



## Examination of Language Dominance of Turkish-Danish Speaking Students in Denmark on The Basis of Bilingualism \*

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### Abstract

Cognitive, social, cultural, vocational contributions of bilingualism come into prominence in the globalizing world order day by day. Many academic studies are conducted particularly in the countries which have multilingual population structure and/or house immigrants from varying nations. Our study aims to examine language profiles of high school students, live in Denmark, and speak Turkish and Danish, with regards to their language dominance. In Denmark, where nearly 70 thousand of Turkish citizens live, it is necessary to put forth the characteristics of the bilinguals whose mother tongue is Turkish to secure and sustain their Turkish language capabilities. In our study, it has been aimed to identify in which language participants are dominant, with reference to a perspective which regards dominant language as being associated with age, time, period of acquisition and learning each language, language use, language preference, and language histories. Being in line with this goal, participants have been asked to fill out a questionnaire which is prepared in the framework of "A Quick, Gradient Bilingual Dominance Scale" -developed by Alexandra L. Dunn and Jean E. Fox Tree (2009)- and involves dichotomous language dimensions. The data gathered has been classified and statistically evaluated. The basic findings obtained have presented that participants are dominant in Danish language, and besides, there is significant differences among their length of acquisition periods in Turkish and Danish and language use rates of the both languages in home and school contexts. The statistical data acquired at the end of the study have been evaluated within the context of bilingualism, and suggestions have been presented about mother tongue education of bilingual Turkish students in Denmark.

### Keywords

Bilingualism  
Classification of bilingualism  
Dominant language  
Measurement of bilingualism  
Mother tongue

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## Introduction

In a globalizing world, changes in various fields and international migration take place owing to social, cultural, political, and economic developments. The most obvious impact of immigration on societies is that one's mother tongue and cultural values undergo changes in the social setting in which he/she lives. This situation affects the current structure of countries and sets the ground for multilingual and multicultural settings. People who immigrate for various reasons get to know new languages and cultures in the countries they move to. Thus, they try to adapt their behaviors and languages to new environments. The economic crisis faced by Turkey in the 1960s forced people who were in search and need of a job and source of income to immigrate to European countries, especially to those in need of labor force. As a result of immigration, crowded groups of Turkish people settled in various European countries. Having adapted to languages and cultures of the countries they migrated to and survived past the third generation, Turks try to sustain their relations with those countries as well as Turkey at the present time. Today in Denmark, there are 62.097 Turkish citizens according to 2013-2014 census data. 17.815 of the citizens receive official education in schools of varying levels.<sup>1</sup>

### *Historical Relations*

The very early relations of Denmark with Turks began in the era of Suleiman the Magnificent (1520-1566). In 1555, Danish painter Melchior Lorck (1527-1583) came to Istanbul and he produced two portraits, one being a bust portrait and the other a full-length portrait, of Suleiman the Magnificent. (Kozanoğlu, 2006, p. 17). The commercial relations between Turkey and Denmark began in the second half of the 18th century. Denmark, together with the Treaty of Friendship, Commerce and Navigation, the first treaty to be signed between the two countries on October 14, 1756, increasingly improved her commercial and diplomatic relations with the Ottoman Empire (Temel, 2007, p. 118). The relations between the two countries continued thanks to bilateral agreements and were reinforced with the Treaty of Amity signed on April 6, 1926 between the two countries. Afterward, joint activities on numerous fields from education to trade, industry, and transportation, were conducted and relevant treaties were signed. Danish engineers were assigned to work in the railroad construction which was the primary policy of the first ten years of our republic. In 1927, Kampsax, a Danish engineering firm, was commissioned by the Ministry of Public Works, and Danish engineers assumed responsibility for planning and control of Ereğli port facilities and the 1000 km railroad line between Irmak-Filyos and Fevzipaşa-Diyarbakır. In 1951, they also worked on the modernization and expansion projects of ports in Samsun, İzmir, İskenderun, Haydarpaşa, and Salıpazarı (Boisen, 1962, p. 7). As it is seen, the origins of our relations date back to more than five hundred years.

Turkish labor migration to Denmark came into prominence in the mid-1960s and in the following five to ten years the number of people migrating to Denmark reached approximately above ten thousand. Although there is no signed bilateral labor migration agreement between Denmark and Turkey, Turkish laborers have tried to settle and survive in Denmark by means networks of previous migrants. Upon their migration, Turkish immigrants have begun to learn Danish, the official language of Denmark, and use it in their daily lives.

### *Globalization and Bilingualism*

People who regularly use one or more foreign languages in daily life for different reasons are referred to as being bilingual (Grosjean, 2010). Coupled with developments in today's world, bilingualism is a phenomenon which is spreading quickly. According to the 2003 data from The United Nations Educational, Scientific and Cultural Organization (UNESCO, 2003), more than 20 countries in the world have more than one official language. More than one language are spoken in almost every country around the world, thereby bilinguals are frequently come across in various countries.

The phenomenon of bilingualism, which affects a significant part of the world's population, has a distinctive, changeable, diversified, and interdisciplinary structure. The fact that the special structure of bilingualism is not taken into consideration has caused a lot of problems. The words "bilingual" and

<sup>1</sup> The data has been supported by the Turkish Embassy in Copenhagen, Consultancy Department for Education in 2016.

“bilingualism” have many different meanings depending on the context they are used in. They can include the knowledge and use of two or more languages, the presentation of information in two languages, the need for two languages, the recognition of two or more languages, and so on (Grosjean & Li, 2013). That bilingualism has many different meanings in the context it is used has brought new perspectives and criteria to the field aiming at defining this phenomenon and classifying bilinguals. Therefore, basic concepts related to bilingualism and their definitions vary greatly in the international literature. Who can be considered as bilingual is still a matter discussed by theorists on the basis of their perspectives and criteria.

Bilingualism is a phenomenon which is considered and discussed both in individual and social contexts. From individual and social viewpoints, there are differences between the use of two languages. Researchers use the individual and social level as a base in the studies aiming at defining and classifying bilinguals. Examining bilingualism at the individual and social level has a key role in determining the types of bilingualism. Aspects such as level of acquisition, context, age, and social orientation have distinctive features in determining the types of bilinguals. There are other factors affecting the bilingual experience and to be taken into account when classifying the types of bilinguals: social attitude, democratic factors, and cognitive structuring. The variety of bilingual experience has made the defining and classifying of bilinguals disputable. However, that bilingualism is separated into two as individual and social bilingualism at the first stage is a generally accepted division in the related literature.

#### ***Individual Bilingualism***

Individual bilingualism, in its most general sense, a speaker’s knowledge of more than one language, involves processes and experiences related to language use and acquisition. According to Hamers and Blanc, the term refers to the psychological state of a person who has access to more than one linguistic code as a means of social communication. According to the mentioned linguists, individual bilingualism refers to the state of mind of a person who can use his proficiency in languages in accordance with communication purposes. Since the foundation of bilingual studies, the concept has been defined in various ways with regard to various approaches.

The most recent approach to define the mentioned concept regarding all studies in the field is the holistic approach. In the framework of the holistic view, proposed by Grosjean and adopted by most of today’s researchers, the definition of individual bilinguals and bilingualism has been worded as follows: “Bilingualism is the regular use of two or more languages (or dialects), and bilinguals are those people who use two or more languages (or dialects) in their everyday lives” (2008, p. 10). In Grosjean’s definition, regular use of language in everyday life is attached great prominence.

In the research, the framework of bilingualism has been determined in line with Grosjean’s approach and the term has been used to refer to bilinguals. Descriptors of bilingualism have been categorized based on levels of linguistic competence levels of individual bilingualism, context of second language acquisition, age of acquisition or learning each language, and social environment as follows.<sup>2</sup>

#### ***Categories of Bilingualism based on Levels of Linguistic Proficiency***

One of the most common criteria of classifying bilinguals is assessing the linguistic proficiency of bilinguals. The types of bilingualism have been sorted by language competence levels in the following subsections.

#### ***Balanced Bilingualism***

The state in which individuals have equal and high proficiency in both or all their languages is described as balanced bilingualism. Those people who are fully competent in two or more languages they speak efficiently and fluently in everyday life are referred to as balanced bilinguals.

<sup>2</sup> The section looking at the classification of bilinguals in the research has been prepared in the framework of ‘Bilingualism: An Advanced Resource Book’ by Chin and Wigglesworth (2007) and considering the main headings in the book

### *Dominant Bilingualism*

The word “dominant” means most powerful and influential. There are two principal uses of this term in social and individual environments. As to the first one, a language can be socially or culturally more dominant and therefore, can be most useful in a greater number of social contexts and domains. For example, it may be associated with a numerical majority, a particularly prestigious group, or a politically (therefore, culturally) powerful group (Field, 2011, p. 58). Thus, being dominant may be a feature attributed to a dominant group or elite groups in a community. As to the second, the term can also refer to a psychologically dominant language in the linguistic repertoire of a speaker, the language he/she feels more comfortable using in terms of knowledge (e.g., vocabulary), proficiency (fluency), and confidence (ease of expression). In majority of cases, a bilingual can favour one language over the other. It may be the speaker’s native language, or primary in the sense that it is the most frequently used language in the bilingual’s linguistic repertoire. It is quite possible to come across examples of such situations in which bilinguals are more dominant in one of their languages. It is common for bilinguals to be dominant in one language or the other language (Baker, 2011, p. 66). To Grosjean, language dominance reflects the complementarity principle, in other words, the fact that bilinguals use their two languages for different purposes (or different domains) in daily life (2008, p. 24). Therefore, the degree of dominance varies by linguistic contexts, linguistic functions, and competence.

### *Passive or Recessive Bilingualism*

The term passive or recessive bilingualism refers to the situation of bilinguals who are gradually losing competence in one language generally due to disuse of that language. Language shifts from one language to another are observed in some bilingual communities, and bilinguals usually shift away from the home language to the dominant language in the society. In such communities, there are commonly some bilinguals who can only understand, yet cannot speak the other language.

### *Semilingual or Limited Bilingualism*

It is the state of having a limited level of proficiency in both languages. It is common among children in immigrant families and of immigrant workers. Limited bilingualism can cause lifelong psychological and social problems. It arises from ignoring socioeconomic and socio-political problems.

### ***Categories of Bilingualism based on Context of Bilingual Language Acquisition/Learning***

Children with healthy development can acquire or learn one or more languages subconsciously depending on their environment. The term “acquisition” is referred to as children’s process of acquiring language competence without conscious awareness at an early age. Acquisition occurs naturally by means of the inputs children receive during interaction with their environment. Language learning, however, occurs at school through conscious and planned activities (Krashen, 2013, p. 1). To this respect, acquisition and learning refer to different ways of gaining language competence. Since these terms have different meanings, in our study, the term acquisition, has been used to express the process of gaining competence in first language/mother tongue in a natural way.

Although bilinguals share the common experience of using more than one language in their lives, the ways in which they acquire their languages vary. Various factors such as linguistic situations bilinguals encounter, their educational backgrounds, social and cultural domains lead to variations and discrepancy in their common experiences. Different common experience contexts of second language learning and acquisition are as follows:

‘Primary contexts’ refer to situations where a child acquires both languages in a naturalistic setting without any structured instruction. The term, also known as ‘natural bilingualism’, involves the acquisition of languages in the course of daily interaction with native speakers without being instructed. Within the primary contexts, there are two subdivisions:

In a *naturally fused setting*, there is no separation of context for both languages. While a bilingual child may receive input in both languages from each parent, both languages are used by the same speaker.

In a *naturally separate* context, there is a separation of context for both languages. A child can receive input in his mother tongue from his parents while receiving input in the other language from other interlocutors.

'Secondary contexts' refer to the situation when a child acquires one of the languages in a structured setting, usually school. They are also referred to as cultural, unnatural, directed, or school bilingualism. There are two subdivisions within secondary contexts:

*Elective bilinguals* willingly choose to acquire an additional language in line with their purposes. They acquire an additional language in a school setting or by speaking to their partners.

*Circumstantial bilinguals*, in other words, forced bilinguals, have no choice when it comes to learning a second language. They acquire or learn an additional language in addition to their mother tongue in their surrounding community or school setting to meet their needs in a community or adapt to a new environment.

#### ***Categories of Bilingualism based on Age of Acquisition/Learning***

Age is a key consideration when discussing bilinguals, since a vast number of studies have been carried out on language competence regarding age. There are two subcategories with regard to the age of acquisition.

*Early bilinguals* are those people who acquire or learn both languages before adolescence.

*Late bilinguals* are those people who learn the second language after adolescence.

Some researchers also make the distinction between infant bilingualism and childhood bilingualism. Baker gives place to two concepts, simultaneous and sequential bilingualism, under the title of childhood bilingualism. *Simultaneous (infant) bilingualism* takes place when a child becomes bilingual by acquiring two languages from birth. *Sequential (childhood) bilingualism*, on the other hand, occurs when a person becomes bilingual by first learning one language and then another. The term sequential bilingualism applies only if the child is approximately three years old before being introduced to the second language (Baker, 2011, p. 3). Most children usually become bilinguals this way, as they learn the first language at home and are then exposed to the other in the school context, outside the home.

#### ***Categories of Bilingualism based on Social Environment***

The attitudes of the bilinguals towards their status and the attitudes of the wider society towards them influence to found harmonious relationships. The self-perception of bilinguals in society and how they are perceived is important. Since the situation that two languages are important, bilingual individuals benefit from both languages at the highest level.

However, if the first language or mother tongue of an individual has a secondary position or is 'useless' in his immediate social environment, then the individual can substitute his first language/mother tongue with the second language or benefit from the both languages on a low level. This can cause the development of the mother tongue to diminish or even tail off in children who learn the second language by the influence of school or immediate environment.

#### ***Subtractive /Differential Bilingualism***

It is the ability to gain competence on the second or later level learned by losing the main language. This is a result of educational, social and political faults. It occurs with the influence of the individual's own language, the lack of value of the culture, and the pressure on him/her to adapt to his/her social environment. In such environments, the dominant language or the education given through the majority language is in the foreground, and the repression of the language of is ignored. Thus, the first language (mother tongue) is gradually replaced by the second language.

#### ***Additive Bilingualism***

Additive bilingualism is a bilingual learning situation that occurs when a second or later learned language is added to the competence of the mother tongue. In such environments, both languages are

approved and worth in individual and community basis. Bilingual children's new language learning is strongly encouraged and supported by the state.

In situations where being bilingual or multilingual is used as an incentive tool, where they support additional skills, benefits, and opportunities for one's life, one can argue of the existence of 'additive bilingualism' (Chin & Wigglesworth, 2007, p. 17). If an individual develops a positive attitude towards the mother tongue and the second language, it may be possible that the articulated bilingualism becomes a balanced bilingualism. (Ellis, 2003, p. 208). As can be seen, the point of view of individuals and society towards languages is important for the sustainability of minority languages.

As a result, this concept contains complex phenomena because of the wide variety of factors affecting the bilingual experience and the changeable nature of the bilingualism. In today's research, bilinguals are examined by taking the internal and external factors that influence bilingual experience into account. This gives bilingualism an interdisciplinary dimension. Scientists from different academic fields (sociology, psychology, linguistics, anthropology, pedagogy etc.) bring different approaches, explanations, criteria and methods to link their fields to the bilingual field of study (Bican, 2017). Researchers choose the most appropriate one from these approaches and methods for their purposes.

#### *The Concept of Dominant Language in Bilinguals*

The dominant language, most commonly, is the language which an individual is more competent or uses more frequently. The fact that one of the languages of an individual is more widespread and more respected in society makes it more preferred, and consequently the individual becomes more competent in that language. Such situations are explained by the "dominant language" concept. The condition of being dominant in one language is not a problem. Indeed, bilingual individuals or children mostly tend to be dominant in a language. According to Grosjean, language dominance is more common in sequential bilingual children, who learn one after another, than children who learned two languages in early ages. This is because the sequential learners have already the knowledge of a previous language. Also, while children are learning languages simultaneously, the child may seem to learn one of the languages more easily or more quickly because the other language contains more complex linguistic structures than the other. This may imply that the child is more dominant on that language. Grosjean (2010) noted that, apart from these structural reasons, such language dominance of bilingual children that appears when two languages are simultaneously learned stems mainly from the amount of language exposure in each language learning process.

Generally, children receive more input than one other. It is not common for children to have the same amount of input in one of the languages. The main effect of language dominance is that the knowledge of the stronger language becomes larger and develops faster than the weaker language (Grosjean, 2010, p. 192). The dominant language, which expands its domain of influence and use more quickly, will naturally have a negative impact on the weak language as long as the other language is not developed, and this is an undesirable situation for bilinguals. Because this negative effect will inevitably lead to wear and tear in subsequent generations as it reduces the frequency of use of the weak language. However, bilingual individuals are not expected to prefer one language to another. The targeted linguistic competence for bilingual individuals is to use both languages functionally and to develop similar levels of language skills in both.

#### *The Assessment of the Dominant Language in Bilinguals*

The dominance and balance assessments are used to determine the differences or closeness of the languages of the individuals in multilingual environment in terms of their language competences. Such tests are psychological tests designed to evaluate the relative strength and efficacy of each of these in a multilingual individual's language diversity. These tests typically evaluate the response time, the number of responses, and the time it takes to process / fill in two texts of matching tasks on both languages. (Field, 2011, p. 57). According to many researchers, there is no definite typology of bilinguals widely adopted by the scientific circles. For this reason, the assessments made in this area are very diverse in terms of approach and methodology. According to Hamers and Blanc, a distinction is made

between balanced bilinguals, which generally have equal qualifications on both languages and dominant bilinguals, one of whose languages is more developed than the other (2000, p. 8). The main purpose of making this distinction is to develop or use appropriate assessment instruments for proximities of and similarities between the languages possessed. For more than 25 years, numerous tests and computational methods have been developed for speech and written language analysis, which can assess perceptual and productive language proficiency in bilinguals. However, it is not a simple matter to decide which test or evaluation instrument would be more appropriate for a particular group. Especially, when the difference between the individual languages is evident and when the dominant language is quite strong and effective, the comparison between the languages with regards to proficiency can give erroneous results. Baker mentioned two basic methods used in the research works to assess the bilinguals and detailed them with examples (Baker, 2011, p. 29). The first method proposed is the evaluation of 'language background scales' or 'functional bilingualism', and determines what purpose the people use their two languages. Baker underlines that many "contextual" information needs to be included in such researches.

The second method highlighted by Baker is "language balance and dominance evaluation". In some "psychometric tests" used for this purpose, measurements such as "response time and number in word matching assignment", "detection of words produced using the two languages", "reading time and mixing amount of the two languages" can be performed. However, in such balance and dominance tests, language competence and performance should not be expected to give a high degree of "representability" to a wider field such as language skill and use. As language dominance can variate according to space, time, and personality, the response times may not always point to the correct language dominance or balance (Baker, 2011, pp. 33-34). Thus, factors other than language should be under consideration in evaluating the results of such texts.

The assessment of language dominance or competence is related to language components. As known, linguistic competence consists of different components, and researchers address one or several components within a specific framework in order to reach a judgement on language competence in line with their theoretical approaches and objectives. For example, many researchers regard knowledge of vocabulary as a fundamental component of language proficiency (Long & Richards, 2007; as cited in Treffers-Daller, 2011, p. 149). Researchers benefit from the following tests developed to assess the knowledge of vocabulary in order to determine language proficiency:

- Yes/No formatted word tests
- Level tests
- X.lex and Pabody Picture Word Tests (PPVT)
- Mill Hill word scale.

However, such tests are criticized in various aspects in terms of implementation and interpretation assessments. As a result of these tests, the widely-embraced judgement is that the answers that are given faster through the stronger language. If a balanced bilingual person performs equally on both languages and there is still a difference between the languages, this indicates a psychological dominance on one language or the other. According to the criticisms made, such tests usually evaluate only a certain set of subcomponents and neglect some dimensions such as communicative competence (Field, 2011, p. 58). But it does not seem possible to handle the language skills of individuals with all their dimensions and to develop a wide range of evaluation instrument for it. Treffers-Daller summarizes this point as follows: "As language ability is multidimensional, it is hardly possible to measure it with a single index that covers all its different components." (2011, p. 150).

The assessment of language proficiency of bilingual people is complicated because of the typological differences between them. Some researchers compare the results of assessments among bilinguals with monolingual standards, but this approach is not appropriate in terms of the holistic approach of bilingualism according to Treffers-Daller (2011, p. 150). Yip and Matthews make a distinction between dominance and competence by proposing to determine language dominance, in

bilingual first language acquisition research, rather than comparing bilinguals with monolingual control groups. According to this, while competence is related to language use, dominance is related to knowledge underlying language (as cited in Daller, Yıldız, Nivja, Kan, & Başbağı, 2011, p. 217). These researchers claim that estimates of the abstract structure of the language can be reached through the evaluation of language use. Yip and Matthews have underlined that the dominance of a language can change over time according to contexts, so that time variable must be taken into consideration.

In our study, it is preferred to use a gradient scale which has the potential to explore bilingual behaviours and performance aspects by getting use of the ideas of these researchers. For this purpose, the scale developed by "Dunn and Fox Tree (2009) has been translated into Turkish and implemented to assess bilingual dominance of participating students.

### *Aim of The Study*

The study aims to examine language dominance in bilingual Turkish and Danish speaking high school students living in Denmark. It also aims to determine the dominant language and describe the status of language dominance in the context of bilingualism.

### *Sub-aims*

- Is there a significant difference between the Turkish and Danish acquisition ages of bilingual high school students in Denmark?
- Is there a significant difference between the bilingual high school students' ages of comfort in Turkish and Danish in Denmark?
- Is there a significant difference between the languages bilingual high school students living in Denmark use at home?
- Is there a significant difference between the languages bilingual high school students in Denmark use to do mental calculations?
- Is there a significant difference between language attitudes of bilingual high school students in Denmark towards Turkish and Danish?
- Is there a significant difference between language (Turkish and Danish) acquisition periods of bilingual high school students in Denmark?
- Is there a significant difference between the ages of restructuring Turkish and Danish of bilingual high school students in Denmark?
- Is there a significant difference between the languages which bilingual high school students in Denmark speak with an accent?
- Is there a significant difference between the languages used in daily life in the social settings of bilingual high school students in Denmark?



## Method

This is a descriptive study. The study was carried out using 'single screening model', one of the scientific methods of research. An immediate situation or temporal development and changes are determined by using single screening models (Karasar, 2012, p. 79).

### *Participants*

The target population for the study consists of 15- to 20-year-old bilingual immigrant high school students living in different districts of Copenhagen (Albertslund, Ishøj, Vesterborg) and speaking Turkish and Danish. According to data from 2015, there is a total of 3657 students who are among this age range and speaking the two languages. The sample includes 110 students studying in different high schools and selected by using *random sampling method*. 63 of the students are female and 47 of them are male students. Besides, while 104 of them were born in Denmark, only 7 of them were born in other countries.

### *Data Collection Tools*

In the study, "A Quick, Gradient Bilingual Dominance Scale", developed by Dunn and Fox Tree in Santa Cruz California University, is used to assess participants' language dominance, (2009, p. 273). This scale consists of 12 questions. Each question has a different weight in the assessment. If all the answers reflect dominance of Turkish language the maximum point is +31; if they reflect that of Danish language the maximum point is -31. According to the scale, the individuals who get scores between -5 and 5 points, or more generally -10 and 10 points, can be defined as individuals speaking the two languages in balance. Dunn and Fox Tree made use of (1) approaches of other researchers in bilingual dominance assessments, (2) a wide-scale research study which is conducted with more than a hundred Spanish-English bilinguals, and (3) "Exploratory Factor Analysis" (EFA). The original scale was developed in two stages. The basic tool utilized in the first stage is EFA (Kline, 1993; Fabrigar, Wegener, MacCallum, & Strahan, 1999). In the second stage, a scoring system was developed for the scale. This scoring system was developed based on the theoretical foundations the deficiencies of which were eliminated by responses given for the open-ended questions. The scale, which was tested for validity and reliability, has been translated from English into Turkish for the current study. The scale is applied only in Turkish. The questions in the questionnaire are differentiable, close to interpretation; and they do not depend on self-evaluation. The answers given to the questions in the scale depend on memory and facts. The questions focus on "the age of language acquisition", "comfort in language", "how long the participants have been educated through a certain language", "preference of a certain languages (language use)", and "loss of fluency in a certain language (re-structuring)" Whether the translated scale has been correctly adapted to Turkish was reviewed by three linguists. The scale was implemented after necessary corrections were made in accordance with linguists' views on the suitability of the translation into Turkish. The participants could only see the questions, not the scoring information.

### *Application*

Teachers and students were given the necessary directions before the language dominance scale was carried out. During the implementation process, questions posed by students were answered by the researcher and teachers. The participants were introduced only the questions, not the assessment criteria. The data was collected in written form. They were given 20 minutes to respond to survey questions. Questionnaires that were filled out anonymously were collected by the researcher.

### *Data Analysing Techniques*

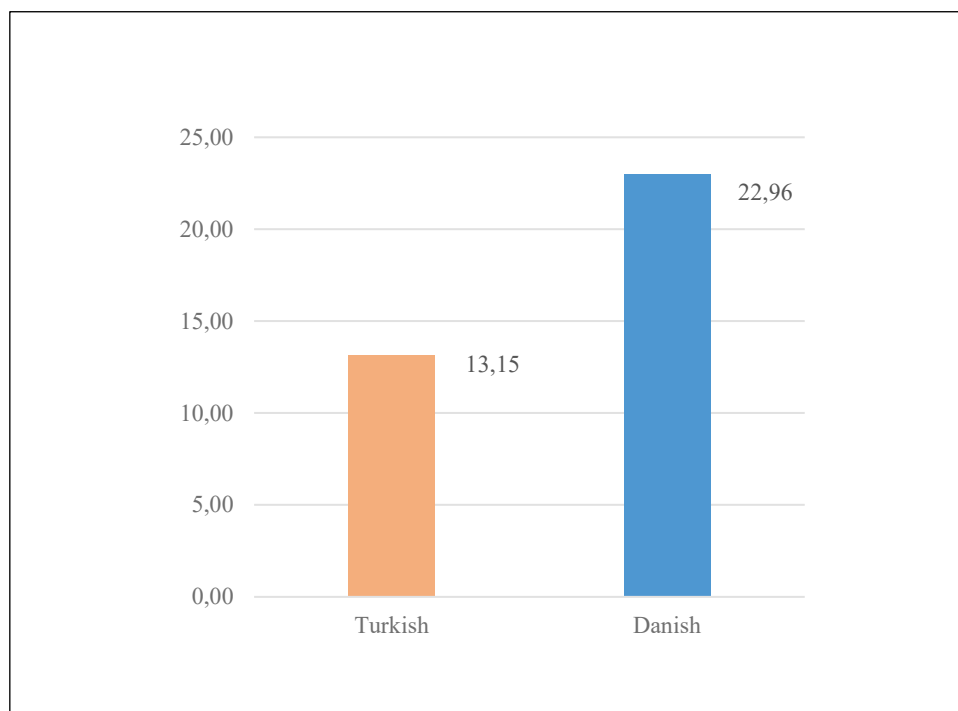
Answers given to the implemented scale were computerized and analysed. To analyse them, Microsoft Excel was used. Data collected from questionnaires submitted by each student were classified on the basis of school and classroom. The scale was analysed by the calculation of the points used for mixed scoring and designated individually for definite questions. The points for calculated separately for both Turkish and Danish languages. Statistical techniques to analyse collected quantitative data were used as well as percentages to analyse numerical distributions. Compact formulas were created in Microsoft Excel based on the questions, and the data collected to compare the acquired “total number”, “percentage” and “average data” were categorized and dumped into graphics.

### **Results**

Under this heading the answer to the question “How good are bilingual high school students in Denmark who learned Turkish as their mother tongue (first language) in terms of competence and performance?” is presented. Additionally, results obtained from the implementation of the scale designed with the aim of determining the dominant language of the group of students who participated in the study were assessed. On the basis of the sub-aims of the study, results derived from the implemented statistical analyses were tabulated.

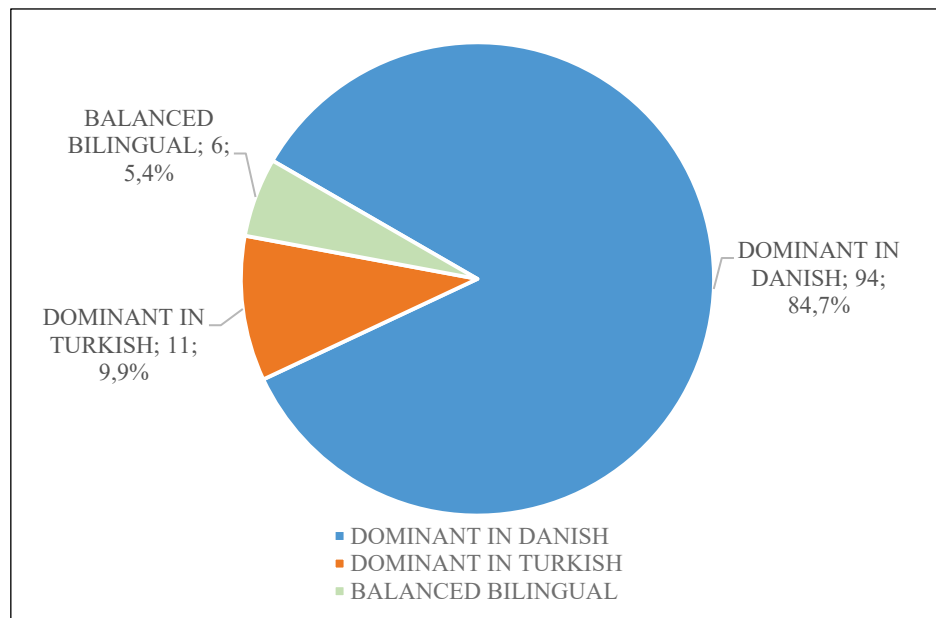
#### *Dominant Language and Language Score*

In this section, the results of the “Quick, Gradient Bilingual Dominance Scale” implemented with the aim of identifying the language features of the participants in Turkish and Danish, have been included. Regarding the answers given to the scale questions, findings related to previous language experience, language competence, and performance have been obtained. It should be noted that the results of the survey have been interpreted through contextual information.



**Figure 1.** Average BDS Scores of Participants in Turkish and Danish

The graph in Figure 1 shows the average scores of the participants based on the scale. When the language scores obtained from the two groups are compared, it is seen that the Danish language score is significantly higher. According to the answers given by each participant, the levels of 'competence' in Turkish and Danish languages are as follows: The average score in Turkish is 13.15 whereas in Danish it is as high as 22.96. The big score gap between the two languages points out that a problem related to bilingual development exists.



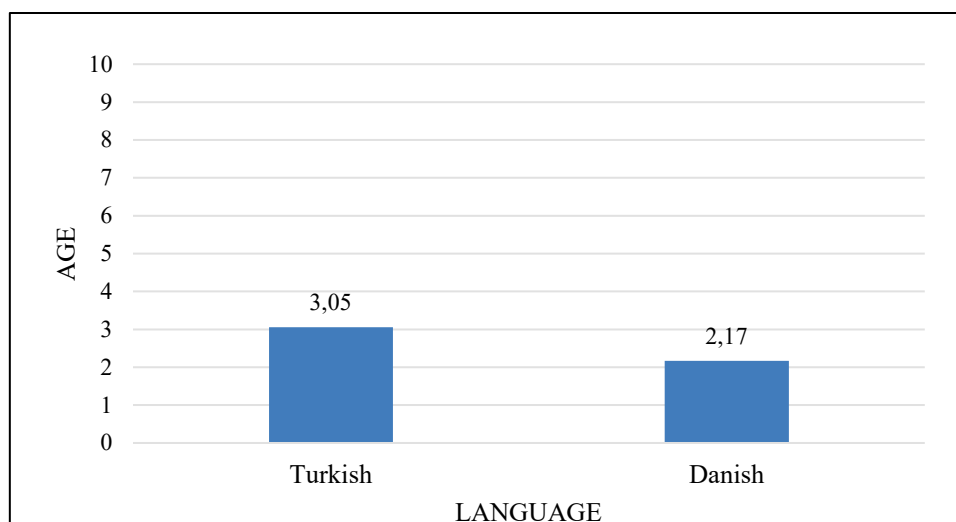
**Figure 2.** Language Dominance / Number of Participant Students / Distribution of Percentages (%) - General

Figure 2 reveals that the dominant language of 84.7% of the participants is Danish, that of 9.9% of participants is Turkish and 5.4% of them are balanced bilinguals. According to the descriptive evaluations obtained by conducting the scale, most of the participants are dominantly proficient in Danish. Normally, it is common among bilinguals that one of the languages is stronger and more active, as long as there is not a serious gap between scores of two languages. However, here is a large gap between the scores of the two languages and this gap shows that there will be a further rise in the usage of the Danish language.

A research study, called 'Køge Projesi (Project)', on language development of bilingual children between 5-7 and 7-9 age groups and study in primary schools in Køge district of Copenhagen was conducted in 1989 by a group of Turkish and Danish researchers. The results of the study revealed that children were more competent when they began to get education (Can, Jorgensen, & Holmen, 1999). The increase in the dominance of Danish may result in erosion and loss of Turkish in following generations. Bilingual individuals are expected to prefer one language over another, on the contrary it is more appropriate for them to use both languages functionally and to be closely competent in both languages.

#### *Average Age of Language Acquisition*

Under this heading, the answer to the question "Is there a significant difference between the Turkish and Danish acquisition ages of bilingual high school students in Denmark?" is presented.

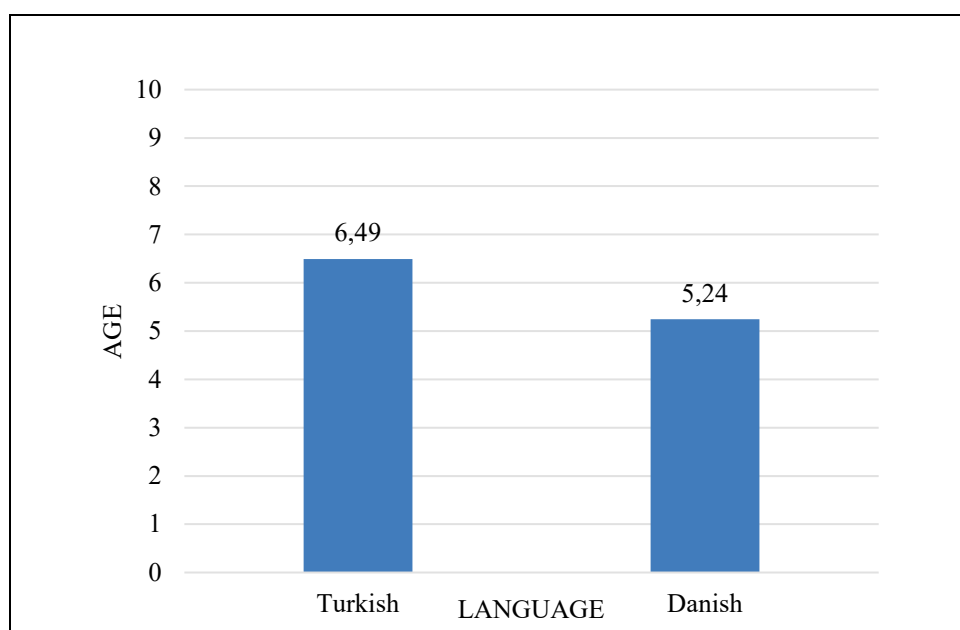


**Figure 3.** Average Age of Language Acquisition

According to Figure 3, participants' average age of acquisition /learning in Turkish language is 3.05, while that of Danish language is 2.17. In other words, most of the participants acquired Danish language at earlier ages, before acquiring Turkish. This situation leads to the conclusion that third generation immigrant parents mainly speak Danish at home. As is known, the quantity of language input one child is exposed to in his social environment directly affects his development of language. In addition, in general, both parents have to work to earn their family's keep in Denmark. That's why children are sent to nurseries (*vuggestue*) from one year onwards. Since monolingual nursery schools are common in Denmark, children are mostly exposed to the Danish language from an early age and are grown in Danish-speaking environments. There is a slight chance of closing this gap without providing continuous Turkish education of quality. Studies carried out until now state that speakers do not make progress in a language without getting language education.

#### *Comfort in Language*

Under this heading, the answer to the question "Is there a significant difference between the bilingual high school students' ages of comfort in Turkish and Danish in Denmark?" is presented.



**Figure 4.** Average Age of Comfort in Language

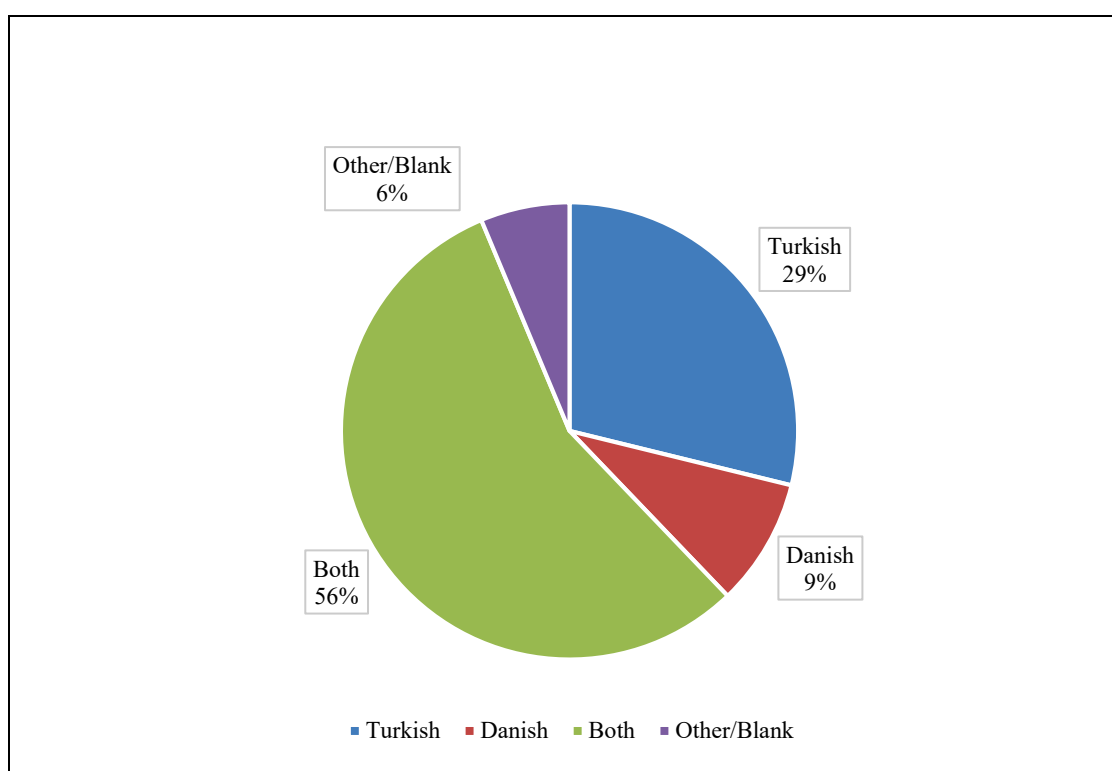
According to Figure 4, participants started feeling comfortable in the Turkish language when they were around 6.5 years, while they felt comfortable in Danish as soon as they reached the age of 5. In other words, they gained the ability to speak Danish comfortably, nearly 1.5 years before gaining that of Turkish. This situation shows that language development in Danish is faster than in Turkish. Although this may also be related to individual factors, the most common factor is that the language mostly used in their environments is Danish.

#### *Linguistic Use*

Under this heading, findings on participants' leaning towards language considering the languages they prefer using at home and languages they use while doing mental calculations are presented.

#### *Language Use at Home*

Under this sub-heading, the answer to the question "Is there a significant difference between the languages that bilingual high school students in Denmark use at home?" is presented.

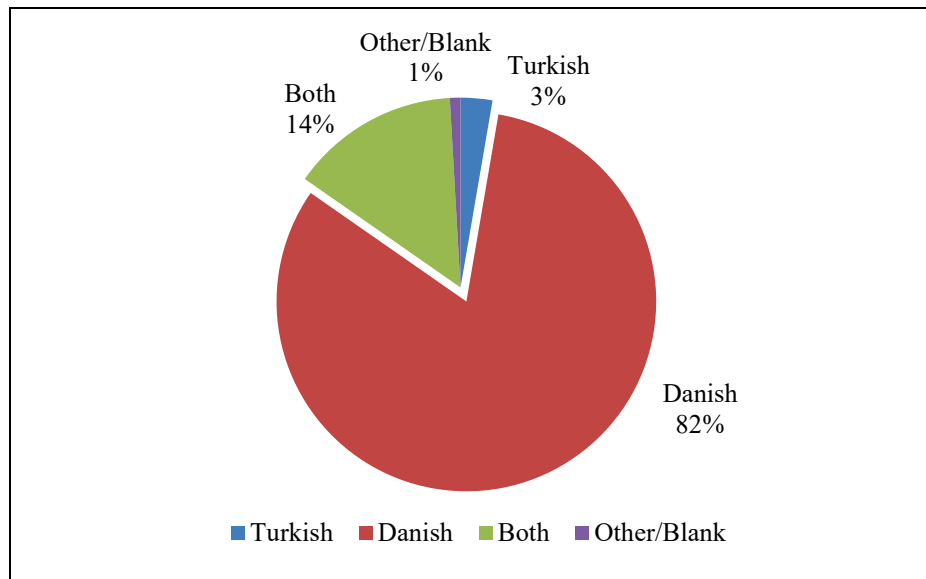


**Figure 5.** Language Use at Home

According to the graph in Figure 5, 56% of the participants use both languages at home. On the other hand, while 29% of them used only Turkish at home, 9% of the participants stated that they communicate only in the Danish language. The remaining 6% of the participants, however, stated that they use a different language except for the two languages. More than half of the participants use both Turkish and Danish at home, however, the survey questions cannot determine which language is mostly spoken at home. The fact that most of the participants speak both Turkish and Danish poses a question about their parents' language competence, since teachers in Denmark normally remind parents to speak in their mother language. The point to which we called attention before reveals the fact that Turkish parents acquired limited Turkish acquisition from their own parents and that they were not given enough mother language education in educational environments resulted in their limited competence in Turkish. Therefore, it is not possible for Turkish parents to speak only Turkish with their limited competence in the language.

### *Language Use in Mental Math Calculations*

Under this sub-heading, the answer to the question “Is there a significant difference between the languages that bilingual high school students in Denmark use while doing mental calculations?” is presented.

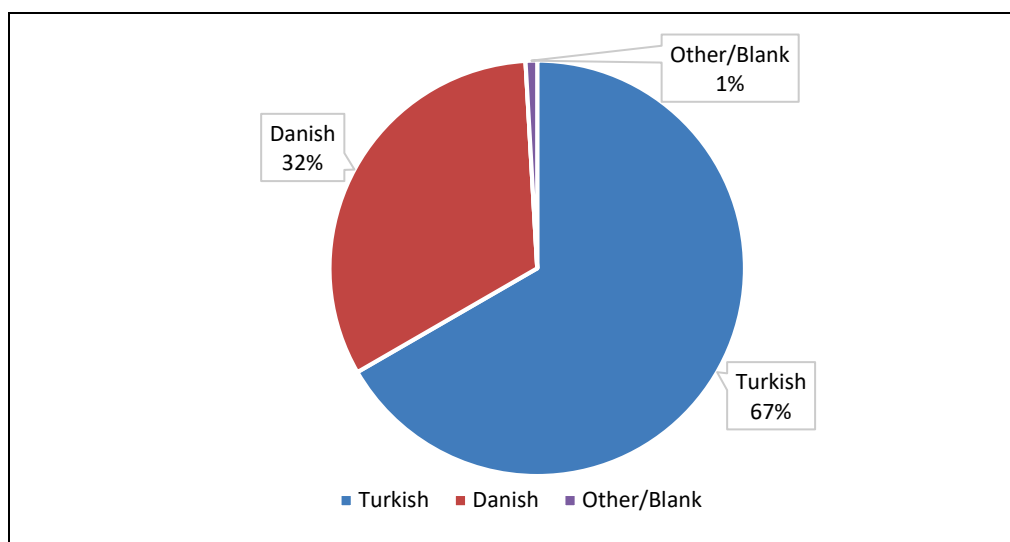


**Figure 6.** Language Use in Mental Math Calculations

According to Figure 6, 82% of the participants stated that they use Danish while 14% of them use both languages while doing calculations in their minds. 3% of students use only Turkish while doing mathematical calculations. This state is the manifestation of the fact that Turkish is not used as educational language of basic subjects. Mental calculation is one of the manifestations of cognitive language ability and mental calculations can mostly be done in both languages in the state of balanced bilingualism. As the results reveal, 14% of the participants state that they do mental math calculations in both languages.

### *Language Attitude*

Under this heading, the answer to the question “Is there a significant difference between language attitudes of bilingual high school students in Denmark towards Turkish and Danish?” is presented.

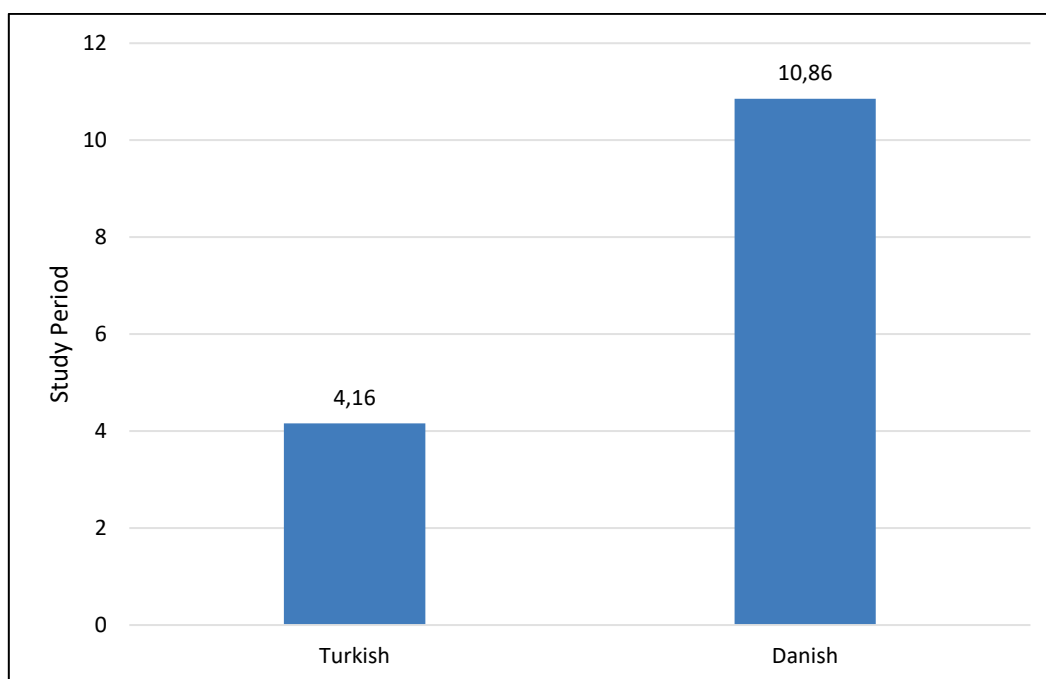


**Figure 7.** Language Attitude

As shown in Figure 7, two thirds (67%) of the participants stated that they would speak in Turkish for the rest of their lives if they had to choose one language. The percentage of those choosing Danish remained at 32%. 1% of them marked the other option. However, when the previous three headings are also taken into account, the language they dominantly use is Danish, although most of the participants' attitudes are positive towards Turkish. This situation may be the manifestation of the fact that the daily use of Turkish fell behind Danish and that Turkish cannot get enough chance to develop itself in individuals due to the disadvantages of the current conditions. Besides, the positive attitude towards a language is in a key position in terms of a development of a language when the language incurs losses in individuals. This positive attitude towards Turkish can constitute a basis for the development of balanced bilingualism with encouragement and provision of proper conditions. In this sense, the current situation is promising in terms of the status of Turkish in next generations.

#### *Language Acquisition Periods*

Under this heading, the answer to the question "Is there a significant difference between language (Turkish and Danish) acquisition periods of bilingual high school students in Denmark?" is presented.

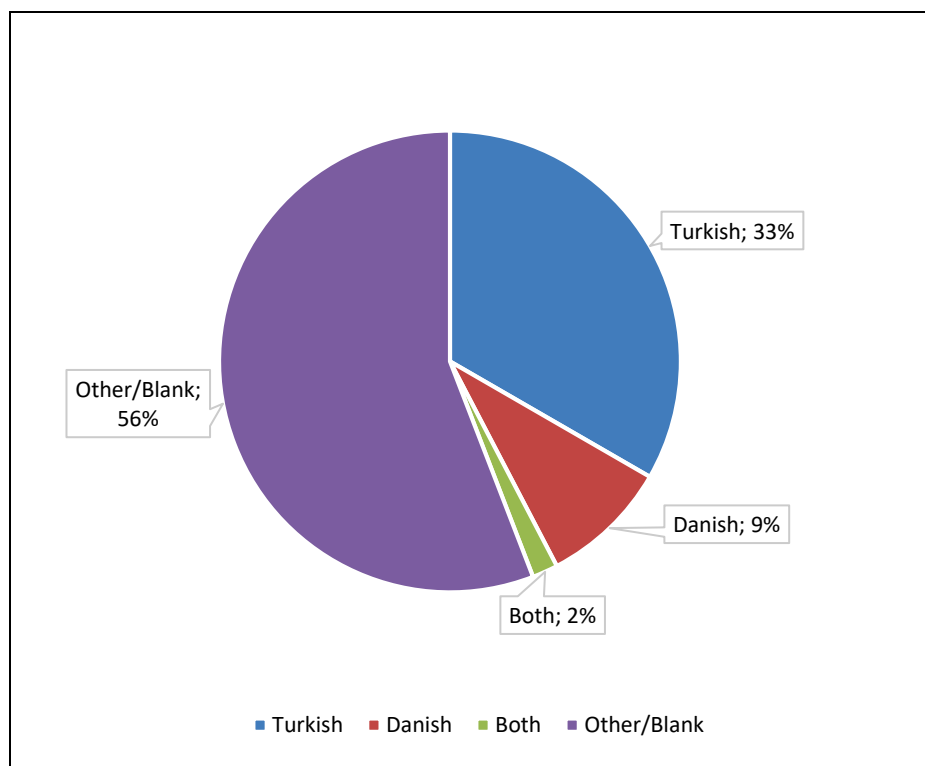


**Figure 8.** Language Acquisition Periods

According to Figure 8, participants took Turkish lessons for 4 years and took Danish lessons almost for 11 years on average in their education lives. The quality and quantity of language education affect the language development in multiple ways. A sustainable and well-planned teaching period is necessary for proper use of language rules and literacy in both languages. On the top of that, as the mainstream education is conducted in Danish and other language courses are taught in Danish when compared to Turkish input indicates a huge difference. When we consider the importance of mother tongue and the positive and negative aspects of bilingualism, we can say that this situation may lead to undesired results. The number of course hours and areas of usage of Turkish should be increased and extended in educational environments. Otherwise, Turkish will not benefit speakers beyond meeting their daily communication needs within their circles of family and relatives.

### *Loss of Fluency in Language (Restructuring)*

Under this heading, the answer to the question “Is there a significant difference between the ages of restructuring Turkish and Danish of bilingual high school students in Denmark?” is presented.



**Figure 9.** Loss of Fluency in Language

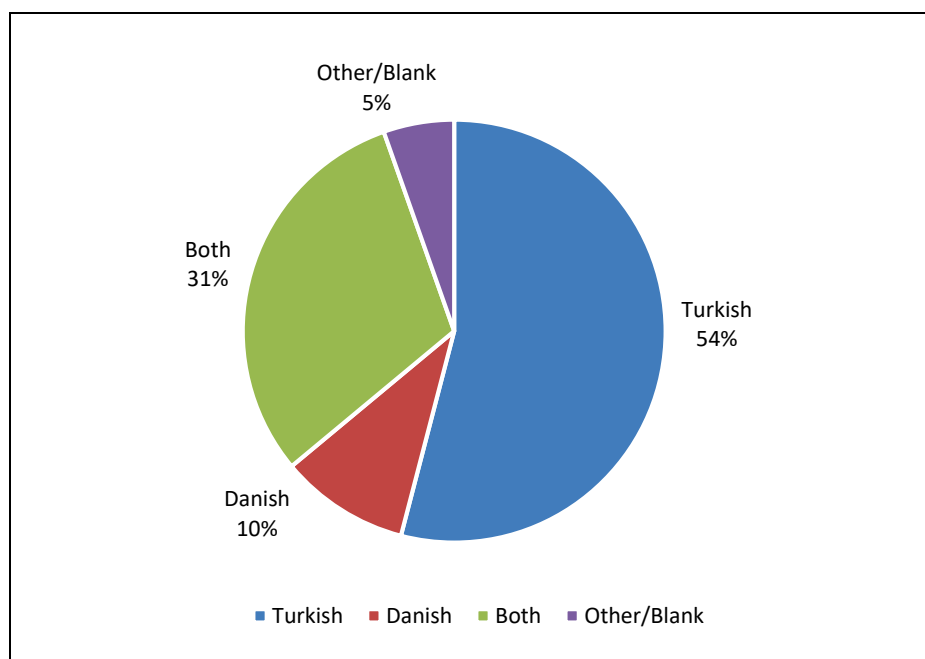
The graph in Figure 9 shows the proportional distribution of the answers given to the question: “Do you feel the loss of fluency in any language?” According to the answers, 56% of the participants stated that they lost their fluency in Turkish and Danish. 37 students stated they lost fluency in Turkish, whereas 10 students stated they lost fluency in Danish. Only 2 other students stated that they are not fluent in either language.

One of the most important of three criteria or perhaps the most important one of measuring language dominance is fluency, more precisely, restructuring of the fluency. Fluency, in its most general meaning, is the ease of oral communication. Fluency says a lot about the language dominance of individuals engaged in a process of restructuring. Loss of fluency in a language may indicate a decrease in the development of the first language and that restructuring takes place toward the other. As is known, immigrant bilinguals often restructure their fluency toward their second language while losing some fluency in their first language. Restructuring happens when a bilingual speaker gains fluency in a second language while losing fluency in the first language (Grosjean, 2002). There may be many reasons for losing fluency, such as shifting language attitude, economic shift, moving away from enclaves, or widespread use of one language over the other. Both first language (L1) use and second language (L2) use change direction during and due to the process of restructuring. It means that the use of the language that allows individuals to communicate more easily in daily life will increase, and the use of first language and its development will decrease. This situation supports corroborative evidence for the proposition: ‘Immigrant populations tend to fully shift from the majority language (L2) by the third generation.’ Thus, it is important to consider the direct relationship between fluency and language use.



### *Accent in Language*

Under this heading, the answer to the question “Is there a significant difference between the languages which bilingual high school students in Denmark speak with an accent?” is presented.



**Figure 10.** Accent in Language

In the graph in Figure 10, 54% of the participants reported that they speak Turkish with an accent, with 10% of them reporting that they speak Danish with an accent and with 31% reporting that they speak both of them with an accent. 5% of the participants have not selected any option. Speaking more than one language is natural and widespread among bilingual speakers. There is no relation between one’s knowledge of a language and his/her accent in that language. Whether one has an accent in a language or not mainly depends on the age of acquisition. If a language is learned at an early age, the biggest advantage of it appears in pronunciation skills. The data about accent in our study show that most of the students speak Turkish with an accent, and accordingly, prove that they learned/acquired Danish in earlier ages, in a way to correspond to the data mentioned above. In fact, the low percentage (10%) of those speaking Danish with an accent is a clear manifestation.

### *Language Use in Daily Life*

Under this heading, the answer to the question “Is there a significant difference between the languages used in daily life in the social settings of bilingual high school students in Denmark?” is presented.

The results acquired from the answers given to this question inform us about functional bilingualism. Functional bilingualism goes parallel with one’s daily experiences, the language of his/her social environment and the language production he/she exhibits while using his/her competency in both languages. That is why, in order for us to refer to functional bilingualism, the regular use of both languages in daily life is crucial. The assessment of this question according to “A Quick, Gradient Bilingual Dominance Scale”, used in the study, is based on the scores of the countries in which participants live. Thus, all participants obtained the same score as they all lived in Denmark.

## Discussion

The results obtained from the study have been discussed by presenting under headings. According to the descriptive evaluations obtained by conducting the "Quick, Gradient Bilingual Dominance Scale", most of the participants are dominantly proficient in Danish. The dominant language is the language which an individual has the widest vocabulary in his total language repertoire, the highest proficiency, the most fluency and he feels most comfortable in terms of self-confidence -in terms of expressing oneself (Field, 2011).

According to the literature, it is common among bilinguals that one of one's languages is stronger and more active than the other one, as long as there is not a serious gap between proficiencies of the two languages (Grosjean, 2010; Baker, 2011). However, according to the results, the scores in Danish is approximately two times more than those in Turkish in terms of the levels of 'competency'. This large gap indicates to the existence of a problem related to bilingual language development. As a matter of fact, there was a contrasting result in the research study of a group of Danish researchers, Can, Jorgensen, and Holmen, which was conducted over the language developments of Turkish bilingual primary school students in age groups of 5-7 and 7-9. In this research, it has been observed that the Turkish-Danish bilingual children were more dominant in Turkish language when they begin their primary education (Can et al., 1999). This is one of the indicators which reflects the fact that Turkish language cannot be taught properly in the Danish educational environments resulting into the shifting of languages. This shift and students' loss of their proficiency in Turkish signals for risky future of the Turkish language in the context.

As a result of the questions asked to put forward components of the problem, participants' direction of the dominance has been portrayed. Therefore, when participants' average age of acquisition /learning of both languages have been compared, it is observed that many participants have acquired/learned Danish language about one year before or earlier than Turkish language. The question of when the participants have first meet the two languages provides clues about accent and language proficiency (Flege, MacKay, & Piske, 2002). According to the data, the participants learn Danish starting from early ages. Accent of early bilinguals is less than late bilinguals.

According to the research, participants started feeling comfortable in the Turkish language later than they felt comfortable in Danish. This situation indicates that participants' language development in Danish is faster than in Turkish. Although this may also be related to individual factors, the widely known parameter is that Danish is the language mostly used in the surrounding environment. This situation leads to the impression that third generation immigrant parents mainly speak Danish at home. According to the literature, the quantity of language input one child is exposed to in his social environment directly affects his development of language. The results the study puts forward verifies this judgement. Accordingly, children are mostly exposed to the Danish language from an early age and spend more time in Danish-speaking environments. Besides, data regarding comfort in language use may provide clues for the change of an individual in the process of acculturation -cultural adaptation- (Montgomery, 1992; Weisskirch & Alva, 2002). Acculturation may set a ground for using a language with ease for the individuals who learn codes of cultural behaviour and discourse of the second language. Bilingual individuals who attain the cultural properties of the language they learn are classified as "bicultural" as well.

According to the results, most of the participants use both languages at home. Language use at home has a critical effect in the language proficiency (Hakuta & Pease-Alvarez, 1994). However, the survey questions cannot determine which language is mostly spoken at home. The fact that most of the participants speak both Turkish and Danish makes one think that parents are not competent enough in

Turkish or they do not display a conscious attitude. This point can be explained with the fact that Turkish parents of new generation had acquired limited knowledge of Turkish language from their own parents and that they were not given enough mother language education in educational environments which accordingly resulted in their limited competence in Turkish. Therefore, it is not possible for Turkish parents to speak only in Turkish at home because of their limited competence in the language.

It is observed that most of the participants use Danish when doing calculations in their minds. The question of which language is used in doing a mathematical calculation in mind is crucial as it provides information about the language of thinking and fluency (Rose, 1980). According to the results, the number of students who use only Turkish while doing mathematical calculations is quite limited. This state is a manifestation of how a school education provided solely in Danish effects the language of thinking. The fact that Danish is the primary teaching language may be a reason of the Turkish language becoming a deteriorating language. As a result of this, there appears a possibility of a shifting first language (mother tongue) with the second language (Baker, 2011). Disregarding of the first language/ mother tongue/ heritage language in educational environments does not comply with principle of education and human rights. Indeed, utilization of both languages of bilinguals in educational environment; and inclusion of mother tongue in courses besides of language courses are recommended by the specialists of the subject area (Bialystok, 2001; Cummins, 2015; May, 2008; Rossell & Baker, 1996) and international foundations such as UNESCO.

In the research, it has been observed that attitudes of most of the participants to the Turkish language is positive. Two thirds of the participants stated that they would prefer to speak in Turkish for the rest of their lives if they had to choose one language. Language preference provides clues for predicting superficial control over the languages (Cutler, Mehler, Norris, & Segui, 1989). As a matter of fact, most of the participants have superficial proficiency of the language.

However, although most of the participants have a positive attitude towards Turkish, the language they dominantly use is Danish. This situation may be a manifestation of the fact that the daily use of Turkish falls behind Danish and that the individuals' proficiency in Turkish cannot have enough chance to develop due to disadvantages of the current conditions. According to the literature, the positive attitude towards a language is in a key position in terms of a development of a language when the language incurs losses in individuals (Ellis, 2003). This positive attitude towards Turkish can constitute a basis for the development of balanced bilingualism with encouragement and provision of proper conditions.

When average lengths of time in which the participants received language education are compared, it has been discovered that Danish language has been taught two times more than Turkish language. Specialist who previously did research in the subject criticised this inequality and stated that the current conditions would negatively affect the bilingual development (Holmen & Jorgensen, 1998). According to literature, the quality and quantity of language education affect the language development in multiple ways. Specialists of the field refers to the necessity of a sustainable and well-planned teaching period for literacy in both languages (Hakuta, Bialystok, & Wiley, 2003). However, as the mainstream education is conducted in Danish and other language courses are taught in this language the inputs taken in both languages differ considerably. Reduction of this difference can be possible if only the number of course hours are increased; and usage areas of Turkish language are extended in educational environments in the framework of appropriate bilingual educational models.

One third of the participants has stated that they have lost fluency in Turkish. Fluency as one of the most important of three criteria discloses many clues about language dominance of individuals engaged in a process of restructuring his languages. Loss of fluency in a language may indicate a

decrease in the development of the first language and that restructuring takes place toward the other. Particularly immigrant bilinguals often lose some fluency in their first language while restructuring their fluency toward their second language (Grosjean, 1998). According to specialists, the loss of fluency can be explained by many factors as shifting language attitude, shifting economic class, moving away from enclaves, or widespread use of one language over the other. Individuals' use of the second language in their daily lives limits the use of first language. This situation supports the argument stating that "immigrant populations tend to fully shift from the majority language (L2) by the third generation (Pease-Alvarez & Hakuta, 1993; Tannenbaum, 2003)." Although this indicates for the loss of the mother tongue, some of bilingual individuals may establish substantial success in the newly acquired language. "Subtractive bilingualism" does not mean limited bilingualism (Cummins, 1976; as cited in Chin & Wigglesworth, 2007). In other words, individuals restructuring their languages may well acquire advanced levels in their new languages.

In the study, most of the participants have reported that they speak Turkish with an accent. According to literature, speaking more than one language is natural and widespread among bilingual speakers (Baker, 2007). There is no relation between one's knowledge of a language and his/her accent in that language (Grosjean, 2010). Whether one has an accent in a language or not mainly depends on the age of acquisition (Mackay & Flege, 2004). If one learns a language at an early age, the biggest advantage of it appears in pronunciation skills. The data about accent in the study prove that they learned/acquired Danish in earlier ages. Besides, the low percentage of those speaking Danish with an accent is a clear manifestation of this.

As the participants live in Denmark, the language they use in daily life is mainly affected by Danish language because of environmental factors. Individuals learn language of the society they live within not for that is conscious preference, but for that is a necessity (Edwards, 2006). Daily language environment –the country the participants live in- directly affect re-structuralization and second language acquisition (Flege & Lui, 2001). Language production of an individual exhibits when he uses two language competencies is analogous with the daily events he lives and the language used in the surrounding environment. According to Yağmur (2005) participated in the "Multilingual Cities Project" conducted in Brussels, Goteborg, Hamburg, Lyon, and Madrid in 2005 the language proficiencies, preferences, and choices of bilingual Turkish children varies in line with the local differences among the countries. Therefore, the fact that language preference and language dominancy may change due to local factors should be taken into consideration in the studies.

### **Conclusion and Suggestions**

When the results of the study are generally evaluated, it has been observed that Turkish language capabilities of Turkish-Danish speaking bilingual students in Denmark are much more behind than their capabilities in Danish. In terms of development of Turkish language capabilities, existing language input and educational/environmental factors fail to provide the individuals with balanced bilingual capabilities. Besides, Turkish is acquired in later ages than Danish. The situation regarding the future of Turkish is challenging. The number of hours devoted to the Turkish language course at schools is far less than that of the Danish language, and this is not compatible with the principles of education. Bilingualism is a significant in terms of its cognitive, social, cultural, and occupational advantages. As long as language education is not provided in schools through appropriate dual language education models, Turkish-Danish speaking bilingual children may be devoid of these advantages. Regarding the future of Turkish children growing up in Denmark, it is important to enable them to develop skills both in Danish and Turkish, and also, it is equally important to pay regard to scientific studies on bilingual education.

It is important to raise awareness on the importance of mother tongue educational authorities and educational institutes. Turkish instructors should be informed about developments in modern language teaching, scientific studies, and methods being used. Seminars or in-service training on this subject may be organized for field practitioners in Denmark. Curricula should be such as to develop the linguistic and cultural repertoire of Turkish-Danish speaking students in order for them to take the advantages of speaking two languages. Target language skills in both languages should be taught parallel to each other. Children of our citizens living in Denmark should be taught the historical, cultural, academic, and technologic concepts used in their mother tongue, Turkish, through appropriate courses in educational environments. In order for children to be successful academically, develop compatible identities, and maintain them without giving up the heritage language and culture, a properly and correctly structured mother tongue education should be provided based on the needs of bilingual pupils and scientific studies. Bilingual education model should be devised, generalized, and sustained in accordance with Denmark's legislative regulations. Educational environments should be arranged in structure and content on the basis of bilingualism and appropriate to the related scientific developments.

Families should be made conscious about bilingualism and the importance of their mother tongue. Students should be encouraged to attend mother tongue courses and bilingual education programs. Mother tongue teaching should be supported by school managements. Parents should prefer schools which offer bilingual education. Bilingual course materials should be improved, bilingualism should be promoted. Turkish literature and bilingual works of literature, theatre, and similar cultural activities should be promoted as well.

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## Appendix 1. Dominant Bilingualism Measurement Score

**SORU 1.** Türkçeyi ilk olarak hangi yaşta öğrendiniz?

**SORU 2.** Danca'yı ilk olarak hangi yaşta öğrendiniz?

Puanlama: 0-5 yaş: +5  
6-9 yaş: +3  
10-15 yaş: +1  
16 yaş ve üzeri: 0

**SORU 3.** Türkçeyi hangi yaşta rahat konuşmaya başladınız? ( Eğer henüz rahat konuşamıyorsanız 'henüz değil' yazınız).

**SORU 4.** Danca'yı hangi yaşta rahat konuşmaya başladınız? ( Eğer henüz rahat konuşamıyorsanız 'henüz değil' yazınız).

Puanlama: 0-5 yaş: +5  
6-9 yaş: +3  
10-15 yaş: +1  
16 yaş ve üzeri: 0  
Henüz değil: 0

**SORU 5.** Evde en çok hangi dili kullanıyorsunuz?

Türkçe	Danca	Her ikisi
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Puanlama: Hangi dil seçildiyse sadece o dile: +5  
'Her ikisi' seçeneği seçildiyse her iki dile de: +3

**SORU 6.** Aklınızdan matematik işlemleri yaparken (örneğin  $243 \times 5$ 'i çarparken) sayıları hangi dille hesaplıyorsunuz?

Türkçe	Danca	Her ikisi
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Puanlama: Seçilen dile: +3  
'Her ikisi' seçeneği işaretliyse ikisine de: 0



**SORU 7.** Yaşamınızın geri kalanında konuşmak üzere bir dil kullanacak olsaydınız hangi dili seçerdiniz?

Türkçe	Danca
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Puanlama: Seçilen dil: +2

**SORU 8.** İlkokuldan bugüne kadar kaç yıl Türkçe dersi aldınız?

**SORU 9.** İlkokuldan bugüne kadar kaç yıl Danca dersi aldınız?

Puanlama: 1-6 yıl: +1

7 ve üzeri: +2

**SORU 10.** Kullandığınız dilin herhangi birinde konuşma akıcılığını ( rahatlığını ) kaybettiğinizi ( ya da azaldığını ) düşünüyor musunuz? Eğer evetse hangi dil? Hangi yaşta?

Türkçe	Danca	Yaş
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Puanlama: Akıcılık kaybı ifade edilen dil için: -3

Eğer kayıp yoksa: 0

**SORU 11.** Şu an hangi ülkede yaşamaktasınız?

Türkiye	Danimarka	Her ikisi
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Puanlama: Seçilen dil: +4

**SORU 12.** Eğer yabancı bir aksanız varsa bu hangi dildedir?

Türkçe	Danca	Her ikisi
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Puanlama: Hangi dil seçildiyse o dile: +5

'Her ikisi' seçildiyse her iki dile de: +3

Eğer hiçbirini seçilmediyse işlem yok