by eliminating a standardized test from its admissions requirement and reserving seats for the top-performing students at each middle school in the district; the lawsuit lost on appeal (Raymond 2022). Following the implementation of this new admissions policy in the 2021-2022 school year, the

school's enrollment of Black and Latinx students doubled to 3.3% and 5.4%, respectively (FCPS 2023), whereas its catchment area is 10.8% Black and 16.6% Latinx (United States Census Bureau 2022). Meanwhile, though my parents allegedly sent me to a private school for religious purposes (like many of the Catholic school attendees in my sample) and adamantly insisted that I would have gone to public school were I not Jewish, my high school promoted itself as an academically superior option compared to public schools. As a student who entered the K-12 school in ninth grade, I was told on multiple occasions that I should not enroll in honors-level courses because the school's grade-level courses were supposedly equivalent to public school honors (never mind that, to the extent that school rankings are informative, five of the top ten public schools in the state of Maryland are in the local school district; US News 2023).

All of this is to say that my socialization regarding school choice was remarkably similar to many of the white students in my sample, and, as demonstrated above, I clearly entered interviews with preconceived ideas about the ramifications of school choice. That said, this experience also exemplifies that while this dissertation focuses on Chicago and the place-linked linguistic features present there, the process of high school choice and discourses surrounding it are present in many parts of the country. In what follows, I explore how my participants discuss this process in Chicagoland.

2.4 Student commentary on school choice

2.4.1 Chicago Public Schools

Perhaps the most salient discourses surrounding the Chicago Public School system highlighted the perception of it as an underfunded school district which led to poor school outcomes. For example, Bartholomew, who attends a CPS school, said that "*The rep with CPS is like lowly funded and like low graduation rates or like low grades in general.*" Valerie, quoted

above, recalled hearing stereotypes that about CPS schools "*not being good, not really caring about students, just kinda getting them in and out, just like it's a job more than, you know, a teaching.*" And Trinity, who attends a Catholic high school but went to a CPS school through eighth grade, reported that her middle school "*wasn't very academically good and it was like, kind of unsafe.*" CPS students discussed overcrowding in schools and occasional fights, though some contested these narratives: for example (as discussed in Chapter 6), Chelsea noted that her school was considered "*the bad school, you'll get in fights… Like there's fights at Addams and I know there haven't been at Carson* [a selective enrollment school], *um from what I've heard from some of my friends but like, it's not as bad as you might think.*"

Importantly, commentary about the alleged poor quality of Chicago Public Schools was common even among students who do not attend these schools. For example, Elyse, who attends a suburban public school, noted that, "*All I've heard* [about CPS] *is like, the schools are worse, teachers don't get paid anything.*" This commentary also often reflects perceived characteristics of the students or families who attend them. For example, Roman, who attended a Chicago Public School for grade school before his family moved to the suburbs, noted that, "*I stayed friends with a lot of my friends from CPS and like the opportunities that we had because of like I guess background of like school events or things we ended up doing in school was pretty different. And it's like, we only live twenty minutes away but it's like a different neighborhood where people who go there care more.*" Here, Roman attributes the discrepancy in extracurricular opportunities between CPS and suburban public schools to the extent to which students at these schools "care" about education. This aligns with discourses prevalent among adults regarding their decisions to opt out of neighborhood public schools (e.g., Hagerman

2018), as well as among some other students in the present sample in assuming that parents are

more invested in their children's educations at certain types of schools.

2.4.2 Opting out

As discussed in Chapter 1, there are several options for families with resources to opt out

of their neighborhood public schools.[5] Many students who did "opt out" of the public school

system discuss this choice as inevitable, in that they and their families never considered CPS

schools as an option. Like many suburban public school students, Brandon stated that his parents

chose to live in the suburbs because of the "*good schools*," adding, "*The city was not considered*

uh for school purposes. Or because of school purposes, that is." Vivian, who attends a selective

enrollment school, noted that, "*We were thinking if I didn't get in* [to a SEHS] *we might move to*

Glenview [a Northern suburb] *or somewhere else.*" And Christina, who attends a Catholic school,

said "*It was always going to be a Catholic school that I was gonna go to. They* [my parents]

didn't want me going public."

However, the rationale behind these different alternatives to neighborhood CPS schools

differed by school type. Non-parochial private and SEHS schools were framed as aspirational in

terms of their rigorous academics, extracurricular opportunities, and ability to prepare students

for attendance at elite universities and later prestigious careers. For example, Michelle, who

attends a private school, said, "*These four more years before college are the most important*

years. You've gotta really keep your grades up and you've gotta find the path um like the right

school for you that's going to help you find where you want to be in life, where you want to go

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[5] For families without the financial resources to do so, charter schools can also serve this function (e.g. Pattillo 2015). For example, Miranda, who attends a charter school, noted that "*since like I said [my neighborhood] is a really like low-income area, the [public] schools that are known throughout the area are the ones with like, how would I say this? Like they're not really organized. They really let the students do whatever they want*," motivating her family to seek out a charter.

after high school. So I think once you've reached that age, parents are less like, 'okay, well I'm just going to send you to the local elementary school, local middle school, whatever.'" Ariel, who attends a SEHS, focused on her school's perceived academic excellence: "*Sometimes, neighborhood schools, the education, it's not unreliable, but you just don't always know what you're going to expect. And when you have a **selective enrollment, IB, or private school**, the curriculum and methods of teaching are a lot more outlined when you go into that school.*" Though I did not separate students enrolled in IB programs at neighborhood CPS schools from their classmates in this analysis[6], Ariel's consideration of the selective enrollment and private schools as a unit supported my decision to class these school types together as "elite" schools, which students attended for their allegedly strong academics.

Meanwhile, I combined Catholic schools with neighborhood CPS schools as "non-elite" schools. While Catholic schools were certainly a way for students to opt out of their neighborhood public schools, participants did not frame this decision as related to school quality or elite status, but rather to a desire for a religious education. For example, Kylie said that "*Religion is just like an important like aspect of our family and like they wanted us to like um have us like learn about like Catholicism and like the aspects of it.*" Ezekiel, similarly, said that "*We've kind of like been taught to like, kinda like, I dunno like respect or like be proud of your Catholic education.*" This commentary aligns with Sneller's (2018) finding that Catholic schools in Philadelphia serve as an alternative to public schools for working class white students who cannot afford tuition at more elite private schools (since tuition at Catholic schools in Philadelphia – as in Chicago – is subsidized by the archdiocese). Not all participants who attend Catholic schools come from working class backgrounds (indeed, most do not, see Chapter 6), but

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[6] Two neighborhood CPS students, Mary and Bartholomew, were enrolled in their schools' respective IB programs.

despite being a form of private education, these schools have not taken on the connotations of elite-ness that are available to SEHS and non-Catholic private schools.

Finally, students at suburban public schools, like Brandon quoted above, largely discussed their schools as the reasons that their parents chose to live in particular neighborhoods, due to their perceived good quality. For example, Piper noted that her family chose to live in a particular suburb "*I think because of the schools probably*," and Audrey stated that, "*I think they* [my parents] *just said that they really liked the schools.*" As noted by Duncan (2021), suburbs can hold different place-based associations for individuals compared with cities. Coupled with the way suburban public schools occupy a kind of liminal space – students in the suburbs *are* attending their neighborhood public schools, they just come from families with the resources and desire to choose those neighborhoods – I have opted to class students at these schools separately from those at other "elite" schools.

In Chapter 6, I return to this tripartite distinction between elite, non-elite, and suburban public schools in considering how these processes of school choice impact vocalic productions. In the remainder of the present chapter, I focus on two additional themes that emerged from students' commentary on school choice itself. First, I discuss counter-narratives to the discourses discussed above related to opting out of the neighborhood public schools. I conclude this chapter by highlighting the discourses related to language and racialization discussed by non-white students in the sample.

2.4.3 Counter-narratives

Although the dominant discourse among participants is that most students should aspire to "opt out" of the neighborhood school system, some students contested these discourses. Bartholomew, for instance, noted that despite being religiously Catholic, "*I think they* [my

parents] *were sort of against putting me in* [Catholic school]. *I don't know. I think there's a difference in education. I feel like with public schools you get more of a exposure to a variety of people and then with Catholic schools it's like, you know, narrowed down.*" Despite his comments (quoted earlier) about his school being underfunded and overcrowded, then, he sees its diverse student body as an asset for educational purposes (Hagerman 2018; cf. Evans 2021). Similarly, several students de-emphasized the rigorous academics that students like Ariel, quoted above, prioritize about elite schools. For example, Hannah, who attends a neighborhood CPS school, stated, "*I didn't really wanna go to* [an SEHS] *because I know it's a very competitive school.*" Chelsea likewise stated that she did not consider alternatives to her neighborhood public school: "*I wanted to go to Addams. Because it was close and I knew like the most – or, and a lot of my friends were going to Addams. I just had more connections.*"

In addition to discussions about the decision to attend certain schools, some students also criticized the system in which selective enrollment schools, despite also being CPS schools, were granted more resources than neighborhood schools: for example, Adam, who attends a SEHS, said, "*It* [Chicago Public Schools] *will be like, a bad system. Like it doesn't show up in selective enrollment cause they're kinda like bubbled but the district as a whole is very not perfect. There's just a lot of inequality which when you have so many thousands of students it's hard to give everyone the same opportunities… People don't get along and then what happens at an adult* [administrative] *level, it ends up affecting the kids as well.*"

In addition to this commentary regarding resource allocation, multiple students at selective enrollment schools also discussed allegations that some wealthier white parents attempted to "game the system" in order to enroll their children. For example, Candace said that, "*Definitely at Anning* [a selective enrollment school] *you see a little bit more of parents*

strategically like living in certain places to try to help get in, and like using test prep classes in a

way that you wouldn't see at some other schools." Candace's reference to parents "strategically

living in certain places" is a response to the selective enrollment schools' class-based affirmative

action program, which allocates seats across four "tiers" based on census tract-level

socioeconomic data (see Chapters 1 and 6 for more details). Vivian, also an Anning student,

likewise noted that, "*Anning has a reputation for being one of the whitest selective enrollment*

schools, simply based on scores and with the previous principal there were a lot of people that

thought that people were buying their way into the school um and there were a lot of rumors

about that."

2.4.4 Linguistic bias in Chicagoland high schools

The focus of this dissertation is on vocalic variation, particularly among white speakers.

This decision was made in part because the NCS is associated with white speakers

dialectologically and ideologically and is hypothesized to have been initiated as a form of

'linguistic white flight' (Van Herk 2008). In addition, school choice is a racialized process:

decisions about school choice are contingent on families' resources (Clotfelter 2004; Minow

2010; Goyette et al. 2012; Sander 2015). Non-white families make similar decisions regarding

sending their children to "good schools," but structural barriers to accessing "elite" schools

disproportionately affect low-income Black and Latinx families (Pattillo 2015). For example,

most selective enrollment schools in Chicago are located on the North Side of the city in

predominantly white neighborhoods, putting them beyond a reasonable commuting distance for

many Black and Latinx families (Pattillo 2015; Phillippo & Griffin 2016).

In addition, non-white students are subject to very different linguistic pressures related to

schooling than white students are. While Northern Cities-shifted vowels may be associated with

some stigmatized characteristics, like low socioeconomic status (Chapter 4), they are generally not described as being "incorrect" or otherwise discouraged in school settings (save one comment from Allie about a choir teacher encouraging her not to sound "nasal"). In contrast, non-white students discuss serious instances of pressure to speak in certain ways or outright bias against minoritized languages and linguistic varieties/features.

For example, in discussing her predominantly white elementary school, Valerie, who is Black and Hispanic, said, "*I already talked um proper but I made sure to always kind of be on my best so that I didn't fit into that stereotype and they couldn't, they didn't see me in that way because I didn't want them to see me as like ghetto or anything like that. I just wanted them to see me like as a normal person.*" The notion of "talking proper" being valued in schools was echoed by other students. For example, Roman, who is Mexican American and moved from a CPS school to a suburban public school said, "*I felt really awkward at Eliot the way I like – I felt normal talking at* [the CPS school]. *And then like all of a sudden like my grammar was like, like, I need to be proper and like pronounce words the right way.*" And Sarah, who is Black and attends a SEHS said, "*The way I talk with my friends is really different than* [in school]. *They're always like 'Talk proper,' so kind of like code switching from AAVE to like, proper English.*" However, Sarah challenged this idea, later adding, "*I've tried to stop* [code-switching] *just cause I feel like I shouldn't have to change the way I talk.*"

These discourses extended to students who speak languages other than English. For example, Ashley, who is Asian/Pakistani and grew up speaking both Urdu and English at home, said, "*Being like um bilingual, so like speaking two languages, um you kinda like – I don't know, this is an issue that I have where I kind of forget words in both languages so I can't really speak proper in either/or*." And Jeremy, who is Native American and himself monolingual, noted that

at his suburban public school, "*A bunch of substitutes really didn't like it when some of our like uh more ethnic uh classes of people like spoke their native languages, because English was a little hard for them, so they would definitely get mad at them for not speaking English.*" Elsewhere in his interview, Jeremy discussed that due to the high Latinx population at his school, new teachers often assumed he was Latino and Spanish-speaking even though he is neither (see also Campbell-Montalvo 2023).

As a result of the dramatically different linguistic pressures facing non-white students, the production chapters in this dissertation focus primarily on school choice effects among white participants. However, the issue of how the linguistic effects of high school choice unfold among students of color is worth exploring in future work.

In this dissertation, I argue that institutions are sites of language socialization which allow speakers to position themselves socially relative to others in the speech community, and that these sites serve as the connections between macro- and micro-level linguistic changes. In what follows, I consider the broader ideological landscape in which Chicago-area adolescents are situated with respect to language, in terms of meta-linguistic commentary (Chapter 3) and social evaluations of specific linguistic features (Chapter 4). After that, I turn to how these features are in turn recruited by participants in production (Chapters 5-7).

Chapter 3. "Midwestern is what I'm used to": Chicago speech styles in perceptual dialectology and meta-linguistic commentary

3.1 Introduction

This dissertation focuses primarily on evaluations and production of the TRAP and LOT vowels. Whereas Chapters 4-7 attend to quantitative measures related to social evaluations of these vowels (the Matched Guise Task in Chapter 4) and how these vowels are deployed by speakers in production (Chapters 5-7), individual features do not carry social meanings in a vacuum. Rather, they are embedded within a broader linguistic (Eckert 2008a) and ideological context (e.g., Gee's 'big-D Discourses,' 2015). Linguistic features are imbued with social meanings within the communities their speakers inhabit (Eckert 1989) and, consequently, understanding these meanings involves understanding the broader discursive context in which they are produced. For a fuller understanding of the ideological context in which adolescents recruit these NCS-implicated vowels for indexical purposes, then, it is worth exploring the discourses surrounding language and accent in the Chicago area more broadly.

Attitudes and ideologies about language and place can guide speakers' engagement with place-linked features (e.g., Reed 2020). As discussed in Chapter 1, Northern Cities-shifted TRAP and LOT vowels are salient to many adults in Chicago, who associate the "Chicago accent" and Northern Cities-shifted TRAP and LOT vowels with local white working class personae. White speakers' orientations towards or away from these personae can subsequently guide their productions of these vowels, despite maintaining strong connections to Chicago (D'Onofrio & Benheim 2020). Even for regional features, then, ideologies about local social types can influence indexical associations and production patterns among local residents.

In addition to associations between these personae and Northern Cities-shifted vowels (e.g., D'Onofrio & Benheim 2020; Benheim & D'Onofrio 2023), the NCS has been linked with place, even within the broader regions of the Inland North or Chicago. In meta-linguistic commentary, for example, adults in Chicago report that certain neighborhoods within the city contain more "Chicago accented" speakers than others (D'Onofrio & Benheim 2020). White speakers often connect Northern Cities-shifted vowels to white ethnic enclaves, especially those on the south side of the city (e.g., referring to "South Side Irish" neighborhoods; D'Onofrio & Benheim 2020), and contrast the accent they associate with these areas with majority-white areas of the city that are perceived to have higher numbers of transplants from outside Chicago (Benheim & D'Onofrio 2023).

Beyond commenting on white Chicagoans' production patterns, Black adults from the city's Southwest Side discuss the "accent" produced by Black speakers as sounding "Southern." In doing so, many draw on a shared history of Southern heritage among Black Chicagoans, due to Chicago's status as a Great Migration destination during the mid-twentieth century (D'Onofrio et al. 2020). Discussions of this history work to build an ideological connection between the city's majority-Black South Side and the Southern United States. Adults, therefore, draw on ideologies of place and language that concern both local (within Chicago) and extra-local (the South) regions (D'Onofrio et al. 2020). White adults' equation of the "Chicago accent" with NCS vowels thereby also serves as a form of linguistic erasure (Irvine & Gal 2000), wherein certain types of white speakers are taken to be emblematic of the city as a whole and the linguistic practices of non-white Chicagoans are ignored. These connections rely on associations between race, place, and particular ways of speaking, as well as on beliefs about the demographic makeup in different areas of Chicago. And as a result of these ideologies,

discussions of places can become discussions of the racialized communities that inhabit them

(Grieser 2013; Grieser 2022).

Importantly, this commentary has thus far been elicited only from adult Chicagoans. As

the present study focuses on adolescents, it is worth exploring whether these ideologies and

discourses are maintained among younger speakers in the area. This is especially important given

that Northern Cities TRAP and LOT are currently reversing among younger Chicagoans

(D'Onofrio & Benheim 2020), meaning that younger speakers hear comparatively less Northern

Cities-shifted vowels from their peers than did earlier generations. To assess how adolescents

conceive of language in relation to place and other social identities in Chicagoland, I present a

qualitative analysis of meta-linguistic commentary that emerged through a perceptual

dialectology "draw-a-map" task (Preston 2017) and sociolinguistic interviews (Labov 1972). I

find that adolescents largely reify the discourses that are prevalent among adults related to accent

in Chicagoland and the broader United States. Moreover, I find that discussions of language in

various locales reflect a series of dichotomies opposing, for example, Northern-ness and

Southern-ness, urbanity and rurality, and whiteness and Blackness. Discourses around language

in Chicago, then, also reflect discourses and ideologies surrounding these facets of identity.

3.2 Perceptual Dialectology

3.2.1 The "Draw-a-Map" task

Perceptual dialectology tasks (e.g., Bucholtz et al. 2007; Preston 1999; Preston 2017)

involve providing participants with a map and asking them to mark notable linguistic boundaries

and include their commentary on these linguistic differences. Previous work in perceptual

dialectology, for instance, has found Michiganders to comment broadly that speakers in

Michigan speak the "most correct" form of American English (with the South rated as the "least

correct"; Preston 1999). This commentary informs how place factors into linguistic ideologies, expectations, and evaluations.

Since adolescents use linguistic styles to construct identities in relation to their surrounding social worlds, it is worth considering how variation within a micro-scale context (such as a school) quite literally maps onto adolescents' self-positioning within Chicagoland more broadly. Using (or avoiding) a style linked with particular geographic areas relies upon an existing ideological link between those places and ways of speaking, which in turn relies upon adolescents' associations between certain kinds of people and geographic space (Grieser 2013).

3.2.2 Stimuli and procedure

Participants received digital copies of four maps: one of the United States as a whole (state boundaries indicated, following Preston 1999), one of the state of Illinois (largest cities indicated), one of Chicago and the surrounding suburbs (counties and Chicago city limits indicated), and one of the city of Chicago (community area[7] boundaries indicated). Other than these guidelines, the maps were blank. Work in perceptual dialectology often advocates for using unlabeled maps so as to avoid influencing responses by marking certain places as noteworthy (Bucholtz et al. 2007; Stachowski 2017). However, I opted to use maps which included the labels of some cities, counties, and community areas because my interviews with participants suggested that many had difficulty with geographical knowledge of the city (for example, stating that certain suburbs were within the city limits or providing highly improbable timing for transit between two areas). I acknowledge that this likely directed participants' attention towards these labels (Stachowski 2017).

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[7] Community areas are geographical boundaries originally designated by researchers at the University of Chicago. Today, they are used by the city government and academic researchers as a way of tracking statistical metrics longitudinally throughout the city (Seligman 2005).

The maps were made available to participants via Qualtrics. The link to the Qualtrics form was distributed to participants 18+ and parents of minor participants via email following participation in the survey and/or interview. Some participants completed the perceptual dialectology task within a few days of the interview. As discussed below, others had a gap of several weeks or months. Participants received a $5 digital gift card for their participation.

In the Qualtrics interface, participants were able to download a map, draw on it digitally (a link to a free website enabling them to do so was provided in the Qualtrics instructions, but participants were free to use any method of annotating the maps), and re-upload the annotated map to the Qualtrics page. Adapted from Bucholtz et al. (2007), participants received the following instructions at the beginning of the study: "In this study, we are interested in learning more about your ideas about language in Chicagoland and the United States. We will ask you to label four maps: the United States, Illinois, Chicagoland, and the city of Chicago. There are no right or wrong answers. We are most interested in your opinions, based on your own experiences." Alongside each map, participants received instructions for how to annotate the maps electronically and upload them to Qualtrics. They were then instructed: "On the map, highlight or draw a line around places where you think people speak differently. Next, write down what you'd call that way of talking, if you can think of a label for it. You may label as many or as few areas as you would like."

After annotating each map, participants were asked two follow-up questions, again following Bucholtz et al. (2007):

(1) Are there any examples you can think of for how people in the areas you labeled might talk? Is it a word or pronunciation? Or a special way of talking?

(2) Do you have any other comments about how you chose to label your maps, or about any of the specific areas you circled/highlighted?

3.2.3 Participants

As noted above and in Chapter 2, the Qualtrics survey was distributed via email to participants 18+ and parents of minor participants who had completed the matched guise task and/or a sociolinguistic interview. A total of 24 maps were returned, all but two by participants who had also completed sociolinguistic interviews (52% response rate among interviewees). This rate of attrition was likely due at least in part to timing; I did not begin recruitment for the perceptual dialectology task until late March 2021, and most responses were submitted by participants who were interviewed or completed the matched guise task between March 2021 and August 2022 (when data collection concluded).

In response to the demographic questionnaire, 4 participants listed their gender as male, 18 as female, 1 as nonbinary, and 1 participant declined to report gender. 14 participants listed their race/ethnicity as white or Caucasian, 4 as Hispanic, Mexican, or Latina, 2 as Black or African American, 1 as South Asian, 1 as Native American, and 2 declined to report. 7 participants reported attending suburban public schools, 6 neighborhood schools within the CPS system, 1 private school, 4 selective enrollment high schools, 3 Catholic schools, and 2 charter schools. One participant declined to report their high school type.

3.2.4 Analysis

Though perceptual dialectology maps are typically analyzed quantitatively either by hand (Bucholtz et al. 2007) or by making a composite map (Evans 2013; Preston 1999; Stachowski 2017), I opted to undertake a qualitative analysis due to the low number of maps. This method was also selected because several participants demonstrated gaps in geographical knowledge (see

also Bucholtz et al. 2007). For example, Figure 3.1 below shows the Northeast portion of one participant's United States map.

Figure 3.1. Map of the Northeast United States

This participant has highlighted New York state (orange) and labeled this "*new york accent*[8]." In addition, they have highlighted Boston and surrounding areas of Eastern Massachusetts (purple) and labeled this area "*brooklyn accent*." As it is not clear whether this is a typographical error ("brooklyn" for intended "Boston") or a lapse in geographical knowledge (assumption that Brooklyn, New York, is located in Eastern Massachusetts), I have opted to exclude such inconsistencies (clearly labeling a geographical area incorrectly) from analysis.

Maps were analyzed for trends in labeling patterns across participants, with the following specific questions in mind:

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[8] Throughout this chapter, I have preserved the spelling and capitalization conventions participants used in their commentary.

United States Map:

      (1) If a boundary is indicated surrounding the Chicago area, what other areas are included within this boundary? As most participants elected to follow state boundaries in annotating these maps (for example, the labeling for New York in Figure 3.1 above), writing/drawing in any portion of a state was considered inclusion of that state within a given boundary.

      (2) What other areas are frequently labeled by participants as salient?

Illinois map:

      (1) What other areas are included alongside Chicago in the division of this map?

      (2) What terms do participants use to describe language as used in different parts of the state?

Chicagoland counties map:

      (1) Do participants consider there to be divisions between the city and suburbs or across suburbs?

Chicago map:

      (1) If participants indicate a boundary between different areas of the city (most commonly this was between the North and South Sides), how do they describe language in each of these areas? How do they explain their decision to make this demarcation?

      Of particular interest across all maps were whether systematic patterns emerged in terms of how participants chose to divide space on each map, how well these patterns align with geographically-based variation evident from previous research (for example, the Atlas of North American English; Labov et al. 2006), any specific characteristics or linguistic features noted by participants, and the rationale given for labeling the maps in a particular way.

3.3 Perceptual dialectology: Results

3.3.1 United States Maps

Though the specific details differed across maps, participants' annotations on the United States map showed many similarities. The most common strategy for labeling the map was to divide the country into several geographic/dialectal areas, typically with a region labeled "Midwest" that includes Chicago. Figure 3.2 shows two representative maps using this strategy.

Figure 3.2 United States maps depicting broad geographic regions
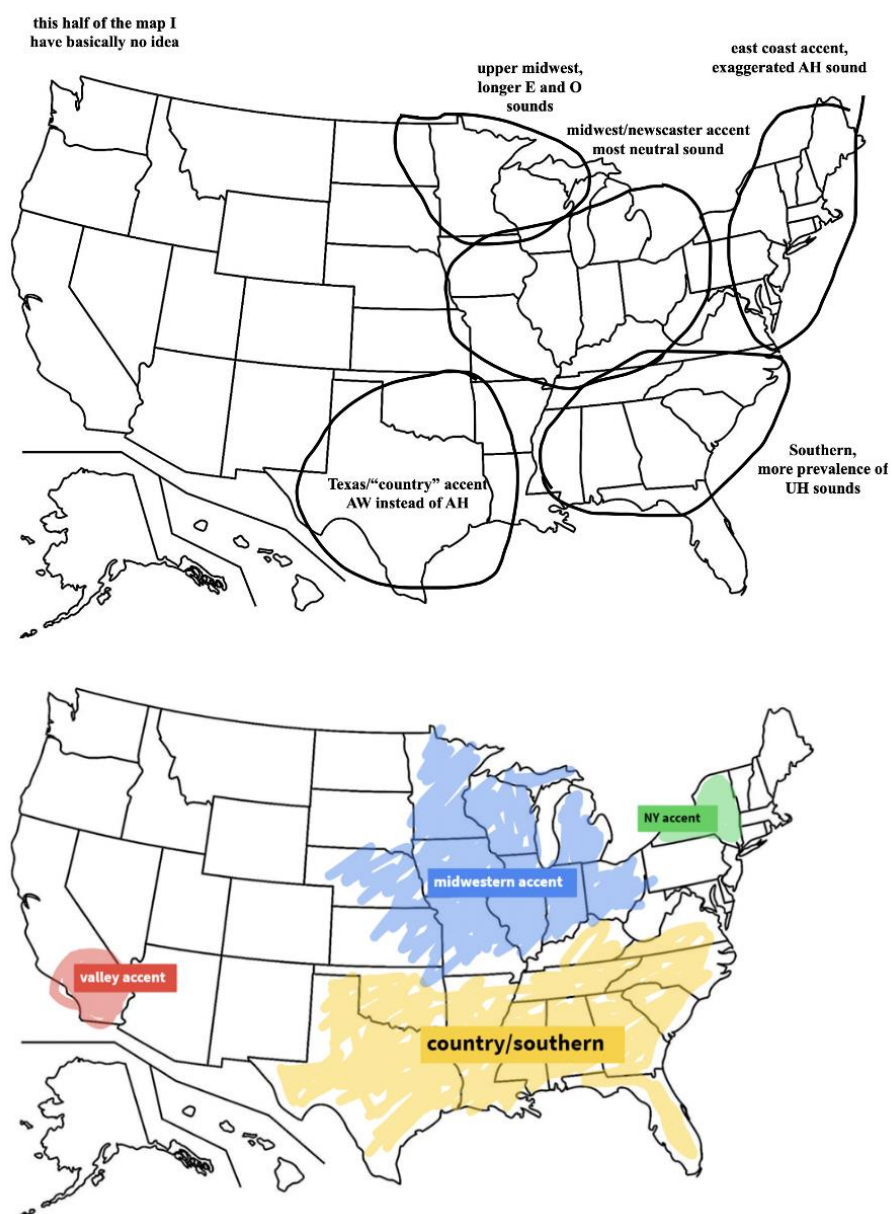
Like most participants, the midwestern regions on the maps in Figure 3.2 include many states with at least a portion that falls within the Inland North region (Ohio, Illinois, Indiana, Michigan, Wisconsin, and Eastern Iowa). The lower map also includes Minnesota and Nebraska, which the Atlas of North American English includes as part of the general "Northern" dialect region (Labov et al. 2006). This Midwest region sometimes included states/areas that are usually considered parts of the Midlands or Southern dialect regions (such as Kentucky and Missouri on the upper map in Figure 3.2). At the same time, some participants delimited the "Midwest" to a more restricted region, such as only including Illinois, Wisconsin, and Michigan in this category.

Importantly, however, this region is not identical to the Inland North region. While the ANAE (Labov et al. 2006) includes western upstate New York in the Inland North, only one participant included any portion of New York alongside Inland Northern states (Figure 3.3).

Figure 3.3 Western New York as part of a "Chicago/rust-belt" region (green border)
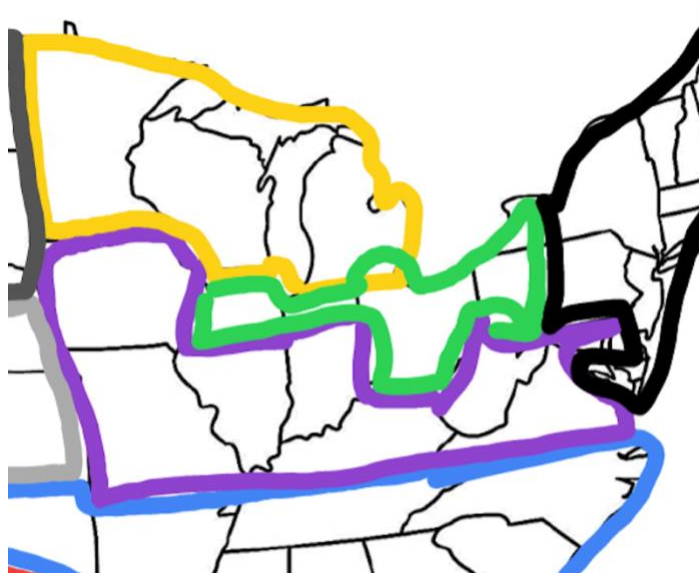
The key provided by the participant labeled the green area as "Chicago/rust-belt," which included Northern Illinois, Northern Indiana, Ohio, Western Pennsylvania, and Western New

York; the yellow region containing Michigan, Wisconsin, and Minnesota was labeled "northeast Midwest," while the purple region south of these areas was labeled "*Southern accent variations 2.*" In their commentary about the Midwest, many participants wrote that language there sounded "neutral" (for example, the top map in Figure 3.2), where this area is labeled "*Midwest/newscaster accent*" and "*most neutral sound.*" The only specific linguistic features mentioned were lexical items typical of this area (e.g., "*Midwesterners believe it's pop, not soda,*" Figure 3.4).

In addition to general "Midwest" labels, two participants also specifically indicated Chicago on their maps (Figure 3.4). In the map on the left, Chicago is highlighted in blue, with a label reading "*Chicago / th sounds like d / long pronunciated a sound,*" while the broader "Midwest" region is captioned "*Midwesterners believe its pop, not soda.*" On the right, there is no "Midwest" region, but Chicago is indicated in red with "Chicago accent."

Figure 3.4. Maps indicating Chicago
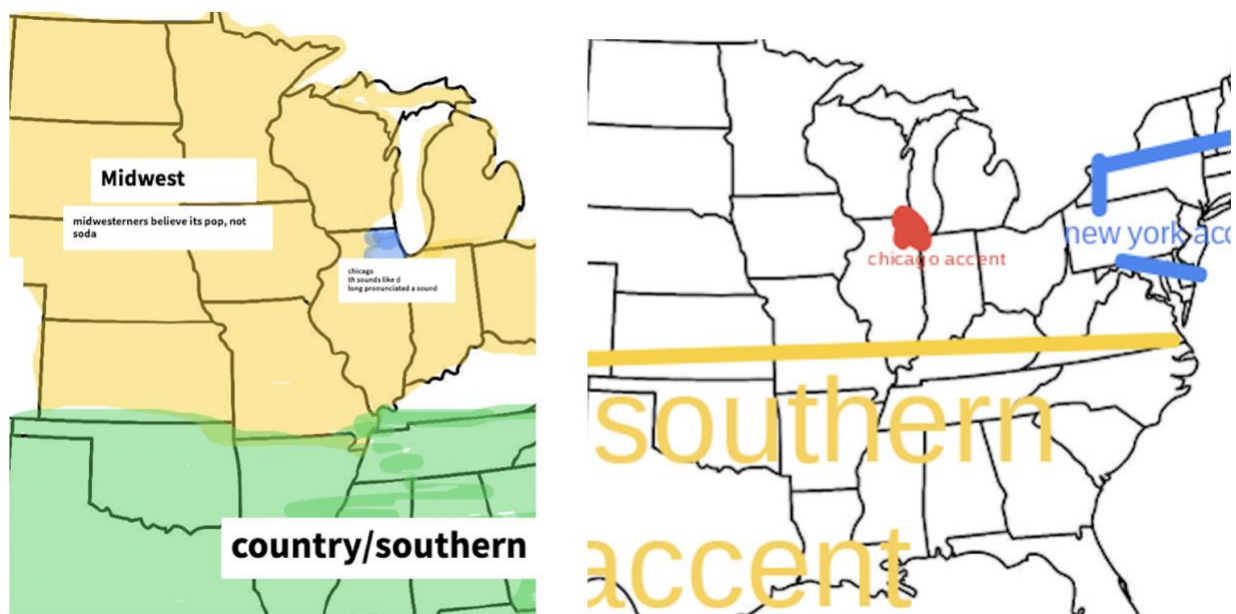
These maps suggest that the Midwest as a whole is viewed as cultural/geographic area with ties to language, or at least, to sounding "normative" or "neutral." However, Chicago – and its "accent" – is salient to at least some participants, to the extent that specific phonetic features can be mentioned in relation to this area. Indeed, a more general urban/rural divide was mentioned by several participants in their answers to the open-response questions for this task: "*I think people in large cities have certain ways of speaking separate from the area in that part of the country because it's more diverse*," wrote one participant. Another noted, "*City – more rushed forms of communication in conversation, can come off as less polite*." Beyond this urban/rural split, the boundaries of the area deemed "Midwest" do not necessarily align with previous dialectology work (e.g., Labov et al. 2006), evidenced by the general exclusion of upstate New York and occasional inclusion of Midlands/Southern states in this region.

In addition to the Midwest, three other general "dialect" areas were frequently labeled on these maps: the South, New York or a general Northeast/East Coast region, and California. Indeed, every single map included a boundary around some portion of the south, often labeled "country," "southern," or both (e.g., Figures 3.2, 3.4). This was often accompanied by commentary about Southern accented English in the open response questions. This commentary included both negative statements ("[people in] *the south speak with an accent that makes them sound improper*") and statements that were more neutrally valanced ("*more formal when talking to older people, like using more polite honorifics. Using a lot of contractions or shortening words in colloquial settings*"), with many participants pointing to specific lexical items like "y'all." This aligns with Preston's (1999) findings that Northerners tend to view Southern accents as indexing both negative social characteristics such as being "incorrect" in addition to more positive characteristics via covert prestige, such as sounding polite. Interestingly, one

participant possibly associates southern ways of speaking with a feature of African American English, writing that, "*They have an accent. For example, 'ask' is pronounced like 'acts.'*" Metathesis of the [sk] sequence in "ask" is common in AAE (Rickford & Rickford 2000).

Nineteen (out of twenty-four) maps also included a boundary or label drawn in the Northeast United States. New York (often the entire state) was the most frequently discussed area (e.g., bottom of Figure 3.2), but the boundary for this region sometimes extended into New England and/or the Mid-Atlantic (e.g., top of Figure 3.2). One participant highlighted the entire East Coast (Maine to Florida) and labeled it "*East Coast accent*." Much commentary on language in the Northeast is focused on qualities such as a perceived fast speaking rate and/or sounding "*rude*," "*mean*," or "*abrupt*," with occasional comments about particular phonetic variables, usually in relation to New York. For example, the participant whose map is displayed at the top of Figure 3.2 noted in an open-response comment that what he refers to as an "*exaggerated AH sound*" is intended to represent "*long a's (caaar)*," though it's not clear whether this comment is referring to vowel quality or to non-rhoticity. Another participant drew a specific contrast between an "*east coast accent that sounds Italian and louder*" and "*the Midwest which can be more soft and calming*." These references to New York/East Coast speakers as sounding rude and loud are in line with research on geography and conversational style (e.g., Tannen 1981), and suggests that these ideologies are widespread.

Finally, six maps provided some sort of label for California and/or the West Coast. The lower map in Figure 3.2 has Southern California labeled with "*valley accent*." In the maps in Figure 3.5, one participant circled the state of California and labeled it as such (left). The other circled the West Coast states, Nevada, and Arizona (right); this participant's key listed the orange region as "*West Coast accent*."

Figure 3.5. Maps depicting California (left) and the West Coast (right) as dialect regions
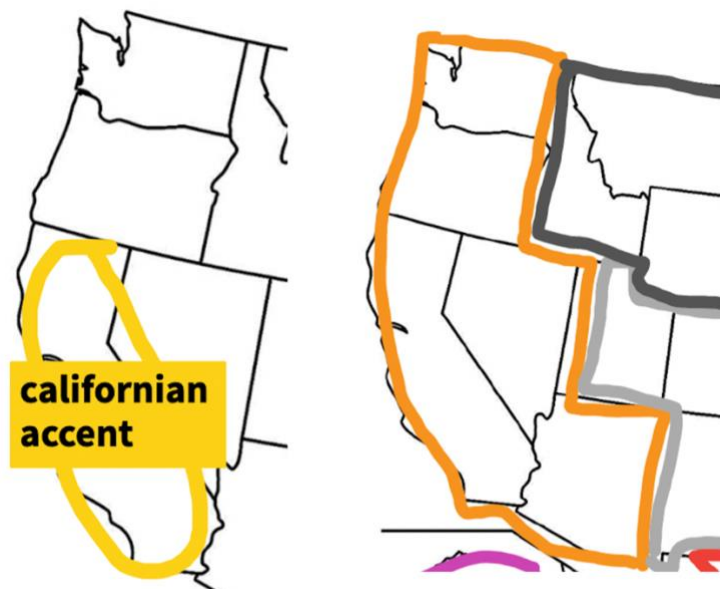
That said, commentary about California was somewhat less common than commentary about the South or Northeast, with most participants leaving the western portion of the map unlabeled or writing that ways of speaking in the area were unmarked. The participant who created the top map in Figure 3.2 noted "*this half of the map I have basically no idea*"; another participant wrote that people on the West Coast sound "*generic*." For participants who did recognize a separate way of speaking in California or the West Coast, commentary tended to focus on perceptions of the region as being laid back (e.g., "*west coast accent which is a lot more simple and relaxed*") or to associations with the Valley Girl persona (D'Onofrio 2015; Figure 3.2). For example, one participant wrote that "*californian is like 'oh ma ga' like a lot of -a sounds*." It's not clear what this participant intends by "*-a sounds,*" given that the example includes both [aɪ]-monophthongization, the LOT vowel, and deletion of [d] in "God," the expression "Oh my God" is associated with the Valley Girl persona (e.g., Hinton et al. 1987).

This commentary therefore establishes a contrast between areas of the country in which ways of speaking are perceived to be marked or salient in some way (the South, New York, possibly California) and the Midwest, which is, broadly speaking, perceived as unmarked. Participants do acknowledge that their own familiarity with Midwestern speech styles leads them to perceive it as normative ("*I'm just used to my accent,*" "*Midwestern is what I'm used to*"), but aside from maps indicating Chicago as separable from the rest of the Midwest on the basis of accent, no specific linguistic features other than the lexical item "*pop*" was referenced as specific to this area.

3.3.2 Illinois maps

The key trend that emerged from completed maps of Illinois was a distinction between the Chicago metro area and other parts of the state (Figure 3.6). While a few participants drew boundaries around other portions of the state, every participant identified the Chicago area as an ideologically distinct region within the state[9] (though of course, the framing of this project as a study of language among Chicago-area teenagers may have primed this response to some extent). Many participants noted in their comments that they were unfamiliar with ways of speaking outside the Chicago area (e.g., Figure 3.6, right), noting that, for example, "*Chicago accent because of the diversity in the city. Other parts of Illinois I'm not so sure*" and "*I, personally, have not heard accents from the rest of Illinois.*" Among participants who did provide labels or commentary for other parts of the state, this commentary often focused on the perception of the Southern and Southwestern portions of the state as sounding "Southern" or "country" (e.g., Figure 3.6, left). For example, participants noted in their comments, "*the south side of the state*

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[9] Two participants included the city of Champaign in the region designated "Chicago accent," noting in their comments that many Chicagoans attend the University of Illinois at Urbana-Champaign (bringing their accents with them).

starts to sound a bit more rural" and "*more southern than like how people in Chicago talk but*

not quite southern."

Figure 3.6. Illinois maps depicting Chicago as distinct from the remainder of the state[10]
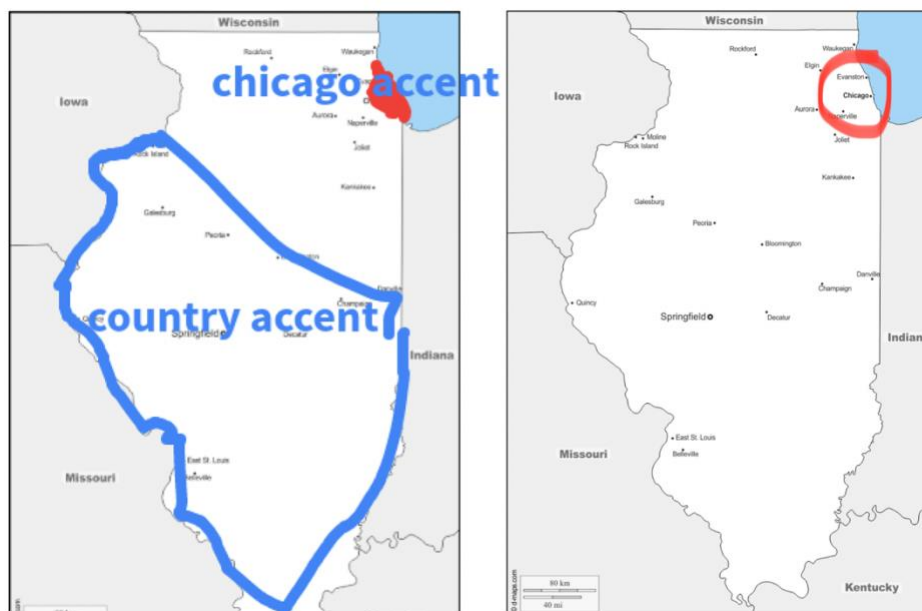
These assessments of Southern Illinois as sounding "Southern" are supported by data from

Labov et al. (2006), who found that some Southern features, such as the PIN-PEN merger, were

also present in Southern portions of the Midlands region, including Southern portions of Illinois.

Social meanings which were discussed in relation to both Northern vs. Southern and

urban vs. rural speech styles on the national level emerged at the state level as well, perhaps as a

consequence of fractal recursivity (Irvine & Gal 2000), in which these broader oppositions are

reified at a smaller scale. One participant wrote that "*The northern part* [of the state, which

includes Chicago] *is louder and uses a lot more slang than the southern part which can be much*

calmer and more soft spoken with sometimes a southern accent," and "*They* [Chicagoans] *speak*

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[10] The lower edge of the lefthand map was cropped by the participant. Illinois state maps were obtained from https://d-maps.com/carte.php?num_car=6966&lang=en (d-maps.com 2023).

fast and always sound mean like they're in a rush for everything. Illinois city people are mostly seen as rude." Interestingly, these discourses regarding Northern urbanites as sounding "loud" or "mean" or speaking quickly did not emerge in relation to Chicago (or any midwestern city) in national maps, but rather in relation to urban areas in the Northeast, especially New York. These distinctions are also noteworthy given that most participants included the entire state of Illinois in the same dialect region on the United States map. This suggests that as they complete perceptual dialectology tasks, participants are making comparisons between salient oppositions at particular geographic scales. Further, ideologies uniting place and language are not absolute, but rather emerge in relation to the context at hand (see also Stachowski 2017, who found that changing whether cities or regions were labeled on a map of Poland led to differences in performance on a perceptual dialectology task).

3.3.4 Chicagoland maps

On maps of the counties surrounding Chicago (Cook County, which contains Chicago and several inner suburbs, Lake county to the North, and Kane and DuPage counties to the West), participants typically followed one of two patterns, exemplified in Figure 3.7. As in the map on the left, many participants labeled an area roughly corresponding to Chicago or occasionally most/all of Cook County as distinct from the remainder of the suburbs; as on the right, some participants drew what they believed to be distinctions between different suburban areas. Also similar to the map on the right, many participants divided Chicago into a "North Side" and "South Side" area; I discuss this division in greater detail in Section 3.3.5 below. Two participants did not draw any boundaries on the map, writing "*To be completely honest I don't find a difference in people speaking in the Chicagoland area really*" and "*I feel like it is all generally the same way of speaking because everybody is so close to each other in this region. It*

can be more like the Chicago accent all around." Among participants who made distinctions

between different suburban areas, this commentary tended to be geographically motivated: for

instance, one participant labeled sections of the map "*East Chicagoland Area (more Southern),*"

"*Northern Chicagoland Area (A mix between 'southern' and Midwest),*" "*Transition zone*

between Indiana 'southern' and East Chicagoland Area." Alternatively, these distinctions were

sometimes based on perceived ethnic or socioeconomic differences between different suburbs

("[people] *in the richer suburbs have more specific ways of talking that you can notice if you're*

familiar with the area.").

Figure 3.7 Maps of Chicagoland
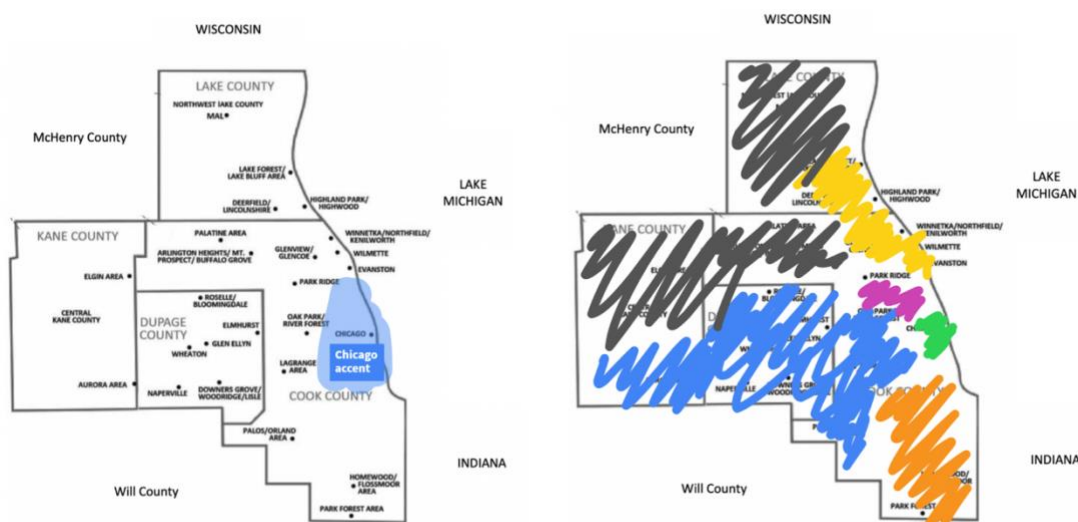
For participants who drew a distinction between the city and surrounding suburbs,

commentary tended to focus on a particular racialized view of the city, specifically in terms of

associations between Chicago (especially the city's South Side), African American English, and

"slang," examples of which are often derived from AAE. For example, one participant wrote,

"*Chicago and inner city people tend to use slang more often,*" and another noted, "*The outline in*

purple [Cook county] *have a certain slang like homie and say sentences differently like instead of saying 'I am going to they say 'I finna.'"* This aligns with broader cultural discourses linking urbanity to Blackness (e.g., Leonardo & Hunter 2007), as well as assumptions that the prototypical speakers of African American English are young urban residents (Labov 1972; cf. King 2020; Morgan 1994; Weldon 2021).

Evident from this commentary is that when contrasted with the suburbs, the urban/rural opposition discussed above comes to take on racialized associations: urban speakers are no longer just mean, loud, fast talkers. Instead, they produce lexical and morphosyntactic items associated with AAE, and this, in turn, is interpreted as both stigmatized (Northern suburbs labeled as "*Areas I am used to, speak sophisticated but southern areas[11] usually speak improperly*") and racialized ("*This is where most African Americans reside, they have an accent.*"). And yet it simultaneously remains distinctly associated with urbanity: as one participant wrote, "*I have been around there* [Northern suburbs] *and many teens say slang people in Chicago would use. But sometimes they are seen as trying too hard.*" That is, using urban-associated slang may index some aspirational quality, but a speaker's status as a suburban resident might prevent them from being perceived as authentic (Bucholtz & Hall 2005).

3.3.5 Chicago Maps

Maps of Chicago extend this commentary racializing urbanity to sections of the city itself. Twenty out of twenty-four maps included some sort of division between the city's North and South Sides, though the exact location of the dividing line was not uniform across

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[11] I interpret "southern areas" to be a reference to the South Side of Chicago, though the map in question had circled the entirety of Cook County here.

participants and many included one or more smaller divisions within the North Side. Figure 3.8

contains some representative maps.

Figure 3.8. Maps of Chicago depicting a division between North and South Sides
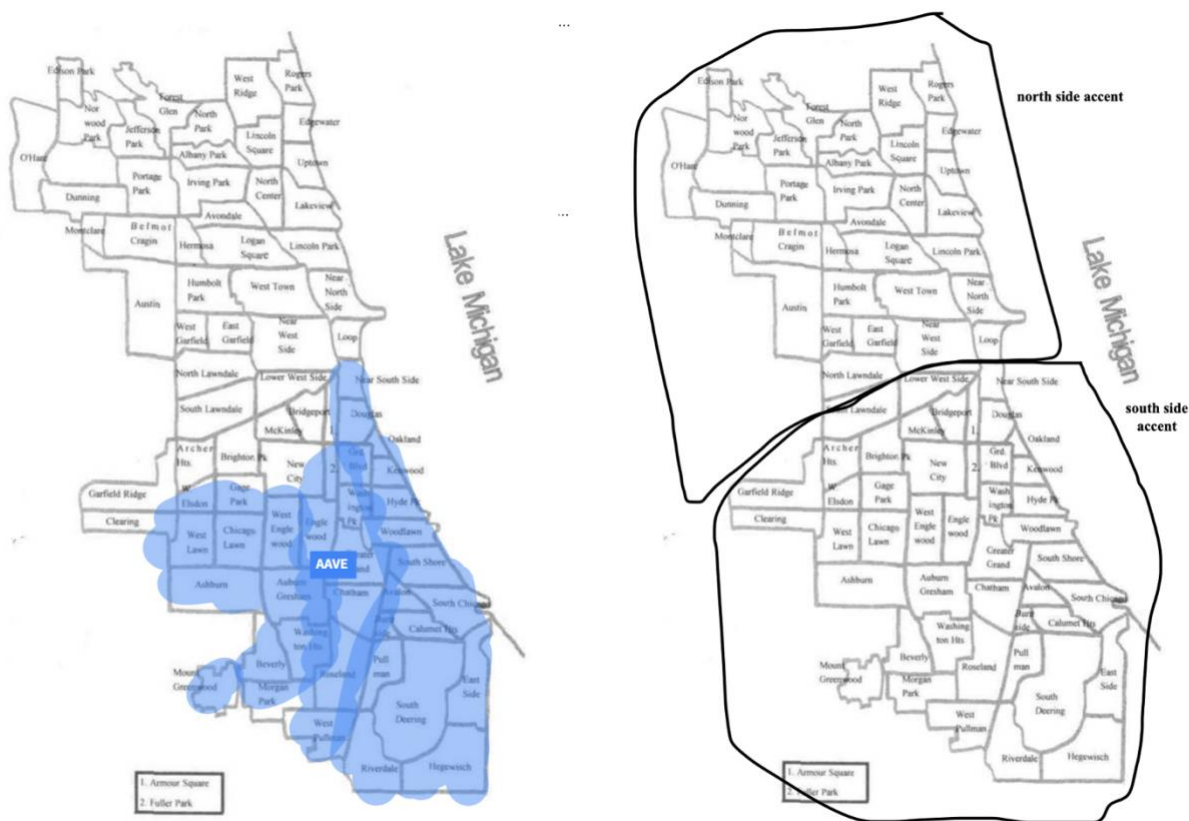
On the left, the South Side of Chicago has been labeled "AAVE," for African American

Vernacular English, while the North Side is left blank, whereas on the right, the two Sides are

labeled "north side accent" and "south side accent," respectively. Chicago, as a city, has

historically been divided into three "sides" (North, West, and South), initially based on natural

boundaries created by the Chicago River (University of Chicago 2020). These boundaries

currently also reflect both ideological and actual racialized residential trends in the city (Figure

3.9, reproduced from Theodos et al. 2019).

Figure 3.9. Population distribution by race or ethnicity in Chicago (pink = Non-Hispanic white,

blue = Non-Hispanic Black, yellow = Hispanic, black = Asian American and Pacific Islander)
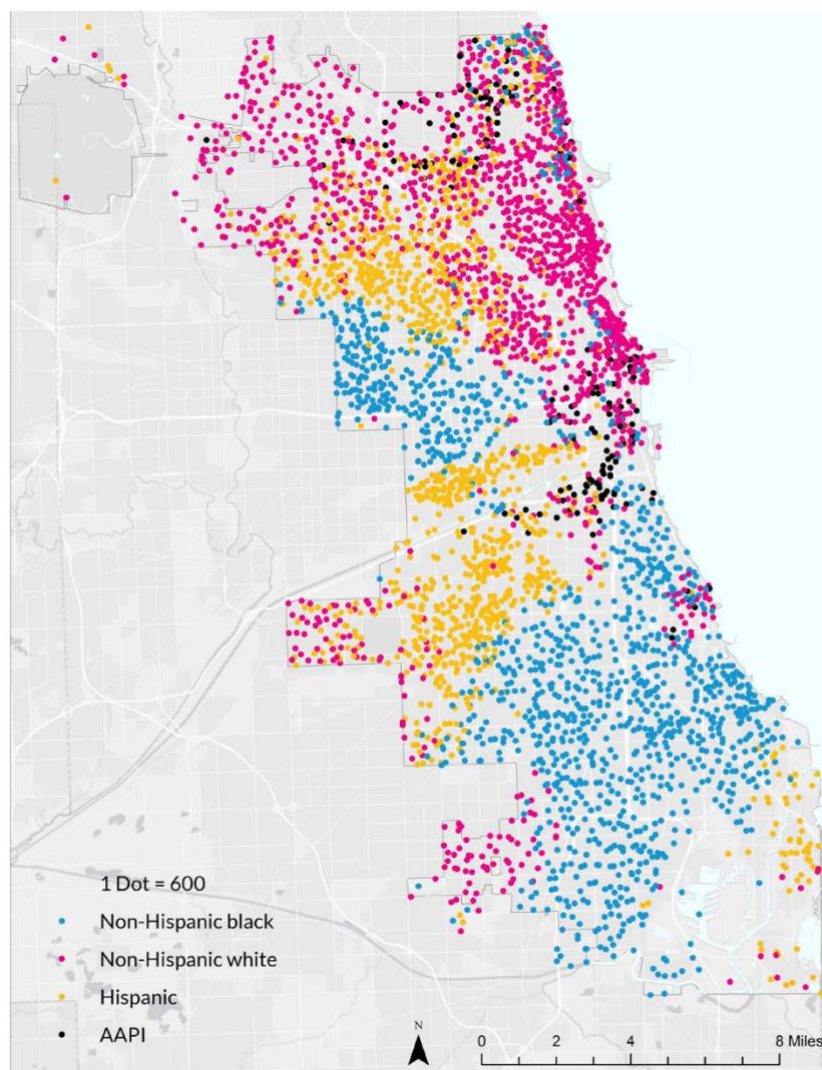
As shown in Figure 3.9, the city's South Side is predominantly Black, the West Side Black and

Hispanic, and the North Side predominantly white, though pockets of non-majority ethnic groups

exist in all three "Sides." Despite the traditional three-part split, however, most participants in

the present study created a binary North Side/South Side distinction.

That said, this binary distinction was not the only strategy participants used for labeling

maps. Some drew additional boundaries, often either dividing the North Side into multiple

smaller areas, as noted above, or adding a section labeled "West Side" (N=2). Rather than

drawing a North Side v. South Side boundary, one participant divided the North Side based on a

combination of language and race/national origin (Figure 3.10), noting in her comments "*With*

the blue region I think people just talk in a regular english accent, the green region might have a

mix of hispanic English speaking accents and the purple highlighted region might have south

asian speaking accents." One participant left the entire map blank, with a comment at the top

reading "*all the same.*"

Figure 3.10. Map of Chicago's North Side divided by ideologies about accents

As indicated by the label "AAVE[12]" (Figure 3.7, left), much of the commentary about the division between the North and South Side of the city focused on racialized distinctions. Sometimes these comments explicitly mentioned race or ethnicity, such as, "*North side has more of a Polish/European influence whereas the south would be more likely to speak in AAVE*" and "*South side neighborhoods tend to be predominantly Black so African American vernacular English is usually spoken in those areas.*"

Other comments map the language associated with these areas to social stereotypes about racialized groups. For example, in descriptions of language on the South Side, some participants wrote, "*They mostly speak ghetto*," "*South Side does not speak properly*," and "[South Siders] *sound dumb like they are not properly educated*," all of which rely on stereotypes about the negative connotations of AAE. Conversely, one participant noted, "*I am more used to Northern chciago* [sic] *and the proper way to talk.*" Other comments tied language on the South Side to stereotypes about Black people as threatening or intimidating, writing, "*When I am at the north side of Chicago, I am not intimidated by the way I am spoken to… They talk professional compared to other parts of the city.*" In contrast to the predominantly-Black South Side, then, with its perceived lack of education and improper speech, the predominantly-white North Side speaks a professional, "proper" variety.

That said, not all commentary linking the "sides" of the city to racialized linguistic varieties takes on such a negative valance. For example, some comments (especially from Black participants, even though both Black participants in the sample live on the North Side) reflect descriptions of morphosyntactic and lexical features of AAE ("*In areas where AAVE is common,*

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[12] It was not unusual for participants to be familiar with the term "AAVE." In interviews, a few discussed encountering it over social media in discussions of racism following the 2020 Black Lives Matter protests.

words like been but in the present tense or snatched [are used]," though it's not clear whether this is a reference to habitual BE or stressed BIN; Spears 2019). Another comment discusses how AAE is used interactionally: "*The Black population in the south and west sides of Chicago use a lot of AAVE but also code switching impacts conversation and language*." However, in general, the ability for the label "South Side[13]" to serve as a stand-in for Black Chicagoans further reflects the discursive connections between race, place, and language (Grieser 2013; Grieser 2022; Leonardo & Hunter 2007).

3.3.6 Discussion

In all, the discourses that emerge through these maps suggest that participants construct linguistic and social ideologies as sets of oppositions. Thus Midwestern English is unmarked in contrast to marked varieties like Southern English, whereas Chicago English is somewhat marked relative to the Midwest as a whole, or even the remainder of the state of Illinois. Urban varieties contrast with rural varieties, and these are in turn mapped onto ideologies about Northern and Southern affiliation, such as many participants' seemingly synonymous usage of "country" and "Southern" as descriptors of linguistic varieties. Moreover, oppositions that emerge at the national level re-emerge at smaller scale levels of differentiation (Irvine 2009; Irvine & Gal 2000), such that Chicagoland is contrasted with Southern Illinois, which is conceived of as sounding Southern (though only when the map in question does not depict the actual Southeastern United States). At the same time, these broader discourses about language work to racialize place within Chicagoland, such that the North and South Sides of Chicago are conceived of as reflecting whiteness and Blackness, respectively. In this way, pre-existing

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[13] In interviews, participants – especially those who live in South Side areas with white pluralities or majorities, like Hyde Park and the Midway area – often do discuss white South Siders (see below for discourse on this group in terms of meta-linguistic commentary regarding the "Chicago accent" on the South Side).

attitudes towards and stereotypes about these racialized groups are applied to attitudes towards the language these groups use.

Also of note, particularly for the Chicago maps, is the erasure (Irvine & Gal 2000) of languages other than English in participants' commentary (two comments mentioned Spanish as being common on the West Side), despite no explicit mention of English in the task instructions. More than one-third of Chicagoans speak a language other than English at home (United States Census Bureau 2022). Despite this linguistic diversity, however, maps overwhelmingly focused on ideologies about English; even the map in Figure 3.9, which is largely based on areas with large portions of immigrants, comments only on accented English.

Finally, it is noteworthy that few participants commented on the features of white varieties of English in Chicago. Though participants frequently mention the "Chicago accent" in reference to these speakers, or discuss their English as sounding unmarked, "proper," or professional, few specific features were mentioned (cf. Figure 3.4, left, which commented that in Chicago, "*th sounds like d*," in reference to (dh)-stopping, and there is a "*long pronounced a sound*," a reference to the TRAP vowel). As discussed above and in Chapter 1, such ideologies are common among adult Chicagoans (D'Onofrio & Benheim 2020). However, the extent to which these ideologies are accessible to adolescents remains unexplored. As a result, in Section 3.4, I draw on meta-linguistic commentary from sociolinguistic interviews to assess more specific ideologies about the "Chicago accent" in this sample.

3.4. Meta-linguistic commentary

3.4.1 Procedure

Sociolinguistic interviews were conducted with 42 Chicagoland adolescents following the procedure described in Chapter 2. Unless brought up unprompted by participants earlier, meta-linguistic commentary was solicited at the end of the interview, following completion of a word list task (see Chapter 7). Participants were asked whether they thought there was a "Chicago accent," and, if so, what this accent sounded like, what kinds of people were likely to use it, and whether there were certain places within the city where they were likely to hear it. Participants were also asked whether they thought there were things that young people said that older people might not (and vice versa). Other meta-linguistic commentary arose organically during the context of the interview, and I included these comments in this analysis as relevant.

3.4.2 Results

In discussions of the Chicago accent, many participants echo discussion of Chicago and the Midwest as normative in claiming that there is no Chicago accent, or that it sounds neutral. For example, asked whether he thought there was a "Chicago accent," Spencer, a white elite school student, said, "*I've heard people talk about it, but no, I don't really think so,*" and Hannah, a white non-elite school student, mentioned that "*I think the Midwestern sort of accent I guess is pretty much general American.*" This parallels at least some commentary by adults (D'Onofrio & Benheim 2020), as well as the perceptual dialectology remarks discussed above considering Chicago or the Midwest to be "neutral."

Among participants who do acknowledge a Chicago accent, commentary tends to parallel adults' discussions of the "Chicago accent" (usually referring to phonetic variables typical of white speakers in the area): they often mention the TRAP vowel (for example, Chelsea, a white

non-elite school student, noted, "*I can sort of hear in my voice, like the long A's*" and Leah, a white suburban public school student, said, "*Really pronouncing the letter A like in a certain way is kind of what makes the Chicago accent*"), with a few mentioning LOT, especially in relation to the pronunciation of the stressed vowel in the word "Chicago" (see also D'Onofrio & Senko 2022). Other descriptions tend to focus on pronunciation as sounding "nasal," with some mentioning that this allegedly nasal quality was pointed out to them by others. Folk descriptions of NCS vowels as sounding "nasal" are common among adults throughout the Inland North (e.g., Driscoll & Lape 2015 in Syracuse, and D'Onofrio & Benheim 2020 in Chicago) and in this sample. For example, Allie, a white suburban student, stated that in her choir class, "*When we would sing, our teachers had to be like, 'all right, so we're singing this very smiley and very nasally. We've got to take out the Chicago accent... it was so strange, my brain had never been like, 'oh, I have an accent.*'" Accounts of first having their meta-linguistic awareness of a "Chicago accent" pointed out to them by others were fairly common among participants, whether this referred to this alleged nasal quality or to productions of vowels, usually TRAP.

When asked whether there are certain types of people who are likely to have a Chicago accent, adults tend to describe white or white ethnic, working class speakers, and often mention neighborhoods on the city's South Side that are historically associated with white ethnic residents (Benheim & D'Onofrio 2023; D'Onofrio & Benheim 2020; D'Onofrio, Benheim & Foster 2020; Hallett & Hallett 2014). Some commentary from participants in the present study tends to align with these place- and ethnicity-based associations. For example, Bartholomew, a white non-elite school student, said that the "Chicago accent" was more common on "*the West Side or the Southwest side where I'm from, or even the South Side. Um I think as a South Sider I have something against people from the North but I would assume they also have Chicagoan*

accents." Trinity, a white non-elite school student who lives on the North Side, concurred with this opinion, stating of the "Chicago accent," "*It's very like South Side Irish.*"

And indeed, some participants noted explicitly that they associated Chicago accents with older speakers: For example, Ava, a white suburban public school student, said, "*I think there's what I'd like to describe as, like, the old Chicago accent, like you know, big, burly Italian men… I think that accent's kind of gone because accents as a whole are kind of leaving in my opinion,*" and Candace, a white elite school student, observed that "*older people you kind of hear it more with.*" These age associations are explored further in a matched guise task in Chapter 4, but it is noteworthy that participants possibly recognize the age-based patterning of these features.

Finally, while most meta-linguistic commentary about the Chicago accent emphasized features more typical of white Chicagoans, some non-white students did mention features associated with other racialized groups. For example, Sarah, a Black elite school student, said that, "*Oh, people say 'Oh he tweaking,' or 'You a goofy.' But I feel like that's moreso um like Black Americans in Chicago.*" Sarah's examples reflect both copula deletion as well as lexical items that are believed to have originated in Chicago AAE: according to Urban Dictionary, a "goofy" is a "Chicago term for a lame or a snitch" ("Goofy" 2016). However, no participants mentioned Black Chicagoans as sounding "Southern" or "Country" (cf. D'Onofrio et al. 2020), and while some Latinx participants mentioned Spanish as spoken in their homes, communities, or schools, none discussed this in relation to the "Chicago accent" more generally.

3.4.3 Discussion

In general, the adolescents in this sample largely share the social associations of the "Chicago accent" with local adults (D'Onofrio & Benheim 2020): this accent comprises Northern Cities-shifted productions of the TRAP and LOT vowels, which are associated with

white or white ethnic speakers, especially those on the city's South Side. It may seem contradictory that these participants strongly associate the South Side of Chicago with Black speakers and AAE in the perceptual dialectology task while simultaneously associating this same area with white speakers and the Northern Cities Shift in meta-linguistic commentary. However, research on ideologies about race and place highlights that "as an imagined space, the urban is constructed through multiple and often contradictory meanings. These meanings are sites of contestation as to what the urban signifies in people's imagination" (Leonardo & Hunter 2007: 780). Thus one set of ideologies about Chicago associates the South Side with Black people and Black language varieties, while an opposing set of ideologies associates the South Side with white people and white language varieties. In both cases, however, the South Side is contrasted with the North Side: the South Side is Black, with "improper, intimidating" language, in contrast with the white, "proper, professional" North Side. The South Side is also, however, white, with a "nasal" Chicago accent, in contrast to the unmarked, generic white Midwestern variety typical of the North Side. As we will observe in Chapter 6, these ideologies are yet again recursively cast onto another opposition: between elite and non-elite high schools, where students at non-elite schools use the "marked" vocalic productions associated with white South Siders.

3.5 Conclusion

Meta-linguistic commentary and perceptual dialectology tasks are relatively explicit means of assessing language ideologies. They rely on participants' ability to name the social groups and linguistic varieties they are discussing and, as we have observed in this chapter, can vary depending on the specific stimuli provided or questions asked. In the remainder of this dissertation, I assess the perception and production of Northern Cities vowels using an

experimental paradigm (Chapter 4) and quantitative measures of production (Chapters 5-7), in

conjunction with qualitative analyses of content from sociolinguistic interviews (Chapters 6-7).

That said, this commentary demonstrates a discursive landscape in which adolescents

make associations between relatively marked or unmarked linguistic varieties and various social

types in Chicagoland. Their indexical use of TRAP, LOT, and other linguistic variables, then,

must be read within this context. The vowels of the Northern Cities Shift may be primarily

associated with place in the context of the United States as a whole. Within Chicagoland,

however, these features also take on meanings related to more localized identities and

oppositions. While this dissertation focuses primarily on white speakers, this chapter has

demonstrated that there are multiple ways of doing whiteness in Chicagoland, and speakers'

linguistic productions must be read in relation to these social types.

Chapter 4. Style and social evaluations of the NCS

4.1 Introduction

A full understanding of the ongoing apparent time sound change in progress necessitates an understanding of the social meanings that speakers attribute to these features. In order to better understand why adolescents might be orienting away from NCS TRAP and LOT, we must first understand the indexical meanings they associate with these features. As the indexical field is narrowed down through the juxtaposition of a given linguistic feature with others in a style (bricolage; Campbell-Kibler 2007; Eckert 2012), it is also necessary to explore how these vowels are interpreted when they co-occur with other salient Chicagoland features. In this chapter, I present the results of a matched guise task (Lambert 1960, *inter alia*) aimed at assessing adolescents' social evaluations of relatively Northern Cities-shifted or reversed TRAP and LOT alone and in combination with (dh)-stopping, another salient feature in meta-commentary about the "Chicago accent." I find that NCS vowels are associated with lower ratings for social class and higher (older) ratings for age, but that an interaction between TRAP/LOT and (dh) on ratings for age suggest that listeners expect that a younger speaker might maintain Northern Cities-shifted vowels if they also produce (dh)-stopping, itself associated with lower ratings for formality, class, and education. Meanwhile, including high school type as a factor did not improve model fit for social evaluations of these features, potentially suggesting that listeners agree about these socially meaningful indexical links with NCS vowels and (dh)-stopping, despite production differences.

4.1.1 The matched guise task

While production patterns can point to the overall demographic or attitudinal factors that might condition the use of a given linguistic feature, a full understanding of the factors

motivating NCS reversal – that is, why younger speakers might be orienting *away* from Northern Cities-shifted TRAP and LOT vowels – relies upon understanding the social meanings that they attach to these features. Matched guise tasks (MGTs) can be used to elicit evaluations of different linguistic features, without directly calling attention to the features in question. MGTs involve playing brief clips of speech (manipulated to differ by the specific linguistic features of interest), with different manipulations played for different groups of participants. Differences in the evaluations of a speaker can then be attributed to the specific features which were manipulated (e.g., Campbell-Kibler 2007; Lambert et al. 1960; Tamminga 2017).

MGTs are useful for probing slightly more subconscious associations between linguistic features and social meanings. Though the MGT is a relatively introspective task, as listeners are explicitly reflecting on social evaluations of voices, these evaluations can differ from the meta-linguistic commentary that might arise in interview contexts, as they don't require the ability to explicitly discuss specific linguistic features. This is especially useful for the NCS, for which some individuals are unable to provide meta-linguistic commentary (such as speakers who claim there is "no Chicago accent"). For example, in a matched guise task, Savage et al. (2016) observed that Northern Cities-shifted LOT was perceived as sounding more "ignorant" and "annoying" than a more reversed vowel, but only among speakers younger than forty. This points to potential differences in social evaluations of this variable based on listener age.

Importantly, however, the social meanings of linguistic features are evaluated in the context of co-occurring stylistic resources. Through bricolage (Eckert 2012), speakers draw upon pre-existing socially meaningful linguistic elements to construct styles (Coupland 2007; Eckert 2016). While these styles may be used to index new social meanings, they are constructed by drawing on linguistic features which have pre-existing social meanings in the community (Eckert

2016; Zhang 2008). In the context of sound change, then, it is important to consider not just how the linguistic features are undergoing change, but also how these features may be used in combination with others.

Features and styles can become enregistered (Agha 2003) with certain social types or personae. As a result, individuals can use or avoid certain styles in order to align or distance themselves from these social types. This process can then lead to sound change, as speakers orient differently towards or away from social meanings over time (Coupland 2007; Eckert 2016). Crucially, social evaluations of a given linguistic feature can depend on the surrounding style in which it is embedded, or the other features that co-occur with it. For example, in a matched guise task, Campbell-Kibler (2009) found that the interpretation of alveolar and velar variants of (ING) depended on a speaker's perceived regional (Southern v. non-Southern) and social class (working class v. non-working class) background: while alveolar [ɪn] is generally associated with lower ratings on perceived education/intelligence, speakers with Southern accents were universally rated lower on this scale, regardless of the (ING) variant they produced. Similarly, non-working class, non-Southern speakers were universally rated highly on the education/intelligence dimension. The social meaning associations of (ING) variants emerged only for non-Southern speakers who were perceived as non-working class.

Similar results have also been found among adolescents: in Copenhagen high schools, Pharao et al. (2014) found that a male speaker was more likely to be perceived as sounding "gay" or "feminine" when producing a fronted (v. alveolar) /s/, but only when this was combined with "modern Copenhagen" prosody. Meanwhile, when the same variants of /s/ were combined with "street language" prosody, fronted /s/ was more likely to be perceived as sounding "gangster," while the opposite effect (fronted /s/ sounding *less* "gangster") was found in the "modern"

prosody guises. Such studies demonstrate how listeners are sensitive to the stylistic contexts in which variants occur, which may condition the social meanings associated with them. Additionally, individual variants may contribute different social meanings when incorporated into different styles.

Research on features undergoing change over time has found that listeners of different ages might vary in their evaluations of the social meanings of these features. In Michigan, for instance, Savage et al. (2016), observed that fronted (NCS) LOT vowels led to a speaker being rated as sounding more "ignorant" and "annoying," but only among younger listeners (that is, those who were leading the change away from LOT-fronting). As sound changes unfold, they may take on new social meanings across successive generations.

Given the class-based associations of NCS features (McCarthy 2011; Nesbitt 2021; Wagner et al. 2016), the present study involves the manipulation of two sets of features: TRAP and LOT vowels (Northern Cities-shifted v. reversed), which are linked with the white working class in the Chicago, and (dh)-stopping (the production of /θ/ or /ð/ as [t] or [d], respectively), a feature which is associated with the working class in North American English more broadly (e.g., Labov 1966; Mendoza-Denton 2008; Newlin-Łukowicz 2013). (dh)-stopping is also a salient feature in many parodic performances discussed by adults in meta-linguistic commentary as about the Chicago "accent," such as the "Regular Guy" on Chicago's WXRT radio station (Hallett & Hallett 2014) or *Saturday Night Live's* recurring 1990s sketch, "Bill Swerski's Superfans," which included frequent references to the aptly named local football team, "Da Bears" (Siegel 2018). (dh)-stopping is a feature of many varieties of English, but at least some Chicagoans consider it a local stereotype (McClelland 2018). While both TRAP/LOT and dh-stopping are mentioned in meta-linguistic commentary by Chicagoans of all ages as examples of

the "Chicago accent," these features do not necessarily co-occur with each other. Outside the Inland North, (dh)-stopping is often produced in the absence of NCS vowels, and many NCS speakers categorically produce fricatives for word initial (dh). At the same time, dh-stopping has been alleged to have originated as a substrate effect in European immigrant speech, and it has some associations with "white ethnic" Polish, Irish, and Italian Americans (Labov 1966; Newlin-Łukowicz 2013): the same speakers who are associated with NCS vowels in meta-linguistic commentary and parodies.

Based on these shared associations, as well as the partial overlap in the distribution of these features, this study tests social evaluations of NCS vowels and (dh)-stopping. Further, given the apparent time change to NCS vowels (D'Onofrio & Benheim 2020) and previous work on the NCS which has found listener age to be a relevant factor in social evaluations (Savage et al. 2016), it is worth considering what social meanings these features hold for younger listeners.

4.2 Methods

4.2.1 Stimuli

A matched guise task tested listener responses to two sets of features, alone and in combination: (1) NCS-implicated TRAP-raising/fronting and LOT-fronting and (2) dh-stopping, in a between-subjects design. As the meta-linguistic commentary discussed in Chapter 3 and elsewhere (e.g., Benheim & D'Onofrio 2023; D'Onofrio & Benheim 2020) links the NCS with male-dominated blue collar occupations (police, firefighters, tradespeople, etc.), critical stimuli were recorded by four male speakers in their 20s, all of whom grew up outside the Inland North and speak non-Southern varieties of American English in order to minimize the presence of salient cues to regional background in the non-manipulated portions of each guise. Three

speakers self-identified as white or Caucasian and one as Asian American; perceived race for each speaker's voice was tested in a norming task described below.

Each speaker was recorded reading a 2-3 sentence passage constructed to contain three tokens each of TRAP and LOT vowels, as well as at least two tokens of function words beginning with word-initial (dh). A sample passage appears below (see Appendix B for other passages used), with tokens of TRAP and LOT bolded and (dh) italicized (note that tokens of TRAP were only included in unstressed positions when they preceded nasals, as in "anniversary" in the sample passage below, an environment in which this vowel is raised in both the NCS and the English varieties produced by each speaker):

> Sample passage: "I was trying to bake a cake for *their* anniversary. My **mom** and **dad**'s friends were coming over, so I needed to do one and a **half** times *the* recipe. *This* cake was so **complicated**: even **after shopping** for *the* ingredients, *there* was still a ton of work."

Following Tamminga (2017), who found that matched guise effects are similar across read and spontaneous speech styles for at least some linguistic features, read speech was determined to be appropriate for this task and used due to the level of control that this allows for the researcher in creating the stimuli. Four guises were created from each critical passage (4 guises x 4 passages = 16 total stimuli), for each of the possible combinations of TRAP/LOT (more Northern Cities-Shifted or more reversed) and (dh)-stopping (stopped or fricative). Attempts were made to limit the number of other NCS vowels: THOUGHT was fully excluded (due to potential overlap with LOT) and instances of primary-stressed DRESS, KIT, and STRUT minimized to the extent possible while still maintaining plausibly realistic-sounding stimulus content (N=9 DRESS, 7 KIT, and 7 STRUT tokens across the 4 critical passages).

To create the guises, each speaker's natural productions of TRAP and LOT were digitally manipulated using the Praat Vocal Toolkit (Boersma & Weenink 2016; Corretge 2020). For TRAP, F1 and F2 were manipulated in both directions such that the final midpoint values were between 300-400 Hz apart for F1 and 200-400 Hz apart for F2. For LOT, F2 was manipulated in both directions such that the final midpoint values were approximately 400 Hz apart, following the benchmarks set by Savage et al. (2016). Two speakers (Voices 1 and 2 in Table 4.1, below) naturally produced LOT vowels that were backed enough that the resulting fronted tokens did not sound plausibly Northern Cities-shifted to two trained linguists. For these two speakers, the Northern Cities-shifted guises were further manipulated, resulting in a final difference of approximately 700 Hz between guises. In this way, all guises contained manipulated tokens, such that both the Northern Cities-shifted and non-NCS guises involved vowels which had been digitally manipulated. The final midpoint measurements per vowel class by voice are listed in Table 4.1:

Table 4.1. Mean vowel midpoint measurements by formant, guise, and voice

	-NCS	+NCS	-NCS		+NCS	
Voice	LOT F2	LOT F2	TRAP F1	TRAP F2	TRAP F1	TRAP F2
V1	1095 Hz	1757 Hz	864 Hz	1562 Hz	580 Hz	1755 Hz
V2	1088 Hz	1731 Hz	829 Hz	1455 Hz	575 Hz	1813 Hz
V3	1379 Hz	1797 Hz	902 Hz	1638 Hz	616 Hz	1960 Hz
V4	1081 Hz	1477 Hz	892 Hz	1355 Hz	559 Hz	1587 Hz

For tokens of (dh), each speaker recorded both stopped and fricative versions of the passage. For stopped tokens, the stop and following release burst were spliced onto each

speaker's natural, fricative production. In instances where I judged the result as sounding unnatural due to durational differences in the following vowel caused by the voicing difference in (dh), the following vowel was also spliced. Since each speaker recorded multiple versions of each stimulus, fricative guises were created by splicing the fricative segments from a different recording onto the recording being used to create stimuli (following Campbell-Kibler 2007); in this way, all guises contained spliced (dh) tokens to limit the influence of potentially audible digital manipulation on evaluations.

In order to ensure that each guise sounded equivalently natural given the digital manipulation, a naturalness rating task was conducted over Prolific in which 100 listeners (native English speaking United States residents) were randomly assigned one guise per voice and rated each on a 10 point Likert scale ranging from "(1) sounds like a human talking" to "(10) sounds like a computer-manipulated voice." No significant differences were found for ratings between guises within each voice. Though most responses were not at one, indicating that listeners could perceive at least some manipulation in the recordings, they were concentrated towards the "sounds like a human talking" end of the scale: mean ratings by voice equaled ranged from 2.71 (Voice 4) to 3.93 (Voice 3), with an overall mean of 3.18 across all stimuli. An additional 25 Prolific participants were presented with the unmanipulated versions of each voice (that is, each speaker's natural production of the reading passage) and asked to rate the speaker's perceived gender (universally rated as male) and racial/ethnic background in a multiple choice task with categories drawn from the US Census (American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino/a/e, Native Hawaiian or Pacific Islander, and White); participants had the option to select multiple categories, though only 3 respondents did so. All speakers were perceived as white (alone) by at least 80% of listeners ranging from 80% (Voice

4) to 96% (Voice 1). Other categories receiving more than one response for any voice included Asian, Hispanic or Latino/a/e, and Black or African American.

Each participant was presented with one instance of each possible combination of features (vowels and (dh)-stopping). Comparing four voices allowed each participant to respond to each possible combination of features, though the specific guise-voice pairings varied across conditions in a Latin Square Design. An additional three filler stimuli (recorded by female speakers in their 20s; a white woman from the Inland North, a Hispanic woman from the South, and a white woman from the Mid-Atlantic) were also recorded, but not manipulated. These fillers were included to mask the purpose of the task and include a relatively even gender balance across stimuli (3 women: 4 men), while minimizing the total duration of the task. The content of filler stimuli is included in Appendix B.

4.2.2 Procedure

Participants were recruited via social media and snowball sampling, which occurred simultaneously with recruitment for participation in sociolinguistic interviews (see Chapter 2 for further details on general recruitment and participant background). Upon expressing interest in participating, participants over 18 and parents of minor participants were then emailed a link to complete an "online listening survey" via Qualtrics. Participants were compensated with a $5 digital gift card upon completing the experiment. Most participants completed the experiment prior to participating in an interview, though some completed it afterwards upon being reminded to do so during the interview. There was typically a gap of several days between survey completion and interview participation.

Participants were informed that we were interested in learning what information they can learn about a person based on hearing them talk. Each participant heard all seven stimuli (4

critical, 3 filler) three times across three blocks, responding to more specific questions about the speaker within each successive block, following Becker (2014). The order of presentation of stimuli within each condition was randomized within each block. Participants answered the same question(s) for each stimulus within a block before proceeding to the next block of questions.

In the first block, listeners heard each passage and answered an open-response question about their overall impression of each speaker. In the second block, listeners responded to several open-response questions about the speaker's macro-social demographic background (perceived race/ethnicity, gender, region, and occupation) and Likert scales about each speaker's perceived age (ranging from 0 to 100) and class (5-point scale with the endpoints labeled "working class" and "wealthy" and the middle point labeled "middle class." The labels "working class" and "middle class" are drawn from Labov (1972), though I opted to replace Labov's label for the highest socioeconomic group, "upper middle class," with "wealthy" to account for how these terms are used colloquially in the Chicago area). These measures were chosen because the features under study are associated in meta-linguistic commentary with these macro-social categories (e.g., NCS TRAP and LOT are associated with older, white speakers from the Inland North who are working class or in blue collar occupations).

Finally, in the third block, listeners rated the speaker on several Likert scales related to the speaker's affective, personality, and other demographic traits, drawn from traits associated in previous work with NCS vowels (D'Onofrio & Benheim 2020; McCarthy 2011; Savage et al. 2016) and/or (dh)-stopping (e.g., Mendoza-Denton 2008, Rose 2006): "educated," "intelligent," "hardworking," "annoying," "masculine," and "tough." I additionally tested evaluations along the scales of "friendly," "kind," "professional," and "formal," measures which listeners often associate with specific linguistic features. "Professional" and "formal" in particular were chosen

given the class-based associations both NCS vowels and (dh)-stopping hold in production studies. The ends of the scales were categorical measures to reflect unidirectional measures: to assess masculinity, for instance, participants rated the speaker on a 7-point scale from "not masculine" to "masculine," and for education, participants rated the speaker from "not educated" to "educated." In this final block, participants also rated how likely the speaker was to be from Chicago (Likert scale) and if so, whether there were certain areas of the city that they were most likely to be from (open-response). Following these three blocks, participants completed a demographic questionnaire.

4.2.3 Participants

81 participants completed the matched guise task, though data from 9 were excluded for failing to meet the inclusion criteria (either because they were too old and/or not from Chicagoland) or technical issues with completing the survey, resulting in 72 total respondents. All participants were age 15-19 at the time of the survey. In an open response question, 41 participants listed their gender as "female," 27 as "male," 1 as "nonbinary," and 3 participants did not report gender. Demographic information about participants' racial/ethnic backgrounds was also solicited through an open response question (note that the following numbers total over 72, as participants who listed multiple racial/ethnic categories are included under multiple groups); 48 participants reported being white (specific labels provided by participants were: "white," "Caucasian," "German and Greek," "Polish," "Ashkenazi Jewish," "Armenian" "I'm white but I'm half Indian and half Jewish," "Irish," "German"), 16 as Latinx ("Hispanic," "Mexican," "Mexican American," "Latina"), 6 as Black ("Black," "African American," Black American), 7 as Asian ("Asian," "Indian," "Pakistani," "Chinese American," "Asian

American"), and 1 as Native American ("Native American – Mayan"). 2 participants did not report race/ethnicity, and one listed race/ethnicity as "American."

In terms of high school type, 21 participants attended a suburban public school, 18 attended "elite" schools (15 at Selective Enrollment High Schools; 3 at non-parochial private schools), and 33 attended "non-elite" schools (16 at neighborhood schools within the Chicago Public School system, 12 at Catholic schools, and 5 at charter schools).

4.2.4 Quantitative Analysis

Linear mixed effects regression models were fit to responses for each Likert scale. The fixed effects of interest included the two sets of features which were manipulated across guises, *vowels* and *(dh)*. I additionally tested participants' High School Type (Suburban Public v. Elite v. Non-elite), though this effect was never found to improve model fit and was ultimately dropped from the final models. All three fixed effects were submitted to interactions, but these interactions were dropped when they were not significant and did not improve model fit as assessed by comparing the sums of squares of the residuals using the anova() function in R. As noted above, High School Type was always dropped, even when not included in interactions, as it never emerged as significant and was never found to improve model fit. The implications of this in relation to the production patterns observed in Chapters 5 and 6 are discussed below.

Since responses were collapsed across all four voices in order to maximize statistical power and ensure that each participant responded to each possible combination of *vowels* and *(dh)*, Voice was included as a control fixed effect. Voice often emerged as a significant main effect, indicating that listeners had baseline differences in their evaluations of these voices. However, it was never found to significantly interact with *vowels* or *(dh)*, indicating that

responses to these particular variables can be generalized across the different voices. Finally,

participant was included in all models as a random intercept.

4.3 Results

Table 4.2 depicts the estimates for the Likert scales for participants evaluations of each feature of

interest.

Table 4.2. Estimates for linear mixed effects regression models. Significance marked with

asterisks (* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$)

Scale	Vowels	(dh)	Vowels * (dh) interaction (if included in final model)
Class	0.402**	-0.277*	NA
Age	-4.136***	-2.819*	3.273*
Friendly	0.004	0.229	0.133
Educated	0.220	-0.405*	NA
Intelligent	-0.331	0.054	NA
Hardworking	-0.165	-0.076	NA
Annoying	-0.133	-0.215	NA
Professional	-0.299	0.268	NA
Formal	-0.311	-0.577**	NA
Masculine	-0.225	-0.115	NA
Tough	0.247	-0.193	NA
Kind	-0.292	0.026	-0.174
Likelihood of being from Chicago	0.068	0.095	NA

There were no significant results for the "friendly," "intelligent," "hardworking," "annoying," "professional," "masculine," "tough," or "kind" scales, nor for ratings of the speaker's "likelihood of being from Chicago." Significant effects are discussed in turn below. In each figure, the y-axis is oriented such that higher ratings along the given dimension (e.g., for education, higher values = "more educated"). Each boxplot indicates responses for a given guise.

Figure 4.1. Class ratings by guise
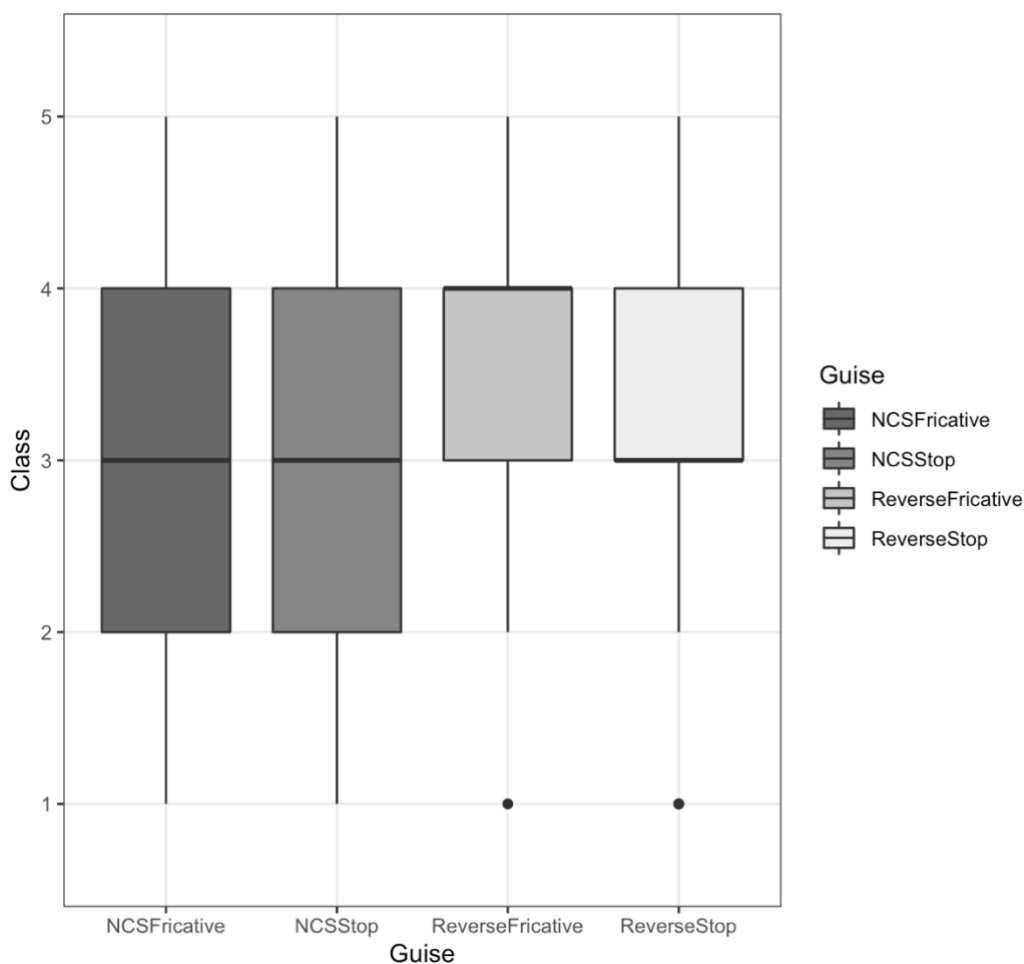
On the 5-point Likert scale assessing the speakers' class backgrounds, the endpoints were labeled "working class" (point 1 in Figure 4.1) and "wealthy" (point 5), while the midpoint (point 3) was labeled "middle class." A significant main effect of vowels emerged, such that guises containing NCS vowels were evaluated as sounding lower in class than the corresponding

reversed guises. In particular, responses for NCS guises were concentrated towards the middle of the scale, whereas those for Reversed guises were generally concentrated towards the top half of the scale. Additionally, guises containing (dh)-stopping were evaluated as sounding significantly lower in class than those containing fricatives. This trend is observable among the Reversed guises, where the median for the Reversed Fricative guise is 4 compared to 3 for the Reversed Stop guise.

Figure 4.2. Age ratings by guise
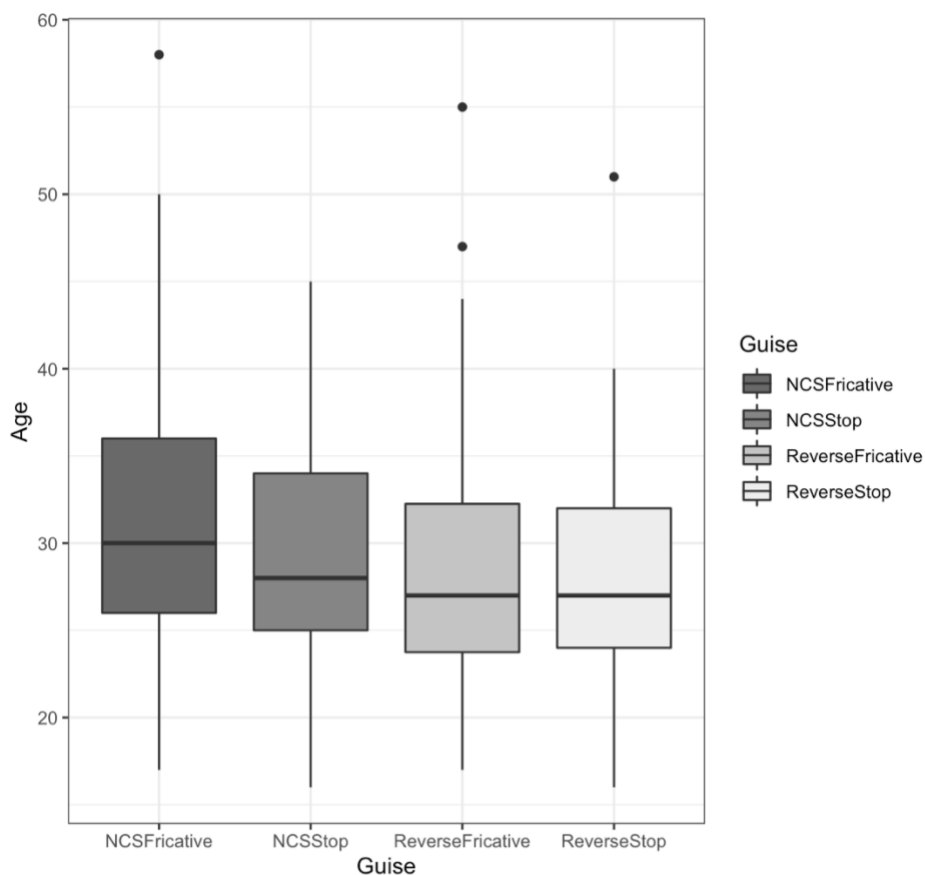
For age, responses were predominantly clustered between the twenties and mid-thirties, which is consistent with the speakers' actual ages (all were in their mid-to-late twenties). A significant main effect of vowels emerged, such that NCS vowels were rated as sounding older than more reversed vowels, consistent with the apparent time sound change in progress in which

NCS vowels are reversing among younger speakers. We additionally find a main effect of (dh)-stopping, such that (dh)-stopping is rated as sounding younger than the fricative guises, perhaps due to ideological associations between "nonstandard" variants and adolescence or young adulthood observable in age-grading patterns (e.g., Labov 1972; Wagner 2008). This finding is interesting given that meta-linguistic commentary suggests that Chicagoans – at least in discussing stereotypes – associate (dh)-stopping primarily with older speakers (this is exemplified by a *Chicago Magazine* article on Chicago English which alleges that (dh)-stopping is "mainly heard in speakers over 50, as younger people are consciously rejecting such distinctive markers of geography and class," McClelland 2018). However, as discussed in Chapters 5 and 6, a number of participants in the sample produced stopped tokens of (dh) in sociolinguistic interviews, indicating that listeners in the MGT task may be exposed to (dh)-stopping as produced by other adolescents. This is consistent with findings in other locales in the United States where (dh)-stopping among white speakers originated as a substrate effect among an immigrant generation but is maintained by at least some native English-speaking members of younger generations (e.g., Dubois & Horvath 1998).

I additionally find an interaction between vowels and (dh)-stopping, such that listeners perceive the speaker as sounding older when producing Northern Cities-shifted vowels, but only when these vowels are *not* paired with (dh)-stopping. While listeners' evaluations generally pattern according to the apparent time change in progress, with NCS vowels more likely to be attributed to an older speaker, listeners are sensitive to style and co-occurring features in their social evaluations of NCS vowels. In other words, a Northern Cities-shifted speaker who also produces (dh)-stopping may still be perceived as sounding younger compared to a Northern Cities-shifted speaker who produces fricative tokens of (dh).

Figure 4.3. Education ratings by guise
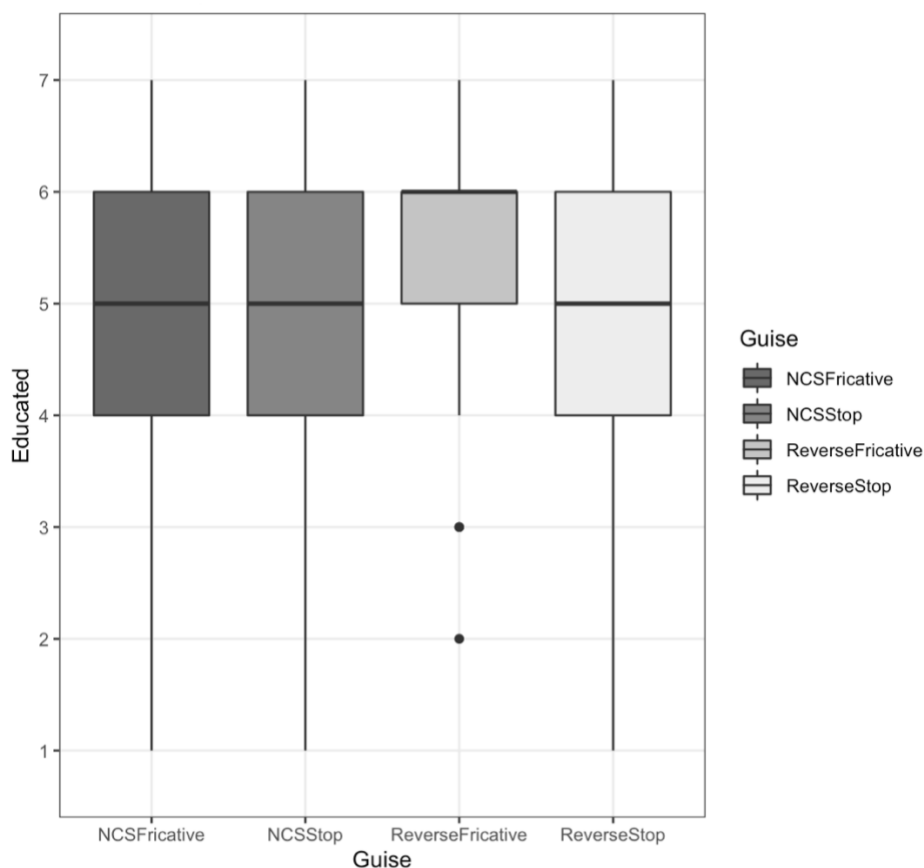
For education, I find significant a significant main effect of (dh)-stopping such that guises containing (dh)-stopping were rated as sounding *less* educated than guises containing fricative (dh) tokens, consistent with previous work linking (dh)-stopping to lower education levels (e.g., Labov 1966; Newlin-Łukowicz 2013). As evidenced by Figure 4.3, this effect is primarily driven by responses to the Reversed/Fricative guise, which were evaluated as sounding more educated than the other guises, though neither vowels nor the interaction between vowels and (dh)-stopping emerged as significant.

Figure 4.4. Formal ratings by guise
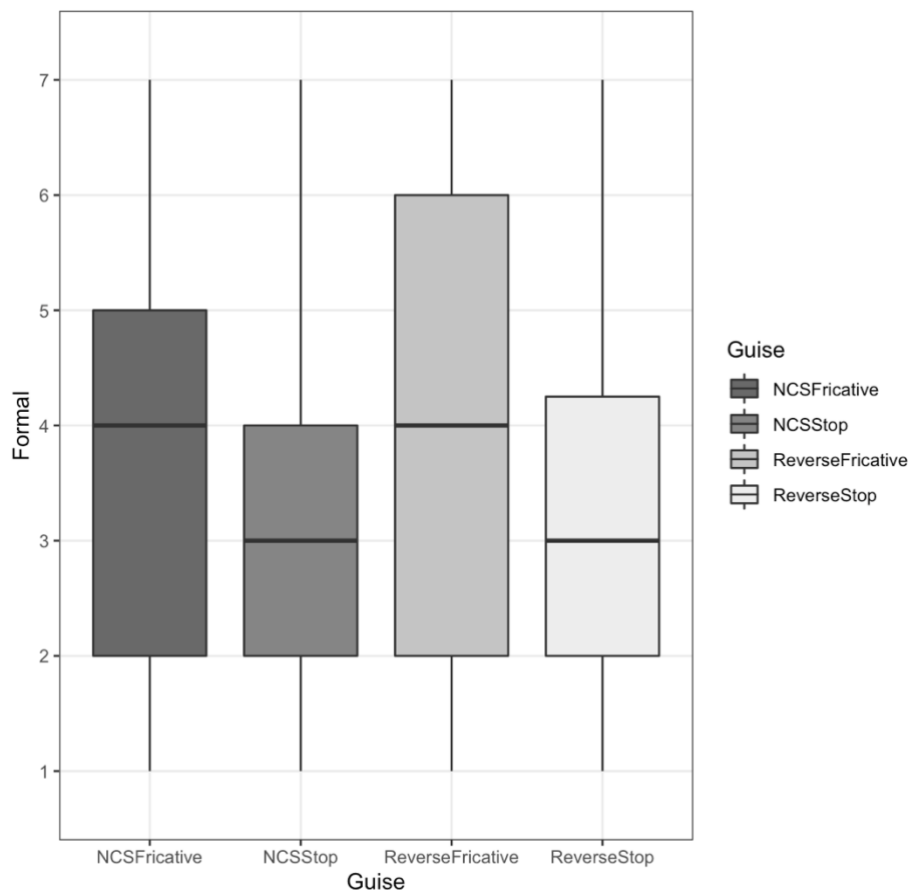
For perceived formality, a significant main effect emerged for (dh), such that guises containing

(dh)-stopping were evaluated as sounding less formal than the fricative guises. Again, this is

expected given previous work on the social associations of (dh)-stopping (Labov 1972;

Mendoza-Denton 2008; Newlin-Łukowicz 2013).

4.4 Summary of results

Northern Cities-shifted TRAP and LOT are evaluated as sounding lower in class and

older than more reversed vowels. Meanwhile, (dh)-stopping is evaluated as sounding lower in

class, younger, less educated, and less formal than fricated (dh). An interaction between vowels

and (dh) suggests that adolescent Chicagoans perceive NCS vowels as sounding older, but only when they are not paired with (dh)-stopping.

Interestingly, we find no effects of either vowels or (dh) for a number of the affective traits that we tested ("friendly," "intelligent," "hardworking," "annoying," "professional," "masculine," "tough," or "kind"). This stands in contrast to findings by Savage et al. (2016) in Michigan who found that fronted LOT was perceived as sounding 'annoying' and 'unintelligent' or 'ignorant,' especially by younger speakers. I tentatively suggest that even within the Inland North region, place can condition the indexical associations individuals associate with regionalized features, such that these features might carry different meanings in Michigan and Chicago. Note, however, the following caveats: first, Savage et al. (2016) studied only the social meaning associations of LOT fronting, whereas this matched guise task evaluated both TRAP and LOT together (as well as (dh)-stopping). Second, Savage et al. used a female speaker for their stimuli, whereas the current study used multiple male speakers. It is possible that the inclusion of TRAP and/or the embedding of these features in a different gendered voice could lead to differences in how these guises are evaluated. And third, the present sample was younger than that included in Savage et al. (2016). These participants were 15-19 during 2020-2022, whereas Savage et al.'s participants were all over 18 years of age in 2016. I leave open the possibility that LOT (and TRAP) may have shifting indexical associations over time. Indeed, Savage et al. found difference in ratings between relatively older and younger participants within their sample.

4.5 Discussion and conclusion

4.5.1 Class and education in sociolinguistics

In production and meta-linguistic commentary among adults (and some but not all adolescents; see Chapter 3), both Northern Cities-shifted TRAP and LOT vowels and (dh)-stopping are associated with white working class, blue collar personae (D'Onofrio & Benheim 2020; Durian & Cameron 2018); McCarthy (2011) additionally found that college-educated women were leading the reversal of TRAP. (dh)-stopping has also been associated with lower socioeconomic status and educational attainment in other locations (Labov 1972; Mendoza-Denton 2008; Newlin-Łukowicz 2015). For this reason, one might expect to find responses to these variables behaving similarly in the MGT. Instead, however, I find that there are differing results for each variable on the "class" and "education" scales: whereas there is a main effect of both NCS vowels and (dh)-stopping on class ratings, education ratings are predicted only by (dh)-stopping.

The difficulties in defining social class have been frequently discussed in both linguistics (e.g., Baranowski & Turton 2018; Dodsworth 2009; Mallinson 2007; Rickford 1986) and sociology (e.g., Reeves, Guyot & Krause 2018). While some studies have assessed participant social class through index scales measuring multiple factors, including income, educational attainment, and occupation (e.g., Becker 2010; Labov 1966, 1972), others rely on educational attainment (e.g., Duncan 2021; McCarthy 2011) or occupation (e.g., Turton & Baranowski 2020) alone, often binarily divided into whether or not the participant has received a college degree or is employed in a white versus blue collar occupation, respectively. Labov (2001) observed that a composite scale outperformed individual measures of socioeconomic status in predicting sociolinguistic variation in Philadelphia. However, among the components of the composite

scale, occupation was a better predictor of variation for three variables than speakers'

educational attainment or home values. In line with the findings of the present study, this

suggests that, while education and class are sometimes assumed to create similar social divisions,

in social practice speakers may use particular linguistic variables to index different aspects of

what researchers might consider a unified "socioeconomic status" in a composite scale. In

Chapter 6, I further discuss how the city of Chicago uses a composite scale – which includes

parental income but not educational attainment – for class-based affirmative action in its

admissions process, finding that this scale is predictive of variation in some NCS features, high

school type is a stronger predictor of white participants' TRAP and LOT productions than the

composite SES scale.

There is growing evidence from sociological research that traditional markers of

socioeconomic status are shifting, both in demographic patterns as well as in how individuals

understand their own positions in class hierarchies. Shifts in "working class" occupations due to

decreases in the availability of manufacturing and other traditional "blue collar" jobs and growth

in the service sector, coupled with increasing levels of educational attainment, have changed the

relationship between education and socioeconomic status (Nesbitt 2021). At the same time,

college matriculation has been steadily rising among younger Americans, and a college degree

on its own is no longer as predictive of future upper-middle class socioeconomic status as it was

several decades ago (Reeves et al. 2018; Fry 2021). Rather, future earnings are predicted by the

type of university an individual attends (for the linguistic ramifications of this, see Prichard

2016), and students with college-educated parents remain overrepresented at prestigious

universities despite overall increases in college enrollments across the board (Fry 2021).

The participants in this sample, including those who were also interviewed in Chapters 5 and 6, came from families occupying a broad range of income and parental occupation/education levels. Reflecting the demographic shifts discussed above, all but one participant in the sample anticipated attending a 4-year university after high school, regardless of their parents' own educational attainment. These participants also discussed class-stratified future career plans ranging from preschool teachers and retail workers to doctors, lawyers, and politicians, further pointing to a decoupling of college attendance and middle or upper-middle class status. The use of generalized scales to assess socioeconomic status in sociolinguistic research has been critiqued by advocates of more grounded approaches of class. Such approaches are intended to account for locally-relevant indicators of class and include linguistic markets (Sankoff & Laberge 1978), communities of practice (Eckert 2000), social network models (Milroy & Milroy 1992), and relational models of class (Mallinson 2007). Advocates of these more localized understandings of class argue that language, as a symbolic resource, is primarily utilized to index social positions which are locally meaningful within a given community. Therefore, accounts of linguistic variation must utilize models of class that factor in these localized understandings of class (Dodsworth 2009; Mallinson 2007). For participants in the present study, then, for whom educational attainment and class status are not straightforwardly connected, it is unsurprising that evaluations differ across these varying metrics, and that a speaker's degree of vowel shifting indexes something about their class status while their use of (dh)-stopping indexes both class *and* educational attainment.

In Chapter 6, I find that Chicago-area adolescents' high school types are more strongly predictive of variation in TRAP and LOT in production than their neighborhood or parents' socioeconomic status. I argue that, in Chicagoland, high school choice is a process through

which adolescents are socialized into understandings of their own classed positionalities, and further explore the relationship between the different axes along which participants view themselves as hierarchically organized.

4.5.2 Place evaluations and regional stereotypes

As noted above and in Chapter 3, the TRAP and LOT vowels and (dh)-stopping are both frequently discussed in meta-linguistic commentary as salient features of Chicago English. However, in this matched guise task, there were no effects of either feature on participant evaluations of the speakers' likelihood of being from Chicago. This means that we cannot discount the null hypothesis that listeners do not make place-linked associations with either set of variants and suggests that despite these overarching stereotypes, listeners are attuned to actual production patterns and willing to accept both Northern Cities-shifted and more reversed productions as equally likely to be "Chicagoan."

That said, some participants did specifically point to NCS vowels in relation to place-linked social meanings. In their meta-linguistic commentary in response to open-ended questions about the speaker, for example, one participant wrote: *"The way he says 'pockets' suggests that he might be from the southside* [of Chicago]." Other participants linked these vowels to the Midwest more generally: "*I picked up a midwestern accent but I am confident they aren't from Chicago because I don't hear people talk like that,*" "*The Midwest for sure. He pronounced 'shopping' as 'shapping,'*" and *"The 'a' in the word 'past' makes him sound very midwestern and probably white*." Given these comments, it is possible that participants don't evaluate the Northern Cities-shifted guises as sounding more likely to be from Chicago because they attribute these features to the Inland North (i.e., the Midwest) more generally. However, an analysis of participants' responses to the follow-up open-ended question "If you think the speaker is not

from Chicago, where do you think they might be from?" revealed that participants were no more likely to list a location within the Inland North than elsewhere in the country. Many participants responded that the speakers sounded "American" or "from the US," with remaining responses across guises indicating that the speakers were perceived to be from the Inland North/Midwest, the East Coast, or the West Coast; notably, no responses listed locations within the US South.

4.5.3 Consensus models in the third wave

Whether members of a speech community achieve a "consensus" regarding the social meanings of linguistic features has been the subject of much debate (e.g., Milroy & Milroy 1992; Rickford 1986, Woolard 1985; *inter alia*). In general, while consensus models seem to be appropriate for analyzing some linguistic features, such as (r)-lessness in New York City (Labov 1966, 1972), which is uniformly regarded as a low status feature, such models are less useful in interpreting production patterns for other features, such as standard English pronouns in Cane Walk, Guyana (Rickford 1986). Indeed, Rickford (1986) argues that consensus models rely upon certain culturally-bound assumptions regarding the structure of social class stratification that are not universal.

The results of the present study are generally consistent with a consensus model of the social meanings of (dh)-stopping and Northern Cities-shifted TRAP and LOT within this sample, at least across the social factor of high school type. Though we observe differences in production based on high school type, this factor never improved model fit among this listener population on the MGT. These results suggest that despite their participation in different communities of practice, Chicagoland adolescents appear to be generally aligned on the social meanings indexed by TRAP, LOT, and (dh)-stopping. Importantly, their evaluations also generally concur with adult community-level production patterns and meta-linguistic commentary about these features

(Benheim & D'Onofrio 2023; D'Onofrio & Benheim 2020), as well as the parodic performances which employ them for meaning-making purposes (e.g., Hallett & Hallett 2014).

4.4.4 Style and social meanings of the NCS

In meta-linguistic commentary and parodic performances (D'Onofrio & Benheim 2020; Hallett & Hallett 2014; McClelland 2018), NCS vowels and (dh)-stopping co-create an enregistered, white Chicago working class style. However, the apparent time change in TRAP and LOT raises questions regarding the stability of the enregistered link between this style and persona. Young speakers' lead in the reversal of the NCS pattern (D'Onofrio & Benheim 2020; McCarthy 2011) suggests that they are orienting away from the social meanings tied to these features. As a result, it is necessary to determine what social meanings adolescents associate with these features. Further, even though NCS vowels and (dh)-stopping are discussed in relation to the same personae in meta-linguistic commentary, this does not necessarily mean that they carry the same social meanings when produced independently from one another, as evidenced by the present results.

The interaction between (dh)-stopping and vowels on evaluations of the speakers' age in the results of this study suggest that in social evaluations, the overall age-based associations of NCS vowels (more Northern Cities-shifted vowels indexing older age) might be mitigated by co-occurring (dh)-stopping. Despite on-going reversal, then, younger community members who also produce other features associated with the white working-class Chicagoan persona may be expected to maintain Northern Cities-shifted vowels. In particular, (dh)-stopping is associated with lower ratings for class, education, and formality, whereas NCS vowels are rated lower only for class. That Northern Cities-shifted TRAP and LOT continue to reverse in apparent time

suggests that adolescents who produce more reversed vowels may be orienting away from these class-linked social meanings associated with it.

These style effects thus point to potential class discrepancies in how these features are produced, as adolescents align themselves with particular classed identities. Different features may carry different social meanings, but work together in creating the social meanings of styles as a whole (Coupland 2007; Eckert 2008; Eckert 2016). And indeed, evidence from production data suggests that participants draw upon these individual features as stylistic resources.

In Chapters 5 and 6, I turn to production, exploring how speakers engage with Northern Cities-shifted vowels, as well as (dh)-stopping. In Chapter 5, I consider the structural factors at play, exploring macro-social variation among this sample along the lines of race and place within Chicagoland. This chapter also considers the structural relationship between reversal of NCS TRAP and LOT and the low-back merger. Next, in Chapter 6, I consider the role of school choice in structuring participants' understandings of their own social positionalities and, consequently, motivating their engagement with these features in production.

Chapter 5. The Northern Cities Shift in Production

5.1 Introduction

Thus far we have observed through meta-linguistic commentary, perceptual dialectology, and a matched guise task that Chicago-area adolescents associate ways of speaking within Chicago (Chapter 3) and Northern Cities-shifted TRAP and LOT vowels (Chapter 4) with social meanings tied to race/ethnicity, place, class, age, and other macro-demographic social categories, in addition to a number of more localized conceptions of identity (Chapter 3). In this and the following two chapters, I explore how these ideological associations between ways of speaking and social factors are deployed by speakers in production, with a focus on the vowels involved in the Northern Cities Vowel Shift (NCS; Labov et al. 2006). In this chapter, I focus on the relationship between production of these vowels and two macro-social categories (race/ethnicity and place within Chicagoland). In addition, I consider the structural relationships between these vowels, based on previous considerations of the NCS as a chain shift (Bigham 2010; Dinkin 2012; Gordon 2005; Labov et al. 2006). In Section 5.2, I consider the role of race/ethnicity in mediating vocalic variation between white and Latinx participants (e.g., Van Herk 2008). I find that in contrast to earlier work in the Chicago area (Gordon 2001, though cf. Konopka 2011), few group-level differences emerge in terms of midpoint F1 and F2 productions. I discuss these results in terms of conceptions about the relationship between race/ethnicity and place-linked variation.

Next, in Section 5.3, I consider how the benchmarks laid out in the Atlas of North American English (Labov et al. 2006) as defining the NCS apply to white speakers in the current sample. I find that few speakers meet these criteria and discuss the implications of this finding for dialectology work in the Inland North. Finally, in Section 5.4, I discuss the relationship

between LOT-THOUGHT distance, TRAP retraction, and two macrosocial factors — place (city v. suburban residence) and gender — in moderating white speakers' variation in productions of these vowel classes. I find that place and gender guide productions of LOT and THOUGHT, leading to group-level distinctions in the distance between LOT and THOUGHT. Further, this distance is also correlated with TRAP backness at the group level, as predicted by previous work (Gordon 2005; Bigham 2010). However, these macro-demographic categories and structural relationships cannot account for the entirety of the variation observed in production of these features. Consequently, in Chapters 6 and 7, I consider an additional social variable, high school type, in mediating production patterns.

5.2 Ethnicity and Northern Cities Vowels

5.2.1 Latinx and white Anglo[14] speakers in Chicagoland

The Inland North isogloss is defined by the production patterns of white speakers in the region (Labov et al. 2006). Based on correlational evidence, Van Herk (2008) proposed that the NCS was advanced in part as a form of linguistic "white flight," and production studies tend to support the finding that white speakers produce more Northern Cities-shifted vowels than do non-white speakers (D'Onofrio et al. 2020; Gordon 2000; Labov 1994; Purnell 2009). Though most sociolinguistic studies involving Latinx participants in the Chicago area, especially those focused on youth, emphasize language choice and Spanish maintenance (e.g., Potowski 2007; Rosa 2019), Gordon (2000) observed that Mexican-American speakers in Calumet, Indiana (a southeastern suburb of Chicago) produced less Northern Cities Shifted TRAP, LOT, and DRESS

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[14]I use the term "Anglo" here to parallel previous work comparing white and Latinx speakers (Eckert 2008b; Konopka 2011; Roeder 2010), and to acknowledge the complex sociopolitical situation in which political entities like the United States Census Bureau (2022) treat whiteness as a race but Latinidad as an ethnicity, resulting in racialized labels like "non-Hispanic white" becoming commonplace. Elsewhere in the dissertation, when not directly comparing these groups, I refer to these participants only as "white."

vowels than did white speakers. More recently, however, Konopka (2011) observed relatively similar midpoint vocalic productions between what he terms "Mexican Heritage English Speakers" (defined as English-speaking, Chicago-raised children of Spanish-speaking, Mexico-born parents) and Anglo adult speakers in Chicago's Albany Park neighborhood. Elsewhere in the Inland North, in Lansing, Michigan, Roeder (2010) observed that Mexican American women produced higher (more Northern Cities-shifted) TRAP vowels than did Anglo women. Throughout the Inland North, then, we have evidence that Mexican Americans produce less Northern Cities-shifted vowels (Gordon 2000), more Northern Cities-shifted vowels (Roeder 2010), or vowels that are not significantly different (Konopka 2011) than those of local Anglos. Importantly, these differing findings provide evidence adding to the growing call for researchers to consider how race and ethnicity and, consequently, ethnically-linked sociolinguistic variation is instantiated within particular communities (e.g., King 2021) rather than searching for unifying "ethnolects" across broad geographic areas.

In the present sample, thirty-one participants self-identified as white and six as Latinx (see Chapter 2 for a more in-depth discussion of racialization within this sample, including the specific terminology used by participants for these categories). One additional participant, Valerie, is both Black and Hispanic; in the interest of not presenting a single speaker as representative of an entire ethnoracial group, she is not included in the present analysis. Similarly, given the low numbers of participants from other groups racialized as non-white, I focus here only on the ethnically-driven distinctions between white Anglo and Latinx participants. Note that while previous studies have focused only on Mexican-descent speakers (Konopka 2011; Roeder 2010; Gordon 2000), in the present sample, five participants are of Mexican descent and one, Pilar, is Colombian. As a result of the difference in sample size

between white (N=31) and Latinx (N=6) participants, I treat the following analysis as a preliminary step towards exploring sociophonetic variation across adolescents from these racialized[15] groups in Chicago.

5.2.2 Methods

Sociolinguistic interviews were conducted with 42 adolescents (age 15-19 at the time of interview) from the Chicagoland area between 2020 and 2022, following the recruitment criteria and interview procedures outlined in Chapter 2.

Interviews were transcribed and force-aligned using the FAVE suite (Rosenfelder et al. 2014). Primary stressed tokens of eleven vowel classes (NCS-implicated TRAP, LOT, THOUGHT, KIT, DRESS, and STRUT, as well as GOOSE, GOAT, FLEECE, BAN, and POOL) were extracted using a Praat script. As NCS reversal of TRAP leads to a nasal split within this vowel class, pre-nasal (/m/ or /n/) BAN and pre-oral TRAP were classed separately; tokens preceding the velar nasal were excluded. Tokens preceding nasal segments were also excluded for other front vowels (FLEECE, KIT, and DRESS). FLEECE and pre-/l/ POOL class tokens were collected only for normalization purposes; therefore POOL was classed separately from other GOOSE class tokens. Tokens preceding or following another vowel, glide, or rhotic were fully excluded from the sample, as were tokens preceding /l/, excepting the POOL class.

Using a second Praat script, up to three tokens per lemma meeting these criteria were hand-selected and boundaries hand-corrected. Only tokens greater than 60ms in duration were included. For especially frequent vowel classes, tokens were capped at 30 tokens per vowel class

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[15] In the United States, Latinx heritage is sometimes referred to as an ethnic category, rather than a racial one (for example, on the census; United States Census Bureau 2022). Given many Latinx participants' discourses regarding racialization, and in particular their discursive distinctions between white and Latinx individuals along racialized lines (see Section 5.2.3), I refer to this distinction as a racialized difference here (see also Grosfoguel 2004).

within these criteria; for less frequent vowel classes, every token which met these criteria was included. Midpoint F1 and F2 measurements for each token were collected through a Praat script. Measurements which fell more than two standard deviations from the mean per vowel class per speaker were hand-checked for accuracy. These measurements were then normalized in R using the Lobanov method (Lobanov 1971).

Linear mixed-effects models were fit to Lobanov-normalized midpoint F1 and F2 measurements for each vowel class of interest for the 31 white and 6 Latinx participants in the sample. The fixed effect of interest was ethnicity (white v. Latinx). As a result of model comparison using the anova() function in R, gender was included as a fixed effect, as were preceding place (labial v. coronal v. dorsal v. glottal) and manner (lateral v. nasal v. oral) of articulation and log-transformed duration. Speaker and word were included as random intercepts. As different microphones are known to systematically affect acoustic measurements (Sanker et al. 2021), participant device type (Mac Laptop v. PC Laptop v. Lenovo Laptop v. iPad) was also included as a control fixed effect to account for these potential distortions. Interactions between these effects were tested but were dropped from the final models because they did not improve model fit.

5.2.3 Results and discussion

Figure 5.1 depicts the group-level differences in Lobanov-normalized F1 and F2 midpoint measurements by race. Table 5.1 depicts the statistically significant results by race.

Figure 5.1. Mean differences in vowel productions by racialized background (black text = Latinx

participants, gray text = white participants)
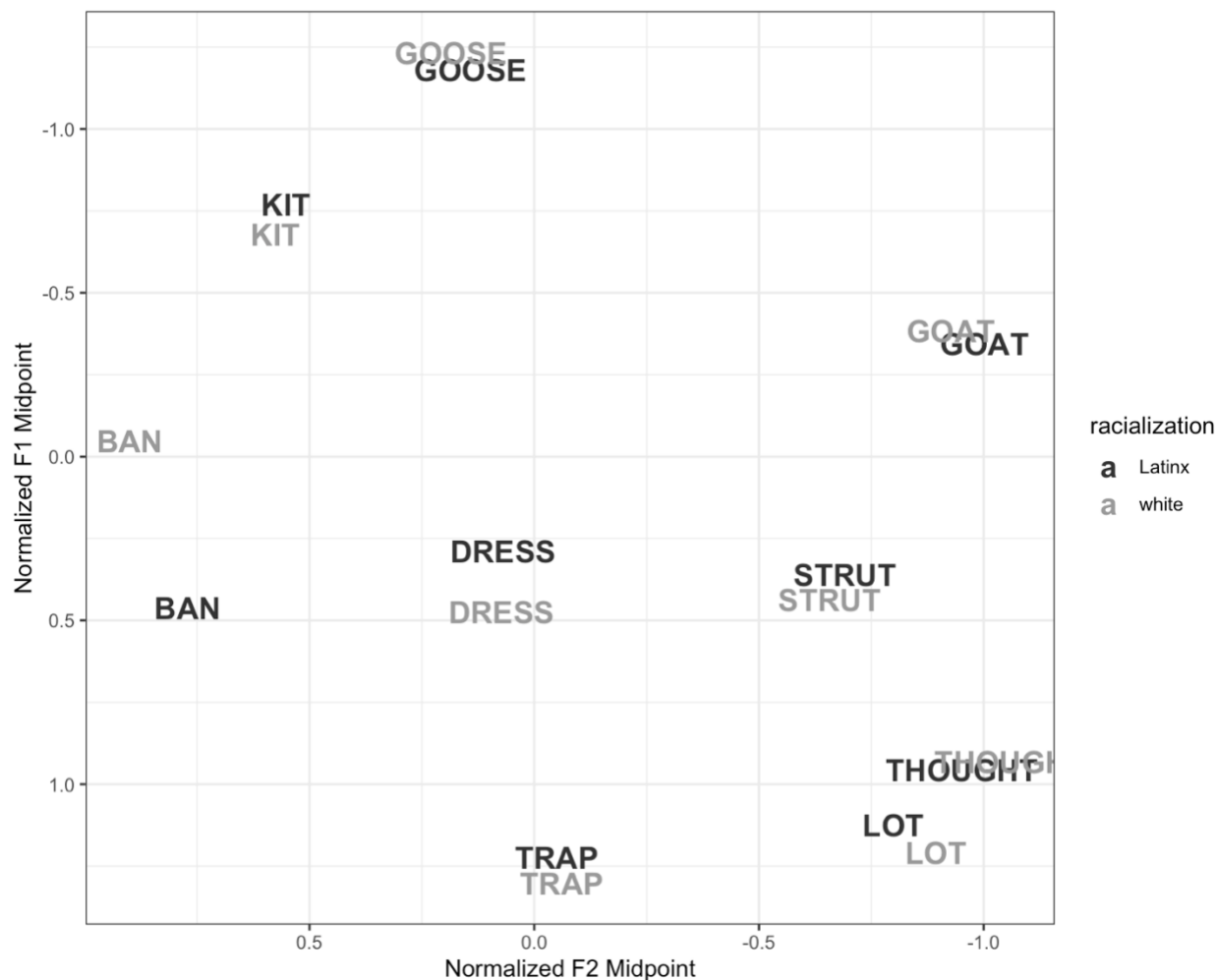
Table 5.1. Model coefficients from linear mixed effects models predicting normalized formant

values (* = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$).

Vowel class	Formant	Racialization (=white)	Gender (=male)
TRAP	F1	0.025	-0.342***
(N=1039)	F2	0.021	0.284**
LOT	F1	0.032	0.417***
(N=640)	F2	-0.037	0.279**
DRESS	F1	0.146*	-0.022
(N=1077)	F2	0.078	0.049
KIT	F1	0.118*	-0.004
(N=1079)	F2	0.093	0.034

STRUT	F1	0.090	-0.042
(N=1103)	F2	-0.013	-0.117*
THOUGHT	F1	0.057	-0.062
(N=403)	F2	-0.051	0.033
GOOSE	F1	-0.017	0.059
(N=657)	F2	0.019	-0.363*
GOAT	F1	-0.008	0.038
(N=1110)	F2	0.060	-0.181*
BAN	F1	-0.396*	0.160
(N=505)	F2	0.008	-0.089

Significant main effects of racialization emerge for F1 of DRESS and KIT (with white speakers producing lower vowels than Latinx speakers), as well as F1 of BAN (with white speakers producing higher vowels than Latinx speakers). Interestingly, no significant differences emerged between these groups for salient Northern Cities-implicated TRAP and LOT, though I leave open the possibility that the relatively small sample size of Latinx speakers is responsible for this lack of distinction.

As noted above, previous work on Latinx speakers in the Chicago metro area has yielded mixed results in terms of racialized vocalic differences between these speakers and white speakers. In a southeast Chicago suburb, Gordon observed that, for the TRAP, LOT, and DRESS vowels, "in this region the pronunciations associated with the NCS are overwhelmingly more prevalent among white speakers. Some of the speakers of mixed ethnicity show signs of adopting the NCS variants, but the Mexicans and African Americans were not generally found to participate in these changes" (2000:122), whereas in a study of the Albany Park neighborhood of Chicago, Konopka (2011) found no statistically significant differences in midpoint F1 and F2 measurements of NCS-implicated vowels. Though Konopka (2011) did not test productions of pre-nasal BAN, Gordon (2000) finds that Mexican-descent speakers produce lower BAN vowels than white Anglo speakers, paralleling the present results (Roeder 2010, in Michigan, reports

similar BAN F1 and F2 measurements for Anglo and Mexican women, though women as a whole produced higher BAN vowels than men, a finding not replicated here).

The present results, Konopka's (2011), and Gordon's (2000) study differ temporally and geographically (Albany Park, Calumet, and the Chicago metro area as a whole). That said, the present results concur with Gordon's (2000) observations for NCS-shifted DRESS (with white speakers producing lower DRESS vowels) and BAN (with Latinx speakers producing lower BAN vowels). This finding for BAN also aligns with previous work on Chicano English beyond Chicago (e.g., Eckert 2008b). Gordon did not test KIT, but the present results for KIT are consistent with an interpretation of white speakers producing more Northern Cities-shifted KIT vowels than Latinx speakers. However, the present results conflict with Gordon's findings for TRAP and LOT in that there was no significant ethnically-based difference for these vowels. These findings instead align with Konopka's (2011) findings that there are few static differences across ethnicities for these vowels.

In both production studies and ideological terms, NCS vowels are often associated with white Anglo speakers (D'Onofrio & Benheim 2020; D'Onofrio et al. 2020; Gordon 2000; Labov 1987; Van Herk 2008; Wolfram and Schilling-Estes 1998:180). However, at the risk of over-interpreting a null result, the lack of distinction across groups here for such salient NCS vowels such as TRAP and LOT suggests that these vowels in particular may not be recruited by these adolescents to index an ethnic distinction. Lending support to this suggestion, while Konopka (2011) found no statistically significant differences by ethnicity in midpoint F1 and F2 vocalic measurements, he did find significant between-group differences in both vowel duration and, for TRAP, vowel internal spectral change, suggesting that these dynamic measurements of vowel quality may be more relevant to indexing ethnicity than static formant measurements.

Another possibility, however, is that it is the Northern Cities Shifted variants of raised/fronted TRAP and fronted LOT that are ideologized as indexing white personae in Chicago (Benheim & D'Onofrio 2023; D'Onofrio & Benheim 2020; D'Onofrio et al. 2020; Chapter 3). Given ongoing apparent time reversal of the NCS, the relatively retracted TRAP and backed/raised LOT vowel typical of this sample, then, may not index the same race-linked social meanings. As a result, TRAP and LOT may therefore be similarly available for speakers of both racialized groups.

The relationship between whiteness and Latinidad as ethnoracial categories in the United States is complex (e.g., Molina 2014; Sowards 2021; *inter alia*) and beyond the scope of this dissertation. Importantly, however, Latinx participants in this sample discuss social distinctions between themselves and their Anglo white peers, and they use racial group labels suggesting that they view white and Latinx as distinct categories. For example, in describing the social groups at her Catholic high school, Christina noted: "*I would say I'm in the Mexican group… but there's more of like – like like the whites*." Miranda, who attends a charter school, reported that at her school, "*It's mostly like Hispanic and African American. Because it's like a – it's in a really low-income area. So yeah. Like you – you won't see like any like like anyone from like European descendency.*" This is in contrast to the neighborhood she lives in, where "*it's not just Hispanics living here. We have all types of people. We have white, African American, Hispanic. And all types of Hispanic as well which I really like… Mexicans and Puerto Ricans*."

The overwhelming cross-racial similarity in vowel positions here despite pervasive commentary suggesting that Anglo and Latinx backgrounds are viewed distinctly by Chicagoland adolescents suggests that researchers should be cautious of interpreting "participation" or "non-participation" of non-white groups in local white vowel shifts as

indexing some social meaning related to ethnic affiliation or "assimilation" towards whiteness. Indeed, comparing the present results to Gordon's 2001 findings, in which white speakers produced more Northern Cities-shifted TRAP and LOT vowels than did Mexican speakers, *could* be interpreted as evidence of convergence of white speakers towards Latinx-like vowel spaces in Chicagoland, given the ongoing apparent time reversal of TRAP and LOT.

As noted above, a lowered pre-nasal BAN vowel is associated with Latinx varieties of English (e.g., Eckert 2008b), in contrast with Anglo varieties, which typically produce a raised BAN vowel, resulting in a nasal split between a relatively raised pre-nasal BAN and lowered pre-oral TRAP vowel. Under the traditional NCS system, TRAP, like BAN, is raised and fronted (typically higher and fronter than DRESS; Labov et al. 2006). The ongoing apparent time reversal of Northern Cities-shifted TRAP, however, has resulted in a similar nasal split among the white Anglo adolescents in this sample, where BAN remains higher and fronter than DRESS (on average, see Figure 5.1) while TRAP is lowered and retracted.

In a study of students at two elementary schools in Northern California, Eckert (2008b) observed that this overall racialized pattern (raised BAN for Anglos, lowered BAN for Chicanos) was not a direct index of race but rather was mediated by the peer social order within each school. Specifically, white students at the Chicano- and Asian-majority school in Eckert's study sometimes produced lower BAN vowels, whereas Chicano students at the white-majority school sometimes produced higher BAN vowels. Eckert interprets these results in terms of the social status indexed by the use of each variant within each school. While this overall pattern is guided by the ethnic compositions of the schools' student bodies, these variants hold additional higher-order indexical (Silverstein 2003) meanings related to local concerns within each school.

In the present sample, four Latinx speakers attend schools with Anglo white majorities (Jenna, Roman) or pluralities (Christina, Kara), whereas two attend schools with Latinx majorities (Pilar) or Black and Latinx pluralities (Miranda), with few white students. While Jenna and Kara exhibit a nasal split between these TRAP and BAN (Figure 5.2), paralleling Eckert's (2008b) findings, the remaining four speakers show varying degrees of overlap between these vowels, especially in terms of F1, regardless of the demographic makeup of their schools.

Figure 5.2. Latinx participants' TRAP (gray triangles) and BAN (black circles) vowels by speaker.
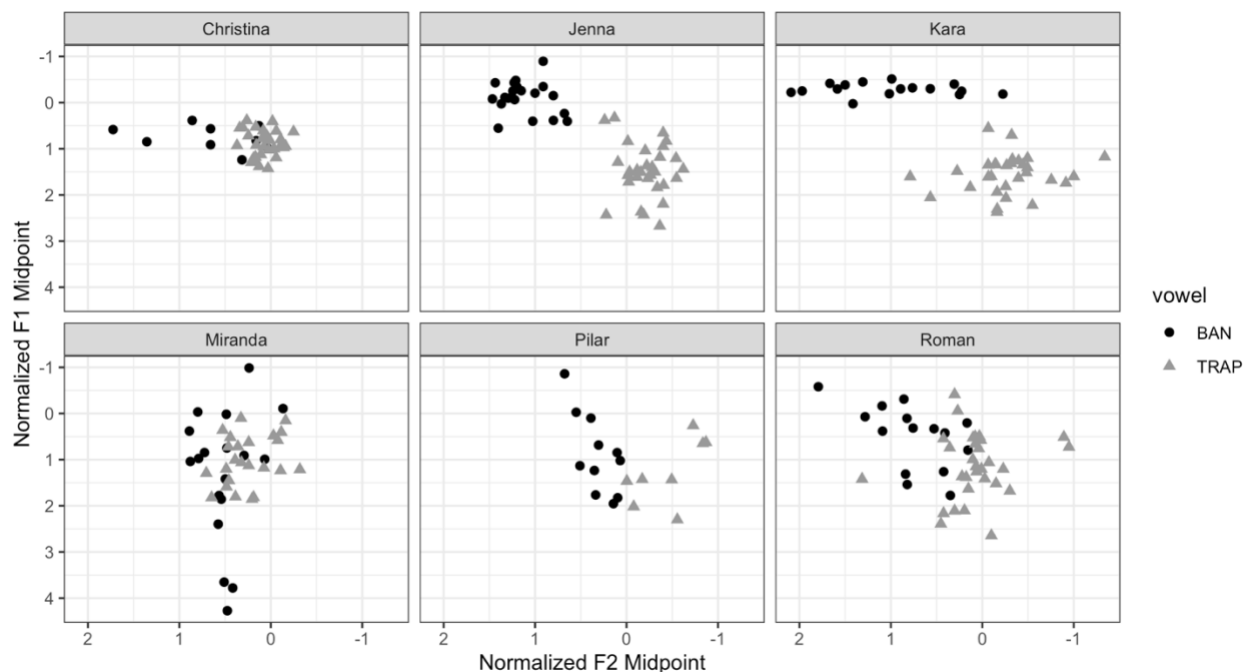
Though at the group level a significant distinction emerged between Latinx and Anglo white speakers in terms of BAN height, there is no reason to assume that these Chicago-area speakers should pattern like the Northern California participants in Eckert's (2008b) study. A larger sample size might help elucidate the relationship between ethnicity and the social meanings that BAN takes on in Chicago. Anecdotally, however, these results suggest that demographic

differences across school types – that is, contact with speakers of other ethnic varieties – do not necessarily account for the totality of ethnic- or other socially-motivated variation among these speakers. I consider the role of school type in mediating vocalic variation among the white speakers in the sample in Chapter 6[16].

Due to the small number of Latinx participants, in addition to the reasons outlined in Chapter 2 for the focus on white speakers in this dissertation, the remainder of this chapter focuses on the 31 white participants. Future studies with a larger Latinx (or other non-Anglo/white) sample might explore how these patterns play out among other ethnoracial groups. In the following section, I discuss this sample's adherence (or rather, lack thereof) to the NCS benchmarks defined by the Atlas of North American English (Labov et al. 2006). I next discuss how one aspect of NCS reversal – LOT-backing and distance from THOUGHT – is related to both place- and gender-linked sociolinguistic variation as well as a potential structural relationship to TRAP retraction.

5.3 Northern Cities Shift Atlas of North American English Measures

5.3.1 Background

The Atlas of North American English (ANAE) defines the Inland North isogloss according to what Labov et al. (2006) refer to as two "qualitative" and three "quantitative" measurements. The qualitative criteria include the EQ, in which TRAP is higher (lower F1) and fronter (higher F2) than DRESS, and the UD, in which LOT is fronter (higher F2) in the vowel space than STRUT. According to the quantitative criteria, which rely on specific formant

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[16] Though I hesitate to make too strong a claim on the basis of just six speakers, it is perhaps noteworthy (in light of the findings in Chapter 6 that school elite-ness leads to differences in TRAP productions among white speakers) that both Jenna and Kara, who exhibit the nasal pattern, attend elite schools (a private and selective enrollment school, respectively), whereas the speakers who show overlap between TRAP and BAN attend non-elite (Christina, Miranda, Pilar) or suburban (Roman) high schools.

measurements in Labov-normalized space, speakers within the isogloss are more likely than those outside it to meet the ED criterion, where F2 of DRESS is within 375 Labov-normalized Hz of LOT F2, the AE1 criterion, wherein TRAP F1 is less than 700 Hz, and the O2 criterion, in which the F2 of LOT is fronter than 1450 Hz (cf. Labov 2007, who gives this figure as 1500 Hz). Dinkin (2022) discusses one possible method for converting these quantitative measurements to Lobanov-normalized distances[17], wherein the AE1 criterion involves a TRAP F1 of less than 0.329 units in Lobanov-normalized space, while the O2 criterion involves a LOT F2 greater than -0.334. In order to enable a direct comparison with Labov et al. (2006), this analysis used Labov-normalized formant measurements.

5.3.2 Methods

Midpoint F1 and F2 measurements were obtained using the same methods outlined in Section 5.2.2, above. In order to compare results from the present study with the measures defining the Northern Cities Shift from the Atlas of North American English (Labov, Ash & Boberg 2006), these same raw (non-normalized) measurements were normalized in R using the Labov method, which uses the Telsur G value (that is, the logarithmic grand mean of the vowel spaces of the ANAE sample, or G=6.896874; Labov et al. 2006; Thomas & Kendall 2007). Since the Labov method relies on calculating a grand mean across speakers in the sample, results can vary with sample size. At high sample sizes (such as the Telsur sample at 345 participants; Labov et al. 2006), the grand mean becomes more stable, but smaller sample sizes can lead to more variability (Thomas & Kendall 2007). See Section 5.3.4 below for a fuller discussion of the consequences of relying on different vowel normalization methods.

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[17] As noted by Dinkin (2022), due to the differences in how each method accomplishes normalization, these do not result in identical measurements and, crucially, can lead to some speakers being classified as meeting a given criterion under one normalization method while failing to meet it under the other.

5.3.3 Results and discussion

The number of these criteria met by each speaker, or their "NCS score" (Dinkin 2012) was obtained for each of the 31 white speakers in the sample by comparing that speaker's Labov-normalized mean formant measurements for the relevant vowel class(es) and formant(s) for each criterion. Table 5.2 includes a summary of the proportion of speakers within the sample who satisfy each criterion (See Appendix C for the full list of by-participant NCS scores).

Table 5.2: Proportion of white speakers meeting each ANAE criterion.

Criterion	Definition	Proportion	Percentage
EQ	TRAP higher (lower F1) and fronter (higher F2) than DRESS	0/31	0%
ED	DRESS F2 within 375 Labov-normalized Hz of LOT F2	11/31	35%
UD	LOT fronter (higher F2) than STRUT	6/31	19%
AE1	TRAP F1 less than 700 Labov-normalized Hz	0/31	0%
O2	LOT fronter (higher F2) than 1450[18] Labov-normalized Hz	4/31	13%

Despite Chicago's treatment as a prototypical Northern City (e.g., Labov et al. 2006; Labov 2007), few participants in the present sample meet any of the NCS criteria. Slightly more than a third of the sample meet the ED criterion, largely due to the ongoing backing of DRESS in the vowel space, which results in the maintenance of a similar distance between DRESS and LOT despite many speakers' relatively backed LOT vowels (Figure 5.1). Fewer participants meet the other criteria involving LOT, the UD and O2, at nineteen and thirteen percent, respectively.

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[18]Labov (2007) lists this benchmark as 1500 Hz (cf. Labov et al. 2006 and Dinkin 2022, who list 1450 Hz); this affects one speaker in the present sample (Ezekiel) with a Labov-normalized LOT F2 of 1494 Hz; I have opted to include him as meeting the O2 criterion in this sample.

Notably, not a single participant meets either of the criteria involving TRAP (the EQ and AE1) and no speaker attains an overall NCS score higher than 3. These results are particularly interesting in comparison to McCarthy (2011), who found that adult speakers as a whole met the TRAP-involved criteria (AE1, EQ), but not the O2 criterion involving LOT.

While TRAP and LOT are both salient features of the "Chicago accent" (Chapter 3; Chapter 4; D'Onofrio & Benheim 2020), we see here that relatively few participants meet the traditional NCS benchmarks involving these features. This has implications for the criteria used to define intra-region isoglosses, particularly for areas undergoing reversals of previous sound changes, including, currently, the Inland North. That is not to say, however, that the Northern Cities Shift is irrelevant to these participants' vowel productions. Presumably, the reversal of Northern Cities Shifted TRAP and LOT is motivated by speakers' orientations away from social meanings linked with these features (e.g., D'Onofrio & Benheim 2020; D'Onofrio et al. 2020; Chapter 4; Chapter 6). Similarly, despite the ongoing sound change away from the NCS, it is not necessarily the case that these participants produce absolute vowel spaces that resemble those of neighboring "dialect regions." It is therefore worth considering whether there remain differences between younger speakers within the Inland North isogloss and those outside it (for example, in neighboring regions such as the Midlands or North Central regions), even if these cannot be demarcated via the traditional binary ANAE benchmarks.

Finally, as noted by Dinkin (2013, 2022), a reliance on binary benchmarks also obscures potentially meaningful distinctions between speakers who do or do not meet these criteria. For example, Figure 5.3 depicts the Labov-normalized vowel spaces of two speakers, Brandon and Peter, both white boys who attend suburban public schools.

Figure 5.3. Labov-normalized vowel spaces for Brandon (gray text) and Peter (black text)

Neither speaker satisfies either of the criteria involving the TRAP vowel (AE1 and EQ), though Peter satisfies the LOT-involved criteria (O2, ED, and UD). However, these binary distinctions cannot not capture that while Peter does not satisfy the EQ criterion, his TRAP vowel is fronter than DRESS and approaching it in height, while Brandon's TRAP vowel is the lowest in his vowel space (and backer than DRESS). Similarly, though Brandon does not satisfy the LOT-involved criterion, binary measures cannot capture distinctions between Brandon's overlapping LOT and THOUGHT vowels and other speakers who do not produce a sufficiently fronted LOT vowel to meet these criteria but still maintain clear distinctions between the LOT and THOUGHT vowel classes.

For these reasons, throughout Chapters 6 and 7, I refer to speakers as producing relatively more or less Northern Cities-shifted vowel spaces compared to one another, rather than referring to their productions of vowels that are judged to meet these criteria.

5.3.4 A note on normalization methods

In sociophonetics, the goal of vowel normalization is to reduce variation that results from physiological differences while retaining socially-motivated variation (Thomas & Kendall 2007). However, there are different methods available to accomplish this, including, among others, the Labov (Labov et al. 2006) and Lobanov (Lobanov 1971) methods. The Labov method is speaker-extrinsic, meaning that normalization relies on the range of variation in the sample as a whole, whereas the Lobanov method is speaker-intrinsic and is calculated independently for each speaker's vowel space. For details of the mathematical formulas used for normalization under each of these methods, see Thomas and Kendall (2007).

Labov-normalization was utilized in the above analysis in order to facilitate a direct comparison to the ANAE measures, which are defined according to a Labov-normalized sample. However, the choice of normalization method can lead to differences in the relative positions of vowels. For example, Figure 5.4 reproduces Brandon's and Peter's Labov-normalized vowels from Figure 5.3 above, plotted against the same data normalized using the Lobanov method in the lower panel.

Though each speaker's vowels are in the same relative configuration in each plot, we can observe differences here when making comparisons across speakers. For example, under Labov normalization, Peter's THOUGHT vowel appears higher than Brandon's. Under Lobanov normalization, however, these THOUGHT vowels occupy a similar position in the vowel space.

Figure 5.4. Labov-normalized (upper panel, A) and Lobanov-normalized (lower panel, B) vowel

spaces for Brandon (gray text) and Peter (black text)
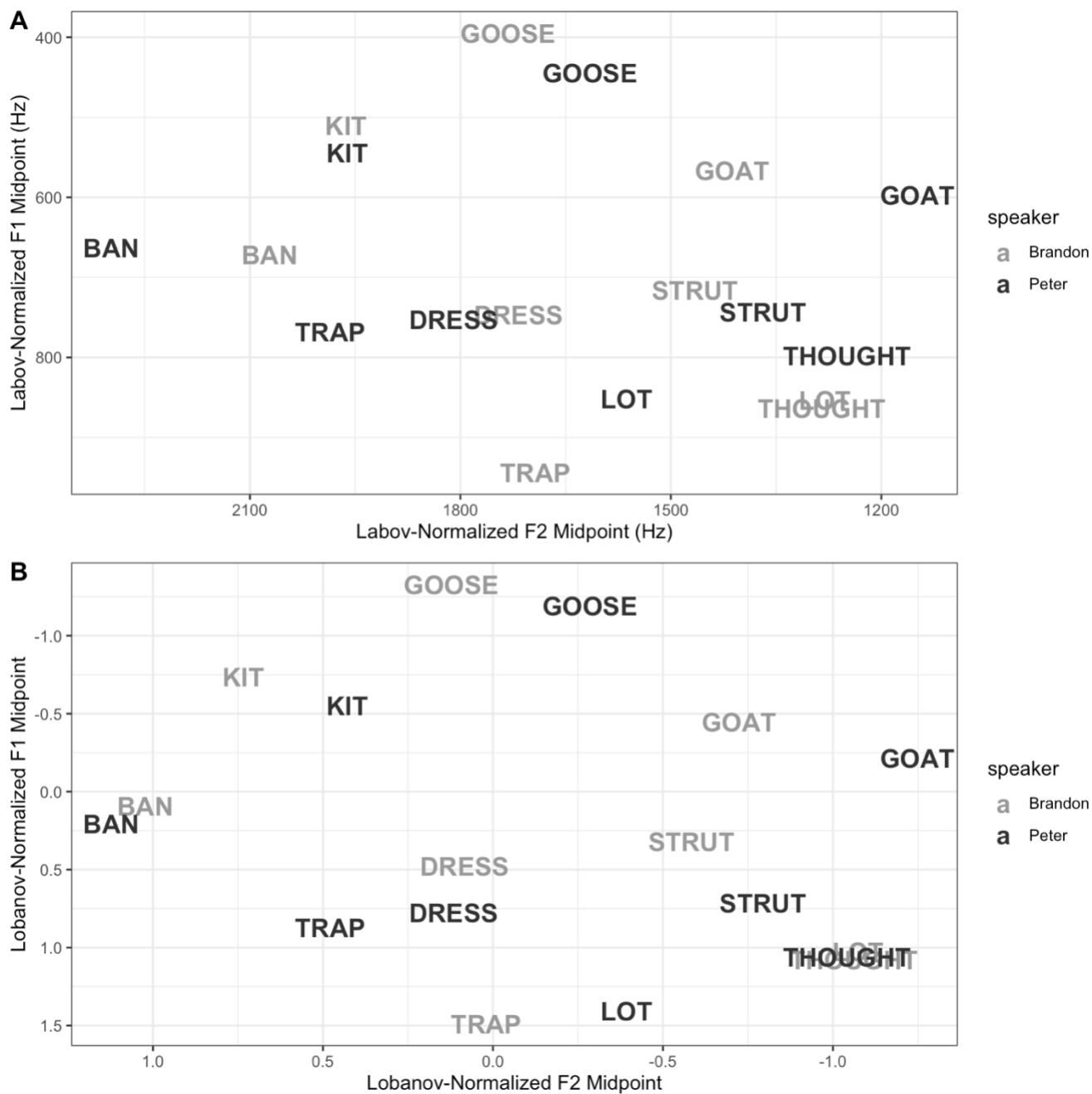
Similarly, Peter's LOT vowel falls towards the bottom of the vowel space under the

Lobanov method, lower than Brandon's LOT, while under Labov normalization these vowels

appear more similar in height. These distinctions likely arise from the fact that the 1) Labov method is speaker-extrinsic, normalizing vowels relative to a grand mean of all ANAE speakers' vowel spaces, whereas the Lobanov method is speaker-intrinsic, normalizing a given speaker's vowels relative to the bounds of their own vowel space and 2) the Labov method scales F1 and F2 measurements simultaneously, whereas the Lobanov method utilizes z-scores that are calculated independently for F1 and F2 (Thomas & Kendall 2007; Dinkin 2022). Thus Peter's LOT vowel, for example, which falls towards the bottom of his *own* range of vowel height variation (higher F1), but is higher (lower F1) than the vowels at the lower periphery of other ANAE speakers' vowel spaces, appears higher under Labov-normalization than Lobanov-normalization. For a more in-depth discussion of this issue, see Dinkin (2022).

Some have argued against Lobanov-normalization for sociophonetic research because separately scaling F1 and F2 may sometimes lead to over-normalization, wherein extant sociolinguistic variation is removed alongside the anatomically-based variation these methods are intended to factor out (e.g., Barreda & Nearey 2017; Rankinen & de Jong 2021). Other research, however, has consistently ranked the Lobanov method relatively highly in comparison to other available normalization methods in terms of its ability to preserve phonemic distinctions, factor out anatomically-driven variation, and preserve sociolinguistic variation (e.g., Adank 2003; Adank, Smits & van Hout 2004, Clopper 2009). On this basis, and in order to preserve comparability to recent work on the NCS in Chicago (e.g., Benheim & D'Onofrio 2023; D'Onofrio & Benheim 2020, cf. McCarthy 2011, who used Labov-normalized data), the remainder of this dissertation utilizes the Lobanov method (Lobanov 1971) for normalization.

5.4 TRAP retraction and the LOT-THOUGHT merger

5.4.1 Background

The apparent time reversal of NCS-implicated TRAP and LOT results in a situation in which LOT moves towards THOUGHT in the vowel space (D'Onofrio & Benheim 2020; McCarthy 2011). It has been proposed that the distinction between LOT and THOUGHT was a necessary precursor for the NCS (Gordon 2005; Labov et al. 2006), and conversely, that LOT-THOUGHT merger creates a "margin of security" (Gordon 2005) for TRAP to retract in varieties where both TRAP-backing and LOT-THOUGHT merger are present (including the "Third Dialect," Clarke et al. 1995 or Low-Back-Merger Shift, Becker 2019). Bigham (2010) observed that in the aggregate, the Euclidean distance between LOT and THOUGHT was correlated with TRAP F2 for speakers from Northern Cities-shifted Chicagoland and elsewhere in Illinois.

However, broad dialect regions are not the only social factor conditioning LOT-THOUGHT distance. In this section, I consider two macro-social factors that are relevant to participants' productions of LOT and THOUGHT, place (city vs. suburbs) and gender (boys v. girls), finding that each is predictive of variation in these vowel classes and their overlap. I then replicate Bigham's (2010) finding that Euclidean distance between LOT and THOUGHT is correlated with TRAP F2 at the group-level, though as I discuss below and in Chapter 6, this structural relationship cannot account for the complete range of variation in TRAP in this sample at the individual speaker level.

5.4.2 Place and gender in productions of LOT and THOUGHT

Commentary from participants suggests that residence within Chicago versus in the suburbs is a salient social distinction (see also Chapter 3). For example, Michelle, a city resident,

notes that, "*Maybe people in the far north… the really wealthy areas who aren't downtown very often, maybe they assume that when you go… into the city, like, it's a different breed of people and maybe they think they have an accent.*" Meanwhile, Allie, who lives in the suburbs, mentioned that one of her friends, who temporarily lived in the city before relocating to the suburbs, "*picked up on a bit of the south Chicago[19] accent that she still uses to this day, but you could tell that it's not like… the North Shore [suburban] sort of like accent.*" This commentary, as well as the commentary on the urban/suburban distinction from the perceptual dialectology task discussed in Chapter 3, suggests that this distinction is both socially important to participants and associated with potential linguistic differences.

5.4.3 Methods

Lobanov-normalized midpoint measurements for F1 and F2 of each vowel class were obtained using the methods described in section 5.2.2 above. Linear mixed effects regression models were fit to each formant using the *lme4* package in R. Fixed effects of interest included place of residence (city v. suburb) and gender (boys v. girls). A measure of socioeconomic status, CPS Tier, was included as a control fixed effect; this metric and its effects on vocalic variation is described in greater detail in Chapter 6. Preceding place (labial v. coronal v. dorsal v. glottal) and manner (lateral v. nasal v. oral) of articulation and log-transformed duration were included as control fixed effects. Speaker and word were included as random intercepts. Participant device type (Mac Laptop v. PC Laptop v. Lenova Laptop v. iPad) was included as a control fixed effect to account for potential differences in acoustics introduced by differences in the recording equipment (e.g., Sanker et al. 2021). Interactions between fixed effects were tested

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[19] Allie specifically mentions "south Chicago" here, though the neighborhood in question, Little Italy/Near West Side, is often considered to be part of the city's West Side.

but were dropped from the final models if they were not significant and did not improve model

fit as assessed by comparing the sums of squares of the residuals using the anova() function in R.

Euclidean distances were calculated between each speaker's mean LOT and THOUGHT

productions. A MANOVA including vowel (LOT v. THOUGHT), following place of

articulation, and following manner of articulation was used to obtain a Pillai-Bartlett statistic (or

"Pillai score"; Hay, Warren & Drager 2006) representing each speaker's degree of vowel overlap

between these two vowel classes, following Hall-Lew (2010).

Given the apparent time change in progress (D'Onofrio & Benheim 2020; McCarthy

2011), and concurring with Bigham's (2010) findings on the relationship between TRAP-

backing and LOT-THOUGHT distance, we would expect speakers with more reversed vowel

spaces to produce both backer TRAP vowels and a smaller distance between LOT and

THOUGHT. In what follows, I first step through the place and gender effects for these vowels.

Then, I discuss the correlation between TRAP-backing and LOT-THOUGHT Euclidean distance

for this sample.

5.4.4 Results and discussion

Model outputs for the fixed effects of interest (gender and place) are outlined in Table

5.3. Figure 5.5 visually depicts the mean vowel productions for the vowel classes of interest by

macrosocial demographic group.

Table 5.3. Model coefficients by vowel class, formant, gender, and place of residence.

Significance: *** = p < 0.001, ** = p < 0.01, * = p < 0.05

Vowel class	Formant	Gender (=male)	Place (=city)
TRAP	F1	-0.334**	-0.006
(N=921)	F2	0.289**	0.065
LOT	F1	0.398**	0.009
(N=580)	F2	0.327**	0.042
DRESS	F1	-0.019	0.006

(N=946)	F2	0.044	0.013
THOUGHT	F1	-0.089	0.278***
(N=363)	F2	0.086	0.114*
KIT	F1	0.004	0.004
(N=968)	F2	0.082	-0.050
STRUT	F1	-0.016	0.040
(N=968)	F2	-0.130*	0.006
GOOSE	F1	0.075	0.003
(N=599)	F2	-0.340*	-0.317**
GOAT	F1	0.038	-0.002
(N=974)	F2	-0.190	-0.027
BAN	F1	0.047	0.100
(N=431)	F2	-0.032	-0.096

Figure 5.5. Mean vowel productions by place of residence (city=left, suburb=right) and gender

(girls = black text, boys = gray text).
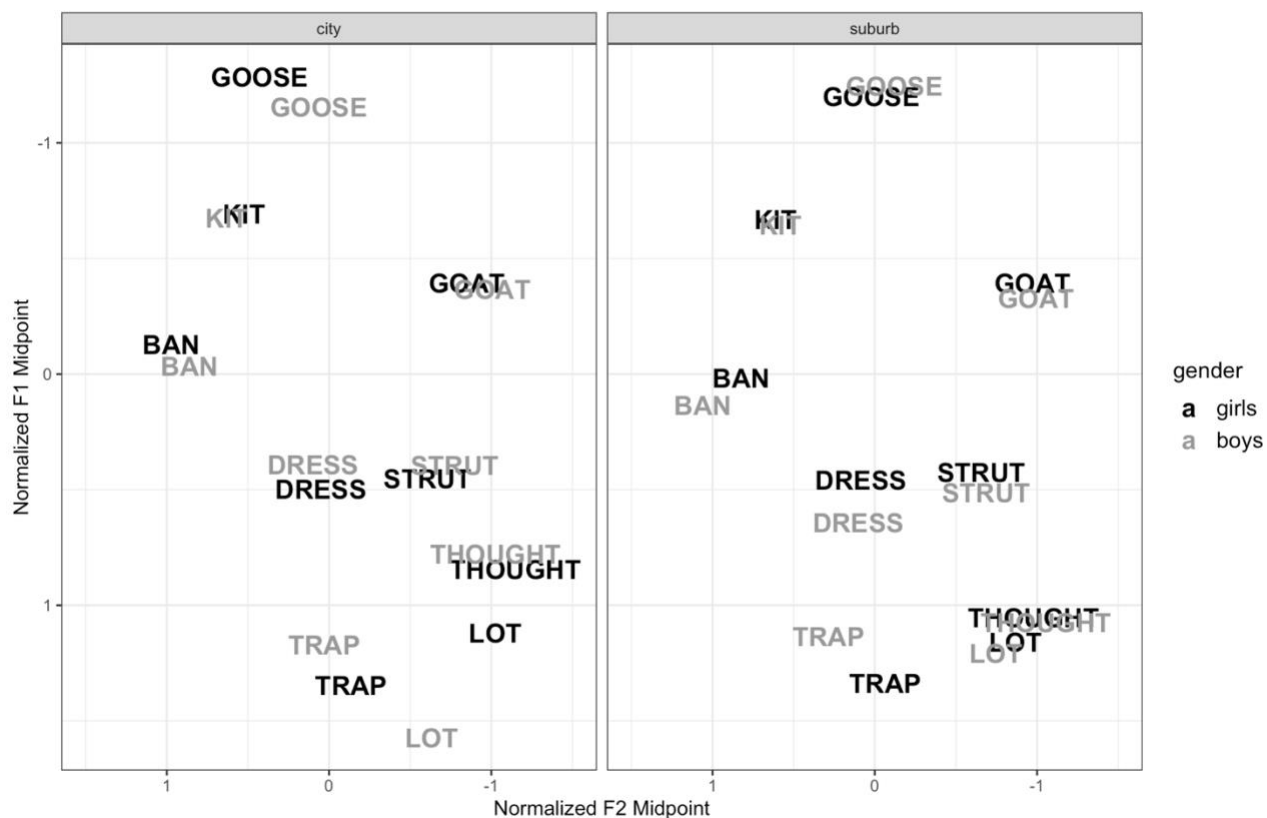
The interaction between place and gender was dropped from the final model as it did not

improve model fit. Significant main effects of gender emerge for both F1 and F2 of TRAP and

LOT (with boys producing more Northern Cities-shifted vowels), as well as for F2 of STRUT

and GOOSE (with boys producing backer vowels; for STRUT, a backer production is in the

direction of the NCS). I attend to these effects of gender – including a consideration of why they

may emerge for TRAP and LOT in particular – in greater detail in Chapter 6.

In addition to these gender effects, significant main effects of place emerge for GOOSE

in the F2 dimension (city residents fronter) and THOUGHT in both the F1 and F2 dimensions.

City residents produce higher (lower F1) and backer (lower F2) THOUGHT vowels than

suburban residents, whereas LOT only varies by gender. Under the NCS, THOUGHT is assumed

to be lowering and fronting, a pattern which has been observed elsewhere in the Inland North

(e.g., Gordon 2001). In Chicago, however, D'Onofrio & Benheim (2020) and McCarthy (2011)

found no significant apparent time change for this vowel among white adults.

The place-based distinction in THOUGHT height (and backness) in the face of ongoing

apparent time raising and backing of LOT (D'Onofrio & Benheim 2020) suggests that urban

residents are preserving the distinction between LOT and THOUGHT – considered to be a pre-

condition for the NCS (Gordon 2005; Labov et al. 2006) – in part through the production of

higher THOUGHT vowels.

While Table 5.3 and Figure 5.5 demonstrate the variation in each individual vowel class,

the relative distinction or merger of LOT and THOUGHT also depends on their degree of

overlap. Table 5.4 depicts the mean Pillai scores (Hay et al. 2006; Hall-Lew 2010) between LOT

and THOUGHT by gender and place of residence. A smaller Pillai score indicates a greater

degree of overlap between these vowel classes.

Table 5.4. Mean LOT-THOUGHT Pillai scores for each participant by gender and place of

residence.

	City	Suburb	Overall mean
Boys	0.654 (N=5)	0.413 (N=2)	0.585 (N=7)
Girls	0.299 (N=13)	0.196 (N=11)	0.252 (N=24)
Overall Mean	0.398 (N=18)	0.229 (N=13)	0.292 (N=31)

City residents have an overall higher Pillai score than do suburban residents, indicating that they have less overlap between the LOT and THOUGHT vowel classes, as expected given the place-linked variation in THOUGHT height. Similarly, boys show higher Pillai scores than girls, as expected given that they produce lower and fronter LOT vowels than girls do. In statistical terms, 67% of city residents (12/18) have Pillai scores representing significant differences ($p < 0.05$ for vowel as a predictor in the MANOVA) between the LOT and THOUGHT vowel classes, compared to just 31% (4/13) of suburban residents. 71% (5/7) of boys and 46% (11/24) of girls have Pillai scores that are statistically significant (though see Stanley & Sneller 2023, who note that both Pillai scores and their corresponding p-values can be sensitive to sample size; I do not claim that these absolute values are reflective of either "merged" or "unmerged" status for any given speaker). These two patterns converge such that both fronter LOT vowels (by boys) and higher THOUGHT vowels (by city residents) lead to greater distance between these two vowel classes. These patterns also suggest that any potential apparent time movement towards merger-by-approximation (Herold 1990) in this region may be achieved either by backing/raising LOT and/or by lowering THOUGHT.

Gordon (2005) and others (e.g., McCarthy 2011) have suggested that the distinction between LOT and THOUGHT is a necessary precursor to the NCS and, conversely, that the merger of LOT and THOUGHT is a driver of the "Third Dialect" or Low-Back-Merger Shift (LBMS; Becker 2019; Bigham 2010; Clarke et al. 1995) pattern wherein the backing and raising

of LOT towards THOUGHT begins a pull chain for the front vowels KIT, DRESS, and TRAP to lower and back. Indeed, Bigham (2010) found a correlation between F2 of TRAP and the Euclidean distance between LOT and THOUGHT.

The present data replicates this finding. In Figure 5.6, we can observe that mean normalized TRAP F2 by speaker is positively correlated with that speaker's LOT-THOUGHT Euclidean distance (Pearson's r = 0.51, p=0.003), such that speakers who produce more distinct LOT and THOUGHT vowels also produce fronter TRAP vowels. This suggests that at the group level, TRAP-retraction is structurally related to the distance between LOT and THOUGHT.

Figure 5.6. Correlation between mean TRAP F2 and LOT-THOUGHT Euclidean distance
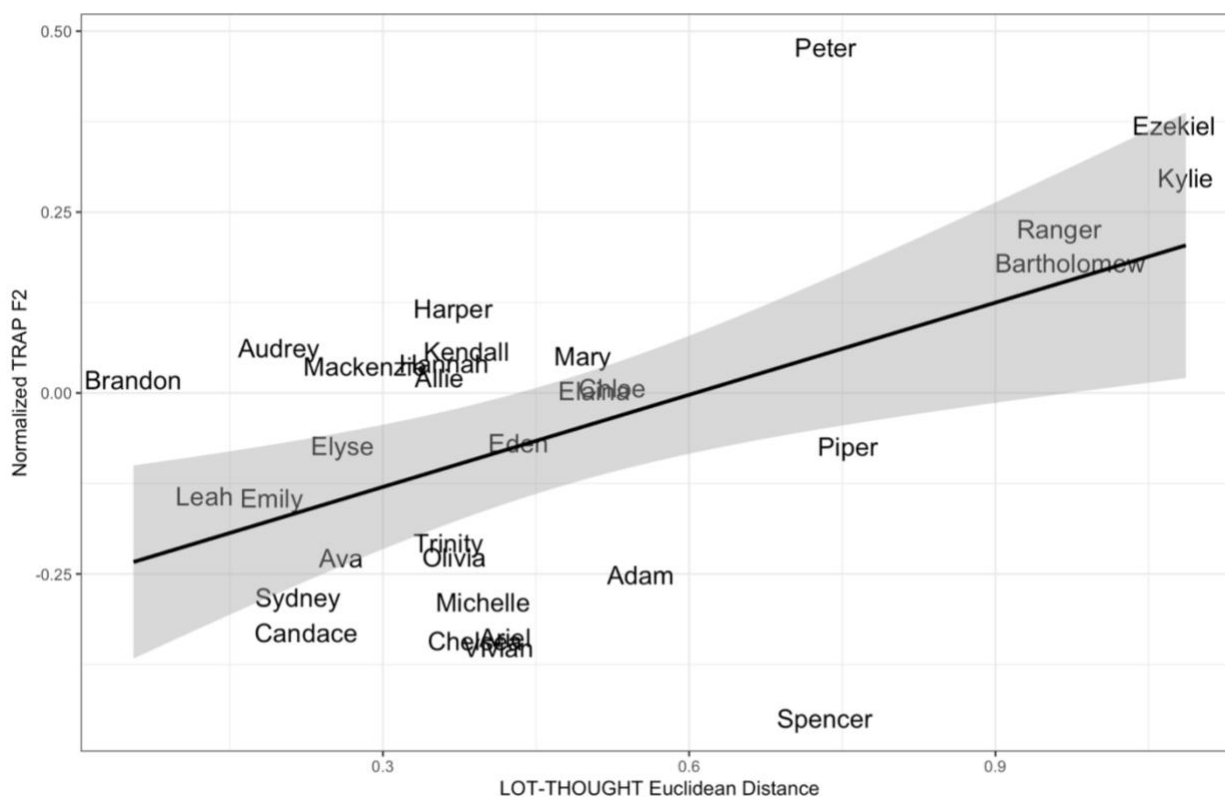
At the individual level, however, LOT-THOUGHT distance is not the only factor predicting retraction of TRAP. For example, Figure 5.7 depicts the vowel spaces of two speakers, Mackenzie and Sydney. Mackenzie lives in the suburbs but attends a Catholic school in the city,

whereas Sydney lives in the city and attends a selective enrollment school. Both have similar

Euclidean distances (0.283 and 0.216, respectively) and Pillai scores (0.082 and 0.084,

respectively) between LOT and THOUGHT, though Sydney's LOT and THOUGHT vowels are

slightly higher and fronter than Mackenzie's in the vowel space. However, Sydney produces a

more retracted TRAP vowel than does Mackenzie. That is, while structural factors like LOT-

THOUGHT distance may be correlated with TRAP retraction at the group level, this overall

pattern does not necessarily hold at the level of the individual.

Figure 5.7. Vowel spaces for Mackenzie (gray) and Sydney (black)
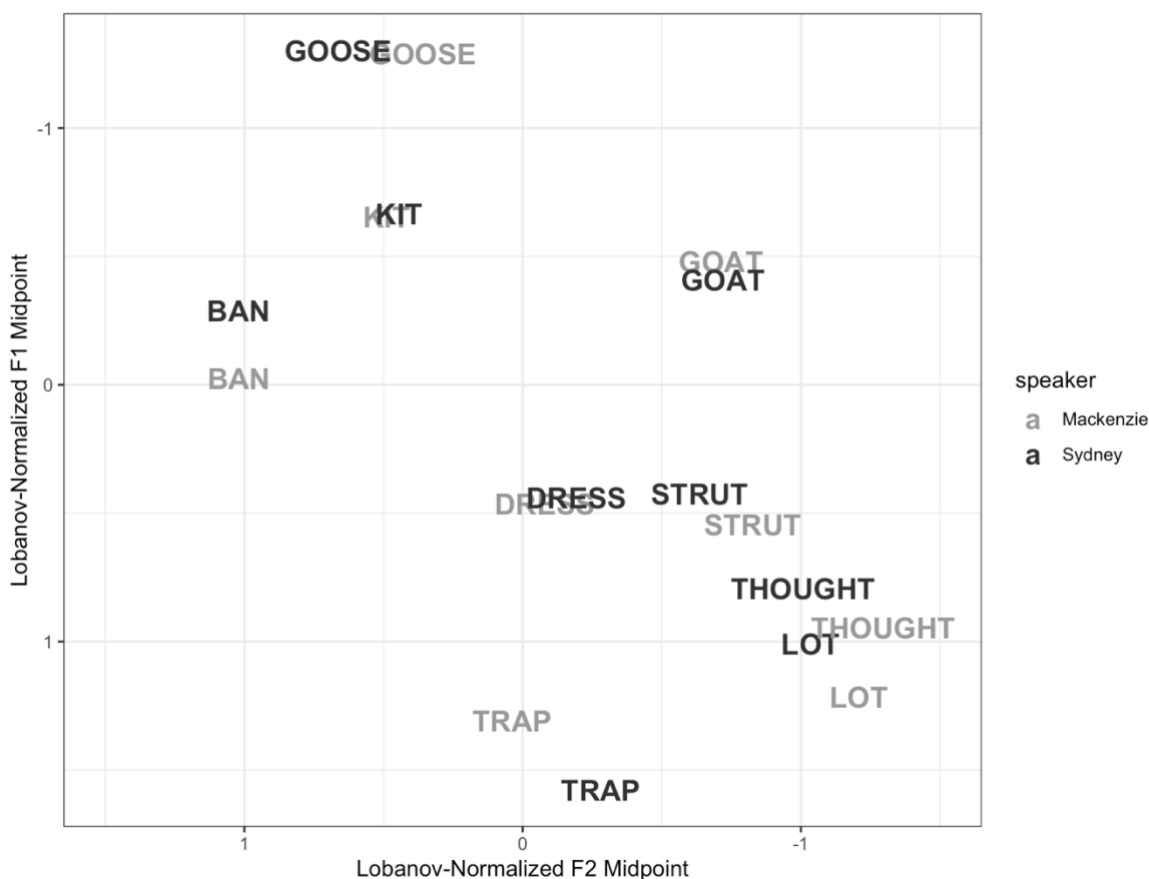
Bigham (2010) observes a similar pattern in his comparison of emerging adults from the

Chicagoland, the I-55 corridor, and Southern Illinois, wherein LOT-THOUGHT Euclidean

distance predicts TRAP retraction at the community level, but this relationship is not necessarily maintained by speakers at the individual level.

5.5 Conclusion

In this chapter, I have demonstrated that the ongoing reversal of the Northern Cities Shift has led to a situation in which many white adolescents in Chicago fail to meet the criteria defining the Inland North dialect region in the ANAE. Moreover, despite ideological ties between whiteness and white personae with Northern Cities-shifted vowels (especially TRAP and LOT; D'Onofrio & Benheim 2020; D'Onofrio et al. 2020; Van Herk 2008; *inter alia;* Chapter 3), white adolescents at the group level do not have significantly different productions than Latinx adolescents for most vowel classes and formants. However, an analysis of the LOT-THOUGHT distinction and its relationship to TRAP-retraction demonstrated that while structural factors may guide variation at the group level, intra-group social variables, including gender and residence in the city or suburbs, mediate white speakers' productions of these vowels.

This is not to suggest that the Northern Cities Shift and the social meanings associated with it (Chapter 3, Chapter 4) are irrelevant to variation among white speakers. Rather, in the next two chapters, I argue that speakers' productions of these vowels are guided by the vowels' indexical associations, especially their potential to index locally-relevant social hierarchies related to high school type.

In Chapter 6, I consider how the type of school a speaker attends predicts variation in TRAP productions, and how these school-related social meanings relate to the class-based associations of Northern Cities-shifted TRAP and LOT discussed in Chapter 4. In Chapter 7, I compare interview and wordlist data to explore how participants' stances towards school elite-ness guides the directionality of attention-based style shifting.

Chapter 6. "The bad school on the Northwest Side": Elite schools, class, and the NCS

6.1 Introduction

As demonstrated by the pervasive commentary from participants related to high school choice (Chapter 2), high school type is clearly significant to participants' social lives. This is corroborated by findings in other locales which observed variation in production of place-linked features among adults to be conditioned by the types of high schools participants attended (Carmichael 2014; Dodsworth & Benton 2017; D'Onofrio & Benheim 2020; Duncan 2021; Labov et al. 2016; Sneller 2018). In the present chapter, I consider the social meanings related to class and high school type that emerge in production among white participants in the sample. I find that high school type is a better predictor than socioeconomic status for several vowel classes, including highly salient TRAP. Based on a qualitative analysis of interview content, I argue that Chicago-area adolescents compare their schools to others along several dimensions of perceived school quality and recruit TRAP as an index of their position within this ideological structure.

As discussed in Chapter 2, high school attendance patterns are the result of racialized and classed processes. The Northern Cities Shift is associated with white speakers both ideologically and in production (D'Onofrio & Benheim 2020; D'Onofrio et al. 2020; Gordon 2001; Labov et al. 2006), though non-white speakers may recruit features of the NCS for indexical purposes (e.g., King 2021, who found that some Black speakers in Rochester, New York produce raised/fronted TRAP vowels). Due to the strong association between whiteness and NCS vowels in Chicago, the predominance of white families among those who opt out of neighborhood Chicago Public Schools, and the limited number of participants from any one non-white racial/ethnic group (particularly when distributed across school types), this chapter focuses on

the 31 monoracial white speakers in the sample. That said, research in sociology (e.g., Pattillo 2015) has demonstrated that non-white families in Chicago face similar decisions to white families in deciding where to send their children to school, albeit often with greater financial and geographical barriers to accessing "elite" schools (for example, nine of the eleven selective enrollment high schools in Chicago are located on the predominantly white North Side of the city) and a greater focus on charter schools as an alternative to traditional public schools. Future research should explore if and how similar school choice effects on linguistic features emerge among non-white students.

In addition to race, previous research on school choice effects among adults has also noted the classed dynamics leading to differential high school attendance along socioeconomic lines. For example, Carmichael notes that in Greater New Orleans, attending a "public school [implies] a lower social class background than Catholic schools" (2014:114), and Sneller observed a "socioeconomic split in religious schools in Philadelphia whereby working class Whites use Catholic schools as an alternative to public schools while upper-class Whites turn to elite public schools or expensive private (typically Quaker) schools" (2018:43). Given the persistent finding between attending an elite school and producing lower use of traditional regional linguistic features (Carmichael 2014; Labov et al. 2016; Prichard 2016; Sneller 2018), this raises questions regarding the relationship between class and school type in mediating engagement with local white features undergoing sound change.

In this chapter, I find that high school type is a stronger predictor of productions of some NCS-implicated vowel classes than is socioeconomic status. I argue that this has implications for the indexical meanings of these originally class- and place-linked features: specifically, I propose that students are applying the linguistic resources associated with one social structure (class) to

another similar, but not quite equivalent structure (school elite-ness) leading to a higher indexical order (Silverstein 2003) for these resources.

6.2 Methods

The data here are drawn from the sociolinguistic interviews discussed in Chapter 2. Tokens per vowel class per participant were extracted following the same procedure discussed in Chapter 5 and Lobanov-normalized (Lobanov 1971) in R. In this chapter, I focus on the 31 monoracial[20] white speakers in the sample. As discussed in Chapter 2, high school choice is a highly racialized process. While non-white families also make decisions regarding school choice, resources are distributed inequitably and barriers to accessing "elite" schools disproportionately affect low-income Black and Latinx families (Pattillo 2015). The low numbers of participants from any one non-white racialized group (especially when divided across school types) would likewise make a statistical analysis of school choice effects on non-white participants impossible. Additionally, as discussed in Chapter 2, non-white students must navigate not only the social meaning associations of place-linked features, but also the pressures of racist stigma against linguistic features and varieties associated with marginalized racialized groups within the U.S. education system (e.g., Baker-Bell 2020, *inter alia*). For these reasons, only white students are included in this analysis. However, whether these school choice effects extend to non-white students would be an interesting potential avenue for future research.

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[20] This assessment is based on participants' self-reported racial/ethnic identities to the open-response demographic survey and subsequent discussion in the interview rather than heredity. Three of the participants included in this analysis discussed having non-white ancestry (usually a grandparent) but identified solely as "white" or "Caucasian." This pattern aligns with findings in sociology (Bratter 2007; Pilgrim 2021) on the racial identification of at least some "second-generation" multiracial Americans.

6.2.1 Statistical analysis: socioeconomic status

Linear mixed effects models were fit to the Lobanov-normalized midpoint F1 and F2 measurements for each vowel class of interest using the *lme4* package in R. Fixed effects of interest included speaker gender and CPS Tier (Tier 3 v. Tier 4), which I define in greater detail below. Place (labial v. coronal v. dorsal v. glottal) and manner (lateral v. nasal v. oral) of articulation of the preceding segment, and log-transformed duration, were included as control fixed effects. Speaker and word were included as random intercepts. Finally, as different microphones are known to systematically affect acoustic measurements (Sanker et al. 2021), participant device type (Mac Laptop v. PC Laptop v. Lenovo Laptop v. iPad) was also included as a control fixed effect to account for these potential distortions. Interactions between fixed effects were tested but were dropped from the final models if they were not significant and did not improve model fit as assessed by a comparison of the sums of squares of the residuals.

It is notoriously difficult to assess socioeconomic status for adolescents (e.g., Eckert 1989): while income, educational attainment, and occupation are commonly used to measure socioeconomic status among adults, adolescents have not yet completed their formal education, nor do they have full-time careers or income. Adolescents hold a more nuanced understanding of social class than do younger children, but self-reported SES is also difficult to assess, as adolescents across socioeconomic backgrounds exhibit a bias towards claiming that their own families are middle class (Mistry et al. 2021; Mistry & Yassine 2022). Mistry et al. (2021) attribute this bias to Developmental Intergroup Theory and Social Identity Development Theory, which suggest that as children sort individuals into categories, they associate positive attributes with categories they belong to and, conversely, associate themselves with categories they believe to have positive connotations. Children of all ages recognize that some families can afford more

than others and are able to discuss their families' purchasing power in comparison to others'

(Mistry & Yassine 2022). However, younger children show a bias towards affiliating with "rich"

or high SES social groups (even as they discuss their families' financial difficulties). This bias

shifts during late childhood and adolescence towards a preference for "middle class" affiliation.

Mistry et al. (2021) suggest that adolescents are attuned to broader societal discourses

associating the "middle class" with desirable traits such as hardworking-ness, in contrast to

wealthier social groups who are sometimes perceived as "lazy" or "out of touch." Indeed, this

bias emerged in interviews in the present studies, where many participants with parents in high-

earning professional careers (lawyers, doctors, business executives) referred to themselves as

"middle class."

While data on parental occupations was collected for all participants, I opted to use the

Chicago Public Schools' Tier scale as a proxy for SES. First, as a composite measure, use of this

scale aligns with previous research in sociolinguistics which has found that composite scales are

more strongly predictive of class-based variation than single-measure scales (e.g., Labov 2001).

Second, many occupation-based socioeconomic scales distinguish between managerial and non-

managerial white collar occupations (Labov 1972, *inter alia*). While participants were generally

familiar with the names of their parents' employers, some participants did not know their

parents' precise roles within large companies, making such a distinction difficult to assess.

Additionally, the Tier scale is used by the CPS district to enact a class-based affirmative action

program for its selective enrollment high schools. As of the 2022-2023 academic year, the first

30% of seats at each SEHS are allocated based solely on each applicant's grades and test scores.

The remaining 70% are then divided proportionally across the top-scoring applicants within each

of four "Tiers" which divide the city along a composite measure of socioeconomic status,

described below. This system has been criticized for prioritizing students from more affluent

areas in the city, as a majority of students scoring in the top 30% also live in these areas (indeed,

hotly-contested proposals are currently underway to change the system for allocating SEHS seats

in future years to enable more students from disadvantaged areas to attend; Swartz 2022).

Additionally, since the U.S. Supreme Court banned the use of race-based affirmative action

programs in 2007 (motivating the shift in SEHS enrollment quotas from race-based to class-

based), the racialized *and* socioeconomic diversity of these schools has declined (Borstein 2021;

Ellison & Pathak 2021). Despite this potential inequity, the result of this affirmative action

system is that the selective enrollment high schools are among the most racially and

socioeconomically diverse schools in the city, largely due to the stark racialized segregation of

most neighborhood schools (Lauen 2009; Phillippo & Griffin 2016).

The CPS Tier scale relies on census-tract level data. One drawback of this metric is that it

cannot capture socioeconomic disparities between families within the same census tract; on the

other hand, it eliminates the need for self-report measures of socioeconomic status or parental

occupation. The CPS scale divides the city of Chicago into four tiers based on each census

tract's: (1) median family income, (2) percentage of households which are owner-occupied

(rather than rented), (3) percentage of single-parent families, (4) percentage of households where

a language other than English is spoken[21], (5) adult educational attainment, and (6) a "school

performance variable," based on standardized test scores for neighborhood schools within the

catchment area (CPS 2022a). For the present study, data on tiers for participants who lived

within the city of Chicago was collected from the CPS School Locator (CPS 2022b). For

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[21] This is a point of contention for some critics of the current SEHS affirmative action system, who argue that this metric penalizes students living in predominantly-Black census tracts relative to those from similarly socioeconomically situated predominantly-Latinx tracts (Borstein 2021).

participants who lived in Chicago suburbs (and therefore outside of the Chicago Public School district), information for the first five components was collected from the US Census Bureau's 2021 American Community Survey data (United States Census Bureau 2022) and school performance data collected from the most recently publicized Illinois Assessment of Readiness (IAR)[22] test results on the for the public middle school(s) in each suburban census tract (ISBE 2022). Suburban participants were then sorted into tiers based on these criteria.

As with the high school choice analysis, linear mixed effects regression models were fit to F1 and F2 of each vowel class. This time, the fixed effect of interest was Chicago Public School Tier (Tier 3 v. Tier 4), with the same fixed effects as the high school choice analysis discussed above. Note that Tier 4 is the highest socioeconomic quartile within the city, whereas Tier 3 represents the next highest quartile. As noted below, 91% of white students in Chicago live in the top two tiers (Borstein 2021), which is reflected in this sample.

6.2.2 Statistical Analysis: High school choice

Based on the commentary in Chapter 2, participants were classified into three categories for school type: "elite" schools included selective enrollment high schools (SEHS) within the Chicago Public School System as well as non-parochial private schools. As noted in Chapter 2, students discuss these schools as involving rigorous academics, supportive teachers and school staff, and setting up students for "success" (often defined as attending a highly-ranked university) after high school. Non-elite schools include Catholic schools and neighborhood

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[22] The Illinois State Achievement Test (ISAT) was used to calculate tiers until it was discontinued in 2014. Currently, tiers within Chicago are calculated based on the results of the NWEA MAP test, which is not administered in most suburban districts. To allow for direct comparison across districts, I opted to use the IAR test, which is taken by all students; in general, suburban schools outperformed or matched urban schools in Tier 4 (highest SES) districts on this metric regardless of whether 2014 ISAT scores or 2021 IAR scores were used as the point of comparison. The suburban census tracts which met the criteria for Tier 3 generally did so based on the other components of the composite scale, especially median family income, adult educational attainment, and households speaking a language other than English.

schools within the CPS system. While there are certainly racialized and classed dimensions in terms of which families decide to enroll their children in Catholic schools, this choice is often religiously rather than academically motivated. Additionally, as the Archdiocese of Chicago subsidizes tuition at Catholic schools, attendance at a Catholic school is a feasible option for many families for whom non-Catholic private schools might be financially unattainable; this is similar to the pattern Sneller (2018) observed in Philadelphia, wherein non-selective Catholic schools were contrasted with elite magnet and private schools. Finally, suburban public schools are classified as a separate category due to many families' decisions to move to the suburbs as a means of opting out of Chicago neighborhood public schools; additionally, their geographic location in the suburbs creates an urban-suburban split between these students and students at both elite and non-elite urban schools.

As with the socioeconomic status analysis, linear mixed effects regression models were fit to F1 and F2 of each vowel class. This time, the fixed effect of interest was school type (elite v. non-elite v. suburban public) with the same fixed effects as the class-based analysis discussed above. A Tukey test was used to assess pairwise mean comparisons for the three-way school type distinction. As before, interactions were tested and dropped if they were not significant and did not improve model fit.

6.2.3 Participants

Table 6.1 below outlines the school type and SES breakdown of the participants in this analysis. More specific details about individual participants are included in Chapter 2.

Table 6.1: Participant demographics by high school type and CPS Tier

	Elite School (Private and SEHS)	Non-Elite School (Neighborhood Chicago Public Schools, Catholic Schools)	Suburban Public School	Total:
CPS Tier 4 (highest SES)	5	11	7	23
CPS Tier 3 (middle SES)	3	1	3	7
CPS Tier 2 (lower SES)	1	0	0	1
Total:	9	12	10	31

Within the CPS system, Tiers 3 and 4 collectively represent the top 50% of the socioeconomic distribution of census tracts within the city; Tier 4 is the highest socioeconomic tier within the city, representing the top quartile of Chicago census tracts, and Tier 3 represents the next highest quartile. The SES distribution in the present sample is skewed to favor Tier 4, but this skew is proportional to the actual demographics of Chicago, where due to racialized disparities in socioeconomic status, over 70% of white Chicagoans live in Tier 4 census tracts and 21% in Tier 3 (Borstein 2021). Note also that Tier 3 students are underrepresented in non-elite schools compared to suburban public and elite schools (in fact, just one participant attending a non-elite school lives in a Tier 3 census tract). This is in part due to the selection on the part of many white families who send their children to CPS neighborhood schools to live in neighborhoods served by a high school with a white plurality; these high schools (including Addams and Davis in the present sample) overwhelmingly have catchment areas comprised mainly of Tier 4 tracts. Several participants who live in suburban areas that meet the Tier 3 criteria discussed their families' decisions to live in the suburbs as motivated in part by the ability to attend a "high quality" public school but still constrained by finances. For example, Peter, a student at Gibran in the southwest suburbs, recalls that "*It would've been Chicago Public Schools that we would've*

gone to. Which, they were overcrowded at the time… So then it's like we moved out to the

suburbs and um which one ended up having better schools and this – which was also

affordable."

Additionally, note that only one participant – a SEHS attendee – lives in a Tier 2 census

tract. This participant was binned together with Tier 3 participants and included in the following

analyses in the interest of completeness, though I acknowledge that the realities of this

participant's family's socioeconomic situation likely lead to a markedly different experience of

class than those of other participants, as she falls within the bottom half of Chicago's

socioeconomic distribution compared to all other participants, who are within the top half

(additionally, just 9% of white Chicagoans live in Tiers 1 and 2 combined; Borstein 2021). That

said, whether or not she was included did not affect the directionality or significance of the

results.

6.3 Results

6.3.1 Socioeconomic status

Figure 6.1 below shows the differences by Tier, with Tiers 2 and 3 binned together and

Table 6.2 outlines the differences based on socioeconomic status between participants in Tier 3

and Tier 4.

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Figure 6.1. Vocalic productions by participant CPS Tier: Tiers 2 and 3 (lower SES) in black and

Tier 4 (higher SES) in gray.
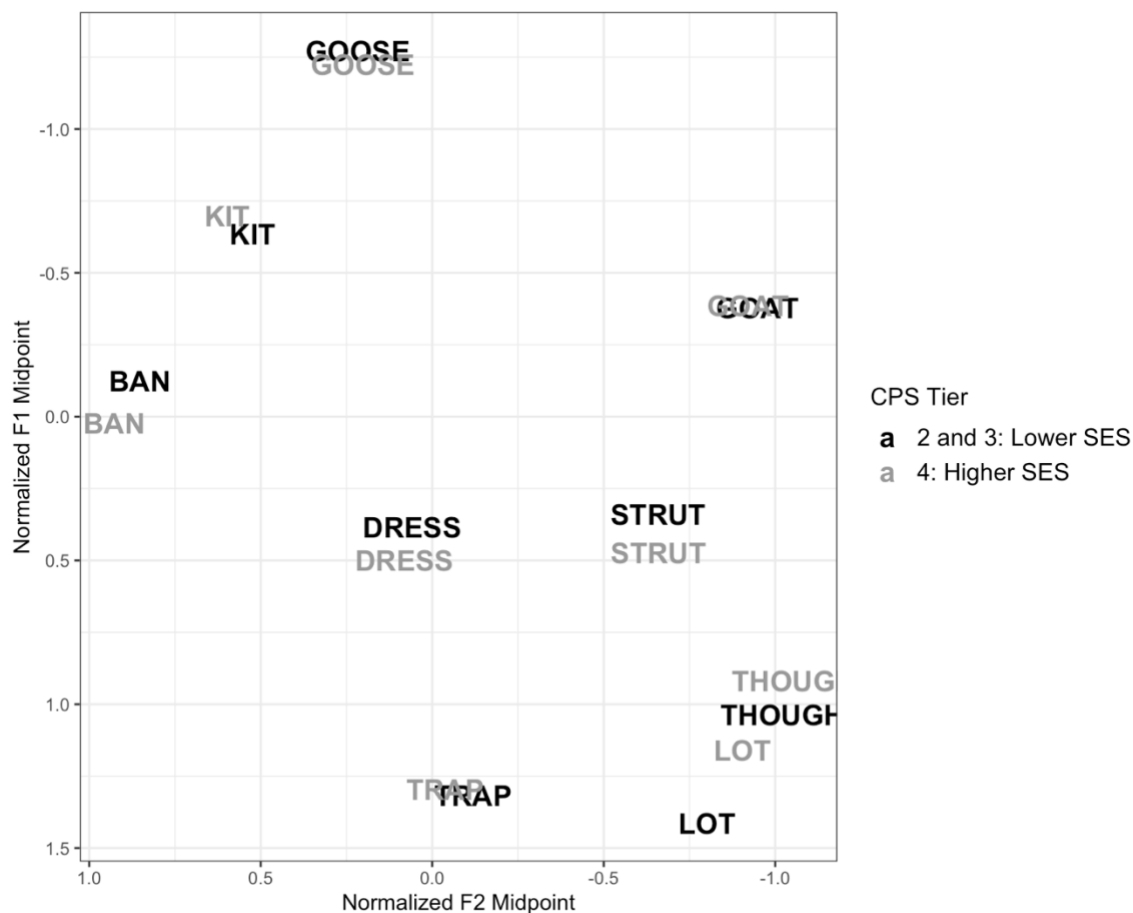
Table 6.2: Model coefficients by vowel class, formant, and gender. Significance: *** = p <

0.001, ** = p < 0.01, * = p < 0.05

Vowel Class	Formant	CPS Tier (=Tier 4)	Gender (=male)
TRAP	F1	-0.009	-0.335**
(N=921)	F2	0.109	0.307**
LOT	F1	-0.194 .	0.375**
(N=580)	F2	-0.125	0.314**
DRESS	F1	0.063	-0.010
(N=946)	F2	0.040	0.051
THOUGHT	F1	-0.071	-0.076
(N=363)	F2	-0.149*	0.069
KIT	F1	-0.059	-0.003
(N=966)	F2	0.048	0.086
STRUT	F1	0.208**	0.013

(N=968)	F2	-0.020	-0.132*
GOOSE	F1	0.047	0.081
(N=599)	F2	0.112	-0.338*
GOAT	F1	0.020	0.041
(N=974)	F2	0.062	-0.183 .
BAN	F1	0.138	0.069
(N=431)	F2	0.041	-0.027

Significant main effects emerged for Tier for THOUGHT F2 (Tier 3 fronter), and STRUT F1 (Tier 3 higher); LOT was marginally significant in the F1 dimension. Main effects of gender are discussed in a separate section below. Notably, these class-based effects do not extend to highly salient vowel classes TRAP (in either dimension) and LOT F2, despite previous work linking these features to SES in terms of production patterns (McCarthy 2011), ideologies discussed in meta-linguistic commentary (D'Onofrio & Benheim 2020; Benheim & D'Onofrio 2023), and the results of the matched guise task in Chapter 4 which found that listeners expected a speaker producing more Northern Cities-shifted TRAP and LOT vowels to come from a lower class background.

In the next section, I discuss results of the models including high school type as a fixed effect of interest. Then, I discuss the results when these two sets of models are compared against one another.

6.3.2 High school choice

Figure 6.2 depicts mean differences in vocalic productions by school type. Table 6.3, below, outlines the model outputs by school type and gender for these participants. Significance values for the three-way comparison by school type were calculated using a Tukey pairwise comparison of means test.

Figure 6.2. Mean differences in vocalic productions by high school type: Elite schools in medium gray boldface text, non-elite schools in black boldface text, and suburban public schools in light gray italic text
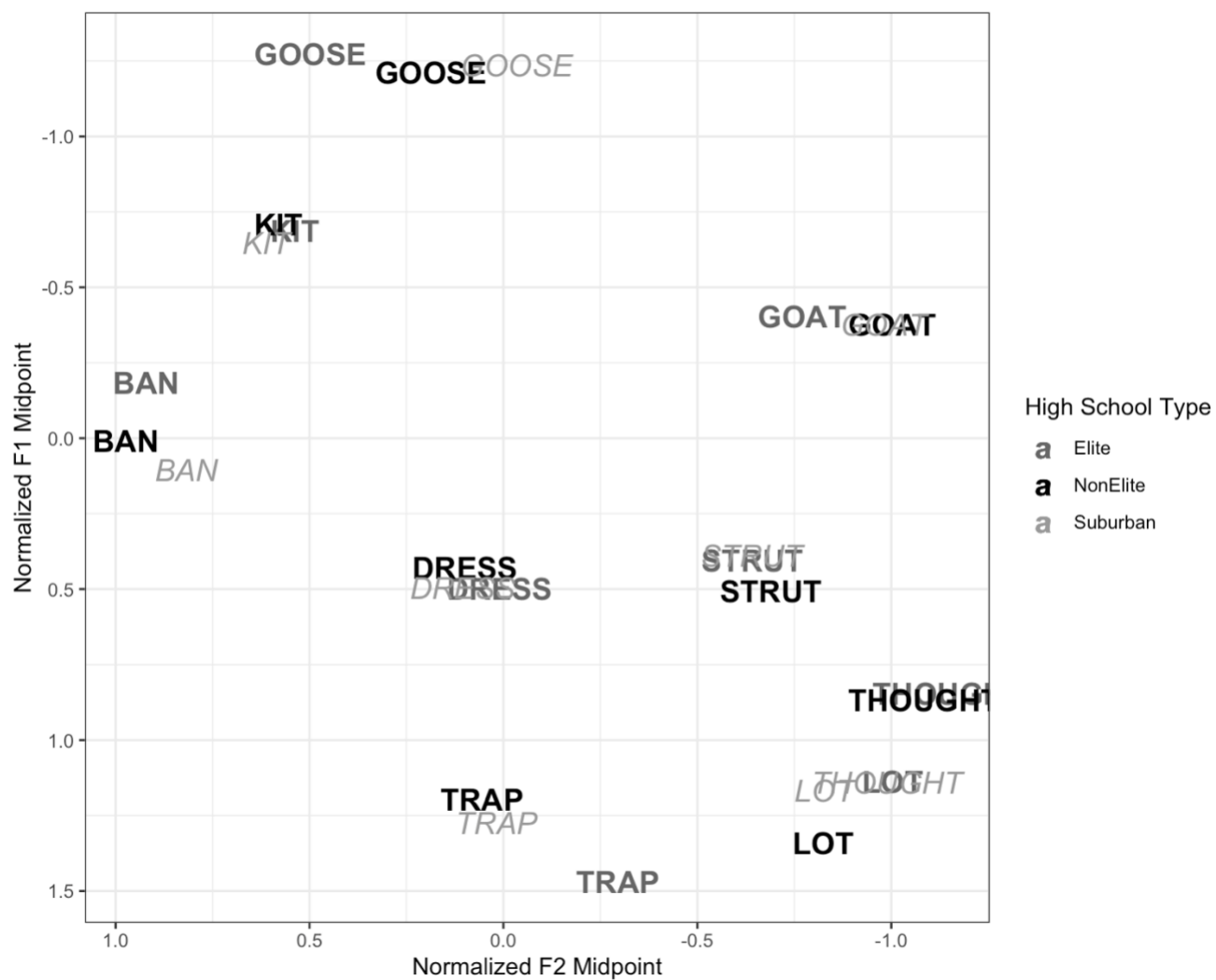
Table 6.3. Model coefficients from linear mixed effects models predicting normalized formant values (* = p < 0.05, ** = p < 0.01, *** = p < 0.001, . = p < 0.1)

Vowel Class	Formant	School Type (Elite v. Non-Elite)	School Type (Elite v. Suburban)	School Type (Non-Elite v. Suburban)	Gender (=male)
TRAP	F1	-0.248**	-0.240.	0.008	-0.247*
(N=921)	F2	0.339***	0.348***	0.009	0.171*
LOT	F1	0.246*	0.147	-0.099	0.312**
(N=580)	F2	0.173	0.206	0.034	0.249*
DRESS	F1	-0.070	0.008	0.078	-0.010
(N=946)	F2	0.073	0.091	0.017	0.015
THOUGHT	F1	0.113	0.373***	0.260**	-0.176 .
(N=363)	F2	0.085	0.134	0.049	0.055
KIT	F1	-0.012	0.005	0.017	0.956
(N=966)	F2	-0.015	-0.038	-0.024	0.093
STRUT	F1	0.125	0.020	-0.105	-0.027
(N=968)	F2	0.006	0.056	0.050	-0.145*
GOOSE	F1	0.074	0.011	-0.064	0.064
(N=599)	F2	-0.228	-0.432*	-0.204	-0.213
GOAT	F1	0.006	-0.001	-0.007	0.038
(N=974)	F2	-0.200 .	-0.151	0.049	-0.130
BAN	F1	0.071	0.101	0.031	0.015
(N=431)	F2	0.032	-0.020	-0.052	-0.034

Significant effects of school type emerged for TRAP, such that students at elite schools produced lower (higher F1) and backer (lower F2) vowels than students at non-elite schools within Chicago; students at elite schools additionally produce backer (lower F2) TRAP vowels than students at suburban public schools (the main effect on F1 was only marginal between elite and suburban students; though again elite students trend towards lower TRAP vowels). Elite students also produced significantly higher (lower F1) LOT vowels than non-elite students. No significant differences emerged by school type for LOT in the F2 dimension; nor did any significant differences emerge for either TRAP or LOT between non-elite and suburban students.

Significant main effects also emerged for THOUGHT F1, such that suburban students produce lower (higher F1) THOUGHT vowels than both elite and non-elite students within Chicago, aligning with the finding in Chapter 5 that there is an urban-suburban distinction for this feature. Finally, elite students produced significantly fronter (higher F2) GOOSE vowels than suburban students.

6.3.3 Model comparison

These two sets of models were compared using the Akaike Information Criterion (AIC) for model selection. In Table 6.4 below, the better fit model (i.e., the model with a lower AIC) is included on the righthand column. Note that for LOT F2, DRESS F1 and F2, GOOSE F1, and BAN F2, the AICs of each model are within one unit of one another. The model containing the lower AIC is still included in the righthand column for completeness, but these results should be interpreted with caution. That said, it is unsurprising that neither model was a substantially better fit than the other, as neither CPS Tier nor School Type emerged as a significant predictor for any of these formants, suggesting that variation in productions of these formants is due to some other social factor not captured by these models. Alternatively, variability might be strongly predicted by speaker gender (as in the case of LOT F2, where gender emerged as significant), which was included in both sets of models and therefore does not improve the fit of one model over another.

Table 6.4. Model selection using the AIC by vowel class and formant for models including CPS Tier and School Type as fixed effects.

Vowel Class	Formant	CPS Tier AIC	School Type AIC	Better Fit Model
TRAP	F1	1269.7	1263.3	School Type
(N=921)	F2	138.8	122.9	School Type
LOT	F1	899.1	898.2	School Type
(N=580)	F2	307.2	306.5	School Type
DRESS	F1	923.4	923.8	CPS Tier

(N=946)	F2	156.4	156.1	CPS Tier
THOUGHT	F1	507.5	495.6	School Type
(N=363)	F2	311.8	315.6	CPS Tier
KIT	F1	394.7	398.2	CPS Tier
(N=966)	F2	886.2	888.5	CPS Tier
STRUT	F1	1190.0	1195.9	CPS Tier
(N=968)	F2	465.8	466.8	CPS Tier
GOOSE	F1	169.9	170.0	CPS Tier
(N=599)	F2	1044.1	1039.9	School Type
GOAT	F1	823.7	825.8	CPS Tier
(N=974)	F2	886.3	883.7	School Type
BAN	F1	472.1	475.0	CPS Tier
(N=431)	F2	363.7	365.5	CPS Tier

In addition to the formants for which AICs were very similar (discussed above), CPS Tier – that is, a proxy for family/neighborhood SES – yielded the better fit model for THOUGHT F2, KIT F1 and F2, STRUT F1 and F2, GOAT F1, and BAN F1. Meanwhile, School Type yielded a better fit model for TRAP F1 and F2, THOUGHT F1, GOOSE F2, and GOAT F2.

Taken together, then, family/neighborhood SES is significantly predictive of variation for some vowel classes within the NCS rotation, including THOUGHT F2 and STRUT F1, but class alone cannot fully explain vocalic variation in this sample. For highly salient TRAP, significant differences in variation in both vowel height and backness are more strongly predicted by school type than family/neighborhood SES, as are the significant differences which emerged based on School Type for THOUGHT F1 and GOOSE F2.

6.3.4 Gender

As described in Tables 6.2 and 6.3 above, significant main effects of gender emerged for some vowel classes: specifically, F1 and F2 of both TRAP and LOT, as well as STRUT F2. Figure 6.3 depicts the gender-based differences by vowel class.

Figure 6.3. Vowel productions by gender (boys = gray, girls = black)
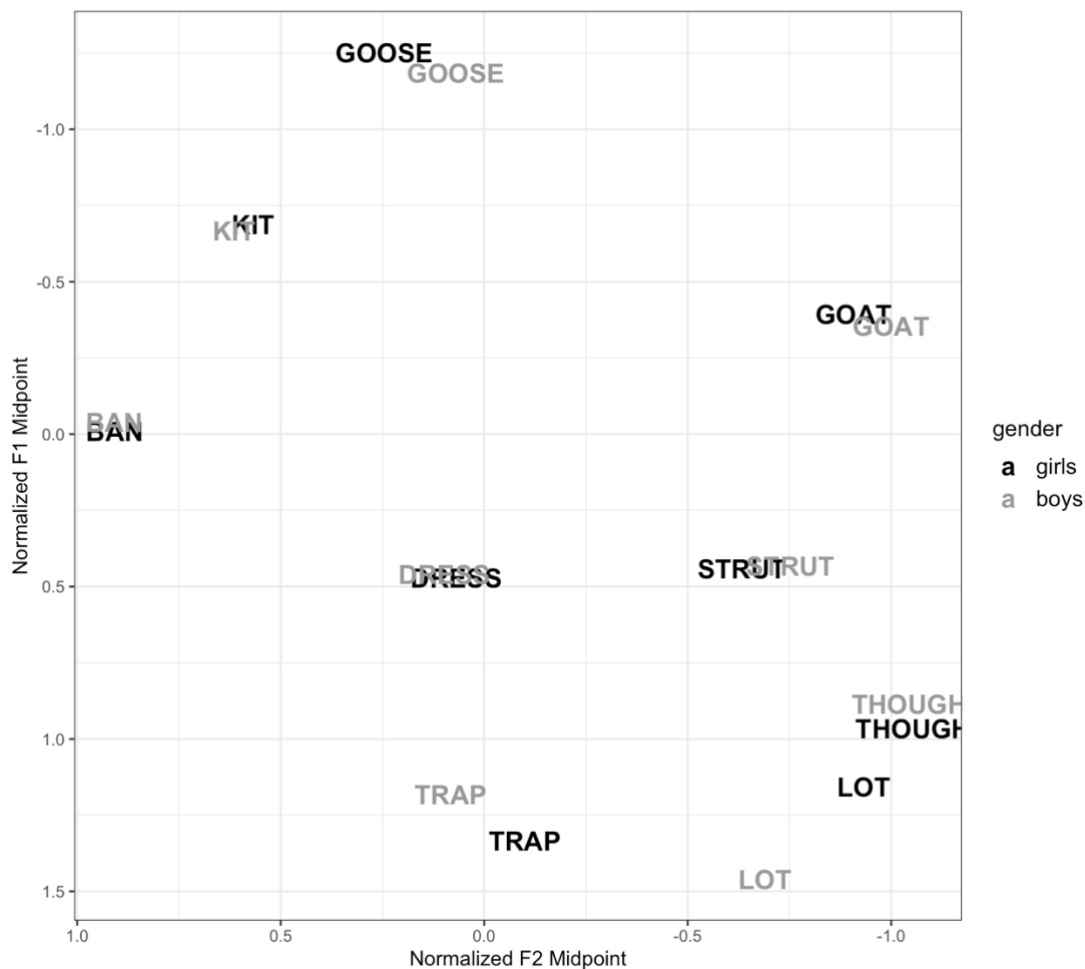
For all of these formants, boys produced more Northern Cities Shifted vowels than did girls:

higher and fronter TRAP, lower and fronter LOT, and backer STRUT. These effects did not

interact with either school type or CPS Tier, though the low number of boys relative to girls in

the sample (seven and twenty-four, respectively), especially when distributed across school types

or tiers, means that these results should be interpreted with caution. Though work in the mid- to

late-twentieth century (when the NCS was still advancing) found women to be leading many

features of this sound change (Eckert 1989; Labov et al. 2006), McCarthy (2011) observed that

college-educated women were leading the stagnation and reversal of TRAP and LOT in Chicago. Additionally, Herndobler (1977) found men to be more advanced than women in fronting of LOT (though she observed that women produced more advanced TRAP-raising, contra the present findings). At the same time, the personae associated with Northern Cities-shifted TRAP and LOT in Chicago (blue collar workers, sports fans, etc.) are often stereotypically gendered as male (D'Onofrio & Benheim 2020; Hallett & Hallett 2014). Adult Chicagoans also routinely point to male public figures such as former Mayor Richard M. Daley or the characters in *Saturday Night Live's* 1990s sketch "Superfans" as emblematic of the "Chicago accent." In contrast, a *backed* TRAP vowel is associated with some female-linked personae (though not necessarily Chicagoans), such as the "Valley Girl" (D'Onofrio 2015). It is thus possible that these ideological ties to male personae and public figures might lead adolescent boys to produce more Northern Cities-shifted vowel spaces than girls, despite the overall apparent time change away from these features.

Recall that the matched guise task discussed in Chapter 4 involved participants responding to men's voices. It is worth considering whether social meanings linked to gender may also guide social evaluations of TRAP and LOT. In particular, Savage et al. (2016) used a woman's voice as a stimulus and found that listeners judged fronted LOT as sounding "annoying," a finding that the MGT in Chapter 4 failed to replicate. Future work might examine these potential gender-related meanings in greater depth. Given the low number of boys in the sample, and, therefore, the tentative nature of these gendered differences in production, in the remainder of this chapter, I focus on the school choice- and class-based differences in production.

6.4 Discussion

6.4.1 High school choice and production

Though family and neighborhood socioeconomic status impacts production of many

vowel classes, high school choice is more strongly predictive of productions of TRAP F1 and F2,

THOUGHT F1, GOOSE F2, and GOAT F2 than is SES. While the distinction in THOUGHT F1

appears to be geographic (with suburban students producing a significantly lower THOUGHT

vowel than urban students at both elite and non-elite schools), the significant results for GOOSE

and TRAP show a similar school-related pattern to one another: students attending elite high

schools produce fronter GOOSE vowels than students at suburban public schools and lower and

backer TRAP vowels than students at both suburban and non-elite urban schools, whereas non-

elite and suburban students do not differ significantly from one another. GOOSE is advancing

across broad swaths of the United States (Labov et al. 2006; *inter alia*), and the backing and

lowering of TRAP corresponds to both the NCS-reversal pattern and the supra-regional Low

Back Merger Shift (LBMS; Becker 2019) pattern unfolding across the United States. While this

finding corresponds to previous work suggesting that attending an elite school leads to reduced

usage of stigmatized regional features (Prichard 2016; Tamminga & Prichard 2012), it is worth

noting that school-based production differences did not emerge for other vowel classes involved

in the NCS and LBMS, including DRESS, KIT, and LOT.

Indeed, the distinction in TRAP and lack of a significant distinction for LOT raise

interesting questions about both the structural relationship and social meaning associations of

these features. The lack of a significant effect simply means that we cannot reject the null

hypothesis that there is no production difference in LOT by the social groups tested here,

excepting gender (and indeed, the school- and tier-based results both trend in the expected

direction despite the non-significant result, with Elite and Tier 4 participants on average producing qualitatively higher/backer LOT vowels than other participants). That said, this disparity is notable because while both TRAP and LOT are highly salient, featured in meta-linguistic commentary, and undergoing apparent time reversal in Chicago (D'Onofrio & Benheim 2020), only TRAP showed significant school and class-based effects in this sample. One possibility is that this effect is structural: in data collected from adults from 2005-2008 (whose median speaker was born nearly 30 years before the oldest speakers in my sample), McCarthy (2011) observed that LOT was showing signs of reversal, while TRAP had merely stagnated (was no longer advancing). This suggested that LOT may have been the first vowel class to begin the reversal pattern. Many of the speakers in this sample produce LOT vowels near the back of their vowel spaces (approaching THOUGHT in the F2 dimension), and it is possible that there simply isn't much articulatory space for continued backing of LOT. Indeed, the only significant difference observed for LOT by either School Type or Class was in the F1 dimension, with students at elite schools producing higher LOT vowels than those at non-elite schools.

Alternatively (or in combination with structural factors), the distinction between TRAP and LOT may be social in nature. The MGT in Chapter 4 tested these features in tandem under the assumption that, since both TRAP and LOT have been undergoing apparent time reversal (D'Onofrio & Benheim 2020), they might share at least some aspects of their social meanings. Given the present results, however, future research examining evaluations of TRAP and LOT in isolation might shed light on the social meanings attached to these features individually. Savage et al. (2016) tested only LOT fronting among adults in Michigan and found social evaluations that were not replicated in the MGT in Chapter 4. Whether TRAP or LOT might carry different social meanings among this population in Chicago remains an open question.

In the next section, I discuss the potential social meanings of relatively more or less Northern Cities-shifted variants of the TRAP vowel based on interview content.

6.4.2 Indexicality of TRAP

In this study, High School Type emerged as a significant predictor for TRAP in the F1 dimension (with elite students producing significantly lower vowels than non-elite students) and F2 (with elite students producing significantly backer vowels than both non-elite and suburban public students). Despite TRAP's association with socioeconomic status in social evaluations, meta-linguistic commentary, and previous production studies (D'Onofrio & Benheim 2020; McCarthy 2011), statistical models that included High School Type as a predictor in fit the data better than those including participants' class backgrounds. This raises the question of what indexical meanings of TRAP result in its differential usage by adolescents attending different high schools. To assess these possible indexical meanings, I turn now to an exploration of individual students' TRAP productions in relation to their meta-commentary about different high school types. Figure 6.4 below depicts each speaker's mean Lobanov-normalized TRAP production along with their high school type.

As expected given the statistical results discussed above, students at elite schools produce the lowest and backest TRAP vowels in the sample, while students at non-elite and suburban public schools produce relatively higher and fronter TRAP vowels (though note that the F1 effect was only marginal for suburban v. elite students). These production differences also map onto commentary about perceived school quality, particularly in terms of education quality, crime, and funding.

Figure 6.4: Lobanov-normalized TRAP productions by speaker and high school type (Elite = medium gray plainface text; Non-Elite = black boldface text; Suburban Public = light gray italicized text)
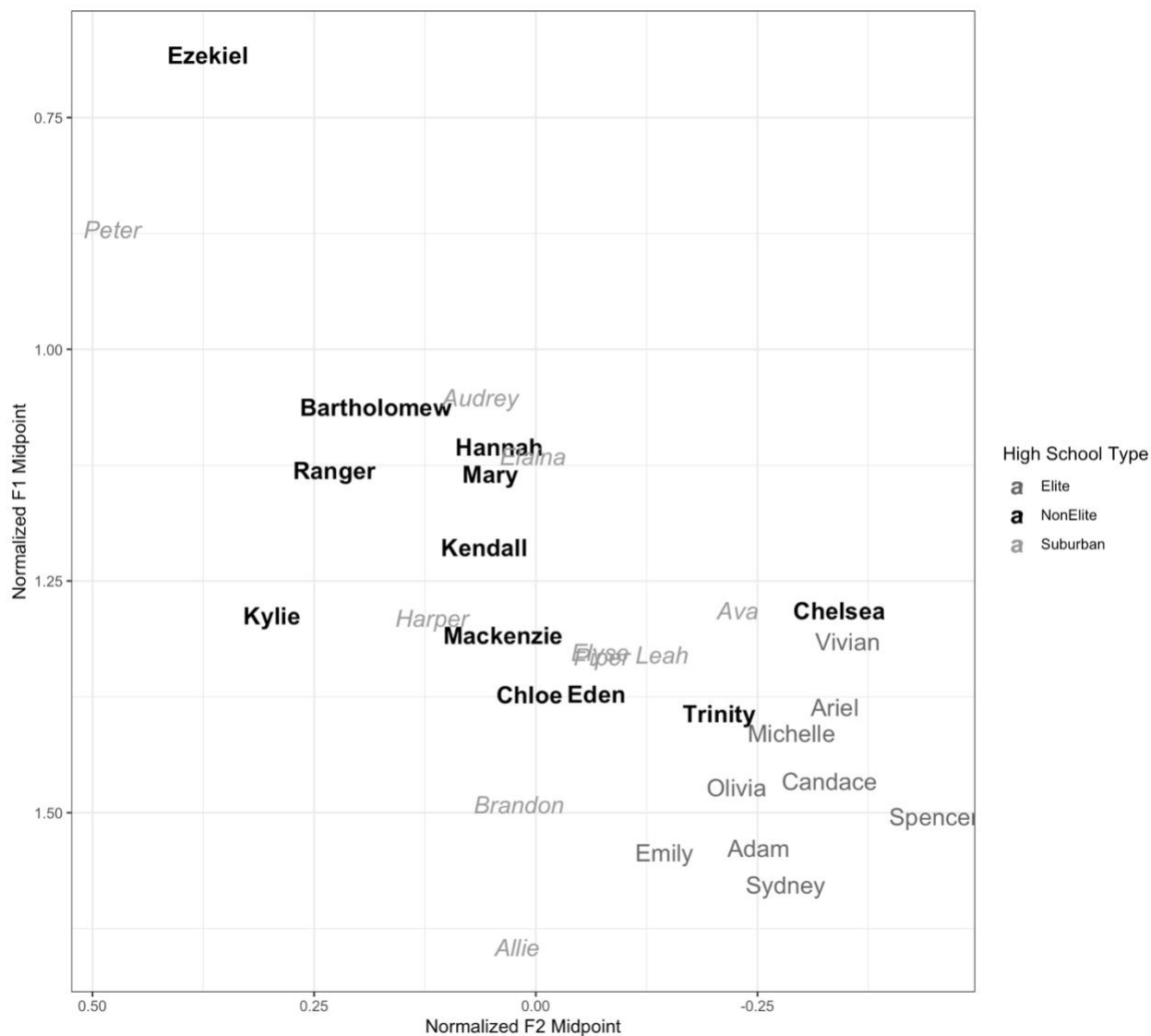
For example, Ariel, a student at a selective enrollment high school, noted that her parents did not want her to attend a neighborhood CPS school due to uncertainty about education quality: "*Sometimes, neighborhood schools, the education – it's not unreliable, but you just don't*

always know what you're going to expect. And when you have a selective enrollment, IB, or private school, the curriculum and methods of teaching are more outlined when you go into that school." Adam, another selective enrollment student, stated, "*I think being at a school like this you're with people of similar ability like academically. And it pushes you to get higher scores and stuff, like, learn a lot with that and also like the selective enrollment schools they have a lot more classes. Like um stuff like that. Opportunities, um which is like a separate problem that other schools don't have it.*" Notably, both Ariel and Adam compare the curricula and opportunities available at their own schools to neighborhood CPS schools. Olivia, who attends a private school, noted that, "*The curriculum is really good in terms of like making sure we're super well-rounded in knowing what's going on in the world, making sure we're staying up to date with like politics and having, like, very in-depth conversations about kind of like advanced topics at a young age*," similarly pointing to advanced academics as a strength of her school.

Though suburban public students as a whole produce fronter TRAP vowels than elite students, differences likewise emerge in production along similar assessments of education quality: Brandon stated that "*I know Hughes is rated really highly for education,*" and Elyse noted, "*The schools are really good around here as far as they're rated and I agree, I think my school is wonderful.*" In discussing her school's shift to remote learning due to Covid, Allie remarked that "*It hasn't been too bad… It's been like giving us more freedom to sort of um… I would say something corny like 'prep for college.'*" Implicit in Allie's commentary (like that of many elite and suburban students) is an assumption that her high school is preparing most or all of its students to attend college. Brandon, Elyse, and Allie all produce relatively low and back TRAP vowels compared to other suburban public school students. In contrast, Peter, who also attends a suburban public school and produces one of the highest and frontest TRAP vowels in

the sample, remarked on his high school's differentiation of students by their expected academic trajectories, stating that, for example, "*In math, they might tell you how to do graphing or they might not… They're probably seeing it as, 'Okay, what's important for that student when growing up. What are they gonna use?'*" And in contrast to Elyse and Brandon's comments about their schools being perceived as high quality, Audrey discussed her parents' disappointment at a change in school attendance boundaries which resulted in her attending "*not the school that they thought it was gonna be, but that borders the school that they wanted, which is why they picked this specific area* [to purchase a house]." Like Peter, Audrey produces a relatively high and front TRAP vowel compared to other suburban public school students.

However, commentary about school quality extends beyond educational quality. Many students also discussed school funding as a relevant factor along which they assessed schools. Ariel, quoted above, remarked that "*I guess since it* [Darwin SEHS] *was like newly built people just assume 'oh, it's still kind of shiny, I guess it's rich*.'" Brandon and Allie, meanwhile, both discussed what they perceived to be frivolous uses of money by their suburban public schools, with Brandon stating that, "*There are some like decisions* [by school administrators] *that I just find annoying. For example, they recently spent supposedly a lot of money on getting these heart monitors for P.E. class*," and Allie asserting that, "*We're spending money on ourselves that we don't really need to be? spending, that we could be donating to charities and other schools. Like Chicago Public Schools are not doing too hot. Like I think if we could help out there, it would benefit… It would also be like literally helping out children my age and younger get a better education experience.*" As discussed in Chapter 3, comparison to Chicago Public Schools was a common rhetorical device used by suburban public school students to position their schools as high quality in comparison.

For their part, students at neighborhood Chicago Public Schools largely agree with this assessment. Bartholomew stated, "*Bristo is a prime example of lack of funding to school because it's – my school's, you know, overly crowded and um just a really old building and stuff's falling apart, so.*" Students at other non-elite schools also commented on the poor material conditions of their schools relative to schools that were perceived to have better access to funding. Ranger, a Catholic school student, recalled a recent visit to a suburban public school for a football scrimmage: "*I just went there for a 7-on-7 and oh my gosh… it was huge, they had a really nice stadium. They had like four parking lots. They had nice like coach buses… stuff like that.*" And Ezekiel, a Catholic school student, noted that several nearby suburban public schools are stereotyped as wealthy "*cause they're like one of the bigger and nicer public schools in Chicago*[land]*… um Eliot* [another suburban public school]*, they kind of get the rich thing again, cause they're from* [a northwest suburb]*… it's the area you live in and how nice it is, that's like their stereotype I guess.*" Disparities also emerged among suburban public school students' assessments of their own schools: Peter, quoted above, also remarked negatively on the material quality of his school: "*There would be like things I would like to change with like the high school. Mainly how it's like operated and like the teaching environment… Everyone in a second story* [classroom]*, you have to hope that the air conditioning does not kick on or have a piece of wood, because we would take the wood and put it in the middle of the room to hold the projector so it wouldn't be shaking.*" Collectively, Bartholomew, Ranger, Ezekiel, and Peter produce some of the highest and frontest TRAP vowels in the sample.

Finally, many students discuss their schools' quality in terms of crime, especially perceived gang activity, violence, and drug usage. Elaina, for example, a suburban public school student who produces a relatively high TRAP vowel, remarked that "*Our school is filled with,*

like, a lot of people who do drugs and all of that." In contrast, Michelle, a private school student

who produces a low and back TRAP vowel, noted of several nearby neighborhood CPS schools,

"*People say, 'oh, that's a druggie school, that's a gang school, that's um – whatever.' So I think*

yeah there are a lot of assumptions being made and a lot of reputations set for sure," contrasting

this with her own private school, which she views as relatively "*safe.*" Eden, a Catholic school

student whose TRAP vowel falls towards the middle of the range, observed that "*Some of the*

city [public] *schools are – like Addams, everyone is like, 'don't go there,' like, 'I'd rather be sent*

to an all-girls' school than go there.'… I hear a lot of stories about like fights in the hallways

and that kind of thing." Commentary around crime is typically centered on neighborhood CPS

schools or suburban public schools in lower income and more racially diverse areas, though

several Catholic school students also reported that illicit drug usage (and legal usage, such as

vaping) were also common among some students at their own schools.

At a large scale, then, students' TRAP productions appear to be organized according to

judgments about each school's status in terms of indicators such as education quality, school

funding, and crime. And importantly, participants' commentary regarding quality does not

emerge in isolation. Rather, participants make relational comments comparing their schools

against others, or to stereotypes about entire school systems (like Chicago Public Schools). In

this way, students are applying a linguistic resource (raised/fronted versus lowered/backed

TRAP) associated with one social hierarchy, class, to another similar, but not quite equivalent

structure related to school elite-ness. In doing this, TRAP takes on a higher order indexical

meaning. This new social meaning is not divorced from associations between TRAP and class: a

school's resources are, at some level, dependent on the material and social resources available to

the school district (as discussed in Chapter 2). However, that TRAP productions are better

predicted by High School Type than by students' family/neighborhood class backgrounds also suggests that, at least with respect to this vowel, adolescents are orienting around the school quality-based hierarchy as a relevant social dimension to index linguistically. Production differences in TRAP, therefore, reflect students' knowledge of their positionalities within this hierarchy. Indeed, this parallels Eckert's (1989) findings that students community of practice-based variation in productions of NCS vowels at a Michigan high school also echoed class-based associations.

However, even as group-level and more qualitative High School Type differences emerge with respect to TRAP, counter-narratives to the framing of this hierarchical structure are also present in participants' commentary. For example, while most participants framed drug usage as most common at neighborhood CPS schools and less common at wealthy suburban schools, Roman, a Mexican-American suburban public school student not included in this analysis of white students, stated, "*I know for a fact that Eliot*" – the suburban public school described by Ezekiel as being wealthy – "*had a heroin problem a few years back… These kids come from like families that do have more money… And so like they have different problems and then like because they have access to more money, like can find themselves in more costly situations I guess, like drugs.*" Similarly, while many Catholic school students refute the perception of their schools as wealthy – most often by comparing them to private and suburban public schools with nicer campuses or wealthier student bodies – Chloe refuted this interpretation, mentioning that, *"You know when you go to football games and they're always chanting at you? We're the school that gets 'Daddy's money' chanted at them.*" Chloe's TRAP vowel is relatively low compared to other non-elite students and in the middle of the range for vowel backness, perhaps suggesting that she understands the elite associations of her school relative to other Catholic schools.

Like Chloe, Trinity (also a Catholic school student) observed that her school was developing an elite reputation: "*There's so much attention on our school now because of like athletics and like our new campus, like, everybody wants to go to Saint Beatrix now. And it's kind of like, my school is… making everything high achieving now and like trying to make themselves, like make our school super like prestigious like whatever.*" Trinity's TRAP vowel is among the lowest and backest of non-elite students in the sample (and approaches the productions of elite students). Chelsea, a student at Addams, the CPS school mentioned above by Eden as having a reputation for fighting, asserted that "*People sometimes think Addams is like the bad school, you'll like get in fights. But it's like, it's like the bad school on the Northwest Side of Chicago. Like there's fights at Addams and I know there haven't been at like Carson* [a selective enrollment school] *um from what I've heard from some of my friends but like, it's not as bad as you might think.*" In contesting the stereotype of Addams as a "bad school" by noting its location on the Northwest Side, Chelsea is demonstrating an awareness of both her school's status in relation to other more elite schools, as well as her awareness that its geographic location situates it within an area that is relatively whiter and wealthier – and therefore better resourced – than many other Chicago neighborhoods. Chelsea views her school's quality as "*not as bad as you might think,*" and correspondingly produces one of the backest TRAP vowels in the sample (note that Mary, also an Addams student, produces a relatively high and front TRAP vowel).

6.5 Conclusion

As noted in Chapter 2, discourses related to school choice and school quality are prevalent within families and re-circulated by high school students. Not all participants reach consensus regarding the metrics along school types are believed to be "elite" or "high quality," or whether a particular school is "high quality," but most still participate in the construction of an

ideological hierarchy ranking schools in relation to one another along these criteria. In addition to factors like social networks, contact, and pre-existing class-based disparities identified in previous research as contributors to high school choice effects (Dodsworth & Benton 2017; Labov et al. 2016; Sneller 2018; *inter alia*), students actively participate in developing this "elite-ness" hierarchy and locating themselves – via indexical resources like TRAP – within it. During high school, then, adolescents are socialized into an understanding of their social positionalities within a broader eco-system consisting not only of peers at their own schools, but also students at other schools within Chicagoland as a whole.

The commentary discussed above demonstrates that even within schools there is diversity in stances towards education quality, which (as in the examples of Trinity and Chelsea) can be related to TRAP productions. In Chapter 7, I explore how TRAP F2 is recruited by some participants for stance-related purposes when they are attending to their own speech.

Chapter 7. "Like prestigious like whatever": Attention paid to speech and orientation to elite education

7.1 Introduction

In Chapter 6, we observed that variation in the production of TRAP can be used to index a speaker's status along a hierarchy related to school eliteness and perceived education quality. In sociolinguistic studies of social hierarchies such as class (e.g., Labov 1972; Milroy & Milroy 1992; Woolard 1985), participants are often described as orienting around a shared set of linguistic norms. Such studies assume that speakers would uniformly produce more overtly prestigious variants if they had access to the linguistic repertoire and cognitive capacity to do so. However, Rickford (1986) and others have observed that such models make culturally-bound assumptions about the nature of social stratification that are not universal. Even in the context of the United States, speakers sometimes orient towards linguistic features and social meanings that are associated with covert prestige or locally relevant identities (e.g., Labov 1966; Cutler 1999). Given that high school type structures production differences in TRAP at the group level, one question that emerges is whether we observe evidence that participants orient towards shared linguistic norms in relation to this school eliteness hierarchy. In this chapter, I compare spontaneous speech data from sociolinguistic interviews to wordlist data in order to assess style-shifting with greater attention paid to speech. I argue that participants' stances towards elite education structure the directionality of their style shifts.

7.1.1 Style-shifting, attention, and identity

Labov (1966; 1972) viewed intra-speaker stylistic variation, or an individual speaker's use of more than one linguistic style, as a function of attention paid to speech. Under this model, speakers increase their rates of production of overtly prestigious linguistic features as they

increase their attention to speech. Labov operationalized "attention" through the use of reading tasks, such as reading passages or word lists, which he hypothesized to direct comparatively more attention to speech than less self-conscious tasks like spontaneous speech in an interview context.

Labov's model has been criticized for focusing exclusively on one particular contributor to stylistic variation (attention) and one dimension of style-shifting (a standard-nonstandard scale; e.g., Meyerhoff et al. 2021; Schilling-Estes 1998; Schilling 2013). Whereas Labov viewed stylistic variation as a function of attention, other approaches to stylistic variation have highlighted the social meaning associations of the variants and styles in question (e.g., Coupland 2007; Eckert 2008a; Irvine 2009; Kiesling 1998; Schilling 2013; *inter alia*). These models view stylistic variation as meaningful for interactional and identity purposes. For example, Irvine (2009) proposes that styles are primarily used to index relevant social distinctions, and Eckert (2008) argues that styles allow individual linguistic features to take on social meanings when they are combined with other features.

Though the studies listed above primarily focus on stylistic variation in relatively unmonitored speech, other work has argued that stylistic variation can be identity-driven even in highly monitored contexts. Under the attention-paid-to-speech model, reading styles are assumed to elicit a speaker's most "formal" or "standard" linguistic style, with speakers across a community orienting towards a shared prestigious norm (Labov 1972). But self-conscious styles can also be sites for the performance of stigmatized features that are tied to identity (Gafter 2016; Schilling-Estes 1998) or movement in the direction of a change in progress, even in cases of change from below the level of consciousness (i.e., increasing rates of a feature that is not overtly prestigious; Stuart-Smith et al. 2013). These productions of overtly stigmatized features

in self-conscious styles are examples of hyper-vernacularization (Cutillas-Espinosa et al. 2010), in which speakers produce "non-standard" or stigmatized features in ways that do not align with their social positions. For example, Schilling-Estes (1998) observed a resident of Ocracoke Island producing more traditional, place-linked features in performance registers than in spontaneous speech. She argued that these performance styles are reflective of the speaker's awareness of salient local features and desire to project a local identity. Gafter (2016) similarly argued that reading styles can hold different social statuses in different cultural contexts and are not necessarily associated with a uniform expectation for more "prestigious" features. He observed that Mizrahi Israeli participants produced more pharyngeals (stigmatized features tied to Mizrahi identity) in a word list when compared to spontaneous speech. Gafter contended that while pharyngeal consonants are generally stigmatized in Hebrew, reading is itself a culturally significant activity for these speakers. In particular, an association between reading and Mizrahi identity vis-à-vis ideologies about the "correct" pronunciation of Biblical Hebrew leads to an increased use of pharyngeals in reading styles, even by speakers who do not produce them in spontaneous speech. Stuart-Smith et al. (2013), meanwhile, found that adolescents in Glasgow, Scotland, produced [f] for [θ] at greater rates in the wordlist than in spontaneous speech. This is a stigmatized feature, but Stuart Smith et al. argue that due to its status as an in-progress change from below, adolescents produce it for identity purposes, even in a self-conscious style like a wordlist.

7.1.2 Stance and indexicality

In this chapter, I consider how participants' stances towards the relevant social hierarchy (in this case, school eliteness) impacts their production of TRAP in a wordlist context. Speakers take stances when they display their attitudes or orientations towards a referent in the discourse

(a "stance object"; Kiesling 2022). Though studies of stance often focus on evidentiality or epistemic stance, other work has considered how affective stance – or a speaker's attitudes, affect, or mood in relation to a stance object – relates to the indexical meanings of linguistic features (e.g., Ochs 1992; Pratt 2020). As similar stances are taken across contexts and interactions, they build up to more robust facets of identity (Jaffe 2009). This process of stance accretion (Bucholtz & Hall 2005) therefore allows stances – which are conveyed linguistically and emerge in local-level, interactional moments – to index broader social meanings. While much work on stance has highlighted the potential for discourse-pragmatic features like discourse markers, hedges, or lexical items to convey stances (Kiesling 2022), other work has highlighted how stance-taking can co-occur with phonetic variables, thereby allowing those variables to themselves index the characteristics associated with these stances (Holmes-Elliott & Levon 2017; Mendoza-Denton 2011; Pratt 2020). For example, in a study of gang-affiliated Chicana girls in California, Mendoza-Denton (2011) finds that because creaky phonation types frequently co-occur with the discourse markers and other stance-taking features that the girls use to index toughness, creak itself has become a "semiotic hitchhiker," taking on these same indexical links.

Participants from elite schools produce backer and lower TRAP vowels overall in spontaneous speech (Chapter 6). In this chapter, I compare participants' spontaneous speech productions to their wordlist productions. First, I compare participants at the aggregate level (by school type), finding an overall interaction for TRAP F2 in which students at elite schools, in the aggregate, produce fronter TRAP vowels in the wordlist whereas students at non-elite and suburban schools produce backer TRAP vowels in this context. Next, I explore this pattern at the individual speaker level. I find that this interaction is driven by students who take stances

affiliating in opposition to their schools' elite statuses also distance themselves from the linguistic markers of elite schools in contexts that elicit more attention to their speech.

7.2 Methods

7.2.1 Procedure

Following participation in a sociolinguistic interview (see Chapters 5-6), each participant was asked to read an 84-item wordlist (Appendix D). The wordlist included 6-7 tokens per vowel class of interest (TRAP, LOT, THOUGHT, DRESS, KIT, STRUT, BAN, GOOSE, and GOAT). Vowels of interest were positioned between stops, fricatives, or preceding nasals (for BAN, all tokens were followed by a bilabial or alveolar nasal by definition). Several filler items were also included; these were words that are widely known to have multiple possible pronunciations, such as *caramel* and *aunt*. As in the sociolinguistic interviews, participants' audio was recorded using Zencastr while they simultaneously had a muted Zoom window open. The wordlist was presented to participants using the screen share function in Zoom. Participants were informed that they were being asked to read "a list of words that can be pronounced differently in different parts of the country" and that I was not interested in correctness per se but rather in how they personally pronounced each word. Participants were told to read each word out loud at a pace that felt comfortable to them.

7.2.2 Participants

The 31 white participants in the sample (also discussed in Chapter 6) were included in the present analysis.

7.2.3 Acoustic Analysis

The vowel classes of interest for this study were the six Northern Cities Shift implicated classes (TRAP, LOT, THOUGHT, STRUT, DRESS, and KIT), pre-nasal BAN, and GOOSE and GOAT. Following the procedure described in Chapter 5, up to 30 tokens per vowel class were extracted from the spontaneous speech portion of each participant's interview and normalized in R using the Lobanov method (Lobanov 1971; these were the same tokens used in the analysis in Chapters 5 and 6). From this initial set, tokens in phonological environments not included in the wordlist (specifically, word-initial, word-final, and post-/l/ tokens) were excluded. The statistical analysis discussed below compares these interview tokens to tokens produced in the wordlist. As spontaneous speech is known to lead to greater vowel reduction compared to read speech (Bergem & Koopmans-van Beinum 1989), all tokens shorter in duration than each speaker's median duration for a given vowel class were excluded. This was done under the assumption that tokens with longer vowel durations were more likely to include vowels which had reached the speaker's intended phonetic target, in order to reduce the potential effects of "clear speech" (i.e., greater articulatory effort) in the wordlist tokens. This additionally leads to more similar token counts across interview and wordlist contexts, resulting in approximately 6-7 wordlist tokens and 10-15 interview tokens per speaker per vowel class, in similar phonological environments to one another.

In the wordlist, all potential tokens for each vowel class were extracted. As with the spontaneous speech data, vowel boundaries were hand-corrected in Praat (Boersma & Weenink 2016). An additional Praat script was used to measure the midpoint F1 and F2 of each token. Outliers (tokens that fell beyond two standard deviations of that speaker's mean for that vowel class) were re-measured manually in Praat. Tokens were then Lobanov-normalized in R.

Linear mixed-effects regression models were fit to Lobanov-normalized midpoint F1 and F2 of each vowel class. The fixed effects of interest included style (interview v. wordlist) and high school type (elite v. non-elite v. suburban public). Speaker gender, preceding segment place (labial v. coronal v. dorsal v. glottal) and manner (lateral v. nasal v. oral) of articulation, log duration of token, and recording device (Mac Laptop v. PC laptop v. Lenovo laptop v. iPad) were included as control fixed effects. Speaker and word were included as random intercepts. Interactions were tested between fixed effects but dropped from the final models if they were not significant and did not improve model fit. A post-hoc Tukey HSD test was used to assess the three-way School Type distinction, as well as interactions between High School Type and other fixed effects when they emerged as significant in the models.

In social evaluations (Chapter 4), Northern Cities Shifted TRAP and LOT are evaluated as sounding lower in socioeconomic status. On this basis, a Labovian model would predict that participants would produce lower/backer TRAP and backer/higher LOT (i.e., more reversed) vowels in the wordlist compared to their spontaneous speech. This is because the "attention-paid-to-speech" model assumes that participants orient towards more overtly prestigious features in more highly attentive contexts. In addition, since elite school students produce lower and backer TRAP vowels and higher LOT vowels than non-elite students, and backer TRAP vowels than suburban students, we might expect school type to mediate wordlist productions as well.

7.3 Results

7.3.1 Group level results

Table 7.1 reports the coefficients for the main effects of Style on each formant and Figure 7.1 depicts these effects graphically. Full model outputs for the TRAP vowel, including main effects of High School Type and Gender over and above the effects of style are included in Appendix E.

Figure 7.1 Mean productions by vowel class and style (interview = darker text, wordlist = lighter

text)

Table 7.1. Model coefficients by vowel, formant, and style (wordlist v. interview) with normalized formant as the dependent variable (asterisks indicate p-values: *=p<0.05, **=p<0.01, ***=p<0.001).

Vowel Class	Formant	Style (=wordlist)
TRAP	F1	-0.131
(N=567)	F2	0.070
LOT	F1	0.220*
(N=457)	F2	0.004
DRESS	F1	-0.016
(N=611)	F2	-0.033
THOUGHT	F1	-0.253*
(N=334)	F2	0.049
KIT	F1	-0.098*
(N=588)	F2	0.127*
STRUT	F1	-0.201*
(N=596)	F2	0.167
GOOSE	F1	-0.002
(N=462)	F2	-0.027
GOAT	F1	-0.280***
(N=633)	F2	0.038
BAN	F1	-0.112
(N=333)	F2	-0.157**

As shown in Table 7.1, we observe significant main effects by vowel class for LOT F1 (wordlist higher), THOUGHT F1 (wordlist higher), KIT F1 (wordlist lower) and F2 (wordlist backer), STRUT F1 (wordlist lower), GOAT F1 (wordlist higher), and BAN F2 (wordlist backer). These higher LOT vowels are consistent with an interpretation of less Northern Cities-shifted vowel spaces in the wordlist context, which might be expected in a situation in which more Northern Cities-shifted LOT vowels are stigmatized because they are evaluated as sounding lower in SES, as was demonstrated in this sample (Chapter 4). However, lower STRUT and KIT vowels in the wordlist reflect *more* Northern Cities-shifted vowel spaces. Furthermore, at the group level, there was no significant main effect of style for TRAP.

Rather, a significant interaction between style and school type emerged for TRAP F2, such that students at elite schools produce significantly backer TRAP vowels than students at suburban and non-elite elite schools in the interview context (as demonstrated in Chapter 6), but this difference disappears in the wordlist context. For all other formants, this interaction was not significant and did not improve model fit and was dropped from these models. For TRAP F2, this interaction involved a three-way pairwise comparison between high school types. The results of the post-hoc Tukey HSD test are reported in Table 7.2. Figure 7.2 shows mean TRAP vowel productions by school type and style.

Figure 7.2. Mean TRAP productions by school type (label) and style (interview = darker text, wordlist = lighter text)
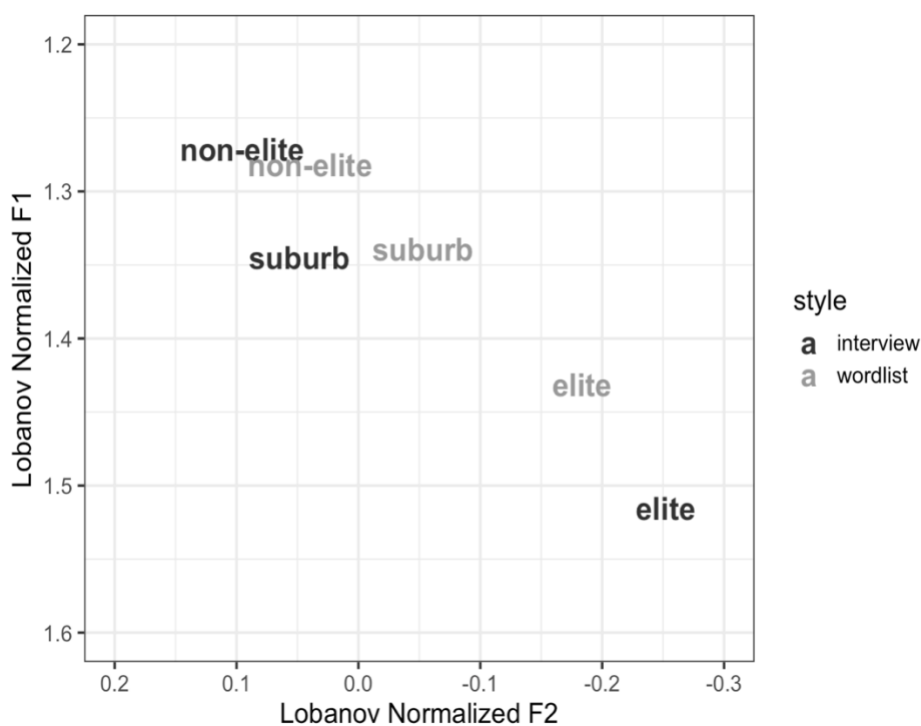
Table 7.2. Model output for Tukey HSD test, TRAP F2 (asterisks indicate adjusted p-values: *=p<0.05, **=p<0.01, ***=p<0.001).

Style	Contrast	Estimate	Se	Df	T-ratio	Adjusted p-value
Interview	Elite v. Non-elite	-0.313	0.0785	53.2	-3.990	0.0006***
	Elite v. Suburban	-0.311	0.0798	57.1	-3.893	0.0008***
	Non-elite v. Suburban	0.00253	0.0815	53.8	0.031	0.9995
Wordlist	Elite v. Non-elite	-0.189	0.0830	71.2	-2.274	0.0660
	Elite v. Suburban	-0.146	0.0836	73.2	-1.746	0.1952
	Non-elite v. Suburban	-0.043	0.0849	67.0	0.504	0.8698

Overall, as shown in Chapter 6, elite students produce backer (and lower) TRAP vowels than both non-elite and suburban students. Despite their overall fronter TRAP vowels, non-elite and suburban students alike produce backer (less Northern Cities-shifted) TRAP vowels in the wordlist context compared to their interview speech. As with the trend of LOT raising in the wordlist observed in the overall sample (Figure 7.1, Table 7.1), this is consistent with the predictions of a Labovian model wherein speakers are motivated to avoid the stigmatized class- or eliteness-based associations of a fronted TRAP vowel (Chapter 4, Chapter 6) and therefore style-shift in that direction in a context directing greater attention to speech (Labov 1972). However, unlike Labov's predictions wherein entire speech communities orient around shared norms, elite students in this sample produce fronter (more Northern Cities-shifted) TRAP vowels in the wordlist compared to their interview speech, opposite the pattern observed among non-elite and suburban students,. Elite students also produce qualitatively higher (again, more

Northern Cities-shifted) TRAP vowels in the wordlist context, though the interaction for the F1 dimension emerged as only marginally significant (Appendix E). For this reason, the remainder of this chapter focuses exclusively on TRAP F2. To elucidate the factors driving the pattern observed at the group level, where elite students style-shift in the opposite direction as students attending other high school types, the next section explores the production patterns of individual speakers in relation to a qualitative analysis of stances towards school elite-ness.

7.3.2 Individual speaker results

Figures 7.3-7.5 show the difference in TRAP F2 productions within each school type by speaker and context. In each plot, participants who produced the backest TRAP vowels in the sample (across both contexts) are at the top and those with the frontest vowels are at the bottom.

While suburban students vary in their absolute TRAP F2 values, several participants (Leah, Elaina, Allie, Peter) demonstrate relatively backed wordlist productions relative to their interview productions. Others demonstrate little difference between their productions across contexts (absolute differences of less than 0.1 units in Lobanov-normalized space), with some producing slightly backer productions in the wordlist (Ava, Brandon) and others producing slightly backer productions in the interview (Elyse, Piper, Audrey). Overall, these students either show little difference in productions across contexts or demonstrate the pattern of producing backer TRAP in the wordlist, as observed at the aggregate level and predicted in the Labovian model of attention paid to speech.

Figure 7.3. Suburban public school students' mean productions of TRAP F2 in wordlist (lighter text) and interview (darker text) styles
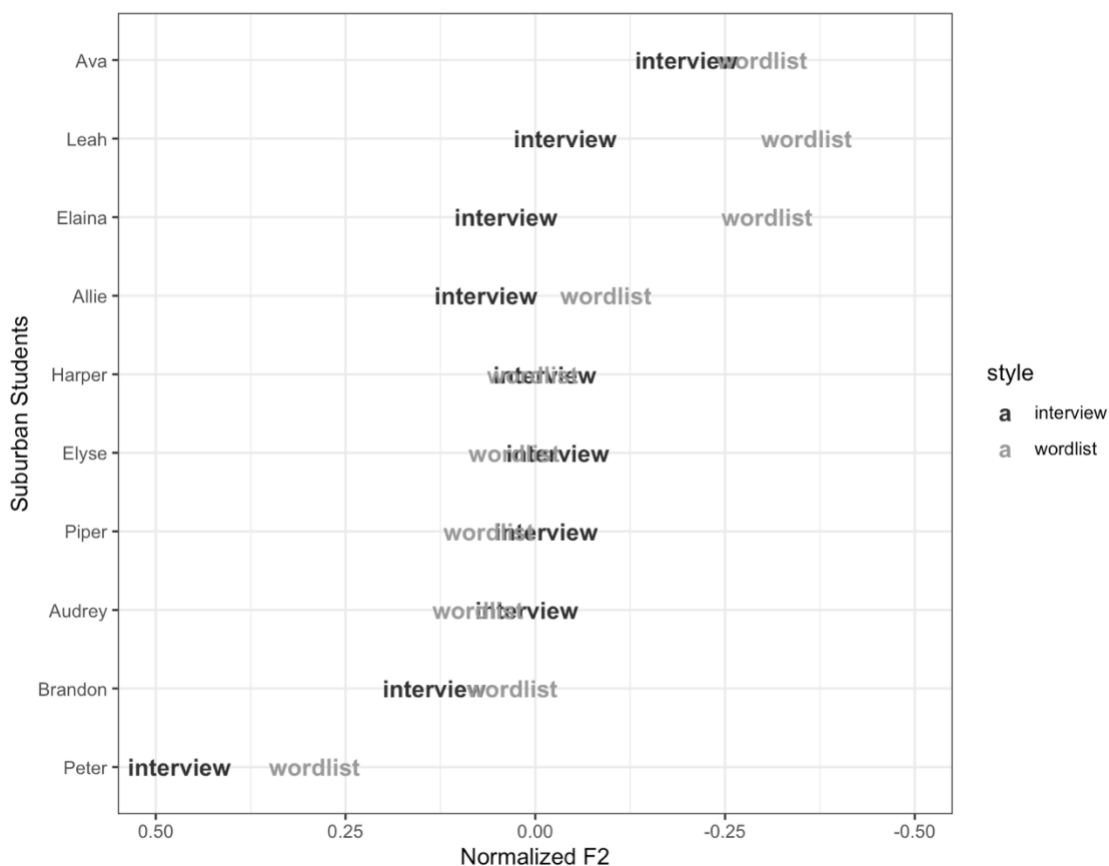
Non-elite students largely demonstrate the same pattern (Figure 7.4): several students produce backer TRAP vowels in the wordlist (Kendall, Mackenzie, Kylie), while others show little style-shifting (Chelsea, Eden, Mary, Ezekiel, and others). However, we also observe two students producing a different pattern: both Trinity and Chloe produce *fronter* TRAP vowels in the wordlist context compared to their interviews. Indeed, Trinity's style-shifting moves her TRAP vowel from one of the backest in the sample in the interview context (second only to Chelsea, whose backed TRAP production was discussed in Chapter 6) to one of the *frontest* in the wordlist.

Figure 7.4. Non-elite students' mean productions of TRAP F2 in wordlist (lighter text) and

interview (darker text) styles
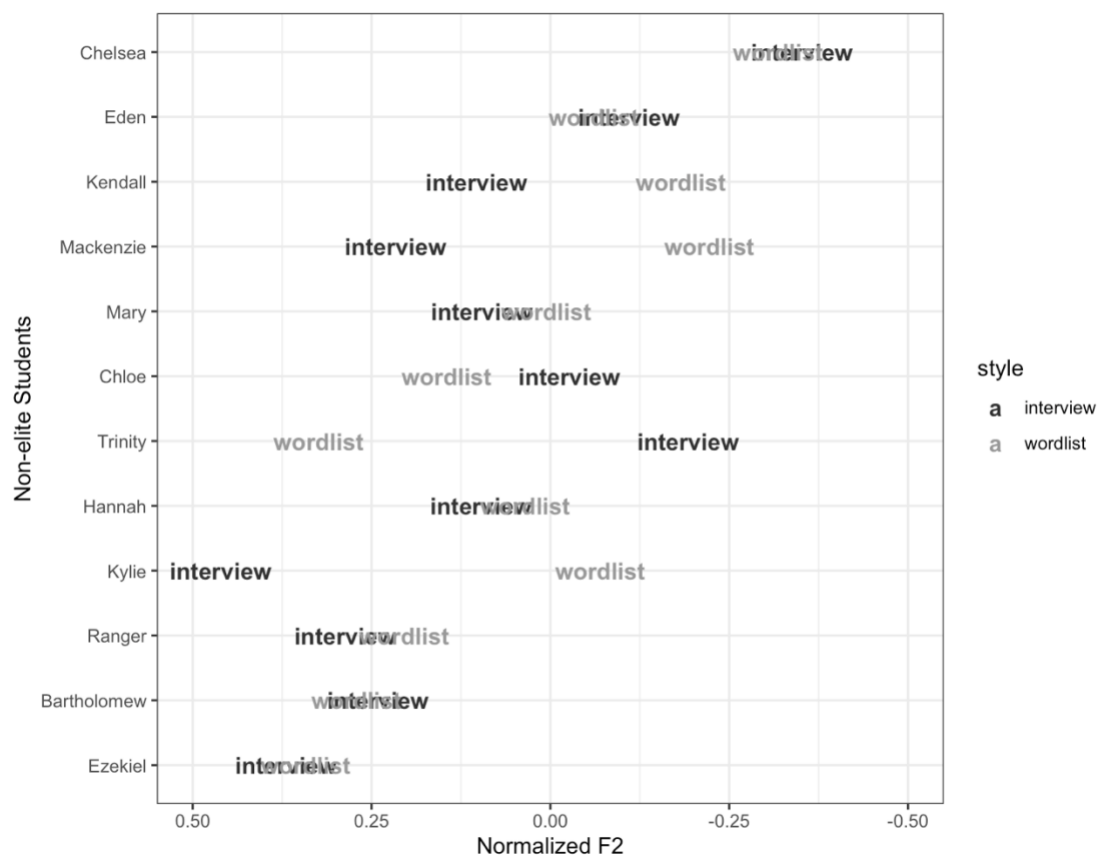
Non-elite students largely demonstrate the same pattern: several students produce backer TRAP

vowels in the wordlist (Kendall, Mackenzie, Kylie), while others show little style-shifting

(Chelsea, Eden, Mary, Ezekiel, and others). However, we also observe two students producing a

different pattern: both Trinity and Chloe produce *fronter* TRAP vowels in the wordlist context

compared to their interviews. Indeed, Trinity's style-shifting moves her TRAP vowel from one

of the backest in the sample in the interview context (second only to Chelsea, whose backed

TRAP production was discussed in Chapter 6) to one of the *frontest* in the wordlist.

Figure 7.5. Elite students' mean productions of TRAP F2 in wordlist (lighter text) and interview (darker text) styles
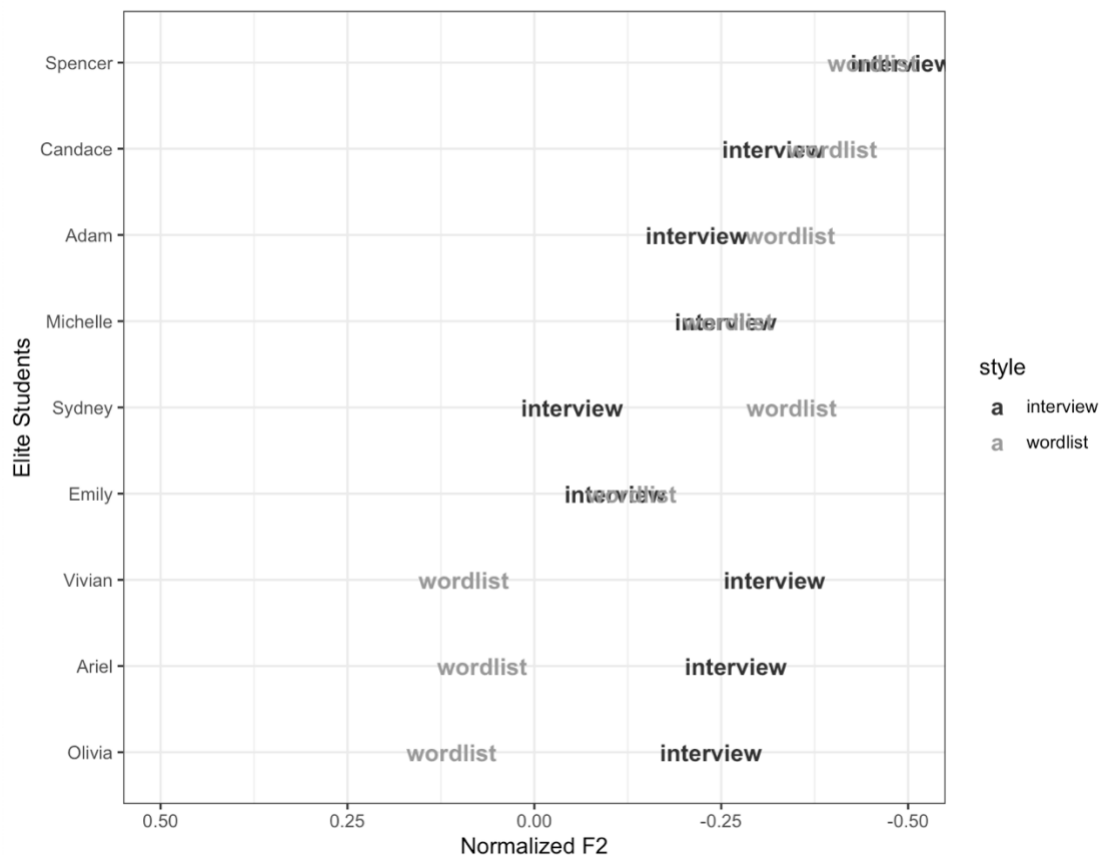
While several elite students show little style-shifting in TRAP F2 across contexts (Spencer, Candace, Michelle) or backer wordlist productions compared to their interviews (Sydney), three elite students (Vivian, Ariel, and Olivia) show markedly backer interview tokens compared to their wordlist productions. These three participants are driving the overall interaction of school type and style for TRAP F2 (Table 7.2, Figure 7.2).

In Chapter 6, I argued that backed TRAP is an index of school elite-ness. While much of the discourse surrounding school quality revolves around financial disparities across school types or perceptions of criminal activity (such as gang involvement or illicit drug use) at non-elite schools, commentary about elite schools regards them as high quality because of their academic

rigor (availability of advanced classes, high-achieving students, etc.), ability to provide

opportunities that are not available in other school types, and emphasis on student mental health.

However, while elite students generally agree that these characteristics apply to their

schools, their stances towards them vary. In discussing academic rigor, for example, Adam, who

attends a selective enrollment high school and produces a slightly backer TRAP in the wordlist,

states that "*everyone's definitely like competitive with each other um like with test scores and*

everything which I mean I personally like. That's why I like selective enrollment, I'm a

competitive person." In contrast, Vivian, who produces a fronter TRAP vowel in the wordlist,

describes competitiveness over test scores as a negative quality of her school. In discussing

drawbacks of selective enrollment schools, she said, "*Just like the competitiveness, the grades,*

the test scores and just everything, and the way that people put themselves down if they don't

achieve what other people are achieving." Elsewhere in her interview, Vivian noted that the

pressure to take rigorous classes could lead to stigmatization of students who did not excel

academically, adding, "*I think the competitiveness, or just like the view of people who take*

different classes. I think that some people are looked down upon for not taking as many APs or

not challenging themselves as much um but I think that that's the route that they wanna go…

They shouldn't be looked down upon just because of their priorities." While Adam views

academic competitiveness positively, Vivian expresses a more negative stance.

Similar differences in stance emerge in discussions of school responses to mental health:

for example, in discussing the shift to Zoom classes during the Covid-19 pandemic, Candace,

who produces similarly backed TRAP vowels in both the interview and the wordlist, observed

that at her selective enrollment school, "*a lot of teachers have been a lot more flexible and like*

have been focusing more on like student bonding, which I think is something you don't always

get in a normal classroom, so I think there have been some like definite advantages to being online this year." Ariel, meanwhile, who produced a fronter TRAP vowel in the wordlist, noted a similar shift in which her school administration responded to the pandemic by emphasizing the importance of mental health, but added, "*They preach about mental health but in such a rigorous school they are not necessarily active in advocating properly to all the students in an accessible way*." Ariel's negative assessment of her school's ability to attend to mental health correlates with a fronter wordlist TRAP vowel, opposite the expected style-shifting pattern and opposite the productions of most elite school students.

Finally, differences in stances emerge in attitudes towards the ability for elite schools to provide opportunities to students that are not available to students at other types of schools. Michelle, who attends a private school, views these opportunities as character-building: "*We are finding out about ourselves and the world around us that we live in, like with exchange opportunities and um everything so we're really building character… we're discovering ourselves*." Olivia, meanwhile, who also attends a private school, expresses worry that these opportunities perpetuate the stereotype that students at her school are privileged and "stuck up," noting that private schools "*are kind of similar with those stereotypes surrounding them so just like, very privileged… But thinking we're all like stuck up or something like that is, like, false. Like a lot of us are still very kind and considerate*." Olivia contests the assumption that private school students are "stuck up," but again a distinction emerges between viewing the access to opportunities that private schools provide as character-building (per Michelle, who does not style-shift for TRAP F2) or as ideologically linked with negative characteristics (Olivia, who produces a fronter TRAP vowel in the wordlist).

Among elite students, then, those who produce fronter TRAP vowels in the wordlist also take stances opposing their schools' achievement and status-focused cultures. In contrast, students who produce backer tokens in the wordlist or do not style shift discuss these qualities associated with elite schools in neutral or positive terms. Overall, this suggests that students who affiliate in opposition to their schools' elite status also distance themselves from the linguistic markers of elite schools when they are attending to their speech in a wordlist context.

But while this pattern – elite students producing fronter TRAP vowels in the wordlist – appears to be driving the significant interaction between style and school type, it is not produced exclusively by students at elite schools. As noted above (Figure 7.4), two students at non-elite schools, Chloe and Trinity, who both attend Catholic schools, also produce fronter TRAP vowels in the wordlist. Chloe's stance towards these markers of elite-ness is somewhat difficult to determine. Like Olivia, she acknowledges that attending a private (albeit Catholic) school has led to a stereotype that students are well-off: "*We're the school that gets 'daddy's money' chanted at them… It's just like, 'oh, it's the rich preppy St. Edward kids.' Like our warm-ups for lacrosse were Patagonia so then we would go to a school like on the South Side and it was just like 'oh here they come.'*" Like Olivia, she also notes that this perceived financial privilege confers negative associations on students at her school, particularly that they are "*snooty.*" But whereas Olivia contests this framing ("*thinking we're all like stuck up… is like false*"), Chloe takes a more tempered approach: "*As far as them being like snooty, I think it's just like any school. Like there's always gonna be ones that are snooty, there's gonna be humble ones, there's gonna be people who are there on scholarship… But I think like it was like a higher tuition school so I think that's why we got a bad rap.*" Elsewhere, she also criticizes her school's lack of diversity: "*I think we had one African American kid in my whole class and he didn't come until like my*

junior year… St. Edward can say it's diverse because we have a bunch of foreign exchange students… but if you go off like people who are from the area… it's all the same demographic." This critique about her school's lack of diversity is common among many students at Catholic and non-Catholic private schools (see Chapter 2), even among those who do not demonstrate this style-shifting pattern. Beyond this, however, Chloe does not take strong stances opposing her school's academic rigor, even acknowledging at one point that "*academically they set me up really well*," though she does not discuss a particularly high-achieving or competitive academic culture.

Turning to the other Catholic school student who demonstrates the pattern of producing a fronter TRAP vowel in the wordlist, Trinity, stances opposing markers of school elite-ness are much more apparent. Trinity discusses her school's shift to positioning itself as a more elite institution over time: "*Our school, it's like getting a little prestigious at this point. It's kind of annoying because they – there's so much attention on our school now because of like athletics and like the new campus like everybody wants to go to St. Beatrix now and it's kind of like, my school is like, St. Beatrix is making everything very high achieving now and like trying to make our school super like – like prestigious like whatever. And it's very annoying because it's like they're kind of forgetting about the students that are – not the students that are like trying to get into St. Beatrix but the students that are already here. Like it's very difficult and stressful on the people who like maybe didn't expect this to happen, like me.*" With this stance, Trinity affiliates in strong opposition to her school's new elite status. And much like the students at elite schools who hold stances opposing these markers of elite-ness, Trinity also produces a fronter TRAP vowel in the wordlist compared to her interview speech, opposite the expected pattern under the Labovian model.

Trinity's discussion of her school's new elite status also highlights that this focus on "*making everything very high achieving*" is a new development, and this development, in turn, provides the school-based characteristics that she can orient away from with a fronted TRAP vowel. In light of this, it is perhaps easier to understand why Chloe might exhibit this pattern despite not directly (at least in her interview) demonstrating stances that oppose elite-ness: Chloe's school (St. Edward) does not portray itself as especially focused on academic achievement. For example, in the school's mission statement, there are just four references to academics (two references to the school's status as a "college preparatory" school, one to "intellectual curiosity," and one to "academic excellence") compared to sixteen references to religion or faith. In contrast, Trinity's school, St. Beatrix, lists "excellence" as a core value in its mission statement, which includes seven references to academics and nine to religion. St. Beatrix's website section on "Academics" includes links to separate pages for its International Baccalaureate program, dual-degree program with a local university, and a list of "student [academic] achievements," whereas St. Edward mentions the existence of honors classes but links only to web pages related to class schedules and contact information for teachers. While it is not clear exactly why Chloe demonstrates this wordlist TRAP-fronting pattern absent the opposition-to-eliteness stances that accompany the pattern for other students, it is perhaps understandable that she does not hold these stances when her school does not necessarily embody the qualities that are presupposed by elite-ness. This also potentially explains why we do *not* see this pattern among other students at non-elite or suburban schools: these schools do not define themselves in terms of academic rigor or the provision of unique opportunities and, consequently, stances opposing these qualities are less common among these students.

Overall, then, while most participants either show little difference in their TRAP F2 productions between the interview and wordlist contexts or produce backer TRAP vowels in the wordlist, a sizeable minority of students – primarily from elite schools, but also some non-elite schools – produce fronter TRAP vowels in the wordlist context, and this pattern is, perhaps, driven by differences in stance towards elite schools.

7.4 Discussion and Conclusion

7.4.1 Stance towards characteristics of elite schools and style-shifting

These results demonstrate that stance can drive the directionality of style-shifting in wordlist contexts. At the aggregate level, this pattern appears to be driven by school type. However, examining individual speakers reveals that the students who produce fronter TRAP vowels in the wordlist are specifically those students who take stances opposing the characteristics that define their schools as elite who produce fronter TRAP vowels in the wordlist. We observe more of these students at elite schools than at other school types precisely because these schools hold the qualities against which fronted TRAP indexes opposition. Additionally, this pattern also potentially arises because students from elite schools already produce relatively backed TRAP vowels and therefore have room in the vowel space to produce fronter TRAP.

At the same time, however, fronted TRAP is indexically linked with lower-status positions in social hierarchies in Chicagoland, including lower socioeconomic status (Chapter 4) and attendance at less prestigious schools (Chapter 6). As discussed earlier, this pattern is somewhat surprising given a Labovian (1972) account in which speakers uniformly shift towards more overtly prestigious variants. However, other work has demonstrated that speakers don't always orient towards the most prestigious variants, even in formal contexts, as in cases where

these variables are linked to identity (Eckert 2008; Gafter 2016) or in cases of hyper-vernacularization (Cutillas-Espinosa et al. 2010). Interestingly, however, in this study, a stance-based difference emerged *only* in the wordlist data. In the next section, I consider why participants who orient away from the linguistic indices of elite schools in the wordlist do not demonstrate this pattern in their spontaneous speech.

7.4.2 Identity-linked variants and reading styles

Self-conscious styles can be sites for the performance of identity-linked features that are not necessarily produced in less-monitored styles (e.g., Gafter 2016). One possibility is that this pattern is related to the role of attention itself. It is possible that for some linguistic variables, including TRAP, attention might enable speakers to use linguistic resources for identity-related purposes. For example, Labov (1972) observed that some middle class speakers displayed a pattern of hyper-correction when attending to speech, such that they outperformed even the highest socioeconomic status speakers on their use of overtly prestigious features. While Labov interprets these participants as orienting towards a "standard" norm that is inaccessible to them without increased attention to speech (else we might expect these speakers to produce more prestigious features across contexts), attention might also enable the strategic production of stigmatized features for identity-related purposes, as observed here.

In addition to the role of attention, researchers have also proposed that the activity of reading aloud is a culturally-situated practice (Gafter 2016, 2020; Meyerhoff et al. 2021). In a U.S. English context, reading styles are formal contexts promoting the use of prescriptively "correct" linguistic forms which index high socioeconomic status and education levels (Labov 1972, *inter alia*). And indeed, fronted TRAP is associated with lower SES and less prestigious school types in Chicago (McCarthy 2011; D'Onofrio & Benheim 2020; Chapter 4; Chapter 6),

which might make this feature available for style-shifting specifically in more formal – or more school-like – contexts.

Anecdotally, several participants did explicitly link the wordlist to schooling and prescriptive "correctness." For example, when the task was introduced, Ranger noted that "*This looks like a spelling bee word list.*" After completing the wordlist, Piper commented that "*I'm very much a read it how it looks like it would be pronounced [person] but with 'caramel' [karməl] it just isn't cause there's an extra A.*" One possibility is that to these participants, the wordlist symbolizes a particularly academic context, thereby rendering stances related to school more salient.

Finally, highly monitored styles might also enable speakers to more readily index stances and identities more generally. In Stuart Smith et al.'s (2013) study of adolescents in Glasgow, for example, they note that their participants' "readings had an air of performance… with some laughing and commenting on the words, and others rattling through the list" (513). Stuart-Smith et al. (2013) propose that their unexpected finding, in which participants produced more non-standard features in the wordlist compared to interviews, is the result of these performances. Though the participants in the present study did generally take the task seriously, it is possible that highly attentive tasks like reading a wordlist allow adolescents – and speakers more generally – to treat their speech as a performance, which might enable them to recruit linguistic features to perform identities or stances that they might not index in their less monitored speech. In other words, I tentatively suggest here that attention paid to speech might allow these participants to index their opposition to the school eliteness-based hierarchy because of the wordlist style's connections to school-based contexts, in ways that they do not or cannot when speaking spontaneously.

Chapter 8. Conclusion

8.1 Introduction

Sound changes that unfold across large geographic areas are instances of macro-scale linguistic change. They are often conceived of as a consequence of social meanings related to broad demographic categories, like place or class affiliation. For example, reversals of regional sound changes have often been attributed to local residents' extra-local orientations, sometimes as a result of socioeconomic pressures (Wagner et al. 2016; Nesbitt 2018) or contact with incoming residents from other dialect regions (Dodsworth & Kohn 2012). But the linguistic variants involved in these sound changes can be used to index an individual's social position relative to other community members at a more micro-level, based on the social meanings that they take on in local communities of practice (Eckert 1989) and interactions (Bucholtz & Hall 2005). This micro-scale indexicality, however, relies on an understanding of the social meanings of these features in the wider community. As adolescents move towards adulthood, they take up positions along relevant social hierarchies and index these in part through their linguistic productions.

This dissertation aimed to explore the relationship between these two levels of sociolinguistic meaning through the lens of Chicago area adolescents' perception and production of the vowels involved in the Northern Cities Shift. In meta-linguistic commentary and perceptual dialectology tasks, these adolescents balance social meanings describing the Midwest as being "standard" or "normative" with respect to language, with competing ideologies associating Chicago – and urbanity more generally – with marked ways of speaking. Even within Chicago, ideologies linking language to geographic space recursively (Irvine & Gal 2000) contrast the relatively whiter and less linguistically marked North Side with the ideologically

marked South Side, where competing ideologies associate these spaces variably with Black speakers and speech styles (including AAE) or white speakers and the "Chicago accent." As a discursive object, the "Chicago accent" comes to stand for Northern Cities shifted TRAP and LOT vowels and is connected in meta-linguistic commentary with working class, white or white ethnic speakers on the city's South Side. Meanwhile, in a matched guise task, social evaluations of more or less Northern Cities Shifted vowels demonstrate that these vowels lead a speaker to sound older and lower in socioeconomic status. These associations mirror adults' meta-linguistic commentary and production patterns in relation to these features (D'Onofrio & Benheim 2020; D'Onofrio et al. 2020; Benheim & D'Onofrio 2023; McCarthy 2011), suggesting that adolescents are attuned to the pre-existing social meanings these features hold in the broader speech community.

Despite the association between NCS vowels and socioeconomic status on the side of the listener, white adolescents' class backgrounds were weaker predictors of their productions of these vowels than were the types of high schools they attended. High school choice is a salient process in Chicago, as in many urban areas, with high schools guiding families' residential decisions (Sander 2015; Ben-Porath & Johanek 2019) and adolescents' interactions with one another. Whether students attended an elite, non-elite, or suburban high school significantly predicted variation in TRAP and LOT, such that elite high school students produced lower TRAP and higher LOT vowels than non-elite students and backer TRAP vowels than both non-elite and suburban public school students; that is, they produced less Northern Cities-shifted variants of these vowels. Further pointing to the ability for these vowels to index high school type, those elite high school students who took stances opposing the qualities that make their schools "elite" produced fronter (more Northern Cities-shifted) TRAP vowels when attending to

their speech in a wordlist task, perhaps to index a distinction from the typical backed-TRAP productions of elite school students.

In this chapter, I consider the implications of these findings for understandings of the role of institutions in structuring the relationship between macro- and micro-level sociolinguistic variation, as well as in guiding how individuals recruit semiotic resources like linguistic features to index locally relevant social positions.

8.2 Education as social capital

Education type is significant to individuals and can be indexed through differential production of place-linked linguistic features (Prichard 2016; Duncan 2020). Previous research on high school choice in sociolinguistics has emphasized the role of schools as institutions which lead to racialized and classed segregation (Sneller 2018; Carmichael 2014), as sites of social affiliation or markers of identity, even into adulthood (Duncan 2020), and as nodes connecting speakers in social network models (Dodsworth & Benton 2017). Whereas classic sociolinguistic studies have considered total educational attainment as a factor in assessing socioeconomic status (e.g., Labov 1963; Labov 1972), more contemporary work has suggested that in a world where progressively more individuals complete some form of higher education, it is no longer total educational attainment but rather the type of institution one attended which guides linguistic production (Prichard 2016), and, possibly, self-perceptions of social status. Indeed, in this dissertation, all but one participant planned to attend a four-year university immediately following high school (the other expected to attend trade school), yet school type-based distinctions remained.

A long tradition in sociology has viewed schools as a means through which cultural capital is reproduced (Bourdieu 1991; Jack 2019; *inter alia*). Education researchers have also

operationalized education as a "positional good," one in which an allegedly higher quality education leads individuals to accrue greater social and economic benefits relative to those who attained allegedly lower quality educations (Ben-Porath & Johanek 2019). My findings demonstrate that adolescents are attuned to the social capital inherent in having attended an elite school and reflect this in their differential productions of TRAP and LOT. In doing so, they have adopted a set of features associated with one social hierarchy (class) and applied them to a different, more locally-relevant hierarchy (school type), thereby leading these features to take on social meanings at a higher indexical order (Silverstein 2003; Eckert 2008a). I leave open the possibility that these students also believe that attending an elite school will propel them into a high socioeconomic status in the future, and therefore see these indexical meanings as related (similar, for example, to Eckert's school-oriented "jocks" whose vocalic productions mapped onto middle class status; 1989, 2000).

However, these findings also suggest that students are not simply reflecting published school rankings or adults' meta-commentary about "good" and "bad" schools. In such a case, we would expect to see students at the highly-ranked suburban public schools differing significantly from non-elite students in production. That we do not find this – instead, there are no significant differences between suburban and non-elite students for TRAP or LOT, and elite students produce backer TRAP vowels than *both* non-elite and suburban students – indicates that attending an elite (selective enrollment or non-parochial private) school specifically, in contrast to other school types, is a social distinction worth indexing through linguistic resources.

Again, this aligns with education literature on school choice. Policymakers and politicians often highlight magnet, private, and charter schools as emblematic of "school choice" because they present parents living in a given location with a choice between multiple school

options. However, the primary method by which families with resources "choose" schools is by selectively living in suburbs and other areas that district into "good" public schools (Ben-Porath & Johanek 2019). This means that elite schools serve as competition to neighborhood public schools, whereas suburban public schools are themselves the default option. This is then reflected in students' linguistic productions, wherein elite students index this social position in opposition to students at other school types, especially the non-elite schools they might have otherwise attended.

More broadly, these results suggest that high school choice effects are not only a consequence of race- and class-segregated education systems (Carmichael 2014; Sneller 2018), nor do they always straightforwardly reflect contact-driven change via social networks (Dodsworth & Benton 2017; Labov et al. 2016). In Chicago, private schools are whiter than the average neighborhood public school, whereas selective enrollment high schools are more racially and socioeconomically diverse (Lauen 2007; Sander 2015), yet white students at both private and selective enrollment schools pattern together in their reversed productions of TRAP and LOT. Overall, this suggests that elite education is a meaningful social status in and of itself (e.g. Prichard 2016), and that, regardless of their own class backgrounds, elite school students are using the semiotic features associated with this status to position themselves as "elite."

This illustrates that macro-social categories like race and class do not predetermine sociolinguistic variation. Rather, individuals construct the social distinctions relevant to them in local contexts through their uptake of socially meaningful linguistic features (Bucholtz & Hall 2005; Eckert 2012). Elite students' productions of the most retracted TRAP vowels in the sample are consonant with ideologies in meta-linguistic commentary linking these features with unmarked, "standard" ways of speaking. However, while elite students collectively produce the

most reversed TRAP vowels, some elite students still index their opposition to the social

qualities tied to elite-ness by fronting TRAP when attending to speech in a wordlist context. In

comparison to Chicago-area adolescents as a whole, these students produce relatively NCS-

reversed vowels. But within their school environments, they continue to index locally-relevant

distinctions, which, crucially, are legible (Eckert 2012) precisely because they are recursively

(Irvine & Gal 2000) casting the marked vs. unmarked, non-elite vs. elite distinction onto a more

localized, stance-based distinction. In doing so, adolescents are drawing on linguistic features

which are meaningful at much larger scales – relating to macro-level categories like class – and

which are commented on in meta-linguistic commentary, in order to create their own social

positions in both micro- and macro-level contexts.

Adolescents, then, may be indexing a school-based opposition in their differential

productions of TRAP and LOT vowels. But in doing so, they are simultaneously invoking social

meanings beyond school boundaries, including factors like race, place, and class, which structure

society on a broader level. That is, school elite-ness is not only about elite-ness, but about

making claims to broader ways of being a type of Chicagoan. I explore these connections further

in section 8.3 below.

8.3 Implications for studies of regional variation

The NCS is historically and ideologically associated with white speakers (Van Herk

2008; Gordon 2001; D'Onofrio & Benheim 2020; D'Onofrio et al. 2020; *inter alia*). It is also,

clearly, a regional vowel system with place-linked meanings (Labov et al. 2006). Building on a

growing field of studies considering the intersections of place, race, and other identities (e.g.,

Wong & Hall-Lew 2014; King 2016) and the role of whiteness (Bucholtz 2011; Kiesling 2001;

Hill 2008) in sociolinguistics, I argue here that studies of place-linked features must understand

how these features vary in tandem with other identities speakers may embody. Students at elite

schools are not indexing an orientation away from "Chicago" through their use of less Northern

Cities-shifted TRAP and LOT; they remain strongly connected to Chicago and many express a

desire to remain in the area in adulthood, though perhaps after attending college elsewhere. At a

more local level, however, it is possible that these students are less rooted (Reed 2020) to

particular neighborhoods, in that elite schools draw students away from their home

neighborhoods and enable them to form social bonds with peers from other parts of Chicago. As

Chicago – and particular neighborhoods and areas within it – are associated in meta-linguistic

commentary with both marked, "Chicago accented" and unmarked, "Midwestern neutral"

varieties of English, I contend that students at different school types are indexing different local

white personae (D'Onofrio 2020). Being a less Northern Cities-shifted, elite school student and a

more Northern Cities-shifted, non-elite school student are both ways of being a white Chicagoan,

drawing on differing ideologies of the connections between language, race, and place more

generally.

Previous work centering whiteness has largely contended with racialized differences

between co-territorial white and non-white populations (e.g. Gordon 2001; Yaeger-Dror &

Thomas 2010), and on inter-ethnic differences between various white populations (Becker 2014;

Benor 2010; Labov 1966; Johnstone 2017; Wagner 2014; *inter alia*). While a large body of

sociolinguistic literature has focused on class-based differences within white populations (Labov

1966; Wagner et al. 2016), this work typically has not considered how linguistic features serve

not only as symbolic markers of class status, but also of other hierarchical positions, and in

particular, how this interfaces with whiteness as a racialized category. In meta-linguistic

commentary and the perceptual dialectology task, adolescents ideologically associated

"unmarked" varieties of English with white speakers and places, while non-white varieties were ideologized as marked and "non-standard." Moreover, while ethnicity and class are certainly wrapped up in how differential usage of NCS features are ideologized (for example, NCS vowels being associated with "Irish" or "working class" personae and neighborhoods), these categories do not straightforwardly map onto the observed production patterns.

Rather, features like reversed TRAP and LOT vowels are available resources for indexing social positions along newly constructed hierarchies, including school elite-ness. Work in sociology has framed whiteness as a means of accumulating material and symbolic resources (Bonilla-Silva 2019; Lipsitz 2006; Omi & Winant 2014; Roediger 1991). In viewing linguistic features like reversed NCS vowels as symbolic resources (e.g., Bourdieu 1977), then, we can see that these features have value in constructing oppositions between white and non-white speakers *and* among white speakers occupying different social positions. The use of retracted TRAP vowels can be understood as indexing an orientation away from the raised and fronted TRAP vowels associated with the NCS (e.g., D'Onofrio & Benheim 2020). Given the strong associations between NCS vowels and white speakers broadly construed (D'Onofrio & Benheim 2020; D'Onofrio et al. 2020; Gordon 2001; Van Herk 2008), however, it is worth considering who has access to these resources in the first place. Differences in material resources lead to race- and class-based differences in school attendance patterns (Pattillo 2015; Sander 2015). But from a symbolic standpoint, it is worth considering how *bricolage* (Eckert 2012) with other features impacts the interpretation of the social meanings of the NCS. In this study, for example, there were no significant differences in productions of TRAP and LOT between white and Latinx participants, but it is not necessarily the case that NCS-reversed vowel spaces hold the same social meanings when juxtaposed with other features indexical of Latinidad as they do when

juxtaposed with other whiteness-linked features. Indeed, Latinx participants maintained ideologies socially distinguishing white and Latinx Chicagoans along racialized lines, and future work might consider how co-occurring features might impact how linguistic styles involving allegedly place-linked features are interpreted.

These results also demonstrate that linguistic features can be resources for making intra-racial distinctions. While the NCS may be associated with white speakers, producing less Northern Cities-shifted vowels is not necessarily indexing an opposition to whiteness. Rather, there are multiple ways of being a "white Chicagoan," as demonstrated by participants' meta-linguistic commentary about marked and unmarked ways of speaking, both of which can be associated with whiteness. A white speaker producing more reversed vowels may be indexing elite social status, whereas more NCS vowels may be indexing non-elite status, alongside other possible social meanings. Considering "place-linked" linguistic features as solely associated with place, then, erases the within-place dimensions along which speakers orient themselves, as well as the symbolic value of relatively more or less NCS features in creating local social positions. Because linguistic features are underspecified for social meaning (Eckert 2008), a single linguistic feature can never be constructing an opposition along just one dimension; rather, features associated with place can also invoke meanings associated with class and race, as well as more locally relevant social meanings. Understanding whiteness as a racialized category, then, rather than an unmarked default, means interpreting results of studies of regional variation in light of not only what they say about class, but also about other meanings contained in a feature's indexical field (Eckert 2008).

8.4 Connecting macro- and micro-level sound change

This dissertation has focused on the connections between macro-level sound change across entire cities or regions and micro-level variation within particular schools. That students appear to be using linguistic resources to index their positions on a hierarchy based on their schools' relative statuses suggests that institutions, like schools, may be one means through which local-level interactions and macro-level social meanings are connected. As Johnstone (2021) reminds us, sociolinguistic studies of urban areas must consider how individuals come to interact with one another in ways that can promote linguistic variation and change. Institutions, like schools, serve as forces which structure who comes into contact with whom, and how individuals come to see themselves positioned socially in relation to other community members.

In Chicago-area high schools, students interact primarily with other students at their own schools, but they maintain friendships and social connections with students who attend other schools. Youth-focused extracurricular activities, parties, and social media connections also enable adolescents to observe the social and material differences between their schools and others. Discourse from adults and other adolescents helps students learn which schools are "good" or "bad," which schools face issues with drugs and violence and which are "safe," and which schools are wealthy and which are underfunded. In this way, adolescents are socialized into an understanding of their own schools – and the linguistic resources utilized there – and how these map onto a social hierarchy. Institutions, therefore, are one means through which sociolinguistic change unfolds.

In the midst of ongoing sound change, the linguistic options available for adolescents – between, say, a relatively fronter or backer TRAP vowel – have pre-existing social meanings in the wider community. In this case, Northern Cities-shifted TRAP and LOT are associated with

lower socioeconomic status, and adolescents may be looking towards their future social positions as adult community members in deploying socially meaningful linguistic features (Eckert 1989, 2000). But as adolescents, they are also using those resources to index a hierarchy that is relevant to them at the very local level, as an index of high school type.

However, high school attendance patterns are not predetermined social categories, nor are they entirely unrestricted "choices." While adolescents may have some agency in selecting where they go to high school, these choices are constrained by parental pressures. For example, many participants discussed "choosing" a school from among the options presented by their parents (for example, choosing one of several Catholic schools, or being allowed to rank selective enrollment schools based on their own preferences). Even students who discussed deliberately choosing to attend their neighborhood public school, either based on their own or their parents' wishes, often mentioned that their parents had deliberately chosen to live in a neighborhood or suburb with a "good" public school: in other words, these parents had constrained the field of options so that the neighborhood public school was an "acceptable" choice. In this way, school choice operates as a means of maintaining racialized and classed patterns of segregation, wherein families who face barriers to making this same range of choices (for example, those who cannot afford to live in the high-income neighborhoods and suburbs with "good schools"; Pattillo 2015) are not able to participate in this system to the same extent, thereby further limiting the options available to their own children.

High school choice is therefore both an agentive and constrained process, especially for the adolescents for whom school affiliation takes on social significance along an ideological, elite-ness based hierarchy. And yet even within this range of options, adolescents recruit socially meaningful features in order to index social positions, as well as attitudes towards these

positions. Though group-level differences in productions of NCS vowels emerge between elite

and non-elite students, non-elite students show variation in their productions of these vowels

which qualitatively align with their attitudes towards their own schools' statuses in this

hierarchy. And while elite students do not show this same range of variation in their own

productions of TRAP, perhaps because they already produce the lowest/backest vowels in the

sample (and therefore cannot continue to retract them further), differences emerge in the

directionality of attention-based style-shifting related to their stances towards elite-ness. In other

words, while school choice imposes some constraints on variation, adolescents still express

agency within these constraints in order to construct identities. This, of course, aligns with

previous ethnographic research finding variation based on community of practice membership

within high schools (Bucholtz 2011; Eckert 1989; Pratt 2018; *inter alia*).

Finally, this study has demonstrated that social meanings which emerge in social

perceptions do not necessarily need to correlate precisely with on-the-ground production

patterns. Listeners might have a consensus about some social meaning in perception (for

example, that Northern Cities-shifted vowels index socioeconomic status), but what they are

doing stylistically with those features in micro-level interactions can be more complicated (for

example, recruiting these vowels to index school type). Institutions, like schools, impose external

structures on populations. At the same time, as discussed above, individual speakers have some

degree of agency in electing to participate in a given institution or social group, and in

determining that these institutionally-based distinctions are worth indexing. In doing so,

adolescents recruit linguistic features like NCS vowels, which have pre-existing social meanings

in the broader community, and recontextualize them (Zhang 2008). This enables these features to

take on higher orders of indexicality (Eckert 2008a; Eckert 2016; Silverstein 2003) and

contributes to sociolinguistic change. And while this change unfolds across large populations, the sites in which these features are deployed on the ground are in local-level interactions (Bucholtz & Hall 2005). Thus institutions work to structure the relationship between these local interactions, in which meaningful sociolinguistic variation is deployed for indexical purposes, and broader, macro-scale social structures, like race and class.

8.5 Future directions

This dissertation has left open several avenues for future research. First, and perhaps most importantly, I have focused here primarily on white adolescents. School choice plays out differently across racialized groups (Pattillo 2015; Warikoo 2022), as do the pressures on students to conform to particular ways of speaking (e.g. Flores & Rosa 2015; Rosa 2019). In choosing a predominantly white sample, I have highlighted the ways in which school choice is most accessible to white families (Lipsitz 2006; Ben-Porath & Johanek 2019), but in doing so have erased how students of color might view different school types and how (or even if) they might index this distinction through language. In this study, ideologies that emerged about sounding "elite" or "unmarked" were constructed in opposition to ways of speaking that were racialized as non-white, especially those associated with Black speakers. Future work might consider what it means to *sound* elite for racialized populations whose language is ideologized as marked in the first place. Moreover, whiteness and higher class backgrounds provide individuals with greater material resources, and therefore greater agency in participating in processes of school choice. How this corresponds to access to symbolic resources like linguistic features remains an open question which future ethnographic work might consider.

Second, I have focused here on variation at the high school level, but commentary by participants suggests that in Chicago, social stratification related to schooling emerges even at

the K-8 level: students attend Catholic, private, and magnet schools prior to entering high school, though to a lesser degree (that is, it was relatively common for students to move from a neighborhood grade school to a Catholic, private or selective enrollment high school, while the reverse was relatively uncommon). A longitudinal study might consider at what point across the school years this type of school-stratified linguistic variation emerges and how this interfaces with child development and our understanding of the acquisition of sociolinguistic variation. For example, Eckert (2008b) has suggested that pre-adolescence is also a significant developmental period in terms of linguistic variation, and evidence exists that children recruit linguistic features for indexical purposes as early as the preschool years (Lake 2022).

Finally, I have argued here that sociolinguists must consider the role of institutions in mediating sound change. High schools, however, are a particular type of institution, in that, barring homeschooling, every adolescent must attend school somewhere, and must do so for five days a week, ten months of the year. This results in a situation in which every adolescent has experience with school as an institution and a similar amount of engagement with that institution (or deliberate disengagement, in the case of truancy). Schools differ in this regard from many institutions in which adults participate, such as workplaces, courtrooms, places of worship, and so on. Exploring the role of institutions as social organizers, then, raises methodological challenges regarding how to define an "institution" and, further, what level of affiliation with an institution merits consideration of that individual as a "member" of it.

In this sense, I argue that while institutions may certainly lead to the creation of communities of practice (Eckert & McConnell-Ginet 1992), these concepts are not identical. For example, while communities of practice necessitate repeated interaction, institutions vary along this dimension. For example, a workplace might involve sustained, daily interactions between

coworkers (e.g., Forrest 2018), but witness in a trial or a juror may interact with a courtroom just once (e.g., Rickford & King 2016). Further, as noted above, attending school (or court) is compulsory in a way that involvement in other institutions may not be. The community of practice model does not account for the role of sociopolitical structures in determining who interacts with one another in the first place. For this reason, considering institutions as such is an important tool for understanding the social forces that bring people together so that they can have the kinds of interactions in which social meaning emerges. As such, institutions work to structure the connections between micro-level, local social meanings and macro-level social structures.

Further, future work should consider the connections between communities of practice and institutions. In this dissertation, for example, adolescents index school type in the aggregate, but non-elite and suburban students show a much wider range of variation in TRAP productions than do elite students. Based on ethnographic work demonstrating that communities of practice within schools guide adolescents' productions (Bucholtz 2011; Eckert 1989; Pratt 2018; *inter alia*), it is worth considering how involvement in communities of practice mediates attitudes towards or engagement with institutions on a structural level. Beyond engagement with institutions, it is also worth considering how involvement in an institution affects individual speakers' self-perceptions. For example, does attending an elite school socialize students into thinking of themselves as "elite"? I have argued here that institutional affiliations enable speakers to position themselves along social hierarchies by making relational comparisons with others. Future work taking a more ethnographic perspective might consider how the "choice" to attend a particular school might serve as a socializing force on how adolescents then construct their social identities.

8.6 Conclusion

Sound changes do not spread evenly across all speakers in a given geographic area. In this dissertation, I argue that high schools are sites through which adolescents are socialized into understanding their own positionalities along a local social hierarchy, in this case related to school elite-ness. Through increasing indexical orders (Silverstein 2003), features which may have originated as racially- (white) or place- (Chicago and the Inland North) based in terms of their social meanings came to take on class-based meanings, which in turn made them available for stylistic use in indexing an elite educational status. The role that certain schools play in promoting the ongoing reversal of the Northern Cities Shift demonstrates more generally that we as sociolinguists must attend not only to the social types and categories that speakers index linguistically, but also to how those social categories emerged.

Students are not randomly sorted into high schools; their high school attendance is a complex interplay of their families' residential choices and opportunities, access to information about different schools, performance on standardized tests and other measures of academic ability, religious affiliation, personal preferences, and so on. And, of course, all of these factors are themselves guided by pre-existing macro-social factors like race, class, and place (Ben-Porath & Johanek 2019; Pattillo 2015; Phillippo & Griffin 2016; *inter alia*). But the linguistic effects of high school choice do not straightforwardly fall out of students' backgrounds with respect to these factors. Instead, participants demonstrate some level of agency (within certain constraints) both in terms of their involvement in particular institutions as well as their stances towards the social meanings associated with those institutions.

Indeed, elite schools themselves take on social significance because they are treated as socially significant. Parents and adolescents view magnet and private schools as prestigious

because – based on circulating discourses – they view access to a "high quality" education as a scarce resource to be attained only by a select, elite few. Elite schools are therefore imbued with social meaning, creating the potential for adolescents to index their affiliation with them. In linguistically indexing affiliation with a social category, then, speakers are telling us not just which categories they belong to, but also which categories are worth indexing in the first place.

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Appendices

Appendix A: Demographic Questionnaire

Please fill out the form below with your demographic information. You may leave blank any questions you do not feel comfortable answering.

1. Name (will not be used outside the research team) (Open response)

2. Please provide a pseudonym (a pretend name that I will use in place of your real name if I discuss your interview with other researchers). If you do not provide a pseudonym, I will assign one to you. (Open response)

3. Year of birth and age (Open response)

4. What grade are you in? (Multiple choice: Sophomore, Junior, Senior, 2020 graduate[23])

5. Gender (Open response)

6. What is/are your race(s) and/or ethnicity/ethnicities? (Open response)

7. Are your parents from the Chicago area? (Open response)

8. Parent(s) occupation(s) (if retired or out of work, list their last occupation). (Open response)

9. Since the age of 5, have you ever lived outside the Chicagoland area? If so, where and for how long? (Open response)

10. What neighborhood (in Chicago) or suburb do you live in? (Open response)

11. Where do you go to high school? (Open response)

12. Where did you go to elementary or middle school (grammar school)? (Open response)

13. Do you speak any languages other than English? If so, what languages? (Open response)

14. What device are you using for this interview? (Open response)

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[23] Summer 2020 only

Appendix B. Matched Guise Task Stimuli

Critical stimuli (TRAP, LOT, and (dh) variables bolded):

1. I was trying to bake a cake for **th**eir anniversary. My m**o**m and d**a**d's friends were coming over, so I needed to do one and a h**a**lf times **th**e recipe. **Th**is cake was so c**o**mplicated. Even **a**fter sh**o**pping for the ingredients, **th**ere was still a ton of work.

2. I don't think I'd seen him since we took m**a**th together in eighth grade. So now **th**is guy kn**o**cks on my door and says he's found a new j**o**b and is moving b**a**ck and all **th**is stuff and I've g**o**t no clue who he is. And I h**a**d to **a**sk him, "who are you?"

3. I'd never been in an **a**ccident before. **Th**e cr**a**sh was right p**a**st the sign for Th**o**mpson Street. **Th**ese guys came out of nowhere and broke my side mirror. **Th**ey said later it was a p**o**thole but I don't know why **th**ey didn't st**o**p for **th**e light.

4. I was at the airport **a**fter **th**is wedding a few months b**a**ck and the metal detector rang. I was wearing my j**a**cket and I'd completely forg**o**t about all **th**ese coins in there, and **th**ose are pr**o**bably what did it. **Th**e security guy told me to empty my p**o**ckets and I went through.

Fillers:

1. The thing about these wildflowers is that they take a full year to grow. But I didn't know that at the time, so I was all excited to be gardening and thought I'd have these beautiful flowers. But instead I just got a pile of dirt for the next ten months.

2. I used to play basketball as a kid, but I was too short to ever be really good at it. We'd play against these other teams where the kids were already like six feet tall, even back then, and I was lucky if I ever got the chance to take a shot.

4. I used to drink about four cups of coffee a day, but then I started getting headaches whenever I would miss a cup. So I decided to quit and switch to tea, but now I miss the coffee. Maybe I'll try decaf next.

Appendix C. White participants' NCS scores

Filled cells indicate that the participant met the relevant criterion.

PARTICIPANT	AE1	O2	EQ	ED	UD	TOTAL SCORE
Adam				▓	▓	2
Allie						0
Ariel						0
Audrey				▓		1
Ava						0
Bartholomew		▓			▓	2
Brandon						0
Candace						0
Chelsea						0
Chloe						0
Eden						0
Elaina				▓		1
Elyse						0
Emily						0
Ezekiel		▓		▓	▓	3
Hannah						0
Harper				▓		1
Kendall						0

Kylie						1
Leah						0
Mackenzie						0
Mary						2
Michelle						1
Olivia						0
Peter						3
Piper						1
Ranger						1
Spencer						1
Sydney						0
Trinity						0
Vivian						0

Appendix D. Wordlist

gossip	case	syrup
mood	map	bide
cot	mode	kit
type	these	deck
tick	canned	tuck
tack	kite	bet
this	sang	bit
talk	Chicago	cat
cob	goose	brother
GIF	duke	crayon
sister	sock	bought
car	mop	bait
get	tip	coat
cape	banner	token
sauce	cap	cup
bar	them	bite
both	together	peace
math	time	soup
sand	take	caught
bot	bat	butter
keep	beet	sass
caramel	gate	soft
fuzz	team	aunt
guide	start	toast
cut	Susan	slice
test	pecan	boot
guess	bang	
tan	coffee	
size	boat	

Appendix E. Chapter 7 model outputs for TRAP F1 and F2

TRAP F1

summary(trapF1.lmer)
Linear mixed model fit by maximum likelihood . t-tests use Satterthwaite's method ['lmerModLmerTest']
Formula: f1_normed_50 ~ style + elite + gender + prePlace + preManner +
    logDur + Device + (1 | speaker) + (1 | word)
   Data: TRAPwhite

   AIC   BIC   logLik deviance df.resid
  664.3   742.4   -314.2   628.3   549

Scaled residuals:
   Min   1Q Median   3Q   Max
-5.1207 -0.6053 0.0493 0.6243 3.3196

Random effects:
 Groups   Name   Variance Std.Dev.
 word   (Intercept) 0.001619 0.04024
 speaker (Intercept) 0.019663 0.14022
 Residual   0.165089 0.40631
Number of obs: 567, groups: word, 115; speaker, 31

Fixed effects:
                  Estimate Std. Error   df t value Pr(>|t|)
(Intercept)   0.50432   0.39720 223.73074   1.270 0.20551
stylewordlist   -0.13088   0.05108 47.53047 -2.562 0.01362 *
elitenon-elite   -0.15633   0.08064 29.87722 -1.939 0.06206 .
elitesuburb   -0.17242   0.08132 31.00496 -2.120 0.04208 *
gendermale   -0.20900   0.08709 30.73605 -2.400 0.02265 *
prePlacecoronal   -0.01429   0.04410 29.71688 -0.324 0.74815
prePlacedorsal   0.11266   0.05894 22.83029   1.912 0.06857 .
prePlaceglottal   0.40223   0.12381 351.07158   3.249 0.00127 **
preMannernasal   0.09311   0.04813 24.22578   1.935 0.06477 .
logDur   0.17796   0.06688 301.67613   2.661 0.00821 **
DeviceChromebook   0.07483   0.25898 32.79307   0.289 0.77443
DeviceiPhone   -0.09114   0.19026 29.28628 -0.479 0.63547
DeviceMac   0.05090   0.18078 28.92749   0.282 0.78031
DevicePC   0.13114   0.18565 29.10225   0.706 0.48555
DeviceWindows   0.13114   0.25522 30.44181   0.514 0.61107

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

summary(glht(trapF1.lmer, linfct = mcp(elite = "Tukey")))

       Simultaneous Tests for General Linear Hypotheses

Multiple Comparisons of Means: Tukey Contrasts
Fit: lmer(formula = f1_normed_50 ~ style + elite + gender + prePlace +
  preManner + logDur + Device + (1 | speaker) + (1 | word),
  data = TRAPwhite, REML = FALSE)

Linear Hypotheses:
               Estimate Std. Error z value Pr(>|z|)
non-elite - elite == 0 -0.15633   0.08064 -1.939   0.1279
suburb - elite == 0   -0.17242   0.08132 -2.120   0.0858 .
suburb - non-elite == 0 -0.01609   0.08390 -0.192   0.9799

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
(Adjusted p values reported -- single-step method)

TRAP F2

trapF2.lmer <- lmer(f2_normed_50 ~ style*elite + gender + prePlace + preManner + logDur +
Device + (1|speaker) + (1|word), TRAPwhite, REML=FALSE)
> summary(trapF2.lmer)
Linear mixed model fit by maximum likelihood . t-tests use Satterthwaite's method
['lmerModLmerTest']
Formula: f2_normed_50 ~ style * elite + gender + prePlace + preManner +
  logDur + Device + (1 | speaker) + (1 | word)
  Data: TRAPwhite

   AIC   BIC   logLik deviance df.resid
  193.1   279.9   -76.6   153.1   547

Scaled residuals:
  Min   1Q Median   3Q   Max
-4.1387 -0.5684 0.0136 0.5894 3.6704

Random effects:
 Groups   Name   Variance Std.Dev.
 word   (Intercept) 0.002496 0.04996
 speaker (Intercept) 0.014008 0.11836
 Residual   0.068635 0.26198
Number of obs: 567, groups: word, 115; speaker, 31

Fixed effects:
               Estimate Std. Error   df t value Pr(>|t|)
(Intercept)   -4.105e-01 2.796e-01 2.280e+02 -1.468 0.14340

```
stylewordlist              7.000e-02 5.279e-02 2.291e+02  1.326 0.18617
elitenon-elite             3.130e-01 6.712e-02 3.737e+01  4.664 3.89e-05 ***
elitesuburb                3.105e-01 6.853e-02 4.069e+01  4.531 5.06e-05 ***
gendermale                 1.398e-01 6.854e-02 3.077e+01  2.040 0.04998 *
prePlacecoronal            5.328e-02 3.246e-02 3.768e+01  1.641 0.10908
prePlacedorsal            -9.248e-03 4.401e-02 3.386e+01 -0.210 0.83481
prePlaceglottal           -4.272e-02 8.322e-02 2.618e+02 -0.513 0.60816
preMannernasal             8.627e-02 3.576e-02 3.588e+01  2.412 0.02110 *
logDur                     1.480e-02 4.559e-02 4.067e+02  0.325 0.74563
DeviceChromebook           4.051e-02 2.027e-01 3.207e+01  0.200 0.84288
DeviceiPhone               1.607e-01 1.503e-01 2.973e+01  1.069 0.29352
DeviceMac                 -2.329e-02 1.430e-01 2.951e+01 -0.163 0.87172
DevicePC                   4.716e-04 1.468e-01 2.965e+01  0.003 0.99746
DeviceWindows              1.184e-01 2.010e-01 3.051e+01  0.589 0.56003
stylewordlist:elitenon-elite -1.243e-01 5.605e-02 5.283e+02 -2.218 0.02699 *
stylewordlist:elitesuburb   -1.645e-01 6.019e-02 5.360e+02 -2.734 0.00647 **
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

> summary(glht(trapF2.lmer, linfct = mcp(elite = "Tukey")))

        Simultaneous Tests for General Linear Hypotheses

Multiple Comparisons of Means: Tukey Contrasts


Fit: lmer(formula = f2_normed_50 ~ style * elite + gender + prePlace +
    preManner + logDur + Device + (1 | speaker) + (1 | word),
    data = TRAPwhite, REML = FALSE)

Linear Hypotheses:
                Estimate Std. Error z value Pr(>|z|)
non-elite - elite == 0   0.313031   0.067118   4.664  < 1e-05 ***
suburb - elite == 0      0.310497   0.068531   4.531  1.5e-05 ***
suburb - non-elite == 0 -0.002533   0.069762  -0.036   0.999
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
(Adjusted p values reported -- single-step method)

lsmeans(trapF2.lmer, pairwise ~ elite | style)
$lsmeans
style = interview:
 elite     lsmean    SE   df lower.CL upper.CL
 elite    -0.1685 0.0833 62.7  -0.3349 -0.00202
 non-elite 0.1446 0.0671 70.4   0.0107  0.27843
 suburb    0.1420 0.0787 63.0  -0.0152  0.29927
```

style = wordlist:
```
 elite     lsmean    SE   df lower.CL upper.CL
 elite    -0.0985 0.0885 79.7  -0.2746  0.07772
 non-elite  0.0902 0.0723 88.2  -0.0535  0.23399
 suburb    0.0475 0.0837 79.2  -0.1192  0.21414
```

Results are averaged over the levels of: gender, prePlace, preManner, Device
Degrees-of-freedom method: kenward-roger
Confidence level used: 0.95

$contrasts
style = interview:
```
 contrast          estimate    SE   df t.ratio p.value
 elite - (non-elite) -0.31303 0.0785 53.2  -3.990  0.0006***
 elite - suburb      -0.31050 0.0798 57.1  -3.893  0.0008***
 (non-elite) - suburb  0.00253 0.0815 53.8   0.031  0.9995
```

style = wordlist:
```
 contrast          estimate    SE   df t.ratio p.value
 elite - (non-elite) -0.18871 0.0830 71.2  -2.274  0.0660
 elite - suburb      -0.14596 0.0836 73.2  -1.746  0.1952
 (non-elite) - suburb  0.04275 0.0849 67.0   0.504  0.8698
```

Results are averaged over the levels of: gender, prePlace, preManner, Device
Degrees-of-freedom method: kenward-roger
P value adjustment: tukey method for comparing a family of 3 estimates