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THE INTERDENTALS /θ/ and /ð/ IN THE SPOKEN ARABIC OF DUBA

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ABSTRACT

The present research investigates two sociolinguistic variables of the fricative interdental variants /θ/ and /ð/ in the dialect of the urban community in Duba, located in the Tabuk region of Saudi Arabia. The community of Duba is divided into Bedouin (Bedu) and Urban (Hadār) groups, which are culturally and linguistically distinct across multiple linguistic levels, including syntax, morphology, phonology, semantics, and lexicon. Consequently, variation and change in the urban dialect were expected, particularly when examining age as a social variable. The study is based on the speech of 15 urban women from Duba. The data indicate that stop variants are the traditional forms within this group, whereas the fricative variants function as supra-local forms. Results reveal that older women are the most conservative in using stop variants [t] and [d], while middle-aged and younger speakers still employ stops frequently, albeit less than older speakers. This demonstrates that middle-aged and young speakers orient toward the supra-local norms /θ/ and /ð/.

KEYWORDS: Age, Interdentals, Duba, Urban, Arabic Dialectology.

1. INTRODUCTION

This study addresses a gap in the existing literature by investigating the sociolinguistic variation of interdental variants /θ/ and /ð/ in the dialect of the urban community in Duba, located in the southwest of Saudi Arabia (hereafter SA), in Tabuk province. The research contributes a nuanced examination of the urban community dialect in Duba among 15 female speakers, providing detailed insights into participant demographics, study context, data collection methodology, and results. Importantly, variation in the interdentals is influenced primarily by age as a social factor rather than intrinsic linguistic change.

Similar to other Hijazi cities and towns, Duba's population is divided into two social groups: Bedouin (Bedu) and Urban (Hadar). The urban families of Duba, known as ḥaḍar as-sāḥil (coastal urban), inhabit all towns and cities along the West coast, from Haql in the north to Jeddah in the south. They exhibit distinct customs, culture, and linguistic characteristics compared to the Bedouin community. For example, the pronunciation of the town's name differentiates between the two groups: urban speakers consistently say /dˤuba/ with a stop, whereas Bedouin speakers produce /ðˤuba/ with a fricative.

Many urban families maintain familial connections with Egypt, with similar family names and historical migration links, particularly during the Arab-Israeli wars of 1948, 1967, and 1973.

Prominent family names include Ġunaim, Ḥammās, Ḥabbān, Almehallāwi, Šāhin, Ġābir, Siḥla, Bedēwi, Al'bēdān, Klābi, 'afāša, and Almuğērbi. Duba's proximity to Egypt (See map 1 below), especially Sinai, has fostered close cultural and linguistic ties, which are reflected in dialectal features.

In Duba dialect, the interdental variables /θ/ and /ð/ exhibit two variants: traditional and supra-local. Supra-local forms are defined as "the process by which, as a result of mobility and dialect contact, linguistic variants with a wider socio-spatial currency become more widely adopted at the expense of more locally specific forms" (Britain, 2010, p. 194). In SA, supra-local forms are often influenced by the dialects of Riyadh, the capital, or the broader Hijazi region. The stop variants [t] and [d] represent traditional forms, while the interdental forms [θ] and [ð] represent supra-local or innovative forms in Urban Duba dialect. The following examples from the collected data illustrate these distinctions

- /θ/:

ta?θi:r ~ ta?ti:r 'affect'
 ?iθne:n ~ ?itne:n 'two'
 ?iθqa:fa ~ ?ittaqa:fa 'culture'
 ?aθa:r ~ ?ata:r 'monuments'
- /ð/:

biðuður ~ biðudur 'with excuse'
 maðu:ra ~ maðdu:ra 'excused'
 yibðilu ~ yibdilu 'make an effort'
 taðkira ~ tadkira 'a ticket'.

1.1. Location and Demography



Map 1: A Map Showing the Location of Duba.

Duba is strategically situated near the Egyptian-

Jordanian-Palestinian border crossing and serves as

one of Egypt's pilgrimage (Hajj) gateways along the Red Sea coast (See Map 1). Ferries connect Duba to Egypt and Jordan, with the ferry ride between Duba and Hurghada in Egypt taking approximately three to seven hours. A coastal highway links the town to other Red Sea coastal towns as well as to Jordan in the north.

The population of Duba is approximately 51,951 and has experienced steady growth over the past few decades due to increased mobility and economic opportunities. As previously mentioned, the population is divided into two social groups: Bedouin (Bedu) and Urban (Hadar). Currently, Bedu and Hadar are in frequent contact, including intermarriage, although historically the two groups were geographically segregated. For example, the işşamda neighborhood was traditionally inhabited by urban families, while the al-balad neighborhood was primarily Bedouin. Historically, Bedouins lived in the desert and in tents, as reported by participants.

The Bedouin population in Duba predominantly belongs to the Ḥuwētāt tribe, one of the largest in the region, historians differ on the origin of Ḥuwētāt tribe, some as Burton (1878) and Al-Jaziri (2022) mentioned that they are from Ǧudām قبیلة جذام, which is one of the ancient large South Arabian tribes (Caskel, 1960). Others said that they are originally from 'Al'ṣrāf in Hijaz (Altayyeb, 1997). The Ḥuwētāt tribe extends widely across Jordan and Sinai in Egypt. Palva (2004) described the dialects of Ḥuwētāt in al-Gafr, Jordan, while De Jong (2011) documented the dialect of Sinai, including Ḥuwētāt speakers. Urban and Bedouin Ḥuwētāt dialects differ: the Bedouin variety preserves the full set of interdental

phonemes, whereas the urban dialect employs stop variants. The present study focuses on the use of /θ/ and /ð/ in the urban dialect of Duba.

The demographic composition and historical contact patterns provide an important context for understanding linguistic variation. Increased population mobility and historical migration have facilitated dialect contact, particularly with Egyptian Arabic, creating conditions for the adoption of supra-local linguistic norms (Britain, 2010; Palva, 2006).

1.2. Historical Background and Relation with Sinai

The northern Hijaz, including coastal cities such as Umluj, Alwajh, and Duba, has historically been significant as commercial ports. Even before Islam, these ports facilitated trade between southern Arabia, India, Egypt, and the Mediterranean (Al-Obaidan, 1987). During the Islamic era, Duba served as a stop along the pilgrimage route, a function it retains today. Duba was mentioned by explorers and orientalists, including Alhamawi (626 AH), Sadeq Pasha (1880), and Filby (1957).

In 1984, a highway was constructed connecting Tabuk to Duba. Today, Duba is best described as a small town with limited markets and essential services. Residents frequently commute to Tabuk for shopping, government services, and visiting relatives. Mobility has increased over the past five years, further amplified by the emergence of the NEOM mega-project. Therefore, many of the locals move to Tabuk seeking better schools for their children and to be near services.



Map 2: Location of the Sinai Peninsula.

(<https://www.google.com/imgres?q=sinai&imgurl=https%3A%2F%2Fc8.alamy.com%2Fcomp%2F2R6BTF3%2Fsinai-peninsula-region-political-map-peninsula-in-egypt-located-between-the-mediterranean-sea-and-the-red-sea-land-bridge-between-asia-and-africa-2R6BTF3.jpg&imgrefurl=https%3A%2F%2Fwww.alamy.com%2Fstock-photo%2Fsuez-canal-and-sinai-region.html&docid=X-R3WrwpclnnzM&tbnid=Y05fdSfFGgcA-M&vet=12ahUKEwj2qvArreOAxXEdaQEHTYjBTIQM3oECDMQAA..i&w=1300&h=956&hcb=2&ved=2ahUKEwj2qvArreOAxXEdaQEHTYjBTIQM3oECDMQAA>)

The Duba community historically traveled to Sinai for trade (See map 2), pilgrimage, and familial

purposes. Sinai, located between the Mediterranean Sea to the north and the Red Sea to the south,

facilitated cross-cultural and linguistic contact. Prior to modern transportation, ferries connected Duba to the Port of Suez, promoting interaction and trade, including the exchange of charcoal and salted fish for commodities such as sugar, corn, and furniture. The port of Duba ceased operating commercially after the opening of Jeddah Islamic Port in 1959 (Almughherbi, 2017, p. 17).

Historical ties with Sinai and Egypt explain shared linguistic features, including variation between stop and interdental variants. These ties continue today, particularly through intermarriage with families in Suez. Population movement occurred bidirectionally, especially during the 1948, 1967, and 1973 Arab-Israeli wars, further contributing to linguistic divergence between urban and Bedouin communities. Palva (2006) highlighted that Bedouin dialects tend to retain fricative sounds, while urban dialects often produce stops, a pattern reflected in Duba.

The historical mobility of Duba's population, coupled with sustained economic and social contact with Sinai and Egypt, illustrates the principles of language contact theory, whereby dialect contact facilitates the diffusion of supra-local linguistic features. Trade and migration historically introduced linguistic elements from Egyptian Arabic into Duba, particularly in the adoption of interdental variants, demonstrating how social, economic, and geographic factors interact to shape dialectal evolution.

2. LITERATURE REVIEW

2.1. *Interdentals in Arabic Dialects*

Interdental variants /θ/ and /ð/ have been widely discussed in Arabic dialectology. Variation in these phonemes is documented across the Arab world, reflecting both regional and social factors. In Algerian village dialects, /θ/ and /ð/ are realized as /t/ and /d/ (Grand'Henry, 2011), whereas in Moroccan Arabic, /θ/, /ð/, and /ðˤ/ are realized as /tˤ/, /dˤ/, and /dˤˤ/ (Aguadé, 2011). Hussain (2017), in her study of Medina, also reports variation in the realization of interdental fricatives among urban and tribal speakers, suggesting social stratification.

Sociolinguistic investigations in the Arabic-speaking region have examined interdental variants in relation to social factors. Al-Wer (1991) studied variation in the use of local fricative variants [θ] and [ðˤ] and non-local Palestinian variants [t] and [d] among 116 indigenous Jordanian women. Her findings indicate that younger and more educated speakers tend to adopt non-local Palestinian variants, which are considered prestigious.

In Gaza, Cotter (2016) examined the Arabic

interdentals /θ/, /ð/, and /ðˤ/ across urban, rural, and Bedouin speakers. He found that /θ/ often favored the stop [t], except in words borrowed from Modern Standard Arabic (MSA). The variant /ð/ generally favored [d], with occasional realizations as /z/, while /ðˤ/ was realized as /zˤ/ or [dˤˤ]. These patterns reflect both traditional forms and innovations influenced by urban contact.

Holes (1980, 1987), in his studies of Bahrain, utilized sect as a social factor to distinguish dialectal features between Arab and Bahārīna speakers. He reports that Arab speakers predominantly maintain the standard interdental fricatives /θ/ and /ð/, whereas Bahārīna speakers traditionally realize these sounds as /f/ and /d/. However, there is evidence of a gradual shift among Bahārīna speakers toward using /θ/ and /ð/ in more formal or prestige contexts, demonstrating the influence of supra-local norms (Holes, 1987).

2.2. *Sociolinguistic Studies of Interdentals in Saudi Arabia*

In Saudi Arabia, the distinction between Bedouin and urban (Hādar) dialects is often marked by the realization of interdentals (Cadora, 1992; Hussain, 2017). Al-Essa (2022) notes that the majority of speakers retain the fricative variants, whereas stop variants are used in Jeddah, Mecca, and Medina. In the Eastern Province, particularly in Qatif, /θ/ and /ð/ are produced as /f/ and /d/ (Prochazka, 1990).

Research on interdental variants includes Al-Essa (2008, 2022), who examined Najdi migrants in Jeddah. Findings indicate that speakers often orient toward supra-local norms rather than local forms. Studies in Mecca by Al-Jehani (1985), Al-Ahdal (1989), and Al-Ghamdi (2014, 2021) reveal that tribal populations preserve fricative variants, while non-tribal populations favor stop or sibilant variants. Similarly, Hussain (2017) documents that tribal and non-tribal communities in Medina differ in interdental use.

Al-Ghamdi (2014, 2021) examined the Ghamdi tribe in Mecca, whose homeland is Al-Baha in southern Saudi Arabia. While the Ghamdi maintain [θ] and [ð] in their native dialect, interdentals have largely disappeared in the Meccan context, replaced by stops [t] and [d] or sibilants [s] and [z]. Younger women show slight adaptation to the stop variants, but heritage forms persist, indicating ongoing sociolinguistic change influenced by migration and urban contact.

2.3. *The Case of Interdentals in Duba*

The variation in /θ/ and /ð/ in Duba mirrors

patterns observed in urban Hijazi dialects, Cairo Arabic, and Moroccan Arabic. In the current dialect, the traditional forms are the stops [t] and [d], while the innovative forms are the interdental fricatives [θ] and [ð]. The present study focuses specifically on [θ] ~ [t] and [ð] ~ [d].

Data analysis of 15 urban women from Duba shows that [t] and [d] occur predominantly in frequently used words. The adoption of interdentals appears driven primarily by younger speakers, whereas middle-aged and older speakers retain stop variants. This pattern suggests that the native dialect of this urban sample historically lacked interdentals, and the diffusion of [θ] and [ð] is influenced by supra-local norms, consistent with findings from Al-Ammar (2017) in Hail, Al-Bohnayyah (2018) in Al-Ahsa, Alaodini (2019 a, 2019 b) in Dammam, Al-Rohili (2019) in Medina, and Al-Sheyadi (2021) in Oman.

Furthermore, the researcher observation revealed that speakers often initially used stop variants during casual conversation but shifted to interdentals when recording began. This illustrates a "change from above" scenario, where speakers demonstrate heightened awareness of supra-local norms (Labov, 1994).

3. METHODOLOGY

Data for this study were collected over a ten-month period, from February 2022 to December 2022, through audio-recorded sociolinguistic interviews with 15 women from the Ḥaḍar (Urban) community in Duba. A Sony digital recorder (ICD-UX200F) was used to record the interviews in file format (wav). This device produced a very clear quality of recording, and it was not necessary to use an external microphone.

Interviews were designed to elicit spontaneous speech, focusing on everyday topics such as local culture, food, weddings, social occasions, and personal memories. This approach follows established practices in sociolinguistic research, emphasizing naturalistic language use rather than elicited responses (Tagliamonte, 2006).

The study intentionally focused on women participants due to cultural constraints in accessing male speakers within a small, conservative community. Additionally, the researcher's status as an outsider necessitated careful relationship-building and trust establishment with participants, consistent with guidelines for sociolinguistic fieldwork in restrictive communities (Milroy, 1987; Cheshire, 1982).

3.1. Sample

The sample comprised 15 women, divided into three age groups to examine age as a social factor in linguistic variation

- Old (56-70 years, n = 6)
- Middle-aged (39-55 years, n = 5)
- Young (20-38 years, n = 4)

Participants varied in educational background and occupation. Among older women, one was a housewife with no formal education, while others were retired or nearing retirement, with varying levels of formal schooling. Middle-aged women were predominantly university-educated, working in administrative roles, whereas the younger women included recent university graduates and Master's holders employed locally in education or at the university.

Age was selected as the primary social variable due to its critical role in sociolinguistic research, both for its capacity to illuminate diachronic change and for providing "depth in time" in language variation studies (Eckert, 1997; Al-Wer, 2006: 630). Research demonstrates that younger speakers frequently adopt innovative linguistic forms at a higher rate than older speakers, reflecting the social dynamics of language change (Tagliamonte, 2012: 43; Al-Wer, 2013: 250; Al-Wer et al., 2022).

Sampling was purposive, reflecting the need to access participants who were willing to engage in sociolinguistic interviews. This approach aligns with methodological recommendations for studies in small or closed communities, where random sampling is often impractical (Milroy, 1987; Cheshire, 1982).

3.2. Ethical Considerations

The study adhered to ethical standards for sociolinguistic research. All participants provided informed consent prior to participation, and they were assured of the confidentiality and anonymity of their responses. Participants were informed that they could withdraw from the study at any time without consequence. In addition, recordings and transcriptions were securely stored and used solely for research purposes. The research design also respected cultural norms, ensuring that interactions with participants were conducted in a culturally appropriate and sensitive manner. These ethical measures were essential for maintaining trust and authenticity in data collection (Tagliamonte, 2006; Milroy, 1987).

4. DATA AND ANALYSIS

The linguistic analysis of the interdental variants /θ/ and /ð/ among the 15 urban women from Duba

reveals that the stop variants [t] and [d] occur predominantly in frequently used words, consistent with the traditional forms of the local dialect. For instance, [d] is used in words such as [ha:da] 'this' and [dahi:n] 'now', while [t] appears in numerals, for example [ʔiθne:n] 'two'. The focus of this study is on the variation between [θ] ~ [t] and [ð] ~ [d].

The extracted tokens consisted of 85 instances of /θ/ and 89 instances of /ð/. Given the relatively low number of tokens, the data were analyzed qualitatively rather than quantitatively, in line with sociolinguistic research standards for small sample sizes (Tagliamonte, 2006). The analysis revealed clear

patterns of age-related variation: older speakers predominantly use the traditional stop variants, whereas younger speakers exhibit a higher frequency of the innovative interdental variants, reflecting the diffusion of supra-local norms (Britain, 2010; Al-Wer, 2013; Al-Essa, 2022; Alaodini, 2019 a, 2019 b; and Al Sheyadi, 2021).

Table 1 presents the distribution of /θ/ and /ð/ across three age groups (old: 56–70, middle-aged: 39–55, young: 20–38). Percentages indicate the proportion of tokens realized as the fricative or stop variant within each age group.

Table 1: Caption.

Age Group	% [θ]	% [t]	Total %	% [ð]	% [d]	Total %
Old	33	67	100	25	75	100
Middle	58	42	100	52	48	100
Young	43	57	100	46	54	100

The table illustrates that older speakers are the most conservative, favoring stop variants [t] and [d] in 67% and 75% of tokens, respectively. Middle-aged and younger speakers show a relative shift toward interdental forms, with the adoption of [θ] and [ð] increasing in the youngest group.

This pattern aligns with findings from previous studies in the Levant, Egypt, and Saudi Arabia, where younger speakers typically lead change toward innovative or prestige forms (Al-Wer, 2013; Al-Ammar, 2017; Al-Bohnayyah, 2019).

Interestingly, participant behavior during interviews revealed a form of style-shifting. Many speakers initially used stop variants but shifted to interdentals when recording commenced.

This phenomenon reflects a "change from above," whereby speakers adjust their speech to align with socially prestigious norms (Labov, 1994).

The data suggest that the adoption of supra-local forms in Duba is socially mediated, with younger and middle-aged speakers displaying greater sensitivity to broader linguistic norms beyond their immediate community. Especially that Duba is surrounded by the Ḥuwēṭāt tribe and this could from their affect as they daily deal together and as it was mentioned earlier that there are intermarriages between Bedu and Urban.

The variation is not only socially conditioned but also lexically influenced. Interdentals appeared most frequently in numerals, discourse markers, and high-frequency nouns and verbs, including:

- /θ/:
- θala:θa ~ tala:ta 'three', maθalan ~ matalan 'for

example', θa:nawija ~ ta:nawija 'secondary school', ʔiθθaqa:fa ~ ʔittaqa:fa 'culture'.

- /ð/:

a:xuð ~ a:xud 'I take', maððu:ra ~ maðdu:ra 'you are excused', ʔiðða:kra ~ ʔidda:kra 'the memory', ɬaðba ~ ɬa~ba 'sweet'.

As the bar chart shows there is an increase in the use of interdental variants as the age gets younger. The middle age use interdentals higher than younger speakers. The sample might be splitting the historical merger as the stops are the traditional variants for the urban in Duba.

Overall, the participants tend to orient the supra-local norms more than the local norms and this goes in line with Al-Essa (2022: 45) findings were Najdi speakers in Jeddah oriented the supra-local variants (the interdentals) rather than the local forms.

Notably, no sibilant variants were found in the Duba dialect, unlike other urban dialects in Saudi Arabia such as Mecca, Medina, and Jeddah, where /s/ and /z/ sometimes replace interdentals (Al-Ghamdi, 2014; Alghamdi, 2021). The absence of sibilant variants further indicates that the Duba dialect retains a unique conservative phonological system, while gradually incorporating supra-local forms due to regional contact and mobility (Britain, 2010; Palva, 2006).

An interesting sociolinguistic observation during data collection was that some participants initially produced stops, but shifted to interdental variants once recording commenced.

This reflects a phenomenon known as "change from above," where speakers consciously orient

toward perceived prestigious norms (Labov, 1994).

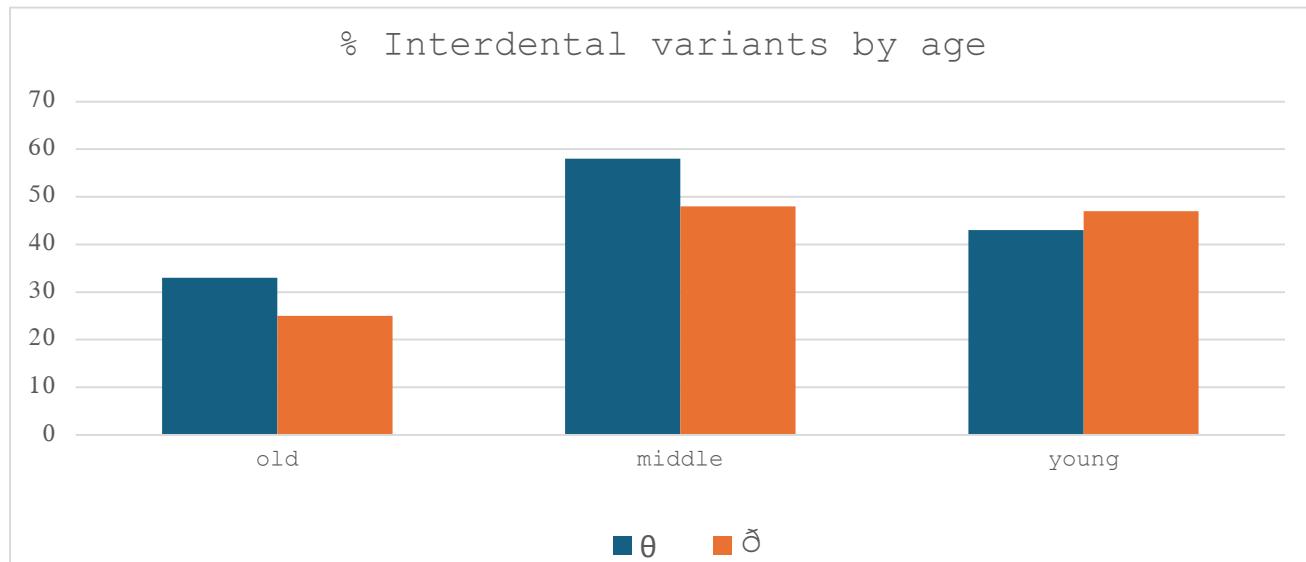


Figure 1: Bar Chart Showing the Use of Interdental Variants among Age Groups.

Due to the low number of tokens (85 for /θ/ and 89 for /ð/), the analysis was conducted qualitatively. Quantitative statistical methods were not employed, but token counts were tabulated to estimate variant usage across age groups. The linguistic analysis indicates that the stop variants [t] and [d] predominantly occur in frequently used lexical items, such as numerals and common verbs, while the interdental variants [θ] and [ð] are increasingly used by younger speakers.

The distribution of the variants shows a clear pattern by age: older speakers predominantly retain the stop variants, reflecting a conservative orientation to the traditional urban dialect. Middle-aged and younger speakers display higher frequencies of the innovative interdental forms, suggesting the influence of supra-local norms prevalent in Saudi Arabia (Britain, 2010; Al-Essa, 2022). This aligns with findings from other regional studies where younger speakers lead language change and adopt prestigious or supra-local variants more readily (Al-Ammar, 2017; Al-Bohnayyah, 2018; Alaodini, 2019; Al-Rohili, 2019; Al-Sheyadi, 2021).

The analysis of the data demonstrates that, in the urban dialect of Duba, the traditional stop variants [t] and [d] are heritage forms maintained by older speakers, whereas the innovative interdental forms [θ] and [ð] are emerging supra-local variants adopted predominantly by younger speakers. The evidence suggests a gradual shift in the speech community toward these supra-local forms, influenced by both intra-regional mobility and contact with other dialects (especially with Ḥuwēṭāt), including Hijazi, Najdi, and Egyptian Arabic.

The adoption of interdental variants among younger speakers in Duba reflects the broader phenomenon of supra-local influence in Saudi Arabia, likely facilitated by increased mobility, urbanization, and exposure to prestige dialects from Hijaz, Riyadh, and Egypt. This trend aligns with the concept of supralocal regional dialect leveling, where linguistic forms with wider socio-spatial currency gradually replace locally specific variants (Britain, 2010). In Duba, the interdentals [θ] and [ð] function as markers of socio-linguistic innovation and alignment with broader urban norms, whereas the stops [t] and [d] represent heritage forms maintained by conservative older speakers.

Comparisons with other Saudi and regional studies highlight similar patterns. For example, Al-Essa (2022) reports that Najdi migrants in Jeddah orient toward supra-local interdental forms, while Al-Ammar (2017) and Al-Bohnayyah (2018) observe age-related adoption of innovative variants in Hail and Al-Ahsa, respectively. Internationally, Holes' (1987) in Bahrain and Cotter's (2016) study in Gaza also show that traditional interdental variants are maintained by older or conservative groups, whereas younger speakers adopt innovative or prestige-aligned forms. This cross-regional consistency underscores the importance of age as a social variable and the role of supra-local norms in shaping contemporary dialectal variation.

5. CONCLUSION

The present study examined the sociolinguistic variation of the interdental phonemes /θ/ and /ð/ in the Urban dialect of Duba. The analysis reveals

clear age-related patterns: older speakers predominantly retain the stop variants [t] and [d], whereas middle-aged and younger speakers demonstrate higher frequencies of the interdental variants [θ] and [ð]. These findings are consistent with previous research on Arabic dialect variation, where age functions as a critical social variable, and younger speakers often lead linguistic change by adopting innovative or supra-local forms (Al-Wer, 2013; Al-Wer et al., 2022; Tagliamonte, 2012).

The findings demonstrate that even in relatively small and geographically peripheral towns, supra-local forms exert a significant influence on linguistic variation and change. Age emerges as a crucial factor in understanding the dynamics of this change, with younger speakers acting as the primary agents of

linguistic innovation. These results are consistent with sociolinguistic patterns observed across Saudi Arabia and other Arabic-speaking regions, emphasizing the interplay between social variables, mobility, and contact with prestige dialects in shaping language evolution.

Overall, this study contributes to the understanding of dialect contact and sociolinguistic change in Saudi Arabia, highlighting the interaction between heritage forms and emerging supra-local norms. The analysis also underscores the importance of detailed, community-specific investigations in documenting ongoing phonological variation, particularly in understudied urban communities such as Duba.

REFERENCES

Aguadé, J. (2011). Moroccan Arabic. In B. Versteegh (Ed.), *Encyclopedia of Arabic language and linguistics* (Vol. 3, pp. 236–247). Brill. https://doi.org/10.1163/1570-6699_eall_COM_000012

Al-Ahdal, H. (1989). *A sociolinguistic description of speech in Makkah* (PhD dissertation). University of Reading, Reading.

Al-Ammar, D. (2017). *Linguistic variation and change in the dialect of Ha'il, Saudi Arabia: Feminine suffixes* (Doctoral dissertation). University of Essex.

Al-Bohnayyah, M. (2018). *Dialect variation and change in Eastern Arabia: Al-Ahsa dialect* (Doctoral dissertation). University of Essex.

Al-Essa, A. (2008). *Najdi speakers in Hijaz: A sociolinguistic investigation of dialect contact in Jeddah* (Doctoral dissertation). University of Essex.

Al-Essa, A. (2022). The social life of interdentals in Saudi Arabia. In C. Miller, E. Al-Wer, D. Caubet, & J. C. Eisele (Eds.), *Arabic in contact* (pp. 75–98). Routledge.

Al-Jaziri, A. (2002). *Al-Durar al-Farā'id al-Munazzama fi akhbār al-hajj wa ṭariq Makkah al-mu'azzama* [The organized unique pearls in the news of the pilgrim and the exalted road to Mecca] (M. H. I. Ismā'īl, Ed.). Dār al-Kutub al-Ilmiyyah.

Almughherbi, M. (2017). *Trade routes in the Hijaz during the Ottoman period*. Dar Al-Kutub.

Al-Obaidan, A. (1987). *The impact of the Red Sea trade on the Hijaz economy in the 19th century*. King Saud University Press.

Al-Rohili, M. (2019). *Depalatalisation of /g'/ and /k'/ in the Harbi dialect in Medina: Patterns of variation and change* (Doctoral dissertation). University of Essex.

Al-Shayadi, S. (2021). *Sociolinguistic variation in the Yāl Sa'ad dialect in northern Oman* (PhD thesis). University of Essex, UK.

Al-Tayyib, M. S. (1997). *Encyclopedia of Arab tribes: Field and historical studies* (Vols. 1–12). Dar Al-Fikr Al-Arabi.

Al-Wer, E. (1991). *Phonological variation in the speech of women from three urban areas in Jordan* (Doctoral dissertation). University of Essex.

Al-Wer, E. (2013). Language and gender in the Middle East and North Africa. In S. Ehrlich, M. Meyerhoff, & J. Holmes (Eds.), *The handbook of language, gender, and sexuality* (2nd ed., pp. 631–649). Wiley-Blackwell.

Al-Wer, E., Horesh, U., Herin, B., & de Jong, R. (2020). Probing linguistic change in Arabic vernaculars: A sociohistorical perspective. *Language in Society*, 49(3), 425–450. <https://doi.org/10.1017/S0047404520000301>

Al-Wer, E., Horesh, U., Alammar, D., Alaodini, H., Al-Essa, A., Al-Hawamdeh, A., Al-Qahtani, K., & Hussain, A. A. (2022). Probing linguistic change in Arabic vernaculars: A sociohistorical perspective. *Language in Society*, 51(1), 29–50. <https://doi.org/10.1017/S0047404520000706>

Alaodini, H. (2019a). *A sociolinguistic study of the Dawāsir dialect in Dammam, Eastern Arabia: Fortition of /ʃ/ and unrounding of /a:/* (Unpublished doctoral dissertation). University of Essex, Essex, United Kingdom.

Alaodini, H. K. (2019b). A sociolinguistic analysis of dāl: The case of the Dawāsir in Dammam, KSA. In G. Chikovani & Z. Tskhvediani (Eds.), *Studies on Arabic dialectology and sociolinguistics: Proceedings of the 13th International Conference of AIDA* (pp. 299–305). Akaki Tsereteli State University Press.

Britain, D. (2010). Supralocal regional dialect levelling. In C. Llamas & D. Watt (Eds.), *Language and identities* (pp. 193–204). Edinburgh University Press.

Burton, R. F. (1878). *The gold-mines of Midian and the ruined Midianite cities: A fortnight's tour in north-western Arabia*. C. Kegan Paul & Co.

Cadora, F. J. (1992). *Bedouin, village, and urban Arabic*. Brill.

Caskel, W. (1960). Ġudham. In B. Lewis, V. L. Ménage, C. Pellat, & J. Schacht (Eds.), *The Encyclopaedia of Islam* (Vol. 2, pp. 578–580). Brill.

Cheshire, J. (1982). *Variation in an English dialect: A sociolinguistic study*. Cambridge University Press.

Cotter, W. M. (2016). *Sociolinguistic change in Gaza City: The emergence of /q/* (Doctoral dissertation). University of Arizona.

De Jong, R. (2011). *A grammar of the Bedouin dialects of the Northern Sinai littoral: Bridging the linguistic gap between the Eastern and Western Arab world*. Brill.

Grand'Henry, J. (2011). Algerian Arabic. In B. Versteegh (Ed.), *Encyclopedia of Arabic language and linguistics* (Vol. 1, pp. 84–94). Brill. https://doi.org/10.1163/1570-6699_eall_COM_000002

Holes, C. (1980). Phonological variation in Bahraini Arabic: The [θ]-[t] opposition. *Zeitschrift für Arabische Linguistik*, 4, 72–89.

Holes, C. (1987). *Language variation and change in a modernising Arab state: The case of Bahrain*. Routledge.

Labov, W. (1972). *Sociolinguistic patterns*. University of Pennsylvania Press.

Labov, W. (1994). *Principles of linguistic change, volume 1: Internal factors*. Blackwell.

Milroy, L. (1987). *Language and social networks* (2nd ed.). Blackwell.

Palva, H. (2004). Dialect classifications. In K. Versteegh (Ed.), *Encyclopedia of Arabic language and linguistics* (Vol. 1, pp. 604–613). Brill.

Prochazka, T. (1990). *Saudi Arabian dialects*. Kegan Paul International.

Tagliamonte, S. A. (2006). *Analysing sociolinguistic variation*. Cambridge University Press.

Tagliamonte, S. A. (2012). *Variationist sociolinguistics: Change, observation, interpretation*. Wiley-Blackwell.

Watson, J. C. E. (2011). Qatifi Arabic. In B. Versteegh (Ed.), *Encyclopedia of Arabic language and linguistics* (Vol. 4, pp. 72–80). Brill. https://doi.org/10.1163/1570-6699_eall_COM_000015