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Ethnic visibility and ethnolinguistic repertoires: Dearborn English and the hijab

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Abstract. This study explores the intersection of ethnic visibility and linguistic behavior by analyzing the speech of two groups of Muslim female speakers in Dearborn, MI: one group wearing the Islamic hijab and another not wearing the hijab. Recent research shows that the variety of American English spoken in Dearborn is locally recognized and includes certain ethno-local markers such as higher rates of word-final /t/ glottalization and the convergence of voice onset time for lenis and fortis members of bilabial and velar stops. The Dearborn ethnolinguistic repertoire also features a vowel pattern not consistent with surrounding mainstream patterns. The sociolinguistic analysis in the present study explores the intersection between female Dearborners' sartorial choices in terms of the Islamic hijab and their linguistic behavior with reference to the features of Dearborn English. Labovian Sociolinguistic Interviews were conducted with 16 female Dearborners: 9 with the Islamic headcover and 7 without the headcover. The results show both groups of speakers display similarly high rates of /t/ glottalization, a prominent feature of Dearborn English, in their speech. However, the hijab-wearing group's stop VOT distribution and vowel patterning is more strongly aligned with the features of Dearborn English, showing compatibility between their sartorial and linguistic choices.

Keywords: ethnolinguistic repertoires; ethnic visibility; Dearborn; MENA Americans; hijab

1. Introduction. Within the field of sociolinguistics and language variation, a growing body of recent research has transcended codified speech communities and has explored variation within groups predefined by macrosocial factors such as geography or ethnicity. These studies have explored community-internal differences by taking into account variation across time, space, and different social personae among other factors. Looking at r-lessness in the speech of New Orleanians in the suburb of Chalmette, for example, Carmichael (2017) found that local orientation covaried with degrees of r-lessness, with those being more oriented to areas outside of Chalmette being significantly more r-full. In a similar study, Reed (2018) showed how rates of monophthongal /aɪ/ in the speech of Appalachian residents of a rural area in north East Tennessee covaried with their local rootedness (or orientation) to this rural area: quite expectedly, higher local rootedness covaried with higher monophthongization of the diphthong /aɪ/. Exploring variation across time within an ethno-racial group, for instance, Holliday (2019) used corpus data and examined prosodic variation among Black speakers in the DC area over two periods: one

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in the 1960s and the other in the 2010s. Holliday's results showed a decrease in level tones and an increase in rising tones in the speech of Black speakers in DC over time, which can be interpreted as language change in progress over time within this community in patterns consistent with the mainstream speech in the surrounding areas. Investigating the role of personae in contributing to variation within ethno-racial groups, King (2021) showed how speakers with different personae within a Black community in Rochester, NY, position themselves in terms of the local and social meanings of the Northern Cities Shift (NCS) features: for example, speakers' stronger local orientation (i.e., with stronger local personae and weaker mobile personae) correlated with more fronted and raised TRAP vowels, an advanced feature of the NCS and a strong local marker in the context of Rochester.

The present study is a contribution to this emerging body of sociolinguistic research by looking at variation within a group of female Middle Eastern or North African (MENA) Americans in the city of Dearborn, Michigan, with reference to ethnic visibility. Dearborn is a suburb adjacent to Detroit in Wayne County, MI, and is one of the most visible MENA American communities in the US. The American English variety spoken in Dearborn has been described as an ethnolinguistic repertoire with certain consonantal and vowel features that can be used as ethno-local markers for different social positionings (Sheydaei 2024a). Some prominent features of this ethnolinguistic repertoire include higher rates of word-final /t/ glottalization and the convergence of voice onset time (VOT) of the fortis and lenis members of bilabial and velar stops. In terms of vowel features, Dearborn English's vowel pattern is neither consistent with the stereotypically local pattern of NCS (Samant 2010, 2011; Bakos 2012) nor fully consistent with the emerging translocal pattern of Low-Back-Merger Shift (LMBS) (Becker 2019). As such, Sheydaei (2024a) argues that the vowel patterning of the Dearborn ethnolinguistic repertoire is characterized by substrate influence from the Arabic vowel system and is consistent with Preston's (2014) analysis of reformulating diffused NCS tendencies to avoid asymmetry. This study explores female Dearborners' use of certain features of Dearborn English at the intersection with their sartorial choices in terms of the Islamic hijab. In particular, the present paper seeks to answer the following question:

> Will female Dearborners' ethnic visibility in terms of their choice to wear the Islamic hijab influence the degree of their use of certain features of Dearborn English such as word-final /t/ glottalization, converging VOTs for the lenis and fortis members of bilabial and velar stops, and a vowel pattern not consistent with the stereotypical or emerging vowel patterns in southeastern Michigan?

In the following section, I provide a brief background on previous sociolinguistic work on ethnic visibility and previous work on Dearborn English. In Sections 3 and 4, I describe the methodology and the findings of the present study; and finally in Section 5, I conclude the paper.

2. Background. Previous sociolinguistic work has shown that linguistic practices could be influenced by individuals' ethnic visibility. For example, exploring different groups' participation in the NCS in southeastern Michigan, Evans et al. (2006) attributed African Americans' divergence from the NCS patterns (compared to their Appalachian counterparts) partly to a "visual barrier" (p. 195) that might discourage full participation in local patterns. In a similar study examining the language patterns of three distinct ethnic groups within Toronto's multicultural environment, Hoffman and Walker (2010) explored the intersection of ethnic orientation and linguistic behavior. In particular, they investigated correlates between ethnic

orientation and their participants' rates of t/d deletions, a stable process in which /t/ and /d/ sounds are variably deleted in consonant clusters in word-final positions compared to the more change-in-progress nature of the Canadian Vowel Shift, their second linguistic variant including the retraction of the TRAP vowel and the lowering and retraction of the DRESS vowel. Although Hoffman and Walker did not find any significant correlates between ethnic orientation and the two linguistic variants they studied, they partly attributed higher rates of ethnic orientation by Chinese Canadians to their higher ethnic visibility. In a different study focused on Californian English, Cardoso et al. (2016) investigated subclasses of the TRAP vowel in the speech of Chinese Americans and white Americans in San Francisco. Their results showed that the nasal split of TRAP (it being raised when followed by a nasal consonant, and being retracted and lowered when followed by an oral consonant) was more advanced in the white speakers' speech than their Chinese American counterparts'. Cardoso et al. (2016) associated the observed difference to the social meaning of the TRAP nasal split in California indexing white or non-Chicanx social personae.

Although MENA Americans are legally and historically classified as "white" in the US census system, they are not socially perceived as white (Beydoun 2013, 2015), and ethnographic evidence shows that MENA Americans consider themselves as physically visible based on features such as hair type, skin tone, dress, body movements, and even demeanor (Sheydaei 2021). Anthropological research with the Arab Detroit community, in particular, shows that MENA Americans in Dearborn are "highly visible" (Shryock & Linn 2009: 58). Shryock and Linn divide the Arab Detroit area into two zones in their anthropological analysis: zone 1 which is mostly "Christian" and "substantially closer to the American mainstream"; and zone 2 which is "highly visible", "can be portrayed as Muslim", resides "predominantly in or near Dearborn and Detroit" and is "widely perceived as outsiders who must prove they are American" (p. 58). This high visibility of Dearborn can also be reflected in their linguistic behaviors: ethnographic evidence (Sheydaei 2021) shows that Dearborners perceive their English variety to be a distinct variety and survey data (Sheydaei 2023) also shows that Dearborn English is a locally enregistered (Agha 2003, 2007) variety that can be perceived as strongly associated with the locality of Dearborn by local listeners. In Sheydaei (2024a), I argue that Dearborn English is an ethnolinguistic repertoire whose features such as higher rates of word-final /t/ glottalization, converging VOTs for the lenis and fortis members of bilabial and velar stop sets, and a vowel pattern not consistent with the stereotypical and emerging local patterns could be used as ethno-local markers. In terms of the interaction of ethnic visibility and linguistic agency, in Sheydaei (2024b), I showed that being from Dearborn and a MENA-centric ethnic rootedness measure — in which ethnic visibility was a core component — were significant predictors for reracialized pronunciations of indexically-bleached (Squires 2014) ethnically-affiliated words. In other words, Dearborners and MENA Americans with higher ethnic visibility pronounced words such as *Arab*, *Muslim*, or *Ali* in a more ethnic way (such as [ʕæˈɾæb], [ˈmʊslem], or [ˈʕæli]) rather than an Americanized way (such as [ˈærəb], [ˈmʌzlɪm], or [ˈæli]). In the present paper, I focus only on female Dearborners and analyze their linguistic behaviors in terms of their degree of using Dearborn English features of /t/ glottalization, stop VOTs, and vowel patterning in association with their sartorial choices in terms of choosing to wear the Islamic hijab. In the following section, I will describe the methodology of the present paper.

3. Methodology. The data analyzed in this paper were gathered through Labovian Sociolinguistic Interviews (I am following Becker (2017) in capitalizing the term here) involving 16 Muslim females from Dearborn. Among these participants, 9 wore the Islamic headcover,

while 7 did not. All participants were L1 English/English-dominant speakers who were either born in the US (14 speakers) or moved to the US during the critical period for language acquisition (Lenneberg 1967) (2 speakers — one hijab-wearing and one non-hijab-wearing — moved to the US at the age of 2). These 16 interviews were part of a larger project examining linguistic practices of MENA Americans (in the Upper Midwest and southern California) in general and residents of Dearborn, MI, in particular. The interviews were conducted between November 2017 and May 2023. The average age of the 16 speakers included in this study was 21 at the time of the interviews, ranging from 19 to 26 years old.

The Sociolinguistic Interviews took place in quiet settings on college campuses or in community centers capable of providing suitable spaces during fieldwork trips. The interviews had an average duration of 29 minutes, with a range from 15 to 68 minutes. Notably, both the shortest and longest interviews involved participants wearing the hijab. On average, interviews with hijab-wearing speakers lasted 32 minutes, and interviews with participants without the hijab averaged 24 minutes, ranging from 18 to 34 minutes.

The interview process comprised three main elements: 1) informal conversation (casual speech) beginning with general demographic inquiries, shifting to topics related to cultural and ethnic identities, 2) a reading passage, and 3) a sentence list. Following initial demographic questions about age, places lived between ages 4 and 12, and languages acquired and learned, the casual speech segment transitioned to queries regarding racial and ethnic identities. Participants were asked for their opinions on the inclusion of a MENA (Middle Eastern or North African) category in census and application forms. Subsequent questions explored whether interviewees could identify individuals of MENA descent based on physical and linguistic cues. All interviews were recorded using a solid-state digital voice recorder and later transcribed using ELAN (Wittenburg et al. 2006). The transcriptions underwent force alignment, with manual correction, using the FAVE-aligner (Rosenfelder et al. 2022).

In light of previous research on the acoustic characteristics of Dearborn English (Sheydaei 2024a), I will focus on word-final /t/ glottalization rates and VOT distributions of bilabial and velar stops in terms of consonantal analysis. For the analysis of /t/ glottalization, I categorized all postvocalic word-final /t/s (in words such as *cat*, *tight*, *put*, or *bit*) occurring in the reading passage context of the interviews based on visual and auditory assessments into glottalized and canonical tokens. Out of the 16 participants whose data is analyzed in this study, 15 speakers completed the reading passage task, and the /t/ tokens analyzed in this paper were generated by these 15 participants. Participant SEMI06, a hijab-wearing speaker, did not read the passage due to time constraints. A total of 1252 postvocalic word-final /t/s (634 tokens generated by hijab-wearing speakers, and 618 produced by non-hijab-wearing speakers) were extracted from the reading passage context for analysis in this paper

For the VOT analysis, I measured the VOTs of all velar and bilabial stops occurring at the beginning of words preceding vowels in the reading passage context of the interviews. Using PRAAT (Boersma & Weenink 2018), I manually measured the duration between the release of the prevocalic word-initial stops and the onset of glottal pulsing in the subsequent vowel. Table 1 outlines the total count of these prevocalic word-initial stops analyzed in this study, which were produced by the 15 participants who read the reading passage during the interviews.

Stop	Number of tokens
/p/ (e.g., *pond, picked*)	247
/k/ (e.g., *cat, cut*)	261
/b/ (e.g., *Bob, bag*)	523
/g/ (e.g., *go, get*)	171

Table 1. Number of prevocalic word initial bilabial and velar stops extracted from the reading passage context for VOT analysis

The vowel analysis in this paper specifically considered vowels within lexical syntactic categories, such as nouns, verbs, adjectives, and adverbs, extracted from the casual speech and reading passage contexts. In other words, functional syntactic categories, such as determiners, auxiliaries, and coordinators, were excluded from vowel extraction due to their typical lack of stress at the sentence level. At the word stress level, only vowels with primary stress were selected for analysis. Vowels with a duration shorter than 59 milliseconds were omitted from consideration. To capture vowel characteristics, F1, F2, and F3 values were obtained at 30% (head) and 70% (tail) of the vowel duration. A PRAAT script (Boersma & Weenink 2018) was employed to mark the heads and tails of target vowels. Manual verification ensured accurate marking, confirming correct identification of the head and tail of relevant vowels, as well as consistent tracking of the first three formants. Another PRAAT script was used to collect F1, F2, and F3 values. Table 2 displays the count of various vowel tokens extracted from casual speech and reading passage styles for analysis in this paper. The representation predominantly employs Wells' (1982: xviii-xix) vowel classes and incorporates specific phonological environments and vowel subclasses.

Vowel class or subclass	Tokens	
	CS	RP
BEAT	760	65
KIT	292	192
BAIT	522	194
DRESS	704	216
TRAP (all TRAP except preceding voiced velars and nasals)	420	256
~BAN (preceding nasal /m/ & /n/)	160	77
STRUT	353	190
LOT	573	344
~BOUGHT (all THOUGHT except nasals and laterals)	110	62
BOAT~ (GOAT following non anterior coronals (not preceding /l/))	269	144
BOOT~ (GOOSE following non anterior coronals (not preceding /l/))	122	19

Table 2. Tokens of different vowel classes (or subclasses) extracted from the casual speech (CS) and reading passage (RP) contexts for vowel analysis

In Table 2 and subsequent sections, I specify the phonological contexts of various vowel classes using the symbol "~" to denote the vowel's position. When "~" precedes the target vowel, it signifies that the vowel is situated before a specific consonant or group of consonants. For instance, "~BAN" indicates the occurrence of the TRAP vowel before the nasal sounds /m/ or /n/. Conversely, when "~" follows the target vowel, it indicates that the vowel is positioned after a certain consonant or consonant group. For example, "BOAT~" implies that the GOAT vowel occurs after non-anterior coronals. The subsequent section will detail the findings of the present study.

4. Results. In Sheydaei (2024a), I showed that word-final /t/ glottalization was a prominent feature of Dearborn English, with Dearborners having significantly higher /t/ glottalization rates (almost 69%) than their non-Dearborn MENA American counterparts (around 26%). As such, I will start this section by analyzing the /t/ glottalization results. Figure 1 displays the rates of postvocalic word-final /t/ glottalizations across hijab-wearing status by the female Dearborn speakers who took part in the present study.

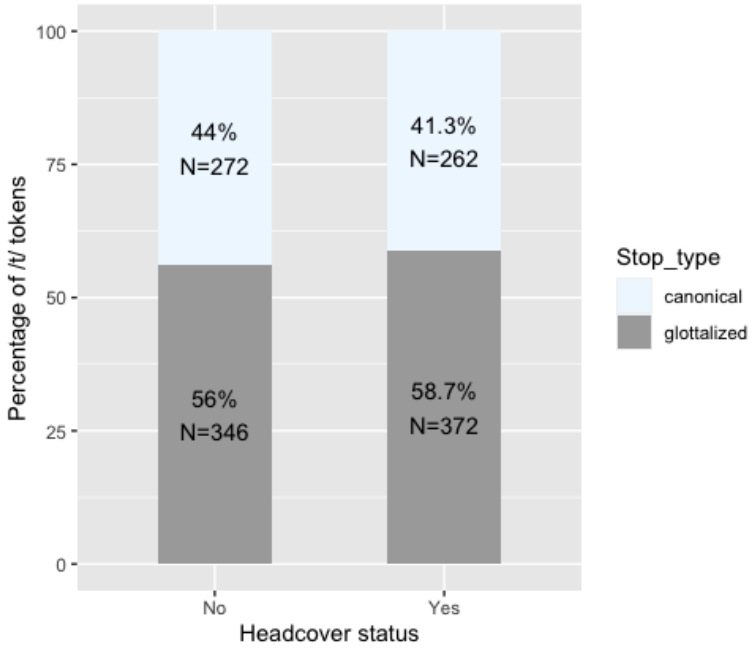

Figure 1. Glottalization of postvocalic word-final /t/ by hijab-wearing female Dearborners (N=8) vs. non-hijab-wearing female Dearborners (N=7)

Figure 1 shows that /t/ glottalization remains a steady feature of Dearborn English regardless of the sartorial choices of female Dearborners in terms of wearing hijab: both groups have high rates (almost 60%) of postvocalic word-final /t/ glottalization, consistent with previous work documenting this prominent feature of Dearborn English (Sheydaei 2024a). A Pearson Chi Square test also showed /t/ glottalization rates for hijab-wearing female Dearborners are not significantly different than those for their non-hijab-wearing fellow Dearboners'— $\chi 2$ (1, N = 15) = 0.81, p = 0.36). Next, I will analyze the VOT distributions for velar and bilabial stops. Table 3 below shows the mean VOT and the standard deviations for the prevocalic word-initial bilabial and velar stop sounds across the sartorial choice of wearing the hijab.

	Hijab-wearing (N=8)			Non-hijab-wearing (N=7)		
Fortis	**N**	**Mean**	**SD**	**N**	**Mean**	**SD**
/p/	128	52	21.8	119	60.9	23.4
/k/	133	65.7	21.3	128	74.5	19.2
Lenis	**N**	**Mean**	**SD**	**N**	**Mean**	**SD**
/b/	269	15.5	5.9	254	17	5.6
/g/	80	23.7	6.9	91	25.4	7.3

Table 3. Mean VOT (ms) and standard deviations for prevocalic word-initial velar and bilabial stops by hijab-wearing sartorial choice and place of articulation

Table 3 shows that while VOT values for the lenis members of bilabial and velar stops are relatively similar across the two groups of speakers, hijab-wearing speakers have shorter VOTs for the fortis members of both sets of stops than their non-hijab-wearing fellow Dearborners. T-tests were run to see whether significant differences could be observed between the two groups of speakers. Quite expectedly, the only significant differences in VOT were observed for the fortis stops: the t-tests showed hijab-wearing speakers have significantly shorter VOTs than the non-hijab-wearing group for both the /p/ ($p < 0.01$) and the /k/ ($p < 0.01$) stop sounds. Figure 2 below provides density plots for better visualization of VOT distributions for the two groups of speakers (*p* values obtained through the t-test are also displayed in Figure 2).

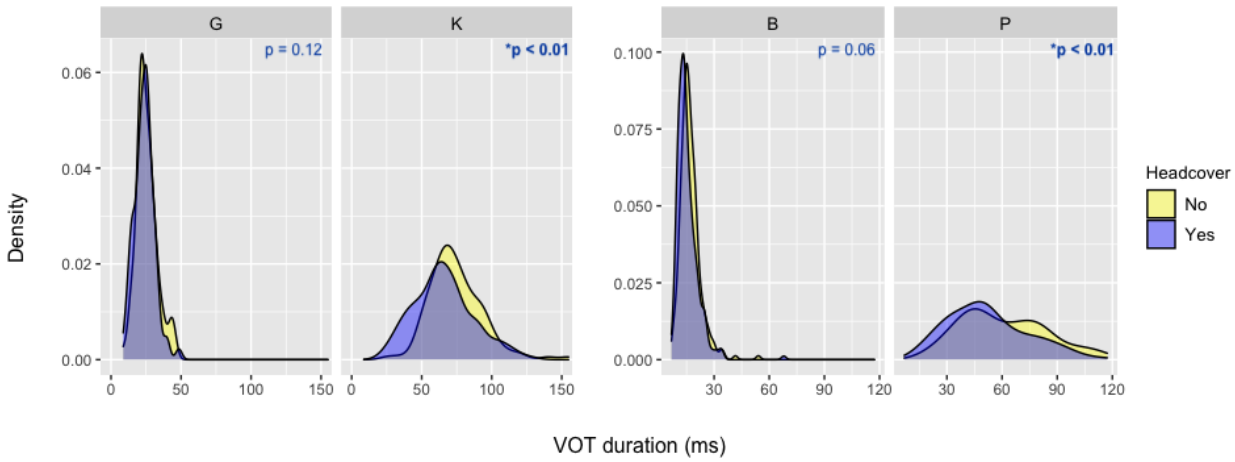

Figure 2. Distribution of VOTs for prevocalic word-initial velar stops (left) and bilabial stops (right) across sartorial choice of wearing the hijab

Figure 2 clearly shows that hijab-wearing speakers have shorter VOTs for /p/ and /k/ stop sounds and as a result, there is a shorter distance between the VOTs of the lenis and fortis members of bilabial and velar stops for the hijab-wearing speakers compared to the non-hijab-wearing speakers. The hijab-wearing group's linguistic behavior in this regard is very consistent with features of Dearborn English documented in Sheydaei (2024a). In the remainder of this section, I will analyze the vowel patterns in the speech of participants in this study. Figure 3 below shows the vowel space of the female Dearborn speakers who participated in this study across the two speech styles of casual speech and reading passage.

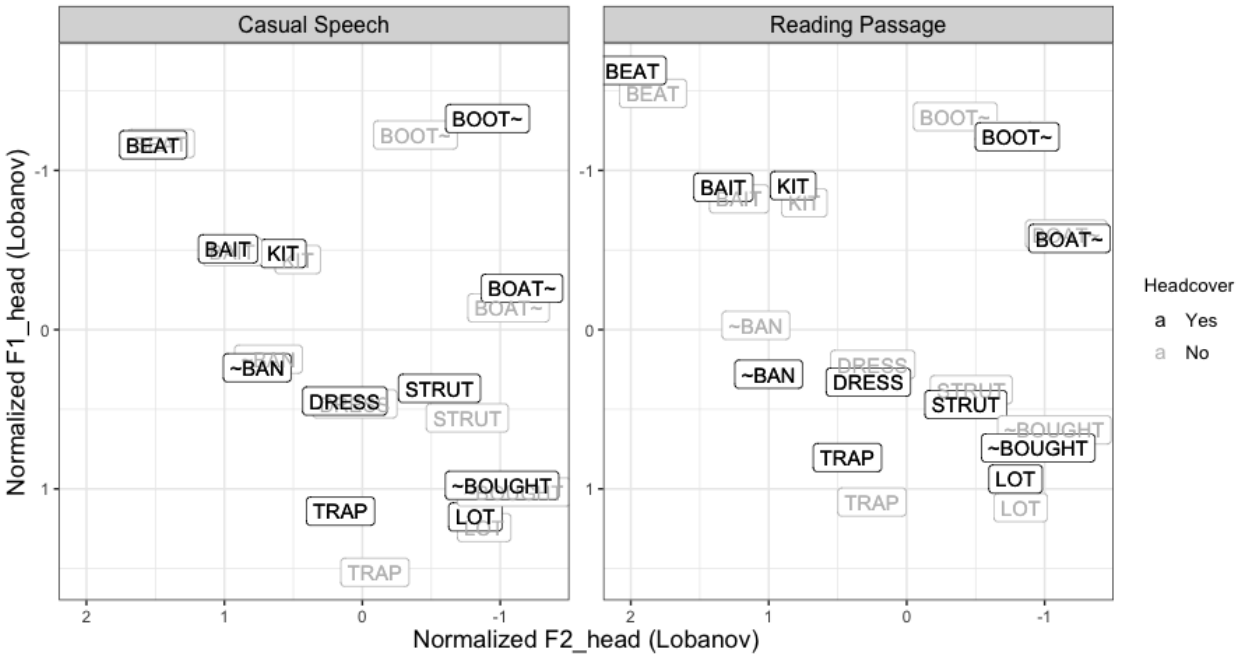

Figure 3. Casual speech (left) and reading passage (right) vowel spaces for hijab-wearing and non-hijab-wearing female Dearborners

Figure 3 shows that TRAP as a whole class is not raised and fronted, and LOT is not fronted for any of the groups in any of the speech contexts. These patterns show that the vowel space of female Dearborners is not consistent with the NCS (whose two advanced features are a fronted LOT and a raised and fronted TRAP), a stereotypical local feature of the speech in southeastern Michigan. Instead, the vowel spaces in Figure 3 display a nasal split of the TRAP vowel class, where the pre-nasal ~BAN subclass is significantly different in both F1 and F2 from the pre-oral TRAP subclass for both groups of speakers in both speech styles ($p < 0.01$ in all four t-test for the four conditions). At the same time, Figure 3 shows the convergence of the low back vowels of LOT and ~BOUGHT for both groups in both contexts, specifically for the hijab-wearing speakers in the reading passage context. Despite this apparent convergence, t-test results show LOT and ~BOUGHT are significantly different from each other in both F1 ($p < 0.01$ in all conditions except for hijab-wearing speakers' reading passage style) and F2 ($p < 0.02$ for hijab-wearing speakers' reading passage style, and $p < 0.01$ for the remaining three conditions) in all four conditions except in F1 ($p = 0.07$) for hijab-wearing speakers' reading passage. These observations show that female Dearborn speakers' low back vowels are not completely merged but converged, and suggest that the low back merger is a change in progress for these speakers. The convergence of low back vowels and the nasal split of TRAP are both consistent with the emerging pattern of the supralocal Low-Back-Merger Shift (LBMS) in southeastern Michigan. However, the vowel spaces for the non-hijab-wearing group — with its larger TRAP nasal split and fronter BOOT~ — suggest that this group could be leading this change towards the LBMS pattern. Figures 4 and 5 below compare the height and backness of certain vowels — including the pre-nasal and pre-oral TRAP subclasses and the low back vowels — in the speech of the two groups of female Dearborn speakers in this paper.

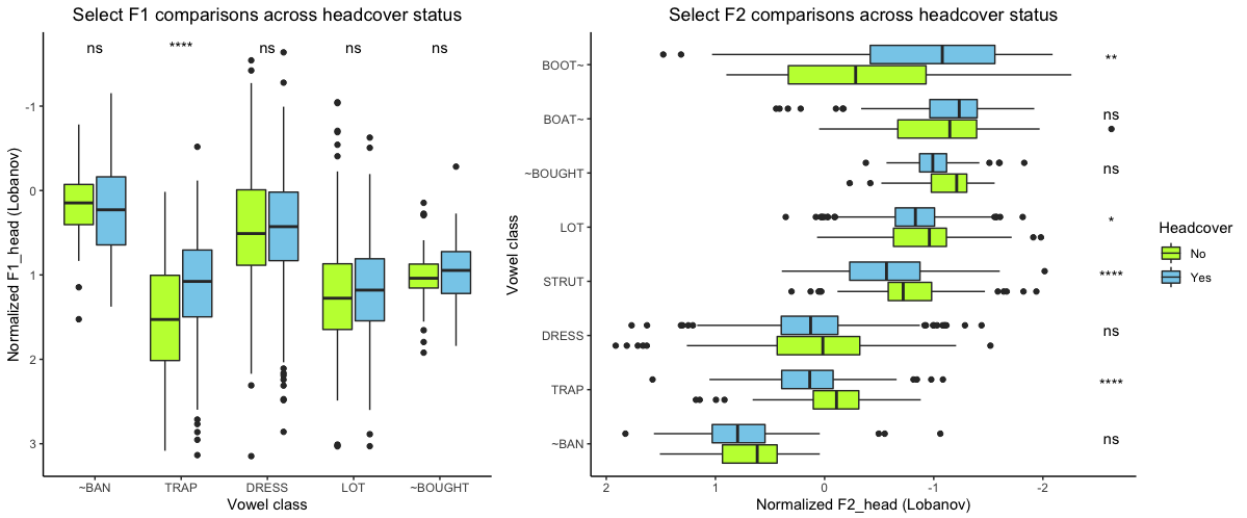

Figure 4. Select F1 (left: lower on Y-axis is lower in the mouth) and F2 (right: left on X-axis is fronter in the mouth) comparisons in female Dearborners' casual speech alongside t-test p values ('****', 0.0001; '***' < 0.001; '**' < 0.01)

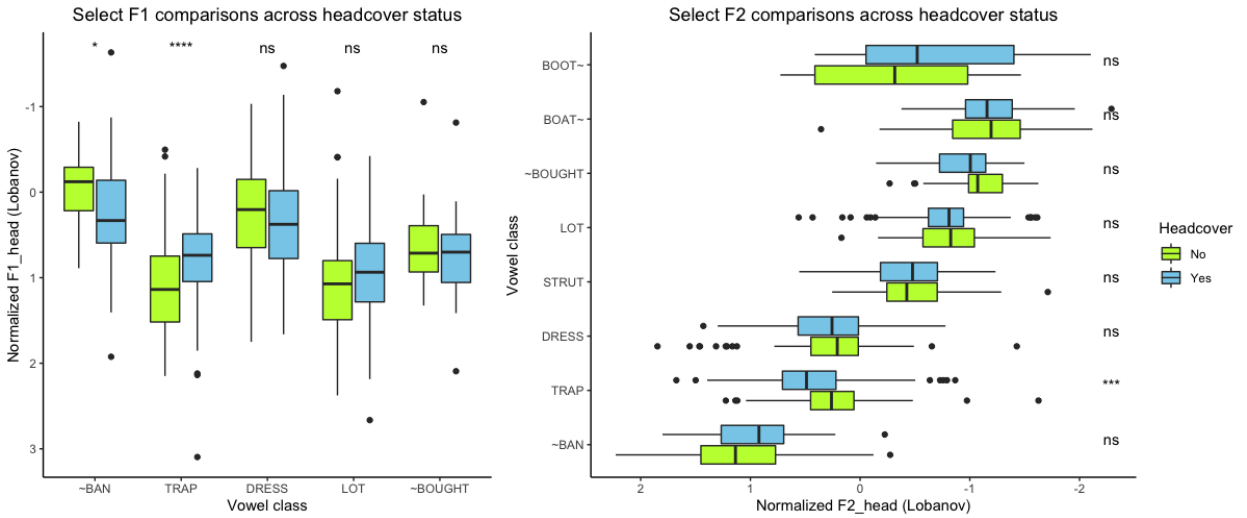

Figure 5. Select F1 (left: lower on Y-axis is lower in the mouth) and F2 (right: left on X-axis is fronter in the mouth) comparisons in female Dearborners' reading passage speech style alongside t-test p values ('****', 0.0001; '***' < 0.001; '**' < 0.01)

Figures 4 and 5 show that the TRAP subclass in the speech of non-hijab-wearing female Dearborners is significantly more lowered and retracted than in the speech of hijab-wearing speakers in both speech styles of casual speech and reading passage. Figures 4 and 5 also show that the non-hijab-wearing speakers have more fronted BOOT~ vowels in both speech styles, and significantly so in the casual speech context.

In summary, the vowel features summarized in this section show that female Dearborners' vowel patterning is not consistent with the stereotypically local NCS pattern. Nevertheless, the TRAP nasal split and the convergence of low back vowels show that female Dearborners' speech is more consistent with the emerging trans-local LBMS pattern, with the non-hijab-wearing group leading this pattern. The lack of complete merger of the low back vowels also suggest that

female Dearborner's vowel spaces — especially, the hijab-wearing speakers' with their closer distribution of ~BAN, TRAP, and DRESS — is very consistent with Preston's (2014) analysis of a reformulated vowel system where the diffusion of NCS features is "tempered" (p. 957) to avoid marked asymmetry. Meanwhile, the proximity of TRAP, LOT, and ~BOUGHT vowels within the vowel space of speakers wearing the hijab may indicate possible substrate influence from Arabic, a language often characterized by a six-vowel system with tense/lax distinctions (for a comprehensive exploration of the Arabic vowel system and its potential impact on the vowel system of Lebanese individuals in Dearborn, refer to Bakos (2012)).

5. Discussion. This study is a contribution to the growing body of sociolinguistic studies investigating variation within groups predefined based on macrosocial factors, by focusing on ethnic visibility and exploring the intersection of two groups of female Dearborn speakers' linguistic behavior and their sartorial choices in terms of the Islamic hijab. MENA Americans, in general, have received limited attention in sociolinguistics as an ethnic community. While MENA Americans have been officially and historically classified as white, they are not socially recognized as such (Beydoun 2013, 2015). The consideration of adding a standalone 'Middle Eastern or North African' box to US census forms in the US Census Bureau's mid-decade research on race and ethnicity in the 2010s (Jones 2017) reflects the socio-political complexities experienced by many MENA Americans in their daily lives in terms of racial classification and ethnic visibility — even though the MENA box was not added to the 2020 census (United States Census Bureau 2020). In a more recent development, the Office of Management and Budget (2023) reported that in response to its requests for comments on proposals for updating race and ethnicity standards, respondents showed advocacy for the recognition of MENA as a race category separate from white. These developments show that MENA Americans are a visible ethnic community despite the official classification as white. Within this context, MENA Americans in Dearborn, MI, specifically, are a "highly visible" community "widely perceived as outsiders who must prove they are American" (Shryock & Linn 2009: 58). Ethnographic evidence reported in Sheydaei (2021) also shows that while MENA Americans in the Upper Midwest and southern California generally feel like they are a physically visible community based on features such as hair type, skin tone, and dress, Dearboners specifically feel they are both physically and linguistically visible describing their English variety as sounding "deeper", "gruffy", and "throaty". This visibility is integral to the Dearborn community as a whole, and encompasses significant community hubs —such as the Arab Community Center for Economic and Social Services (ACCESS) and the Arab American National Museum— and the linguistic landscape of the community: evident by the Arab markets and numerous establishments displaying signs in Arabic on Warren Avenue in Dearborn, for example.

Survey data in Sheydaei (2023) showed that the English variety spoken in Dearborn is recognized on a local level mostly with masculinity associations: in other words, male Dearborn speakers' speech was associated with the locality of Dearborn in a task including an interactive map. Such masculinity associations of Dearborn English are consistent with ethnographic evidence reported in Sheydaei (2021) about Dearborners' perceptions of their English variety and their codeswitching practices and stylistic choices in relation to Dearborn English. As such, in Sheydaei (2024a), I argue that Dearborn English is an ethnolinguistic repertoire that includes features such as VOT convergence for the lenis and fortis members of velar and bilabial stop sets, post-vocalic word-final /t/ glottalization, and vowel patterns consistent neither with the stereotypically local NCS nor with the pan national LBMS. In the present study, I investigated

the intersection of ethnic visibility — in terms of wearing the Islamic hijab — and linguistic behavior — in reference to Dearborn English features — for a group of female Dearborners.

The results of the present study showed that both groups of female Dearborn speakers had similarly high rates of postvocalic word-final /t/ glottalization (around 60%), a prominent feature of Dearborn English. In Sheydaei (2024a), I argued that /t/ glottalization is an ethno-local marker for Dearborners which, in terms of its social meaning, is associated with the covert prestige closely related to the high visibility of Dearborn in the particular local context of southeastern Michigan. Therefore, both groups of female Dearborn speakers in this study are indexing their Dearborn identities through their frequent glottalizations of word-final /t/s. The VOT analysis in this study, however, was more meaningful in terms of revealing interesting differences between the two groups of speakers: the hijab-wearing speakers had significantly shorter VOTs for the /k/ and /p/ stop sounds than their non-hijab-wearing fellow Dearborners. Thus, the hijab-wearing speakers' speech featured more converged VOT distributions for the lenis and fortis members of the bilabial and velar stop sets, another feature of the Dearborn ethnolinguistic repertoire documented in Sheydaei (2024a). As such, it could be argued that the hijab-wearing speakers' ethnic visibility in terms of their sartorial choices is reflected in their speech in terms of the stop VOT distribution feature of Dearborn English. The vowel analysis in the present study also reflected consistency between speakers' sartorial choices and their linguistic behavior.

Southeastern Michigan is part of the Inland North sub-dialect region and features more advanced sound patterns of the NCS including distinct low back vowels, and the raising and fronting of the TRAP vowel, which prompts the fronting of the LOT vowel, which, in turn, prompts the lowering of the THOUGHT vowel (Labov et al. 2005). As such, a number of sociolinguistic and variationist studies has documented NCS features in the region (Evans & Preston 2001; Gordon 2001; Evans et al. 2006). However, more recent studies (e.g., Wagner et al. 2016; Nesbitt & Mason 2016; Zheng 2018; Nesbitt 2018, 2021) have reported vowel patterns in the region that are not consistent with the NCS but more consistent with the supralocal LBMS. The LBMS is a more general term that synthesizes and unites accounts of the California and Canadian Vowel Shifts and similar vowel patterns occurring outside these two areas in North America (Becker 2019). In the LBMS, the rising and retraction of LOT results in the merging of the low back vowels of LOT and THOUGHT (hence the name), which in turn leads to the lowering of low and mid-high front vowels of TRAP, DRESS, and KIT. Previous accounts of the vowel patterns of Dearborn speakers show Dearborners' speech is not consistent with the stereotypically local pattern of the NCS (i.e., it doesn't feature LOT fronting and TRAP raising and fronting), nor does it feature the merger of the low back vowels (Samant 2010, 2011; Bakos 2012). In a thorough analysis of the speech of different ethnic groups in southeastern Michigan, including MENA Americans in Dearborn, with reference to the NCS, Preston (2014) argued that the vowel patterns of these groups featured a reformulated vowel system that "tempered" (p. 957) the diffusion of NCS features in order to avoid marked asymmetry. This reformulated vowel system is characterized by three point vowels (BEAT, LOT, and GOOSE) and two pairs of short-long vowels in the mid front area (BAIT-KIT and TRAP-DRESS) and the mid back area (FOOT-GOAT and THOUGHT-STRUT).

Similar with previous accounts of Dearborn English's vowel system (Saman 2010, 2011; Bakos 2012; Preston 2014), I also argued in Sheydaei (2024a) that Dearborners' vowel system does not display NCS features or complete merger of low back vowels; instead, I argued that the vowel system of Dearborners in general was more consistent with Preston's (2014) analysis. There, I also argued that male Dearborners' vowel system, more representative of Dearborn

English, showed substrate influence from Arabic with its close distribution of TRAP, LOT, and ~BOUGHT vowels. The analysis of the vowel spaces of the two groups of female speakers in the present study also shows that female Dearborners' vowel system does not display advanced NCS features, nor is it fully consistent with the LBMS, with the low back vowels being distinct. Nevertheless, the significantly more retracted and lowered TRAP subclass in the speech of the non- hijab-wearing female Dearborners and the hijab-wearing speakers' closer distribution of ~BAN, TRAP, and DRESS — especially in their reading passage style — suggests that the hijab-wearing group's speech is more consistent with Preston's (2014) analysis of a reformulated vowel system to avoid marked asymmetry. Moreover, the proximity of TRAP, LOT, and ~BOUGHT vowels in the vowel spaces of hijab-wearing speakers — again, especially in their reading passage style — indicates stronger substrate influence from Arabic. These observations also suggest that with more attention to speech style — i.e., in the reading passage context — hijab-wearing speakers project a more Dearborn identity through the vowel patterning in their speech. As such it can be concluded that similar to the stop VOT distributions, hijab-wearing Dearborners' vowel patterning reflects their ethnic visibility, being more aligned with features of the Dearborn ethnolinguistic repertoire.

In summary, the present study showed that sartorial choices of female Dearborn speakers in terms of wearing the Islamic hijab (and hence their ethnic visibility) interact meaningfully with their linguistic choices. Female Dearborners who choose to wear the Islamic hijab (and are therefore more ethnically visible) align their speech more strongly with certain features of Dearborn English such as its vowel patterning and the convergence of VOT distributions of fortis and lenis members of velar and bilabial stop sets. At the same time, both hijab-wearing and non-hijab-wearing female Dearborners index a Dearborn identity by frequently glottalizing post-vocalic word-final /t/s, a prominent feature of the Dearborn ethnolinguistic repertoire. Future research can explore linguistic variation within Dearborn by looking at more locally defined ethnic visibility and identification factors such as different sub-ethnic groups within the community (e.g., Yemenis, Iraqis, or Lebanese) and extend the analysis to other identities including gender or sexuality with reference to features of the Dearborn ethnolinguistic repertoire.

References

Agha, Asif. 2003. The social life of cultural value. *Language and Communication* 23. 231–73. https://doi.org/10.1016/S0271-5309(03)00012-0.

Agha, Asif. 2007. *Language and social relations*. Cambridge: Cambridge University Press.

Bakos, Jon. 2012. Investigating the Northern Cities Shift in the Lebanese community of Dearborn, Michigan. *Lingua y migración/Language and Migration* 4(1). 5–31.

Becker, Kara. 2017. The sociolinguistic interview. In Christine Mallinson, Becky Childs & Gerard Van Herk (eds.), *Data collection in sociolinguistics: Methods and applications*, 99–107. New York: Routledge.

Becker, Kara. 2019. Introduction. In Kara Becker (ed.), *The low-back-merger shift: Uniting the Canadian vowel shift, the California vowel shift, and short front vowel shifts across North America* (Publication of the American Dialect Society 104), 1–30. Durham, NC: Duke University Press.

Beydoun, Khaled A. 2013. Between Muslim and White: The legal construction of Arab American identity. *NYU Annual Survey American Law* 69. 29–76.

Beydoun, Khaled A. 2015. A demographic threat? Proposed reclassification of Arab Americans on the 2020 Census. *Michigan Law Review Online* 114(1). https://ssrn.com/abstract=2610715.

Boersma, Paul & David Weenink. 2018. Praat: Doing phonetics by computer. Computer program, version 6.0. 37. https://www.fon.hum.uva.nl/praat/.
Cardoso, Amanda, Lauren Hall-Lew, Yova Kementchedjhieva & Ruaridh Purse. 2016. Between California and the Pacific Northwest: The front lax vowels in San Francisco English. *American Speech* 101(1). 33–54. https://doi.org/10.1215/00031283-3772890.
Carmichael, Katie. 2017. Displacement and local linguistic practices: R-lessness in post-Katrina Greater New Orleans. *Journal of Sociolinguistics* 21(5). 696–719. https://doi.org/10.1111/josl.12253.
Evans, Besty E., Rika Ito, Jamila Jones & Dennis R. Preston. 2006. How to get to be one kind of Midwesterner: Accommodation to the Northern Cities Chain Shift. In Beth Lee Simon & Thomas Murray (eds.), *Language variation and change in the American Midland*, 179–197. Amsterdam: John Benjamins.
Evans, Besty E. & Dennis R. Preston. 2001. When it's not nice to be normal: What's missing from normalized data? *University of Pennsylvania Working Papers in Linguistics* 7(3). 6.
Gordon, Matthew J. 2001. *Small-town values and big-city vowels: A study of the Northern Cities Shift in Michigan*. Durham, NC: Duke University Press.
Hoffman, Michol F. & James A. Walker. 2010. Ethnolects and the city: Ethnic orientation and linguistic variation in Toronto English. *Language Variation and Change* 22(1). 37–67. https://doi.org/10.1017/S0954394509990238.
Holliday, Nicole R. 2019. Variation in question intonation in the corpus of regional African American language. *American Speech* 94(1). 110–130. https://doi.org/10.1215/00031283-7308038.
Jones, Nicholas A. 2017. *Update on the US Census Bureau's race and ethnic research for the 2020 census*. Washington, DC: US Census Bureau.
King, Sharese. 2021. Rethinking race and place: The role of persona in sound change reversal. *Journal of Sociolinguistics* 25(2). 159–178. https://doi.org/10.1111/josl.12454.
Labov, William, Sharon Ash & Charles Boberg. 2005. *The atlas of North American English*. Berlin: Mouton de Gruyter.
Lenneberg, Eric H. 1967. The biological foundations of language. *Hospital Practice* 2(12). 59– 67. https://doi.org/10.1080/21548331.1967.11707799.
Nesbitt, Monica. 2018. Economic change and the decline of raised TRAP in Lansing, MI. *University of Pennsylvania Working Papers in Linguistics* 24(2). 67–76.
Nesbitt, Monica. 2021. The rise and fall of the Northern Cities Shift: Social and linguistic reorganization of TRAP in twentieth-century Lansing, Michigan. *American Speech* 96(3). 332–370. https://doi.org/10.1215/00031283-8791754.
Nesbitt, Monica & Alexander Mason. 2016. Evidence of the *elsewhere* shift in the Inland North. Paper presented at New Ways of Analyzing Variation (NWAV) 45, Vancouver, Canada.
Office of Management and Budget. 2023. Initial proposals for updating OMB's race and ethnicity statistical standards. *Federal Register* 88. 5375–5384.
Preston, Dennis R. 2014. Language as plants: Ecology from the inside out. *Revue Belge de Philologie et d'Histoire* 92(3). 941–962.
Reed, Paul E. 2018. The importance of Appalachian identity: A case study in rootedness. *American Speech* 93(3-4). 409–424. https://doi.org/10.1215/00031283-7271250.
Rosenfelder, Ingrid, Josef Fruehwald, Keelan Evanini, Scott Seyfarth, Christian Brickhouse, Kyle Gorman, Hillary Prichard, and Jiahong Yuan. 2022. FAVE: Forced alignment and vowel extraction (Version v2.0.1). Computer software. https://github.com/JoFrhwld/FAVE.

Samant, Sai. 2010. Arab Americans and sound change in southeastern Michigan. *English Today* 26(3). 27–34. https://doi.org/10.1017/S0266078410000209.
Samant, Sai. 2011. *Arab American youth and sound change in southeastern Michigan*. Ann Arbor, MI: University of Michigan dissertation.
Sheydaei, Iman. 2021. *Local and ethnic identities: MENA-Americans' linguistic behavior and ethnic rootedness*. Madison, WI: University of Wisconsin-Madison dissertation.
Sheydaei, Iman. 2023. Exploring the local enregisterment of Dearborn English in southeastern Michigan. Poster presented at Linguistic Society of America Annual Meeting, Denver, CO.
Sheydaei, Iman. 2024a [Forthcoming]. Dearborn English: An ethnolinguistic repertoire for MENA Americans. *Journal of Linguistic Geography*.
Sheydaei, Iman. 2024b. Ethnic rootedness and social affiliations at the interface with linguistic performativity: Evidence from Americans of Southwest Asian or North African Descent. *Languages* 9(1). 4. https://doi.org/10.3390/languages9010004.
Shryock, Andrew & Ann Chih Lin. 2009. Arab American identities in question. In Wayne Baker, Sally Howell, Amaney Jamal, Ann Chih Lin, Andrew Shryock, Ronald R. Stockton & Mark Tessler (eds.), *Citizenship and crisis: Arab Detroit after 9/11*, 35–68. New York: Russell Sage Foundation.
Squires, Lauren. 2014. From TV personality to fans and beyond: Indexical bleaching and the diffusion of a media innovation. *Journal of Linguistic Anthropology* 24. 42–62. https://doi.org/10.1111/jola.12036.
United States Census Bureau. 2020. Decennial census of population and housing questionnaires and instructions. https://tinyurl.com/yejaab22.
Wagner, Suzanne E., Alexander Mason, Monica Nesbitt, Erin Pevan & Matt Savage. 2016. Reversal and re-organization of the Northern Cities Shift in Michigan. *University of Pennsylvania Working Papers in Linguistics* 22(2). Selected Papers from New Ways of Analyzing Variation (NWAV) 44. 19.
Wells, John C. 1982. *Accents of English, Volume I: An introduction*. Cambridge: Cambridge University Press.
Wittenburg, Peter, Hennie Brugman, Albert Russel, Alex Klassmann, and Han Sloetjes. 2006. ELAN: A professional framework for multimodality research. In Nicoletta Calzolari, Khalid Choukri, Aldo Gangemi, Bente Maegaard, Joseph Mariani, Jan Odijk & Daniel Tap (eds.), *Proceedings of LREC 2006, Fifth International Conference on Language Resources and Evaluation*, 1556–1559. Genoa, Italy: European Language Resources Association (ELRA).
Zheng, Mingzhe. 2018. *You have to learn to adapt: A sociolinguistic study of Chinese Americans in the "Asian City" of southeast Michigan*. East Lansing, MI: Michigan State University dissertation.