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LINGUISTIC IDENTITY AND SPEECH: HOW ONE'S
LINGUISTIC ATTITUDE TOWARDS L1 AND L2 AFFECTS
THE PERCEPTION AND PRODUCTION OF L2 PHONEMES

by
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ABSTRACT OF THE THESIS OF

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English and Arabic share similar sounds but certain phonemes, such as English /p/, /v/, and /g/, exist in English but not in Arabic. Many factors can affect perception of these non-native phonemes by Lebanese speakers, and identity plays a major role in how one acts and speaks. This study examines the extent to which adult Lebanese speakers can perceive L2 phonemes and differentiate between them. The attitude towards one's native language, which is Lebanese Arabic in the present study, was used to test how linguistic identity correlates with the perception and production of phonemes. A questionnaire was used to measure attitudes, and an AX discrimination test and production tests were utilized for perception and production. The results show that more exposure and a positive attitude towards English are linked to more accurate perception of the phonemes and an English-like production where the voiceless stops were aspirated. A mixing of languages was present because while the voiceless stops were aspirated, a feature present in English but not in Arabic, the voiced stops were actually voiced, a feature present in Arabic but not in English. Moreover, the attitude towards Lebanese Arabic in this study was affected by the socio-political context in Lebanon, which in turn had an effect on Lebanese speakers' choice of language. Participants with a more positive attitude towards English produced more aspirated voiceless stops than those who favored Lebanese Arabic who, in turn, produced longer voiced stops.

Keywords: perception, production, attitude, linguistic identity

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CHAPTER 1

INTRODUCTION

Phonological and phonetic properties are not universal across languages. Certain sounds are produced by some speech communities but not by others depending on the linguistic sound inventory of each group. For example, Japanese speakers of English have a hard time discriminating between [l] and [ɹ] because the closest sound found in their native language is one phoneme that is acoustically between [l] and [ɹ], which leads to mapping them both into one category, [R] (Dupoux, Kakehi, Hirose, Pallier, & Mehler, 1999). This shows that languages have different properties and different characteristics that its speakers pay attention to, even unconsciously, because they internalize them as they acquire their native language.

The native language (L1) and its characteristics can then affect the acquisition of a foreign language (L2). This transfer sometimes aids the speaker who is aiming to learn a target language that has similar characteristics and properties as their L1. However, a lot of adults manage to differentiate and produce unfamiliar phonemes with enough practice and exposure (Evans & Alshangiti, 2018). Being exposed to L2 phonemes can allow the listeners to slowly integrate the phonemes into their repertoire until they are able to differentiate and produce them after exposure and practice.

The acquisition of L2 phonemes is affected by multiple factors such as length of exposure and education (Flege J. , 1995). Another factor that greatly influences perception and production, regardless of exposure and education, is the attitude of the learners towards

the L2 and their definition of their linguistic identity (Rindal, 2010). Though there are some studies conducted in Arab-speaking countries that deal with the perception and production of non-native phonemes (Al-Tamimi & Khattab, 2018; Evans & Alshangiti, 2018), there is a gap when it comes to looking at the Lebanese dialect used in Beirut and its suburbs, and how its speakers perceive and produce L2 phonemes while preserving or leveling their linguistic identity.

This current study is an attempt to fill that gap by looking at the speech of those who use the Lebanese dialect in Beirut and its suburbs and their ability to perceive, discriminate, and produce L2 phonemes while looking at their exposure levels and attitudes towards their linguistic identity. Chapter II reviews concepts related to assimilation, language acquisition, and linguistic identity. Chapter III discusses the methodology of this study. Chapter IV demonstrates the results of the study which are interpreted and discussed in Chapter V, along with their analysis in light of the literature.

CHAPTER 2

LITERATURE REVIEW

2.1. Language Acquisition

Language is an essential vehicle to express one's thoughts and ideas. Whether it is spoken or signed, language acts as a tool to communicate with others and to express oneself. Acquiring a language begins early on in life and the first language acquired is the L1, which is the speaker's native language, and its characteristics. In other words, language acquisition is the process by which humans acquire the capacity to perceive and comprehend a language including its phonology, morphology, lexicon, and syntax, and is a sign of intellectual development (De Villiers, 1978).

To better understand how adult speakers acquire a second language, or an L2, and its phonemes and how they come to perceive and produce them, it is essential to look at one's acquisition of an L1 since it can influence future perception and retention of said phonemes. The L1 is one's native language whose phonemes are usually acquired in the first few months after birth (Best & McRoberts, 2003). It is important to understand the distinction made between adults and infants when it comes to perceiving and processing different phonemes. According to the critical age hypothesis, infants have the ability to perceive and differentiate all sounds in the first few years of life in which they can acquire a language if presented with adequate stimuli (Lenneberg, 1967; Penfield & Roberts, 1959). As they grow older, they perceptually map the characteristics of their ambient language and their ability to discriminate between sounds shrinks to envelop the sounds they are being

exposed to, namely the sounds present in their L1 (Best & McRoberts, 2003; Kuhl, 2000; Werker & Tees, 1984). After the critical period is reached and surpassed, acquiring an L2 becomes more difficult for the learner, and challenges may be faced in the perception, discrimination, or production of certain phonemes (Lenneberg, 1967; Snow, 1987). However, that does not mean that acquiring an L2 is impossible, for some studies negate the presence of a critical period for L2 learning (Flege J. , 1987; Flynn & Manuel, 1991).

2.1.1. Perception of Non-Native Phonemes

When looking at perception of phonemes by children, the role of acquisition in perception of an L1 must be considered (Höhle, Bijeljac-Babic, Herold, Weissenborn, & Nazzi, 2009; Mamepe, Friederici, Christophe, & Wermke, 2009). A number of studies (Best & McRoberts, 2003; Fernald, 2006) were conducted to discover how infants perceive non-native phonemes to better understand the perception, discrimination, and acquisition of these phonemes. Adults face difficulty discriminating consonants that are not contrastive in their own language. This, however, is not an issue for young infants who show no such language-specific biases (Best & McRoberts, 2003). A study done by Best and McRoberts (2003) looked into non-native speech perception of infants aged 6 to 8 months, 10 to 12 months, and adults, to get a clearer picture on how perception works for infants and the changes it undergoes as the infant gets older and has more exposure to the L1. The experiment assessed the discrimination abilities of English-learning infants when it comes to non-native L2 phonemes, three Zulu distinctions in this case, that English-speaking adults had categorized and discriminated in a way consistent with Best's Perceptual

Assimilation Model. That is, Zulu phonemes that had a resemblance to ones present in English were perceived as one and adults failed to discriminate between them, for they had assimilated them into the same category. On the other hand, Zulu phonemes that shared no similarities with English phonemes were perceived as foreign and were assimilated into their own categories, which aided in their discrimination in the perception test. The results of the experiment show that infants aged 6 to 8 months old discriminated all contrasts while infants aged 10 to 12 months old performed more poorly and showed a decline for non-native distinctions. In other words, as the infants got older and were more exposed to their L1, their ability to perceive and discriminate between L2 phonemes that they were not exposed regularly to, decreased. This supports the notion that exposure to language allows for the perception of the properties of that language which, in turn, lead to the eventual production of its characteristics.

Shifts in infants' perception of non-native phonemes reflect the state of their emerging knowledge about native speech (Best & McRoberts, 2003). Prior to six months, infants discriminate both native and non-native phonetic contrasts, suggesting that they do not yet recognize native phonemes or non-native phonemes as "native" or "non-native". As they reach the 10-month mark, they would have been exposed to enough of the language to unconsciously perceive and retain native phonemes that they will use and dismiss non-native ones.

The factor that dictates whether the phoneme will be assimilated into a pre-existing category or a new one in adults is one's L1 and its phonemes. Changes in neural organization make it difficult to segment L2 speech into words and phonemes, which can

cause motor articulation of the L2 to be difficult to reproduce, and different phonemes to sound similar (Iverson, et al., 2003).

A study conducted on the perception of /l/ and /ɹ/ by Japanese, German, and English speakers, was conducted to examine how being exposed to phonemes can alter low levels of processing without blocking the ability to acquire non-native phonemes completely during adulthood. Twenty-four native speakers of Japanese, twelve native speakers of German, and nineteen native speakers of English underwent a perception and discrimination test of /l/ and /ɹ/. The Japanese and German speakers were exposed to English at school for 7.2 and 7.5 years respectively, but only the latter had spent an average of 2.6 months in English-speaking countries. The results show that language experience affected perception. English and German listeners were able to detect the boundary between /l/ and /ɹ/ (F3 differences) due to its prevalence in their language, and being directly exposed to it for a long period of time, while Japanese listeners were more sensitive to the acoustic variation in F2 frequency (Iverson, et al., 2003). In other words, an L1, such as Japanese, influences the perception and production of L2 phonemes (/l/ and /ɹ/) and assimilates them into similar pre-existing categories, such as interchanging the /l/ and /ɹ/ and even mistaking them for /w/ when F2 frequency is low. This is similar to how /p/ can be perceived and produced as /b/ by some L1 Arabic speakers, and why /v/ is sometimes confused with /f/ (Ababneh, 2018).

2.1.2. The Role of Exposure

The assimilation of phonemes into similar categories and the pronunciation of phonemes highlight the importance of exposure to new sounds to acquire and produce

them, for the more exposure one has to non-native phonemes, whether they are assimilated into pre-existing categories or not, the higher the ability to discriminate between the sounds and produce them. A study conducted by Evans and Alshangiti (2018) investigated the production of British English vowels and consonants by native Saudi Arabic learners of English having varying ranges of proficiency levels. The results show that vowel differentiation is better for those who had more accurate production, which means that perception goes together with production, and suggests that even though learners may be able to create new phonetic categories early in learning, they still face difficulties if they are not exposed enough to the phoneme (Evans & Alshangiti, 2018). This highlights the important role of exposure in perception and production, not just in acquiring an L1, but in distinguishing L2 phonemes and perceiving and producing them.

As was mentioned previously, constant exposure to L2 phonemes gradually facilitates perception and production of those phonemes. It is accepted that perception precedes production in second language acquisition as in Flege's Speech Learning Model (Flege & Port, 1981) and Broselow and Park's Split Parameter Setting Hypothesis (1995) which states that one has to accurately perceive sounds in a second language (L2) before being able to produce those L2 sounds accurately (Linebaugh, 2015). Linebaugh examines how production can aid in the perception of foreign sounds, and how training in the production of the difficult L2 sounds can enhance their perception and differentiation. The results attained by training L1 Arabic speakers who are learning English to produce phonemes absent from their native language but similar to an existing category in their L1 such as /ʒ, ʕ/ and /g, dʒ/, demonstrate the effectiveness of the articulatory training, thus

providing strong evidence that that L2 acquisition can be promoted through targeted training in articulation and enough exposure to the foreign sounds (Linebaugh, 2015).

2.1.3. Best's Perceptual Assimilation Model

Studies have been conducted to examine the perception and production of target language sounds by speakers learning an L2 in order to better understand second language acquisition after the critical period. The first level of processing an L2 sound and sorting it into a category is explained by Best's Perceptual Assimilation Model (PAM). According to this model, if the phonetic characteristics of the sound are similar to a pre-existing phonemic category in the linguistic repertoire of one's native language, the sound will be assimilated to that category but the listener will have no access to its own detailed phonetic characteristics (Best C. , 1994). So, despite the belief that closer phonemes will be easier to attain, the opposite is actually true. For example, /p/ and /b/ are considered to be similar sounds since they share the place and manner of articulation but differ in voicing. This causes difficulty for some speakers in differentiating between them since the similar properties of /p/ lead to its assimilation into the /b/ category where retrieval and differentiation is blurred for minimally exposed speakers. In fact, some L2 learners may even not perceive the difference between [p] and [b], let alone produce it. However, if the L2 sound is not similar to any existing category, it will not be assimilated and the listener will have conscious access to its detailed phonetic characteristics since it will be stored in a new category (Best C. , 1994). For example, /g/ and /z/ have different characteristics since they do not share the place or manner of articulation, so they are stored in separate

categories which will make their retrieval easier. In this case, and according to PAM, acquiring a foreign sound not similar to any phoneme in one's linguistic repertoire is easier to attain and retrieve than a sound that is similar to an existing phoneme which will be assimilated to the native phoneme. For example, [q] is difficult because speakers tend to produce an emphatic [k] in its stead. However, some pharyngeal sounds in Arabic which have no counterparts in English are more difficult to learn and harder to retrieve (Swanson, 2019).

2.1.4. Fossilization

In some cases, when the learner fails to differentiate between the phonemes in the target language and those in the native language, what is known as fossilization can occur (Schumann, 1986). Fossilization is a phenomenon whereby the language programs, subsystems, and grammatical rules related to the target language become stabilized in spite of the ages of learners and the amount of exposure to the target language (Schumann, 1986). This occurs due to the lack of interference or correction when the error is first made because it does not interfere with intelligibility. Constant repetition of the error without any correction can result in the fossilization of the error. This shows that despite exposure playing an important role in perception and production, learners may fossilize their way of pronunciation and be unaware that what they produce differs from L2. And in some cases, these fossilized linguistic characteristics become part of the linguistic identity of the speaker (Han & Odlin, 2005).

Another factor that plays a role in the production is the speaker's attitude and willingness to produce the sound either as they hear it or in the way they are expected to say it. A reason behind altering one's production, consciously or unconsciously, is one's linguistic identity and how they wish to be perceived in their social communities.

2.2. Language and Identity

Identity is defined as how one perceives and defines oneself and how others perceive that person (Edwards, 2009). Language is an important factor when it comes to identifying oneself. It is a means by which the culture and its traditions, values, and ties are shared and established among people. Some may even identify with a language and form an identity around it based on their attitude towards it or towards the culture that uses it (Duff, 2015). It is also not uncommon for people to identify with their parents' home country, ethnicity, and language as their own even if they were not born there, for how one identifies the self goes back to how one perceives the self as well as how others perceive it. Language plays an important role in constructing the identity for it gives the speaker a sense of belonging and an affiliation with a group. Language then becomes a tool to express one's self and group identity, which is expressed in one's production of speech. It is important to note that even if one is not born in an identity, such as a certain culture, they may identify strongly with the target culture, language, or community and construct an identity accordingly which, in turn, affects perception and production. A speaker can also have multiple linguistic identities, for according to the Multiple Identities Theory, a person has several identities (race, gender, linguistic) that co-exist based on the social communities

that they identify with (Deaux, 1992). Corollary, the speaker chooses, or avoids, which language or dialect to use based on the linguistic identity that they want to portray or the speech community that they identify with.

2.2.1. Code-switching

Code-switching is the use of more than one language or dialect in a single conversation (Gumperz, 1958; Heller, 1988). Code-switching between languages and variants of language acts as an indexical cue to the communities that the speaker identifies themselves a part of (Gumperz, 1958). According to Heller, code-switching is a political strategy (1988). Since languages tend to become associated with groups of speakers, the use of multiple languages “permits people to say and do, indeed to be two or more things where normally a choice is expected” (Heller, 1988, p. 93). So when a speaker switches languages, they switch their identities to express themselves in a certain way depending on the context. It should be noted that perception can be affected by one’s view of their identity. Individuals who associate with a target language are more likely to perceive and produce those phonemes due to their intrinsic motivation to learn the language (Gilakjani & Ahmadi, 2011). The process might be difficult at first, especially if the phonemes are not familiar and they cannot perceive the difference initially, but with enough exposure and practice, fueled with the want to identify with the target culture, the speaker has a high chance of perceiving and producing the target phonemes, allowing them to perform their desired identity.

2.2.2. Language Attitude

Language attitudes are attitudes towards the members of language communities and are often allied with powerful protective sentiments for one's own group (Edwards, 1994). This gives rise to the issue of "Us" versus "Them" which leads to the marginalization of anyone who is different, and this difference could be in language, dialect, or even production of phonemes. These linguistic stereotypes and hierarchies affect the speaker and the use of a certain language in public which forces the speaker to alter their identity to avoid stigma. For example, the sentence "I be workin" is a grammatically correct sentence in African American English (AAE) which follows the habitual be rule. However, White people who speak the standardized American English consider it as "primitive" and "inferior" (Trudgill, 1975, p. 26), or ungrammatical and a dialect for the uneducated (Labov, 1976). In this case, the stereotype on the language and its people is a cyclical one since judging and stigmatizing the language leads to stigmatizing its people and so on.

One of the most contributing source of generalization and stereotypes nowadays is the media (Seiter, 1986; Trebe, Paasch-Colberg, Greyer, & Fehr, 2017). The way ethnicity, gender, and groups of people are portrayed has led to the spread of stereotypes which affects cultures and communities. This has caused, and still causes, many speakers to change their languages and alter their pronunciation to hide their true identity for fear of social criticism, marginalization, and the prejudice of others towards them.

2.2.3. Stereotypes

Attitude sometimes goes hand in hand with the fear of being stereotyped into a certain stigmatized category, which leads to changing the way of production. A stereotype is a mistaken idea or belief about a group of people that paints a false standardized mental picture of the members of said group (Merriam-Webster, n.d.). In Riman's (2008) study, the older Druze generation of the Shouf region in Lebanon produce [q] instead of [ʔ] while the younger generation prefers [ʔ] to [q]. According to the results, conservatism and the fear of being stereotyped greatly impacted the speaker's choice of using [q] and [ʔ] (Riman, 2008). Participants from the younger generation preferred [ʔ] in general to conform to their peers, while participants from the older generation stuck to [q] to conserve their identity as members of the Druze religion. The reasoning behind each group's choice is related to the way they wished to be seen in their society. One explanation is that the speakers could feel insecure about using a different dialect, or what is taken to be the norm of pronouncing words, with their peers who might judge them because they believe in holding on to what was taught to them. This shows that insecurity, fear of judgement and stereotyping, along with identity and how one perceives themselves in society, group, and class, affect one's degree of willingness to change their acquired way of speaking which leads to a linguistic shift. Language is part of one's identity and choosing to use it reflects a performance of identity. With stereotypes and mockery, some people become hyper-aware of their speech or form of language and choose to mask it or change its marked elements to try and fit in. This can lead to altering dialects, morphemes, or the way of production of phonemes which, in turn, alters one's linguistic identity.

The opposite is also true, whereby the speaker holds on to their way of production despite the stereotypes. These cases do occur and an example of such a case is not unheard of in Lebanon. For example, despite the presence of English and French and their phonemes in Beirut, and Lebanon in general, for quite some time, some speakers prefer to produce the /b/ instead of /p/ when they speak. This does not necessarily mean that the speaker had low exposure to the phonemes or cannot perceive or discriminate between them. Sometimes, when the speaker identifies with a certain way of speaking, such as producing Arabic /b/ instead of /p/, it becomes part of their linguistic identity. That is why it is important to consider attitude when looking at one's linguistic identity.

2.3. Multilingualism in Lebanon

It is not uncommon to hear more than three different languages on a daily basis in most Arab countries. Most of these countries were subjected to colonization which resulted in their people speaking an additional imposed language to the own native one. Lebanon is one such country since it acted as a safe haven for an array of exiled religious communities in the past (Zouhir, 2017). Lebanon has had a long tradition of multilingualism, and its cultural make-up is one of the richest in the Arab world due to its strategic geographical location which made it open to a variety of linguistic influences (Zouhir, 2017). There also exists a deeply rooted French linguistic and cultural presence due to the French colonialization. The presence of French in Lebanon for a long time implies the exposure of the Lebanese to French and its phonemes. English has also been around for a while and has played a role in Lebanese history as will be discussed in the following section. Despite that,

some Lebanese speakers still face difficulties when it comes to producing or perceiving a difference between phonemes found in French and English, and those found in Arabic (Bacha & Bahous, 2011). Could this be a case of not perceiving a difference despite the exposure, or not wanting to change their production, choosing instead to assimilate these phonemes into similar ones present in Lebanese Arabic? Or could it be both?

2.3.1. Lebanese Linguistic Identity

If one goes back to Lebanon's history, one will find that religion played a big role in deciding what languages were to be adopted and by whom, as well as the people who will identify with said languages. This started at the end of the first World War when the Ottoman Reign was coming to an end and France and England were gradually taking control over Lebanon's territory (Gordon, 1985). During that time, the French supported the Christians while the British supported the Druze.

After the Ottoman Reign ended, Lebanon was placed under the French mandate and France declared Arabic as the official language. However, it also made French an official language alongside Arabic and declared it as the language of instruction for science subjects in 1926 (Suleiman, 2006). Throughout this time, France still had strong ties with the Maronites specifically, and French became fundamental to the Christians of Lebanon spiritually, culturally, and politically.

This predicament of the French language having so much power in Lebanon did not change after Lebanon's independence in 1944. The French missionaries, the French Jesuits,

pursued a policy of French self-interest by promoting the French language chiefly among the Maronites (Suleiman, 1994). They also mandated knowledge of French as a requirement for entry into the civil service which established it as the language of the elite and educated (Shaaban & Ghaith, 1999). This growing importance of French dwarfed Arabic which caused resentment to French among the Muslim community (Shaaban & Ghaith, 1999). But on the other hand, the French phonemes, including /p/, /v/, and /g/ which are the focus of this study, were spreading due to them being taught at schools and used in many sectors in everyday life.

After Lebanon properly gained its independence, the teaching of Standard Arabic became obligatory in all private institutions. Despite that, French continued to compete with Arabic in education and the arena of national identity, and the French-educated ruling elite kept using it under the guise of keeping up with technological advancements (Abou, 1962). In fact, 95% of the Maronites, 85% of the Catholics, and 71% of the Orthodox associate themselves with French while 82% of the Muslims and 70% of the Druze population tend to favor English (Shaaban & Ghaith, 2003). But in 1990, multilingualism became the norm when Lebanon introduced a trilingual policy in all schools. Since then, English has also gained and is still gaining importance due to globalization. This proves to show that non-native foreign phonemes from English and French have been in Lebanon for quite some time. Despite that, some speakers still fail to discriminate them, producing them, or both. Regardless of the ability to perform the mentioned tasks, attitude towards these phonemes, and foreign languages in general, seem to be more positive, especially in the education sector.

A study done by Shaaban and Ghaith (2003) set out to investigate the linguistic attitudes of college students in Lebanon towards the languages that form the multilingual identity which are Arabic, French, and English. The participants chosen for the study were 176 Lebanese students, 101 males, 74 females, and 1 unidentified, attending the American University of Beirut. A random sampling procedure was followed to include students from different backgrounds and majors to properly represent the population. A questionnaire ranged between 5 and 1 on a 5-point Likert scale was then distributed to the participants, and the negatively worded questions were reversed to ensure that high scores meant a positive attitude. Finally, gender, religion, and first foreign language were used as factors.

The results showed that students do not consider Arabic inefficient in the areas of business and banking, but find that English and French have become a necessity rather than an asset in the current market situation governed by globalization. This shows that they do not look down upon or despise Arabic, but think that English and French are more suitable. The positive attitudes of students towards English and French are governed by instrumental motivation rather than integrative motivation because while 58.8% reported feeling superior to those who could not speak a foreign language and 75% thought that knowing a foreign language was needed to be respected in the field, 50% disagreed with wanting to be respected by foreigners. Hence, knowledge of a foreign language was not used as a means to associate with foreigners or win their respect, something an integrative motivation would aim for, but to gain respect from others and secure a good career (Shaaban & Ghaith, 2003).

Students also showed preference for keeping up with news in Arabic due to the local media's use of Arabic. But for the sciences, standard Arabic was deemed hard to understand and not suitable to be a language of instruction, especially with the need for universal English terms in certain domains such as medicine and engineering. Arabic was seen more fit for daily communication. As for visual and auditory media, the students showed preference to English over French despite 34% having French as their first foreign language. The reason for this preference lies in the American movie and television industry dominating the world, which shows the importance of media in spreading a language.

When it came to identity, students had mixed views about foreign languages posing a threat to their personal and national identity. 42.5% did not see a threat to their identity while 34% believed they posed a threat to the Lebanese culture and identity. Despite acknowledging this threat by the latter group, 60.2% still agreed that English is the only viable language of business and technology in the foreseeable future.

Gender played no significant difference in how the students perceived the three languages. On the other hand, religion was shown to affect the students' attitudes (Shaaban & Ghaith, 2003). The Christians preferred Western media more than the Muslims and they were less worried about foreign languages affecting their cultural identity than their Muslim counterparts. As for the languages, the Christians preferred French to English and this roots back to how the French and Christians had good ties throughout the Lebanese history. Conversely, the Muslim students preferred Arabic over foreign languages because they wanted to preserve the language of Islam, but between English and French, they expressed a more positive attitude towards English.

The final consensus that 79% of the students agreed on was that the Lebanese prefer Arabic as the language of daily communication and interaction, French as a language of education and culture, and English as a language of science, trade, and technology. This shows that Arabic still constitutes part of their linguistic identity in a way that coexists with the other identities. One thing that was not specified was the dialect of Arabic considered. Modern Standard Arabic is seen as a difficult language, but that is not necessarily true to everyday spoken Arabic.

2.3.2. Lebanese Arabic

In recent years, the struggle between Arabic and French has been replaced with a struggle between standard Arabic and Lebanese Colloquial Arabic as an identity marker in the media (Suleiman, 2006). The famous poet Said Akl began using the Lebanese dialect in his writing and claimed that he did not associate himself with Arabism but identified with Lebanonism on a personal and national level. Moreover, news channels of different political backgrounds do not use one form of Arabic. Al-Mannar TV, which is a Muslim-run channel, broadcasts its news using the Standard Arabic since it is the language of the Holy Qur'an while LBCI, a non-Muslim-run channel, uses the Lebanese dialect as an expression of its Lebanese identity. This shows that Lebanon's history, politics, and multiple religions affect one's self-identity and the language used by how much the speaker associates themselves with Lebanon, political sect, and religion.

But nowadays, "Arabic" cannot be used as a term to encompass all forms of the language. Arabic can mean Standard Arabic, Egyptian Arabic, Lebanese Arabic, and so on.

In fact, in Lebanon, Arabic also includes Beiruti Arabic, Northern Arabic, Southern Arabic, and all the other dialects spoken in the cities and villages. That is why specifying which Arabic is important, especially when it comes to asking people about their attitudes towards the language and their linguistic identities.

2.3.3. *Beiruti Dialect*

The Lebanese capital Beirut has witnessed a substantial level of migration from the countryside and from other countries since the beginning of the nineteenth century where the population, around ten thousand at the time, rose to 426,861 by the end of the twentieth century (Germanos, 2011). The reasons for migration from different areas in Lebanon to Beirut were economic, cultural, and sociopolitical in nature. This resulted in a large number of non-native residents which led to different dialects coming into contact with each other. The original Lebanese dialect spoken in Beirut is the bāyrūte (Beiruti) dialect, but it is only used by the native residents of Beirut who perform its linguistic features such as producing /a/ in word final position as [e], as in /ʔane/ instead of /ʔana/. The other residents who were not originally from Beirut leveled their dialect along with the old Beirut dialect to come up with a leveled Lebanese Arabic dialect used in Beirut that has no distinctive linguistic peculiarities (Germanos, 2011). In other words, this dialect became the language used by many non-native residents in Beirut and its surrounding suburbs when the dialects came in contact while the native residents held on to their bāyrūte (Beiruti) dialect. In this study, this dialect is used because it permits a larger number of participants to take part in the study.

The distinction in Beiruti social representations between native residents and non-natives became reflected in the linguistic psyche (Germanos, 2011). For despite the spread of this new form of the Beiruti dialect, some original dwellers continued using the original bāyrūte (Beiruti) dialect as a marker of their identity as native Beirut residents, and to pinpoint each other out as a form of solidarity. Other native residents resorted to leveling their dialect because they consider it as “heavy” when compared to the dialect currently spoken there (Germanos, 2011). This again shows how one’s attitude towards the dialect spoken is altered or preserved to fit their linguistic identity, which in turn affects how they produce phonemes.

In this study, the linguistic attitudes of speakers belonging to different age groups were examined to test the extent of difference in attitudes between these age groups, as well as a possible link between the speakers’ linguistic attitudes and their competence and performance in an L2. To measure this performance in the production test, the voice onset time (VOT) was used.

2.4. Voice Onset Time (VOT)

Voice Onset Time (VOT) is a feature of stop consonants measured by the interval between the release of the full closure of the vocal tract and the start of regular glottal vibrations (Lisker & Abramson, 1967). In languages with a contrast between voiced and voiceless stops, differences in VOT are the distinctive acoustic features used to distinguish between them.

Various studies have investigated the difficulties in production of English consonants encountered by speakers of Arabic dialects who are learners of L2 English (Al-Saidat, 2010; Flege & Port, 1981). In this study, VOT was used as a measurement tool to investigate the production of the L2 phonemes by speakers of Lebanese Arabic in Beirut and its suburbs.

2.4.1. VOT as a Measurement of Voicing

In the fields of phonology, phonetics, and second language acquisition, there was a focus on investigating the difficulties in production that exist between voiced and voiceless consonants in English as an L2 and those in the L1 (Al-Saidat, 2010; Flege & Port, 1981).

The distinction between voiced and voiceless has to do with the presence or absence of the vibration of the vocal cords when producing a sound. The presence of voicing implies vibration of the vocal folds while the absence of voicing implies no vibration when air is released from the lungs. Voiced stops have a negative VOT since the vocal cords start vibrating before the stop is released. Voiceless unaspirated stops have a VOT at or near zero which means that the voicing of the following vowel begins when the stop is released. Voiceless aspirated stops have a longer VOT due to the release of aspiration, often called positive VOT.

Lisker and Abramson (1964) proposed that the distinction between voiced and voiceless sounds can be made by looking at the VOT of each sound. To support their hypothesis that VOT is a measurement tool, Lisker and Abramson (1964) ran a study in

eleven languages where the VOT turned out to be an effective measurement tool when it came to distinguishing between contrastive consonant sounds. Additional studies (Chen, Chao, & Peng, 2007; Klatt, 1975) were conducted to examine the accuracy of VOT and the results showed that VOT is a good tool for distinguishing voiced and voiceless stops in English. Due to its importance, VOT was used in this study to measure the tested phonemes to distinguish whether the produced phonemes were voiced or voiceless.

2.4.2. Lebanese Arabic Consonant Inventory

The Lebanese Arabic (LA) consonant inventory includes the voiceless consonant sound /p/ and the voiced consonant sounds /v/ and /g/ in words such as “Panadol”, “van”, and “garage”. As can be seen in Table 1, the occurrence of these phonemes is presented exclusively in loan words that some speakers produce with native LA consonants instead.

	Bilabial	Labio-dental	Dental-alveolar	Post-alveolar	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	(p) b		t d t ^ʕ d ^ʕ			k (g)	(q)		ʔ
Nasal	m		n						
Trill			r						
Tap			ɾ						
Fricative		f (v)	s z s ^ʕ z ^ʕ	ʃ ʒ		x ɣ		ħ ʕ	h
Approximant (+ lat. app)	w (lab-vel.)		l l ^ʕ		j				

Note: Three of the sounds in brackets occur only in loan words (/p/, /v/, and /g/), while /q/ is normally realised as [ʔ] in most Lebanese dialects but retained as [q] by the Druze community and in the Standard variety.

Table 1 The Lebanese Arabic consonant inventory (Al-Tamimi & Khattab, 2008)

2.4.3. VOT in Arabic and English

Arabic and English belong to two different language families. All of [p], [b], [v], [f], [g], and [k] are found in English while there is only [b], [f], and [k] in Arabic. The differences between the two languages cause LA speakers to have difficulty in the pronunciation of [p], [v], and sometimes [g] since they get assimilated into the closest category present which, in this case, differs in voicing. This results in the assimilation of /v/ into the existing /f/ category (Ababneh, 2018), /k/ into the existing /g/ category, and /p/ into the existing /b/ category which, in turn, results in the production of /b/ instead of /p/ in words like [p^hɛpsɪ] which becomes [bɛbsɪ].

VOT is used as a tool to distinguish between the English and Arabic phonemes. Al-Tamimi and Khattab (2018) looked at Lebanese Arabic and used VOT to look at voiced and voiceless stops. Twenty Lebanese speakers aged between 18 and 40 produced a list of words with stops in different positions. The results showed that VOT is an effective tool when it comes to distinguishing between voiced and voiceless stops, for voiced stops had a

negative VOT which were longer with an average of -110ms while voiceless stops had a positive VOT of around 25ms.

Another study done by Kelly, El Houry, and Ghamloush (2021) also looks at the voicing of the stops in Lebanese Arabic. Monolingual and bilingual Lebanese participants were asked to name images that were monosyllabic CVC(C) words with a stop in initial position. The results showed that the VOT of voiceless stops in Lebanese Arabic had an average of 38.6msec for /t/ and 40.9msec for /k/, which was longer than what was found in previous studies (Yeni-Komshian, Caramazza, & Preston, 1977). These results were for monolingual speakers, but there was no significant difference from bilingual speakers (Kelly, El Houry, & Ghamloush, 2021), which the participants of this study were. Voiced stops were also found to be truly voiced, that is, with a negative VOT ranging from around -25msec to -90msec, unlike American and British English which have voiceless unaspirated stops (0 VOT) (Lisker & Abramson, 1967).

In this study, VOT was used in the production test to measure the voicing and the aspiration, if possible, of the voiced and voiceless stops. VOT was used to see if the Lebanese Arabic speakers would aspirate their voiceless stops or produce them without aspiration. It was also used to measure the length of voicing of the voiced stops to compare the results with previous studies.

CHAPTER 3

THE PRESENT STUDY

3.1. Purpose of the Study

A number of studies (Evans & Alshangiti, 2018; Iverson, et al., 2003; Swanson, 2019) were conducted on L1 Arabic speakers learning English in an English speaking country to test perception and production of L2 phonemes with appropriate exposure and practice to test if the latter techniques bring about an improvement. But how does the situation differ with Arab youth learning English in their own country, in an L2 setting?

This study addresses the following research questions regarding the Lebanese Arabic spoken in Beirut and its suburbs:

1. To what extent do Lebanese adults residing in Lebanon perceive the difference between /p/ and /b/, /v/ and /f/, and /g/ and /k/?
2. For the participants who are able to perceive the difference, to what degree can they produce the L2 phonemes?
3. How do attitudes and perceptions of one's identity affect the perception and production of the L2 phonemes?

3.2. Methodology

To test for the perception, discrimination, and production of L2 phonemes /p/, /v/, and /g/, and to see how identity can have an effect on these processes, a perception test and production test were completed by speakers of Beiruti Lebanese Arabic. A questionnaire was also distributed to the participants to collect information about their attitudes towards English and Arabic, and their perception of their identity.

3.2.1. Participants

For this study, 60 Lebanese participants, both male and female, aged 18 to 45 were asked to participate. The chosen participants were required to have Arabic as their first language (L1) because this study looked at how L1 and the linguistic identity constructed around it affected the perception and production processes. The participants were also required not to have hearing difficulties since the perception experiment relied on their ability to differentiate between sounds without a physical hindrance that could have affected the results.

To recruit participants, digital flyers that state the name of the institution and the purpose of this study were posted and circulated on Facebook and WhatsApp to attract a wide range of willing participants who fit the criteria.

3.2.2. Materials

To collect data, a modified questionnaire (see Appendix) by Khatib and Rezaei's study (2013) was used to collect demographic information to see if and how the area of upbringing might have affected the participant's speech and linguistic identity. The questionnaire asked about the participant's first and second foreign languages, if possible, and the years they were exposed to them directly through formal education. The reason for asking about formal education exclusively is because it is easier to give an accurate length of time rather than relying on how much the participants think they have been exposed to English or French indirectly. Also, taking exposure as a variable allows for the ability to make a connection between its length and whether or not it had an effect on the participant's ability to perceive L2 phonemes or produce them. The participants were then asked about their views on the utility of Arabic and English. They were then asked 18 questions divided into 6 sections about their attachment to the Arabic language, pronunciation attitude, their thoughts on language and social status, L1 use and exposure in society, and script/alphabet. Every section had a set of questions where the participants were asked to rate their attitudes on a 5-point Likert scale ranging from (1) strongly disagree to (5) strongly agree. These questions were used to check their attitudes towards English and Arabic, and the relation between their perception and production with respect to their identity. At the end of the questionnaire, an open-ended question that inquired about whether or not the participants change the way they speak and consider Lebanese Arabic as part of their identity was posed to relate their response to this question to their

attitudes in the previous sections and their performance on the perception and production tests.

In the perception test, the participants were asked to differentiate between phonemes found in English and ones found in Arabic, namely between p/b, v/f, and g/k. The test was conducted twice for every participant individually, and it relied on the simplest form of a discrimination test which is the AX discrimination test, also known as same-different discrimination test (Qian, Chukharev-Hudilainen, & Levis, 2018). A list of monosyllabic CVC minimal pairs with /p/ and /b/, /v/ and /f/, and /g/ and /k/ in initial position, taken from the English Club website, were used (Essberger, 2019). Filler minimal pairs that have the same structure as the tested words were mixed in the experiment and played in random order to avoid causing suspicion.

The results of this perception test were used to determine whether the participant was able to distinguish between the different sounds. The ability to perceive the different phonemes was important for the production test, for the combined results showed whether the participant differentiated and produced the phonemes, differentiated the phonemes without producing them, or neither differentiated nor produced them. These results were linked to the amount of L2 they were exposed to and to their attitudes recorded in the questionnaire.

Following the perception test, a production test was used to check if the participants produced a [p], [v], or [g]. A series of 60 pictures having /p/, /b/, /k/, and /g/ in word-initial position were presented to the participants who then had to name them. The pictures shown were of objects having a disyllabic CVC structure with stress on the first syllable that

contained L2 phonemes in initial position and were still used in Arabic conversations. The purpose of this was to check whether they produced the foreign sounds as they were in the English language, /p/ and /g/, or if they assimilated them to familiar categories, /b/ and /k/ respectively. To ensure that the participants did not become conscious of their pronunciation and then resort to hyper-correcting, filler objects were added to be named along with the tested stimuli in a random order. Since some of the target words had to be repeated multiple times to collect enough data, and to avoid the participants from finding out which phoneme is being tested, filler words were also repeated. The target words can be seen in the table below.

Sound	Tokens
/p/	Pepsi, perfume, Paris, panda, parking
/b/	Bajaa (swan), Barbar (restaurant), balah (dates), bayda (egg), basal (onion), batta (duck), ba'ra (cow), barad (hail)
/k/	Kafta (meat), kanze (shirt), kaeb (heels), kastar (custard), kaek (biscuit)
/g/	Garnier, galon, gazon

Table 2 Target words

It should be noted that the languages used in the experiments were English and Arabic to ensure that every participant had the chance to choose the language they felt comfortable using. The participants were asked which language they wanted the questionnaire to be in when scheduling the test date. And by choosing the language, they were indirectly answering a question in the questionnaire which asked about their language of preference when reading or working.

3.2.3. Procedure

The experiments were conducted online for safety reasons during the COVID-19 pandemic. After posting the flyer on Facebook and circulating it on WhatsApp, any participant who fit the criteria and came forth (called, texted, or sent an email) was emailed or sent (on WhatsApp) a consent form. Once consent was given, a set time and date was agreed upon with the participant to schedule a video call on WebEx or Zoom, catering to the participant's free time and preference. Once the time was set, the participant was emailed or sent a link for the video call and another link for the questionnaire that was to be filled online, hosted on an AUB server, prior to the video call. Every participant had a file saved on a password protected laptop, with a reference number in lieu of their names, to collect their data in it in order to draw links between the demographic information, attitudes regarding linguistic identity, and results of the perception and production experiments.

The scheduled video call began with a quick recap of the consent form to make sure that the participant was aware of their rights, and that they were comfortable in being recorded in the production experiment. Participants who refused to be recorded or decided to withdraw from the study had their data omitted from the research.

After taking consent again, the perception experiment was conducted and repeated with 2 blocks (Wood, 1976). Eight minimal pairs of monosyllabic CVC real words for each of p/b, v/f, and g/k groups with the tested phonemes in initial position were played in a way that every stimulus was repeated 10 times per block. This resulted in 240 discrimination tasks per block and 480 discrimination tasks in total. The discrimination tasks in every

block were shuffled randomly. After the first block was completed, the participants had a 30 second break before starting with the second block.

To collect their responses, the participants were sent a digital handout containing 2 tables with cells numbered from 1 to 240. In every cell, they were asked to write “s” or “√” if the sounds they heard were the same or “d” or “x” if they were different. The instructions were explained and 3 minimal pairs that were not part of the tested stimuli were used as a trial for the participant to know how to fill the table properly. The participants were asked to answer according to what they had really heard even if their answers for the perception exercise were all same (s) or all different (d). This was said in hopes of decreasing the probability of participants giving haphazard answers to ensure that their answers were varied. A sound file containing minimal pairs was then played for the participant. After every minimal pair was played, the participant had an interval of 2 seconds to decide if the words were identical or different. The reason for choosing 2 seconds was because it had been tried and tested for a similar AX discrimination experiment (Gerrits & Schouten, 2004). In case the participant missed a minimal pair and left a box empty, the missing task was considered a miss. The test was repeated twice with shuffled stimuli in every block. In the cases where the Internet connection was an issue for some participants, the perception test was resumed from the cut-off point after the participant managed to rejoin the video call.

After the perception test, the production test was conducted. The tests were placed in this order in hopes of getting the participants comfortable enough in the perception test to produce the words without feeling self-conscious about speaking as they normally would

(Johnson, 2002). In the video call, the participant was shown and asked to name large pictures of objects containing /p/, /b/, /g/, and /k/ in initial position of the word. 10 tokens consisting of disyllabic CVCVC/ CVCCVC objects for every phoneme were displayed in random order along with 20 filler objects. The stress in all words was on the first syllable of the word that contained the phoneme. This resulted in 60 tokens, which can be seen in Table 2, that have these phonemes in initial position. For this experiment, the participants were asked to record and send their speech as voice notes on WhatsApp to be analyzed on Praat.

A difference in perception and production was predicted to occur especially between participants who had been exposed to an L2 for longer periods of time and those who had been less exposed. More exposure was expected to yield perception of the L2 phonemes and an English-like production of them. Speakers with more exposure to the L2 were expected to produce a positive VOT to indicate their production of the voiceless phoneme more so than speakers with less exposure. The views on identity and attitude towards the L2 were expected to play a part in production in such a way that speakers with a more positive attitude towards English had an English-like production than those with a less positive attitude towards English.

3.2.4. *Measurements*

For the perception test, what was focused on was the accuracy of the participants in managing to differentiate between sounds. As for the production test, relying on the

researcher's judgement might not have provided accurate results. That is why the production test was recorded on Praat, and that was to detect if the produced sound is /p/, /v/, /g/, or their assimilated counterparts by measuring the voice onset time (VOT) of each. Following Lisker and Abramson (1964), VOT was measured differently when it came to sounds with pre-voicing versus sounds without pre-voicing. Pre-voiced consonants (/b/ and /g/) were measured by selecting the onset of the voicing before the burst until the beginning of the burst and voiceless consonants (/p/ and /k/) were measured by selecting the release of the burst until the onset of the vowel (Lisker & Abramson, 1967; Keating, 1984). Below are two examples of both a pre-voiced VOT of /b/ and a voiceless VOT of /p/ on Praat.

Figure 1 is an example the word "bat" shown in the acoustic waveform presented in the top panel and spectrogram presented in the bottom panel. The selected portion of the wave shows the position from which the measurement was taken for this sound. This waveform shows that this /b/ is pre-voiced due to the presence of voicing before the vowel.

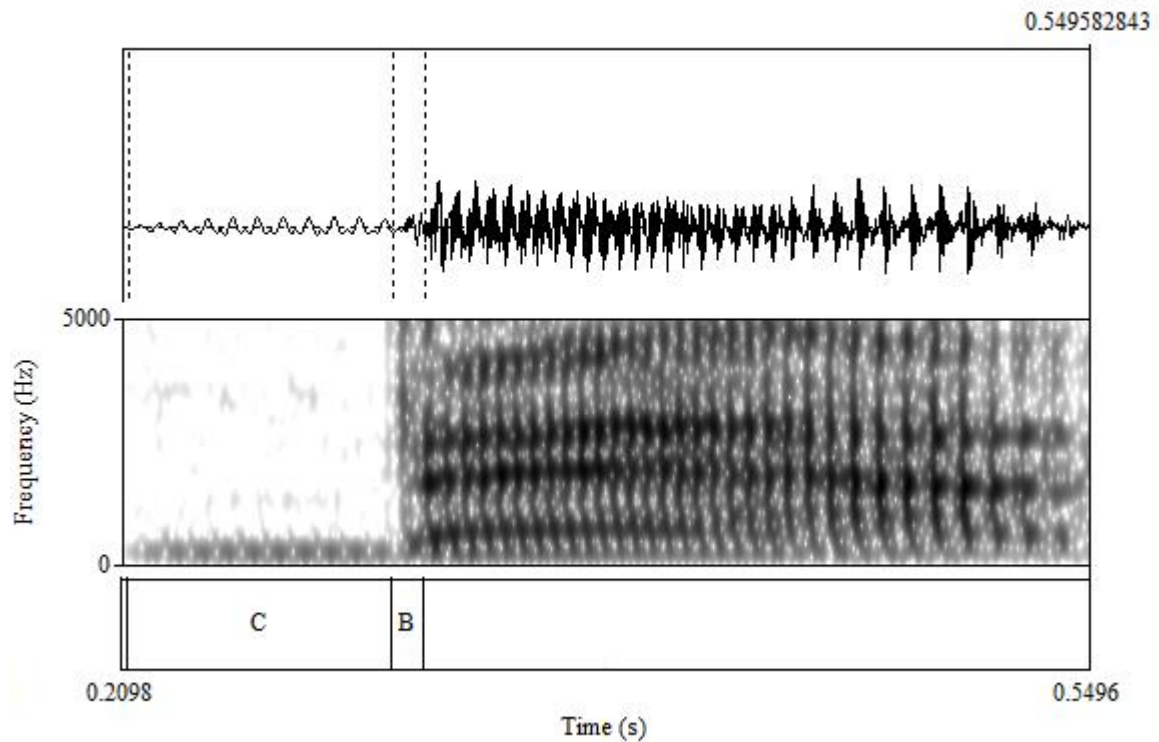


Figure 1 Voiced consonant /b/ on Praat (C=closure, B=burst)

Figure 2 is an example the word "pat" shown in the acoustic waveform presented in the top panel and spectrogram presented in the bottom panel. The selected portion of the wave shows the position from which the measurement was taken for this sound. This waveform shows that this /p/ has a period of noise, which is aspiration, between the stop consonant /p/ and the onset of voicing.

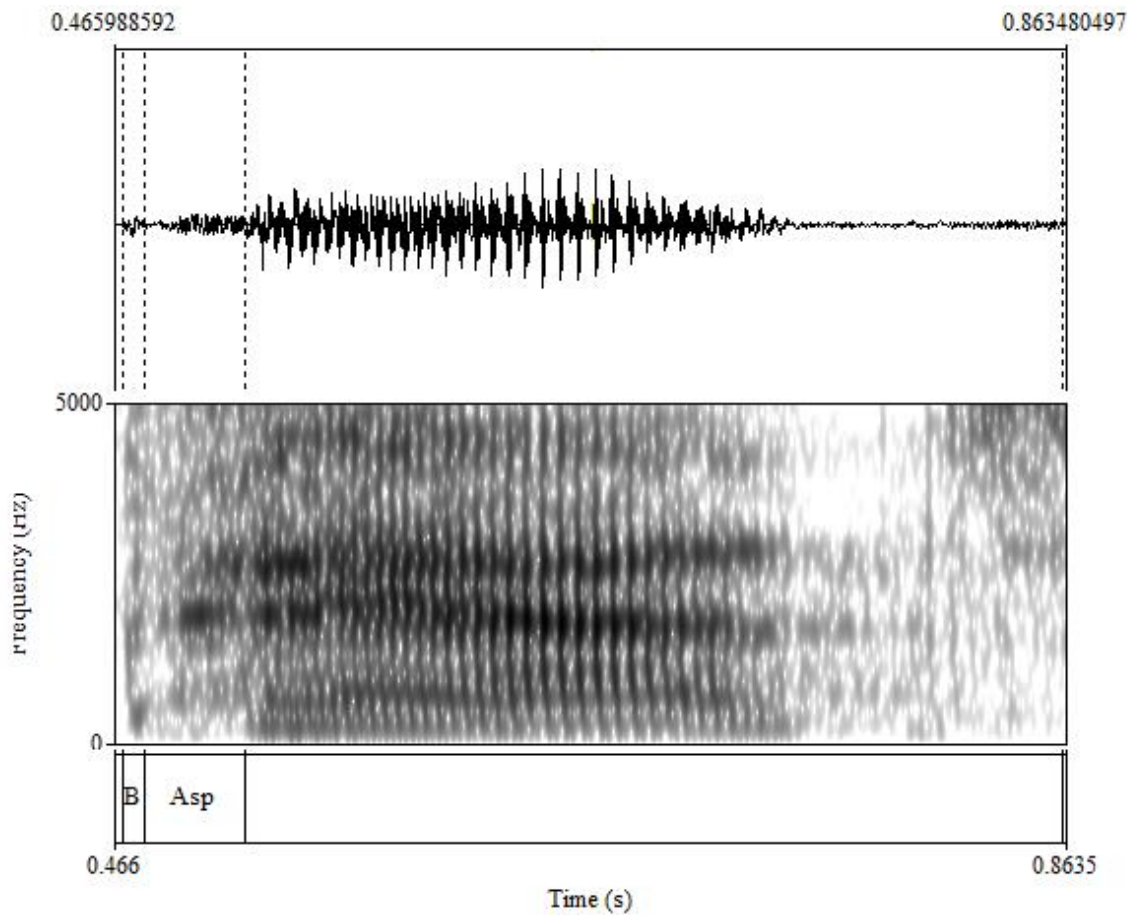


Figure 2 Voiceless consonant /p/ on Praat (B = burst, Asp = aspiration)

Mean VOT and standard deviations were calculated for every consonant for all participants. The results were then compared and interpreted in terms of the subjects' sociolinguistic background and answers on their questionnaire.

3.2.4.1. Statistical analysis

All statistical analyses were performed using the ANOVA function in R version 4.1.0 (Microsoft R Open, R Core Team, 2021). For the AX discrimination test, the

dependent variable was the accuracy of their discrimination measured by their score on each of the three minimal pairs, and the independent variables were: Age Group (Group 1 aged 18 to 29 vs Group 2 aged 30 to 39 vs Group 3 aged 40 to 45), Area, and Occupation. For the production test, the dependent variable was VOT, and the independent variables were: Age Group and Occupation. To avoid false positives, an alpha-level of 0.01 was chosen.

3.2.5. Ethical Issues

The participants had to sign a consent form that clearly stated the purpose of the study, which was looking at perceived national and linguistic identity and their role in perception and production. The participants were fully aware that they were being recorded in the production test, and that the data was to be used for research without releasing the recordings to preserve their anonymity. With their consent, the production test was recorded using a microphone and the data was analyzed. The participants also remained anonymous, for the questionnaire had a reference number at the top, from 001 to 60, without asking for names. The participants had the right to stop the study if they wished to withdraw from the study.

CHAPTER 4

RESULTS

In this chapter, the results of the study will be presented. The chapter will be divided into 4 sections where the first section presents the demographic information of the participants from the questionnaire, the second section presents the results of the questionnaire, the third section presents the results of the perception test, and the fourth section presents the results of the production test.

4.1. Demographic Information

Based on the demographic section of the questionnaire, the participants of the study were as follows: 20 were aged 18 to 29, 20 aged 30 to 39, and 20 aged 40 to 45. 22 participants were raised in Beirut, 9 in Achrafieh, 13 in Dahye, 8 in Furn el Chebak, and 8 in Tayouneh. Table 2 shows the age groups of the participants and their area of upbringing.

Area	Number	Age distribution		
		18-29	30-39	40-45
Beirut	22	8	7	7
Achrafieh	9	3	3	3
Dahye	13	4	5	4
Furn el Chebbak	8	3	2	3

Tayouneh	8	2	3	3
Total	60	20	20	20

Table 3 The age groups of the participants and their area of upbringing

All of the participants had Arabic as an L1. The L2 of 39 participants was English and that of the remaining 21 was French. As for the language of the questionnaire, 51.67% of the participants asked for an English questionnaire and 48.33% asked for an Arabic one. Table 3 represents the choice of the language of the questionnaire based on the age groups. As shown in the table, the majority of the younger group (80%) aged 18 to 29 chose an English questionnaire and 20% chose an Arabic one. The percentage of English questionnaires decreases to 45% in the middle group which consists of those aged 30 to 39, and decreases further to 30% in the older group which consists of those aged 40 to 45.

Age (years)	Number of Participants	Questionnaire	
		English	Arabic
18-29	20	16	4
30-39	20	9	11
40-45	20	6	14
Total	60	31	29

Table 4 Choice of the language of the questionnaire by age group

For the occupation and profession, 20 participants were students and 14 were teachers and professors of various subjects such as English, Arabic, and the sciences. 5 were stay-at-home mothers, 5 worked in shops, 1 in a bakery, 2 in a bank, 2 in a pharmacy, 2 in a school in the IT department, 1 in a mechanic shop, 2 in a tailor shop, 2 in engineering offices, and 4 in the medical field.

As for the length of exposure, the majority stated numbers over 10 years of exposure except for the baker, mechanic, tailor, and 3 shop-owners, whose formal exposure to an L2 was less than 10 years.

4.2. Questionnaire Results

The results of the attitudes of the participants showed a difference between the views of each age group when it came to using Lebanese Arabic and its relation to their identity. The following tables present the number of participants from each age group (1 for the younger group, 2 for the middle-aged group, and 3 for the older group) who strongly agreed (SA), agreed (A), were neutral about (N), disagreed (D), and strongly disagreed (SD) on every statement. For example, 14 participants from Group 1 strongly agreed that they prefer to study in English rather than in Arabic.

Attachment to the Arabic language				
		I would rather study/read in English than in Arabic.	I like to attend classes given in English than in Arabic.	I prefer the Arabic language since it is part of who I am.
SA	1	14	14	
	2	2	5	5
	3	2	3	6
A	1	5	5	3
	2	11	8	9
	3	8	7	7
N	1			2
	2			2
	3			
D	1	1	1	6
	2	2	2	2
	3	4	3	5
SD	1			9
	2	5	5	2
	3	6	6	2

Table 5 Attachment to the Arabic language by age group

When it came to studying or reading in English rather than Arabic, 70% of the participants preferred English, 31.66% of which belonged to the younger group, 21.66% belonged to the middle group, and 16.67% belonged to the older group. When it came to attending classes, the same 70% preferred attending English classes. Only 50% preferred English as a marker of linguistic identity. Out of the 50%, 21.67% belonged to the older group, 18.33% belonged to the middle group, and only 5% belonged to the younger group. In other words, the younger group preferred English over Arabic when it came to studying and reading and did not consider Arabic as a marker of their linguistic identity.

		Pronunciation		
		I think speaking English with an Arabic accent is not something to be embarrassed about.	I feel proud of speaking English with an Arabic pronunciation.	I like Arabic pronunciation more than English pronunciation.
SA	1			
	2	4	5	3
	3	4	7	
A	1	11		
	2	11	1	3
	3	13	1	8
N	1			2
	2		6	2
	3		2	
D	1	9	9	7
	2	2	3	7
	3	2	7	9
SD	1		11	11
	2	3	5	5
	3	1	3	3

Table 6 Attitude towards pronunciation by age group

Regarding pronunciation, 13.33%, 50% belonging to the middle group and 50% belonging to the older group, strongly agreed that speaking English with an Arabic accent is not something to be embarrassed about. 58.33% agreed, of which 31.43% belonged to the younger group. The younger group preferred speaking English with a native-like pronunciation rather than speaking what is considered to be an accented form of American English.

Language and social status			
	I believe a person who can speak English very well has a better social status and respect in society.	I believe Arabic is superior to English because it is our native language.	When I speak English, I feel I am superior to others.
SA	1	9	7
	2	2	6
	3	2	6
A	1	9	6
	2	7	4
	3	9	9
N	1		
	2	2	6
	3		2
D	1	2	5
	2	1	2
	3	3	1
SD	1		9
	2	8	2
	3	6	2

Table 7 Language and social status by age group

Concerning language and its relation to social status, 21.67% strongly agreed that a person who speaks English very well has a better social standing and respect in society, and 41.67% agreed. The majority of the participants who believed so, 69.23% of those who strongly agreed and 36% of those who agreed, belonged to the younger group. Moreover, the younger group expressed strong disagreement when it came to viewing Arabic as a superior language to English because it was their native language, for out of the 21.67% who strongly disagreed, the younger group constituted 69.23% of them.

	Texting		
	I send text messages in English (Latin script) mostly.	I consider writing in English to be easier than writing in Arabic.	I do not like texting in Arabic
SA	1	9	9
	2	2	2
	3	2	2
A	1	7	9
	2	5	9
	3	2	4
N	1		
	2		4
	3		2
D	1	4	2
	2	6	2
	3	7	7
SD	1		
	2	7	7
	3	9	7

Table 8 Attitude towards texting by age group

For texting, 80% of the younger group preferred texting in English since they considered it easier while 65% and 80% of the middle and older groups respectively preferred texting in Arabic script which they found to be easier. English in this section included Arabizi which uses Romanized alphabets for informal Arabic dialects such as Lebanese Arabic. In fact, 75% of the younger generation expressed their dislike of using the Arabic script, while only 35% and 20% of the middle and older groups respectively shared the same view as the younger group.

The concluding question of the questionnaire was an open-ended one that inquired about the participants' thoughts and feelings about whether they considered Lebanese

Arabic as a part of their identity. The answers received were varied but there were common categories among them. Hence, the answers were categorized into (1) pride, (2) respect due to viewing Arabic in general as the language of their religion, (3) dissociation, where the participant did not feel a connection with or the need to include Lebanese Arabic as part of their identity, and (4) shame, not of the language itself but of the country Lebanese Arabic is associated with and its current political situation, a point that will be expanded on later.

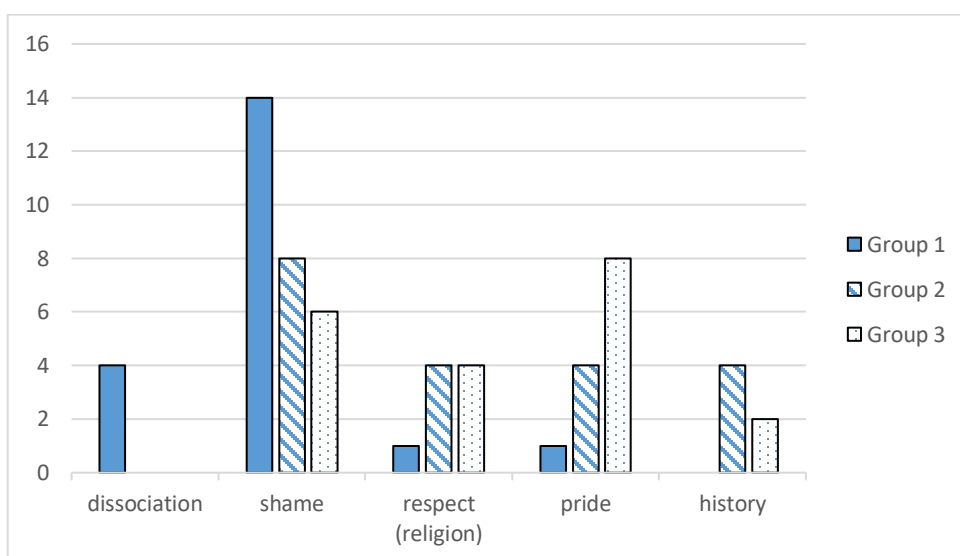


Figure 3 Attitudes of participants towards Lebanese Arabic

4.3. Perception Test Results: AX Discrimination Test

There was a total of 480 tokens. The results of the discrimination test for p/b, v/f, and k/g were grouped individually. Each independent variable was tested for every minimal pair. The independent variable “Area” did not have a significant effect as seen in table 8

that shows the effect of area on the discrimination between p/b, v/f, and k/g respectively.

As a result, only Age Group and Occupation were considered.

Area	df	<i>F</i>	<i>p</i>
p/b	4	1.194	0.324
f/v	4	0.791	0.536
k/g	4	0.745	0.566

Table 9 Statistics of the effect of Area on the discrimination

The lack of a significant effect of Area means that the participants' place of upbringing did not affect their ability to perceive the phonemes, especially since the areas involved were Beirut and its suburbs. On the other hand, the age group played a role in the participants' ability to perceive and discriminate p/b and v/f but not k/g. The statistics for p/b, v/f, and k/g based on age group are presented in table 9.

Age Group	df	<i>F</i>	<i>p</i>
p/b	2	4.337	<0.05 *
f/v	2	4.135	<0.05 *
k/g	2	1.73	0.186

Table 10 Statistical results of discrimination based on age group

As table 9 shows, there was a significant effect of age group on the discrimination of p/b and v/f. When it came to k/g, the age group did not have a significant effect.

To see where the difference in perception between age group lies, if present, a post-hoc pairwise comparison test using the TukeyHSD method was run. The results show that

in p/b and v/f, there was a significant difference in perception between Group 1 and Group 3 ($p < 0.05$ and $p = 0.01$ respectively) where Group 1 was able to better perceive the phonemes, but none between Groups 1 and 2 ($p > 0.05$), or between Groups 2 and 3 ($p > 0.05$).

This difference between groups 1 and 3 was not found when it came to k/g discrimination ($p > 0.05$). As the post-hoc TukeyHSD comparison test shows, there was no significant difference between any of the groups. This shows that all participants performed equally in the discrimination between k/g regardless of age.

The most significant effect on the perception of the phonemes was that of occupation ($p < 0.001$), where the academic positions (doctors, teachers, engineers, and IT officials) performed much better than other occupations. The significance of occupation was greater than that of age group ($p_{\text{occupation}} < p_{\text{age group}}$) which shows that one's occupation has a greater effect on perceiving and discriminating between phonemes than age group does. The results of the effect of occupation on perception are presented in table 6 for p/b, v/f, and k/g.

Occupation	df	<i>F</i>	<i>p</i>	
p/b	11	8.731	<0.001	***
f/v	11	20.55	<0.001	***
k/g	11	8.895	<0.001	***

Table 11 Statistical results of discrimination based on occupation

4.4. Production Test Results

Since VOT is a feature of stops, /v/ and /f/ were not included in the tables. Figures 5 and 6 present the VOT of /p/ and /b/ and that of /k/ and /g/ of each group.

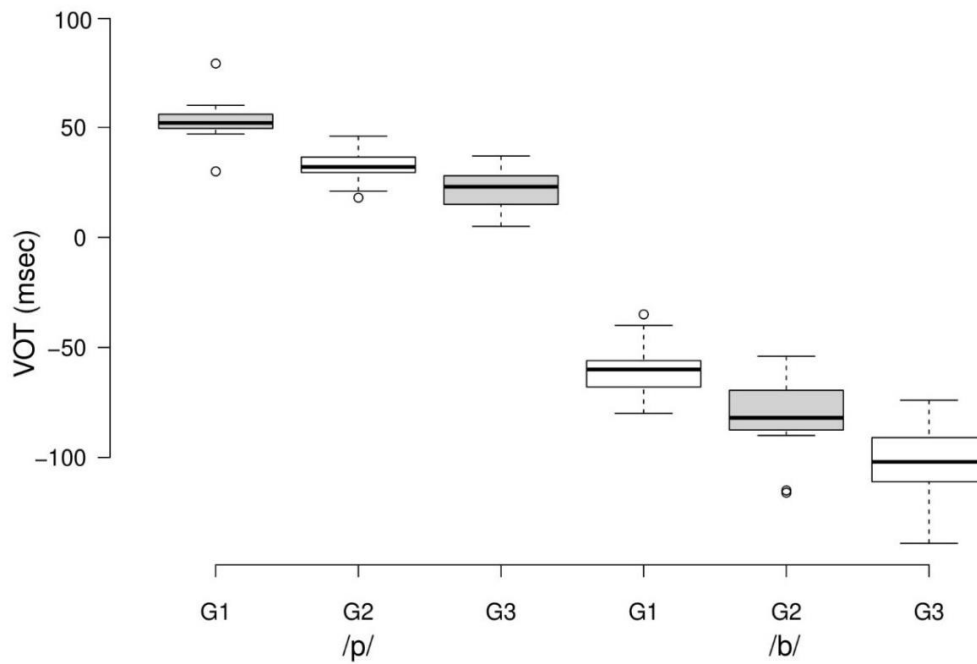


Figure 4 VOT of /p/ and /b/ by age group

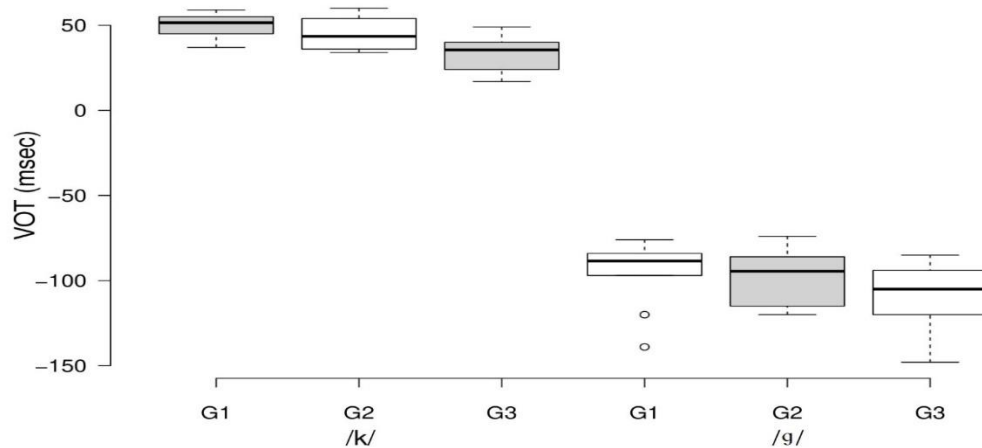


Figure 5 VOT of /k/ and /g/ by age group

As seen in the figures, and after calculating the averages of the VOT of the voiceless phonemes, /p, k/, Group 1 who had an average of 52.9msecs for /p/ and 50msecs for /k/, produced longer voiceless stops than Group 2, who had an average of 32msecs and 45msecs for /p/ and /k/ respectively, and Group 3, who had an average of 22.1msecs and 33msecs for /p/ and /k/ respectively. This difference in length is related to aspiration. The phonologically voiced consonants /b/ and /g/ show a negative VOT, indicating that these sounds were produced with voicing during the stop closure. The negative VOT obtained in this study was longer than that obtained in other studies done on L1 Arabic speakers of L2 English (Evans & Alshangiti, 2018; Flege & Port, 1981). In Flege & Port's (1981) study, the average VOT for voiced stops by speakers of Saudi Arabic was 40ms, while in this study, the results exceeded this number and reached more than double when it came to Group 3.

	df	<i>F</i>	<i>p</i>	
Voicing	1	1439.076	<0.001	***
Place	1	3.501	0.063	
Voicing:Place	1	15.264	<0.001	***

Table 12 Statistics of voicing and place of articulation on VOT

A two-way ANOVA (with interaction) that looked at voicing, voiceless for /k/ and /p/ and voiced for /g/ and /b/, and place of articulation, bilabial for /p/ and /b/ and velar for /k/ and /g/, revealed that voicing had a significant effect on the VOT as can be seen in Table 12, and the place of articulation which was bilabial for /p, b/ and velar for /k, g/, influenced the relationship between voicing and VOT. The voiced velar stop /g/ had a longer VOT than the voiced bilabial stop /b/ and the voiceless velar stop /k/ had a longer VOT than the voiceless bilabial stop /p/. This agrees with previous studies showing velars having longer VOT than labials (Lisker & Abramson, 1967; Volatis & Miller, 1992).

After running a Tukey HSD comparison test, it is important to note that the duration of VOT voiceless stops became shorter, from 52.9msec to 22.1msec and from 50msec to 33msec for /p/ and /b/ respectively, as they moved from Group 1 to Group 3 ($p < 0.001$), while the VOT of the voiced stop /b/ became longer, from 60msec to 102msec, as they moved from Group 1 to Group 2 ($p < 0.001$). However, there was no difference between Groups 1 and 2 when it came to /g/ ($p > 0.05$). There was a difference in production in Groups 1 and 2 in /p/ and /b/ but none in /k/ and /g/. This difference was not found in Groups 2 and 3 ($p > 0.05$). The most significant difference was between Groups 1 and 3.

CHAPTER 5

DISCUSSION

In this chapter, the major findings of the study will be analyzed and discussed in the light of the literature and the context present in Lebanon.

5.1. The Importance of Exposure in Perception

The first thing that is noticeable from the results of the AX discrimination test is that the participants perceived between g/k better than between p/b. An explanation for this is that despite both pairs having one voiceless and one voiced stop, unlike /p/ which is foreign to all Arabic languages, /g/ is present in Egyptian Arabic, a language that is commonly heard in Lebanon thanks to the Egyptian series that dominate the media. Egyptian talk shows, series, movies, and songs are popular in Lebanon and have been present for a very long time. This presence acted as a source of exposure to the Lebanese population whereby /g/ slowly became integrated into the colloquial Lebanese Arabic. That is not to say that Egyptian was only familiar in Lebanon because of the media, for many traveled to and from Egypt. This form of exposure brought about interaction with the Egyptian language which further aided in integrating it into the Lebanese Arabic. Egyptian media simply helped spread the exposure and made the language more accessible.

The spread and integration of some Egyptian sounds and phonemes into Lebanese Arabic would also explain why the older participants, group 2 and specifically group 3,

performed better when discriminating between /g/ and /k/ than between /b/ and /p/.

Egyptian shows and songs were more popular years ago than foreign ones, especially during certain periods such as the Holy month of Ramadan where Egyptian shows were highly viewed and tailored to last for the duration of the month. This implies that these groups were more exposed to /g/ than /p/ in their everyday life due to the prevalence of the Egyptian media in Lebanon. This agrees with Best & McRoberts' study (2003) that prolonged exposure to a language in everyday occurrences in society allows for the perception of phonemes present in that language.

Looking back at the results of the AX discrimination test, it is clear that the three groups had varying levels of performance. The youngest group, Group 1, with participants aged from 18 to 29, performed better than Group 3 in the discrimination tests. There was no difference between groups 1 and 2 and between 2 and 3, which shows that Group 2 that consists of participants aged between 30 and 39, acts as a transitional group. One explanation as to why Group 1 performed better than the other two groups is because of the amount of exposure that they have which exceeds that of the other two groups. Group 1 might be the youngest but that does not necessitate having less exposure than their counterparts, especially with the advancements in technology, the quick access to the Internet, and globalization. Having access to media in different languages from all over the globe at the tip of their fingers, the younger generation can be considered to be more exposed to foreign elements from a young age, especially with the popularity of American movies, series, and songs in Lebanon. This exposure benefits the youths' language skills and their ability to perceive foreign phonemes (Kuppens, 2010). In addition to the Internet

and globalization in general, a large number of schools in Lebanon use English as a medium of instruction and use American books to deliver the lessons. In this sense, the younger generation is being exposed to English informally and formally which again explains how they are able to perform better in the discrimination test. This again agrees with Best & McRoberts' (2003) study where children exposed to language from a young age grow up with the phonemes which they then acquire in their own linguistic repertoire.

5.2. The Role of Education and Occupation in Perception

Being exposed to foreign phonemes at a young age is beneficial for accurate acquisition of the target phonemes. However, that does not imply that older learners who were not as exposed to foreign phonemes do not acquire target phonemes. As shown in the results, Groups 2 and 3 were still able to perceive the foreign phonemes and discriminate between them and their native counterparts. Moreover, occupation had a more significant effect on the ability to perceive and discriminate the phonemes than age did. This shows that indirect exposure, while it is beneficial, is not the sole source for acquisition but an aid to the acquisition process. That is where formal exposure measured by formal education, and occupation come into play.

The participants from Group 2 and Group 3 who performed well on the perception test had over 10 years of formal education in an L2 language while the rest had less than 8 years of education. Those participants who scored 100% on the perception tests had even more than 8 years of education. This agrees with Iverson et al.'s (2003) study which

emphasizes the role of formal education in allowing for the perception and production of target phonemes, for unlike regular exposure, formal exposure in the form of education delivers the basics of the language first so that the learner can build up on them. That way, exposure builds up on information acquired gradually, in a formal setting using tested methods that are optimal for the acquisition of target phonemes.

In addition to education, profession also contributed to the overall performance in perception. To make it easier to illustrate, the occupations were divided into two categories: academic, which included the occupations where participants got a degree in higher academics (students, teachers, engineers, doctors, pharmacists, IT and bank employees), and vocational (baker, mechanic, tailor, shop owner). Figure 7 below demonstrates the performance of the participants when discriminating between /p/ and /b/ based on their occupation in their specific age group.

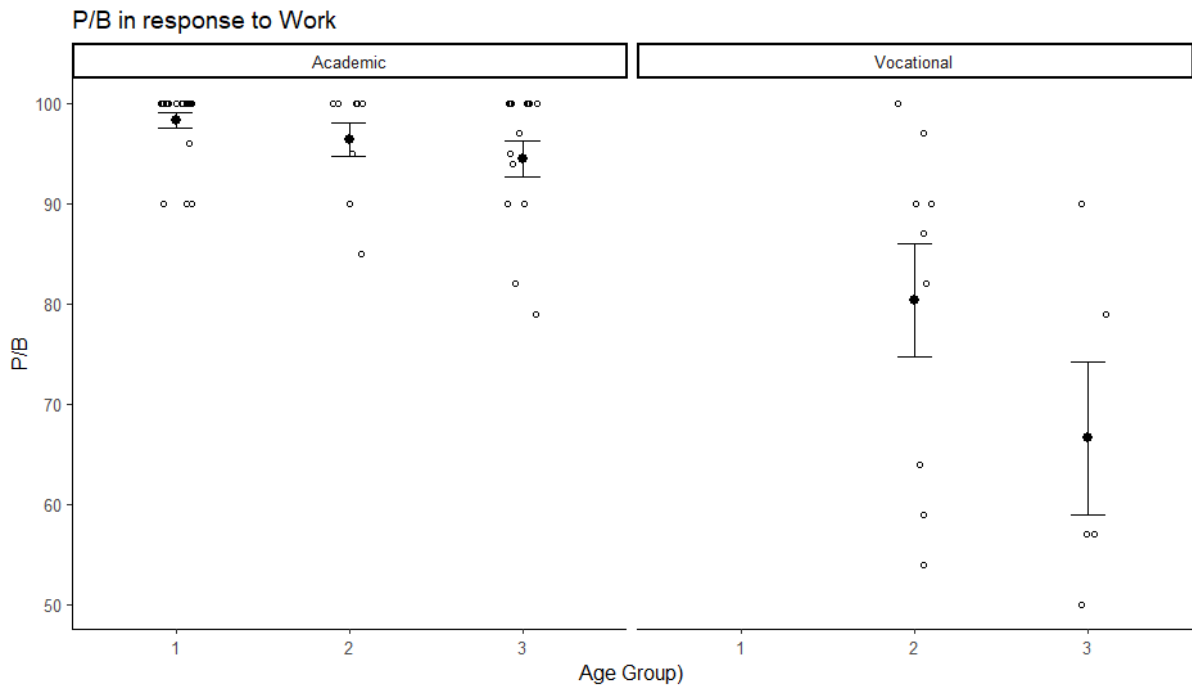


Figure 6 Participants' performance based on occupation in the three age groups

Group 1 is composed entirely of students while groups 2 and 3 encompass numerous professions. Looking at figure 7, it is evident that participants having different occupations performed differently. The academic professions (doctor, engineer, IT, bank, and teacher), on average, were able to perceive /p/ more so than the other professions due to the nature of their occupation which places them in a context that exposes them to /p/ often. For example, it is more likely to hear English in a classroom, when discussing computer languages for a program, or when working in a hospital, than hearing it in a bakery, a mechanic's shop, or a tailor store owned by older Lebanese people whose interactions are limited to other speakers in the same linguistic communities and age group as them. This was the case for the participants with professions as bakers, mechanics, and tailors in this

study who reported in their questionnaires that their customers were grown adults aged above 40 who usually asked for a [brɪsɪ] with their food, or the detergent [brɪl]; “Pril”.

That being said, Lebanese speakers perceive the phonemes /p, v, g/ but the extent of their performance is dependent on the amount of exposure and occupation. The younger group was able to perceive these phonemes more than group 3 due to their indirect exposure to English from a young age. Some older participants were also able to perceive the phonemes but their ability was affected by exposure, informal and formal education, and their professions.

5.3. Effects of Exposure on Production

Participants from the three groups were able to produce /g/ without an issue, with the only difference being a slight variance in voicing. The results for /p/ were not similar to Evans & Alshangiti’s (2018) and Flege & Port’s (1981) study where Arabic speakers of English did not produce aspiration with their voiceless stops, for the participants produced /p/ with aspiration but the VOT differed based on the age group.

While the participants from Group 3 produced the voiceless stop /p/ Group 1 produced it with a longer aspiration, similar to the one in English. This ability of Group 1 implies that a change is taking place, for Group 1 had the highest VOTs in the voiceless stops /p/ and /k/. This signifies that their voiceless stops are aspirated; a feature linked to English voiceless stops in initial positions before a stressed vowel and not to Arabic ones.

One possible cause for the integration of aspirated voiceless stops into the younger generation's speech is the exposure to international media at the comfort of one's home, making it accessible and desirable. American movies, shows, and songs are also highly popular, especially among the younger generation who, due to the increasing exposure to American English, have adopted the Western way of speaking thereby producing aspirated voiceless stops. Education could also be an answer since the curriculum used today with the younger generation is not the same as the one used back then at the time of the participants from groups 2 and 3. American books, videos, and learning material are being used in classrooms and most schools nowadays require English teachers to have a certain amount of training.

What is interesting is that despite the younger participants producing a voiceless aspirated stop linked to English, their voiced stops do not share the properties of voiced stops in English. English voiced stops have a short VOT while Arabic voiced stops have a much longer VOT as seen in the results of the production test. The voiced stops /b/ and /g/ produced by the younger group had longer VOTs than English ones which implies that while they acquired the properties of English voiceless stops, their voiced stops follow the properties of the Arabic language. These results agree with those presented by Kelly, El Houry, & Ghamloush (2021), and by Al- Tamimi & Khattab (2018), for the voiced stops had a longer VOTs (-110s) than their voiceless counterparts. This mixture of properties brings forth a new Lebanese Arabic that mixes linguistic properties of different languages together.

5.4. Fossilization

According to Linebaugh (2015), one has to accurately perceive sounds in an L2 before being able to produce them. The results of this study support Linebaugh's position, for those who did not perceive the difference between the phonemes in the AX discrimination tests were not able to produce all the phonemes. The majority of these participants were members of the second and third groups, and had less than 10 years of exposure to English which again highlights the importance of exposure for an extended period of time.

Not all participants had the same level of performance as each other or as other members of their group. As mentioned previously, this is due to length of exposure, education, and profession. However, some participants who had over 10 years of exposure and were able to perceive /p/ were not able to produce it in all trials. This refutes the idea that perception necessitates production because while they were able to perceive /p/ and distinguish it from /b/ in the discrimination test, they were only able to produce /b/ even when presented with images such as "Pepsi" and "Persil".

This answers the second research question which is the extent to which the participants who can perceive the phonemes can produce them. In the cases of those who perceived /p/, only some members of Group 2 and 3 were not able to produce it despite being fluent in English and using it every day. This goes against the Motor Theory of Speech Perception which states that people perceive spoken words by identifying the vocal tract gestures with which they are pronounced rather than by identifying the sound patterns that speech generates (Liberman & Mattingly, 1985).

One phenomenon that can explain this occurrence is fossilization. As mentioned previously, fossilization implies that a speaker can perceive the sound but cannot produce it. This can be due to an error made and not corrected while learning was in process. Unfortunately, certain historical events in Lebanon in the 1970s, such as the war of 1975, may have affected learners and their ability to attend classes regularly since school closure was natural in times of war. This could have contributed to the inability of the older speakers to produce /p/. This however cannot be considered the definite answer since some of the participants of Group 3 were still able to produce /p/. This brings about another form of fossilization, one that is not necessarily affected by the education but by one's linguistic identity.

5.5. Politics and its effect on the attitude towards Lebanese Arabic

While exposure and education played a role in the ability to perceive and produce phonemes, there were other factors that greatly affected performance despite the amount of exposure and those were the attitude of the participants to English and Arabic, and their view of their linguistic identity.

A schism between Group 1 and Group 3 was present when it came to attitudes regarding the native language and English. Group 1 showed to be in favor of English and viewed it as an essential language for studying, communicating, and securing a good position in the job market while Group 3 favored Arabic since it was their mother tongue and the language of their religion. What is interesting about these two differing positions is

that the older participants linked Arabic to their self, stating that it was part of who they were as a person, a part of their linguistic identity that constituted their being. With the younger generation, there was no perceived relation between Arabic and their identity. In fact, some participants from Group 1 reported in their questionnaires that they did not associate themselves with Arabic, or they simply used it because they were born in a country that spoke it, not because they wanted or desired to acquire it.

This negative attitude of the majority of the younger participants towards Arabic was evident throughout the entire questionnaire, for English was ranked higher than Arabic in every category, even when it came to every day communication. Their position on Arabic was even more prominent in the last open-ended question which asked the participants whether or not they believed Lebanese Arabic was a part of their linguistic identity. These results differ greatly from Shaaban & Gaith's (2003) study where Arabic was favored in communication and was not looked down upon. Religion had also played a role in the participant's attitude towards Arabic, but in this present study, religion was solely mentioned by some members of Group 2 and 3 and not once by a participant of Group 1. The cause for this attitude was expected to be the fear of stereotypes or judgements, but a different aspect came into play and was mentioned by almost all participants of Group 1. This factor that cannot be ignored when looking at the drastic changes in attitude in the younger generation towards Lebanese Arabic is the present context of Lebanon and its on-going crises.

5.5.1. Lebanese Arabic in the October Revolution (Al-Thawra)

Speaker's identities are socially constructed through linguistic and social behavior, and shaped by the socio-political and cultural situations of a region (Irvine & Gal, 2000; Fuller, 2008). Significant changes in a community's linguistic practices are often induced by prominent socio-political developments within the same community (Díez, 2021).

From October 2019, Lebanon has suffered multiple blows that have affected its people's morale and attitudes towards their identity. Since October 17th, 2019, Lebanon has witnessed an unprecedented social and political movement that united Lebanese citizens from all sects and social classes against the country's political establishment. These protesters united under the title "thuwwār", which translates to revolutionaries, and swept the country in massive demonstrations due to the deterioration of their already difficult living conditions that was brought about after the government passed an austerity budget during the summer (Díez, 2021).

On October 17th, the government announced that it will be taxing \$7 for the usage of WhatsApp. This declaration was followed by wildfires that obliterated the Lebanese forests and damaged a wide area of greenery. What fueled people's inner fire was the inability of the government to take control of the fire and put it out, especially since there was a lack of sufficient tools, caused by the lack of budget management, that are needed to manage fires (Azhari, 2019). This mismanagement and corruption in the government resulted in local firefighters losing their lives while trying to save others from the fire. All these events gave birth to the October Revolution which became known as Al-Thawra.

At the time, Lebanese Arabic was used as a symbol of unity among all the Lebanese people, regardless of their sects, social status, and area. There was one identity in this revolution and it was the new Lebanese persona fighting for change. A respectable number of the “*thuwwār*” who were organizing and leading protests were young Lebanese citizens whose ages include those of the participants in Group 1 in this study. Banners, posters, and social media posts and declarations were all released in Lebanese Arabic. It reached the point that college-students, French and English educated alike, chose Lebanese Arabic to Tweet and speak on national TV, with some having difficulty in speaking only in Arabic. This highlights how important Lebanese Arabic was for the youth during the revolution and how they used their mother tongue to demand changes to be made to secure their future and the future of the coming generations.

But if the attitude of the younger generation was in favor of Lebanese Arabic after being brought together by the events of October 2019, how did the results collected for this study in 2021 present completely opposite views?

5.5.2. Social instability and its effects on Lebanese Arabic

Economic conditions worsened and then on August 4, 2020, the Port of Beirut exploded and blew with it the hopes and dreams of many Lebanese citizens. The dollar doubled, tripled, and quadrupled in the span of a few days until it exceeded 20,000L.L. in the black market (El Dahan & Bassam, 2021). The prices of goods soared in the supermarkets and the main issue of many families became securing food. Medication became scarce but in high demand because the pandemic was still terrorizing the world (El

Dahan, 2021). Add to that the effects of the blast that scarred people physically, mentally, and emotionally. These factors that were not helped by the inability to form a government led to the immigration of the youth primarily to other countries in hope of securing a better life there. The data for this study was collected during this period and the attitude of the desperate younger generation was evident in how they moved their anger from the economic, political, and social instability onto Lebanese Arabic itself.

5.6. The effect of attitude on perception and production

Taking the context of the country into consideration, and based on what has been previously reported, the attitude was reflected in the perception and production tests, for those who seemed more favorable to English, mainly Group 1, were able to perceive and produce the phonemes more so than those who favored Arabic who were primarily from Groups 2 and 3. The positive attitude had a positive effect on achievement which was the ability to perceive and produce the L2 phonemes. Some exceptions were found in the groups. For example, participants from Group 2 reported trying to improve their English in hopes of traveling. On the other hand, 4 participants from Group 1 regarded Lebanese Arabic as part of their identity. Their perception was similar to others in their group, but their production leaned more towards Lebanese Arabic. For instance, their voiced stops were longer and their voiceless stops were less aspirated. This answers the third and final research question of this study which revolves around the effect of attitude on perception and production.

CHAPTER 6

CONCLUSION

This study has shown how the linguistic attitude towards Lebanese Arabic affects the perception and production of English phonemes. Positive attitudes towards English yielded better perception and production. The younger generation expressed a more positive attitude towards English than towards Lebanese Arabic. Exposure to English through media and education also play a role. The more exposure the speakers have, the more liable they are to perceive and produce phonemes foreign to their native language. Exposure was also affected by globalization and the ease of access to international media starting from a young age in the case of the younger generation. Despite that, not everyone who could perceive the phonemes was able to produce it. Some speakers still assimilated /p/ into /b/ due to their association with Lebanese Arabic as part of their linguistic identity or to fossilization which may have occurred when they were first acquiring the target language.

This study was conducted during trying times for all participants which may have affected their answers. Then again, the socio-political context cannot be separated from language since they go hand in hand. These factors then affect the attitude towards one's language which, in turn, affects the production of phonemes.

APPENDIX

Questionnaire

Reference #: _____

I. **Demographic Information:**

1. Age: _____
2. Area of residence: _____
3. Area you grew up in: _____
4. Profession/Occupation: _____
5. Languages:
 - a. Native language: _____
 - b. First foreign language (if any): _____ Years: _____
 - c. Second Foreign language (if any): _____ Years: _____

II. **For the following questions, circle the choice that most reflects your attitude.**

Attachment to Arabic language

1. I would rather study/read in English rather than Arabic.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
2. I like to attend classes given in English rather than Arabic ones.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
3. I prefer the Arabic language since it is part of who I am.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Pronunciation attitude

4. I think speaking English with an Arabic accent is not something to be embarrassed about.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
5. I feel proud of speaking English with an Arabic pronunciation.

Strongly Disagree Disagree Neutral Agree Strongly Agree

6. I like Arabic pronunciation more than English pronunciation.

Strongly Disagree Disagree Neutral Agree Strongly Agree

Language and social status

7. I believe a person who can speak English very well has a better social status and respect in the society.

Strongly Disagree Disagree Neutral Agree Strongly Agree

8. I believe Arabic is superior to English because it is our native language.

Strongly Disagree Disagree Neutral Agree Strongly Agree

9. When I speak English, I feel I am superior to others.

Strongly Disagree Disagree Neutral Agree Strongly Agree

L1 use/exposure in the society

10. I speak English a lot in my daily life.

Strongly Disagree Disagree Neutral Agree Strongly Agree

11. I switch from one language to another when talking to different people.

Strongly Disagree Disagree Neutral Agree Strongly Agree

12. I like to use Arabic rather than English when communicating with foreigners who know some Arabic.

Strongly Disagree Disagree Neutral Agree Strongly Agree

13. I like to speak English rather than Arabic with my Lebanese friends who know English.

Strongly Disagree Disagree Neutral Agree Strongly Agree

14. I find English texts and material more accessible than Arabic ones.

Strongly Disagree Disagree Neutral Agree Strongly Agree

Script/alphabet

15. I send text messages in English mostly.

Strongly Disagree Disagree Neutral Agree Strongly Agree

16. I consider writing in English to be easier than writing in Arabic.

Strongly Disagree Disagree Neutral Agree Strongly Agree

17. I do not like texting in Arabic.

Strongly Disagree Disagree Neutral Agree Strongly Agree

III. Please write your answer to the following questions

18. If you do change the language you used based on who you are talking to, provide a reason for that and how the change makes you feel. And how do you feel about Lebanese Arabic being part of your identity?

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