Hacettepe University Graduate School of Social Sciences

Department of English Linguistics

FIGURATIVE LANGUAGE COMPETENCE OF TURKISH YOUNG ADULTS WITH DOWN SYNDROME: AN ANALYSIS OF IDIOM COMPREHENSION AND INTERPRETATION

Nurbanu KORKMAZ

Ph. D. Dissertation

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KABUL VE ONAY

Nurbanu KORKMAZ tarafından hazırlanan “Figurative Language Competence of Turkish Young Adults with Down Sydrome: An Analysis of Idiom Comprehension and Interpretation” başlıklı bu çalışma, 14 Haziran 2021 tarihinde yapılan savunma sınavı sonucunda başarılı bulunarak jürimiz tarafından Doktora Tezi olarak kabul edilmiştir.

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ABSTRACT

KORKMAZ, Nurbanu. *Figurative Language Competence of Turkish Young Adults with Down Syndrome: An Analysis of Idiom Comprehension and Interpretation*, Ph.D. Dissertation, Ankara, 2021.

With a particular emphasis on idiom interpretation, the present dissertation aims at explaining the figurative comprehension of Turkish young adults with mild-level Down syndrome, comparing them with their typically developing chronological and mental age peers. Based on the two main hypotheses, i.e., *Global Elaboration Model* by Levorato and Cacciari (1995, 1999) and the *Language Experience Hypothesis* by Ortony et al. (1985), the study focuses on the performances of each group of subjects in a comparative manner. The data collection tools, composed of 12 familiar and 12 unfamiliar idioms, which are categorized in 6 first-degree and 6 third-degree idiom groups, have been tested with idiom-picture matching and in-context tasks. To evaluate the mental scores of all participants, Stanford Binet Intelligence Scale: Fourth Edition has been used.

The findings elicited after the analyses of the applied task results demonstrate that the figurative comprehension of idioms was significantly weaker in individuals with Down syndrome than chronologically-matched typically developing controls. However, the participants with DS exhibit similar performances to those of the typically developing mental age peers. In relation to the types of tested idioms, the better performances of the DS group subjects have been observed in the comprehension of familiar and first-degree idioms, meaning that the familiarity and the semantic degree of idioms significantly mattered. The findings of the study also provide that as the mental age of the DS participants increases, so does their idiom interpretation increase. Additionally, the findings confirm the *Global Elaboration Model* and, taking it one step further, show that use of context is another facilitating factor for DS individuals, just as it is for typically developing subjects.

The study, besides the field of linguistics, also contributes to the language-based visions and practices of special education experts, speech and language therapists, teachers and families, whose educational and therapeutic approaches matter in the lives of individuals with DS.

Keywords: Turkish idiom comprehension, idiom categorization, mild-level Down syndrome, young DS adults, typically developing peers.

ÖZET

KORKMAZ, Nurbanu. *Down Sendromlu Genç Türk Yetişkinlerde Değişmeceli Dil Yetkinliği: Deyimlerin Algılama ve Anlamlandırılmaları Üzerine Bir İnceleme,* Doktora Tezi, Ankara, 2021.

Bu çalışma, hafif düzeyde zihinsel yetersizliğe sahip Down sendromlu genç Türk yetişkinlerin imgesel dil kullanımı bağlamında deyim anlamlandırmalarını normal gelişim gösteren kronolojik ve zihinsel yaştaki yaşıtlarıyla karşılaştırmalar yaparak açıklamayı amaçlanmaktadır. Çalışmanın kuramsal temelleri Levorato ve Cacciari'nin (1995, 1999) *Bütüncül Ayrıntılama Modeli* ve Ortony ve arkadaşlarının öne sürdüğü (1985) *Dil Deneyimi Hipotezi*'ne dayanmaktadır. 6 tane birinci dereceden ve 6 tane üçüncü dereceden deyim olmak üzere sınıflandırılmış 12 adet bilinirlik düzeyi yüksek ve 12 adet bilinirlik düzeyi düşük deyim, deyim-görsel eşleştirme ve bağlam-içi deyim değerlendirme uygulamaları ile test edilmişlerdir. Tüm katılımcıların zihinsel düzeylerini belirlemek için Stanford Binet Zekâ Testi: Dördüncü Basım kullanılmıştır.

Uygulanan testlerin sonuç analiz bulguları, Down sendromlu bireylerde deyimlerin imgesel olarak anlamlandırılmasının kronolojik olarak eşleştirilmiş ve tipik olarak gelişim gösteren akranlarına göre önemli ölçüde daha zayıf olduğunu göstermektedir. Bununla birlikte, Down sendromlu katılımcılar tipik gelişim gösteren ve zihinsel yaş olarak eşleştirilmiş akranlarıyla benzer performanslar sergilemiştir. Test edilen deyim türleri ile ilgili olarak, DS grubundaki katılımcıların bilinirlik düzeyi yüksek birinci dereceden deyimlerde daha iyi bir performans gösterdikleri gözlenmiştir**.** Bu da, deyimlerin bilinirlik düzeyi ve anlamsal derecesinin önemli etkenler olduğu anlamına gelmektedir. Buna ek olarak, çalışmanın sonuçları *Bütüncül Ayrıntılama Hipotezini* de doğrulamakta ve bir adım daha ileri taşıyarak Down sendromlu bireylerin, tıpkı tipik olarak gelişim gösteren akranları gibi, bir deyimin imgesel anlamını yorumlarken bağlamdan yararlanabildiğini göstermektedir.

Bu çalışmanın, dilbilim alanının yanı sıra, Down sendromlu bireylerin hayatında eğitim ve tedavi edici yaklaşımlarıyla önemli bir yere sahip özel eğitim uzmanları, dil ve konuşma terapistleri, öğretmenler ve ailelerin dil-temelli bakış açılarına ve uygulamalarına da katkı sağlayacağı öngörülmektedir.

Anahtar sözcükler: Türkçe deyim kavrama, deyim sınıflandırması, hafif düzey Down sendromu, Down sendromlu genç yetişkinler, tipik gelişim gösteren akranlar**.**

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LIST OF ABBREVIATIONS

AAK- *ağzı açık kalmak*

ABG- *aklı başından gitmek*

AD- Alzheimer' Disease

ASD- Autism Spectrum Disorder

BBK- *başbaşa kalmak*

BD- *burnunun dibinde*

BY- beyin yıkamak

CA- Chronological Age

CB- *çiçeği burnunda*

DB- *diş bilemek*

DS- Down Syndrome

DS- *dişini sıkmak*

EAO- *el ayak öpmek*

EAOL- *el(inin) altında olmak*

EYB- *eline yüzüne bulaştırmak*

FAM- Familiar Idioms

Fig- Figurative Meaning

GB- *göz boyamak*

GÖG- *gözünün önüne gelmek*

GYB- *gözünün yaşına bakmamak*

HIBS- *her işe burnunu sokmak*

HKBSC- *her kafadan bir ses çıkmak*

ID- Intellectual Disability

IEP- Individualized Education Program (BEP in Turkish- Bireyselleştirilmiş Eğitim Programı)

IN-CONTEXT- Idiom- in Context Task

IQ- Intelligence Quotient

KA- *kafadan atmak*

KAG- *karın ağrısı*

KMO- *kulak misafiri olmak*

KTO- *karnı tok olmak*

KZC- *karnı zil çalmak*

LBLD- Language Based Learning Difficulties

LDS- Language Development Survey

Lit- Literal Meaning

MA- Mental Age

MEB- Milli Eğitim Bakanlığı- Ministry of Education

MLU- Mean Length of Utterance

MR- Mental Retardation

SUY- *sırtüstü yatmak*

TD- Typically developing

ToM- Theory of Mind

UNFAM- Unfamiliar Idioms

VISUAL- Idiom- Picture Matching Task

WHO- World Health Organization

WS- William's syndrome

YAG- *yüreği ağzına gelmek*

YK- *yüz karası*

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Figure 60. The idiom *sırtüstü yatmak* in idiom-in-context task

INTRODUCTION

Understanding the varieties, functions and uses of figurative language has long been a subject of study in language-related areas, particularly in linguistics. While rhetoric, for example, has been interested in figurative language as far back as Aristotle (Dancygier and Sweetser, 2014), philosophical, literary and linguistic studies, making a distinction between literal and non-literal meanings, attempted to analyze characteristics and use of figurative language from a variety of perspectives and purposes. May it be related to metaphor, metonymy, idioms, etc., at the core of all such figurative language studies, there is the idea that the processing and use of figurative language "is more complex and requires more cognitive work than literal understanding" (Glucksberg and McGlone, 2001: 8). As the use of figurative language has indirect and pragmatic effects with certain intentions in communication (Colston, 2015), the cognitive mechanisms behind figures of speech play an important role. How these mechanisms work and how individuals make sense of figurative expressions have been investigated in different psycholinguistic studies (e.g., Gibbs, 1994; Glucksberg, 2001; Kintsch, 2000; Lakoff & Johnson, 1980). Similarly, idioms, as a form of figurative language, their types and comprehension have been the subject of investigation in the context of typical children and adults as well as of aphasic patients (e.g., Nippold and Duthie, 2003; Vespignani et al., 2010; Papagno et al. 2004, etc.).

There has also been a wide range of interest in idioms in Turkish. Besides literary analyses and educational studies, there are linguistic studies examining the types, functions and comprehension of Turkish idioms. Most of these studies focus on the use of idioms by typical individuals (E.g., Elkılıç, 2008; Kara, 2015; Akcan & Akkök, 2016; Alagözlü, 2018; Aydın, 2018; Kaya & Yılmaz, 2018; Peçenek, 2018; Koparıcı, 2019; Bayat & Kuz, 2020; Güven, 2020). As explained in the Literature Review section of this dissertation in detail, these

studies have greatly contributed to the understanding of Turkish idioms from a variety of perspectives. However, in a reality where atypical individuals, too, are communicating members of the society and students in the educational ladder, their performance concerning idiom comprehension needs investigation as well. In this context, psycholinguistic or cognitive studies focusing on the Turkish idiom comprehension and interpretation of atypical individuals seem to be limited. By the word “atypical” here, we refer to those individuals who have some common physical traits and whose intellectual states show some forms of developmental delays due to a "disease-causing gene". A genetic disorder is a health problem caused by one or more abnormalities in the human genome. One of the genetic disorders observed among individuals is Down’s syndrome (DS), also known as trisomy 21 (Epstein, 1989). As one of the most common genetic causes of significant intellectual disability (Patterson, 2009:195), understanding DS individuals’ comprehension of idioms has drawn the attention of many scholars. Although understanding the mental states and functions of atypical individuals, and of DS individuals in particular, is a complex and multifolded sort of investigation, studies carried out in other languages so far have shed considerable light on the linguistic abilities of these people (E.g. Evans, 1994; Chapman et al., 1998; Cardoso- Martins & Frith, 2001; Hulme et al., 2012). As for Turkish, studying idiom processing and comprehension of DS individuals, their mental potentials or limitations in relation to the types of idioms, literal or figurative meaning interpretations and the differences – if any- from the same-age typical individuals seem to be presenting a gap needing investigation from a linguistic perspective.

The main goal of this dissertation, as explained in detail in 1.2., is to assess the idiom comprehension of DS individuals, comparing them with that of typical individuals on the basis of chronological and mental ages with a focus on idiom types and to find out if there is any noteworthy difference between their and typical individuals’ interpretation processes.

This dissertation, made up of five chapters, is expected to be a contribution not only to linguistic studies on figurative language but also to the studies concerning the education and development of DS individuals. As the case in all studies, so does this study have its limitations and boundaries. However, the scope and the experimental and comparative findings of the study are expected to shed light on the subject in relation to the research questions stated in the following pages.

CHAPTER 1

THE STUDY

The present study primarily aims to explore the figurative language comprehension skills of DS individuals and how these comprehension skills are differentiated from those of typically developing peers. In this regard, the researcher grounds the primary focus on the interface between the comparison of the DS participants' comprehension of idioms and those of typically developing peers.

1.1. THE PURPOSE AND SIGNIFICANCE OF THE STUDY

The current research aims to expand our knowledge on the figurative understanding and interpretation of the Turkish idioms by the individuals with Down syndrome. As explained in the Methodology section in detail, the study is designed in a comparative manner to find out in what ways the DS subject group individuals differ from their chronologically same-age peers and how similar or unsimilar their performance is in relation to their mentally same-age peers. In other words, in order to better understand the idiom comprehension of DS individuals and to elicit dependable findings, use of two comparative groups was deemed to be necessary.

The present study has limited its framework to Down syndrome subjects with a certain degree of mental retardation. According to the ICD-10 Guide for Mental Retardation defined by WHO (1996), the severity of mental retardation is divided into 3 main categories, namely *mild mental retardation*- indicating that the score of standardized IQ is between the rage of 50 and 65, *moderate mental retardation*- that is between the range of 35 to 49 IQ, and *severe mental retardation*- that is between the range of 20 to 34 (p.2-3). Roeleveld et al.

(1997) stated that “approximately 3% of school age children have mild mental retardation” (p.129). Based on this classification, we have limited the scope of the present study to participants with mild degree of mental retardation. The reason for this is not only that participants with mild degree of mental retardation are more easily accessible due to the prevalence of such cases but also that it is easier to apply the tasks to this group.

Although there have been studies exploring the idiom comprehension in children and adults in typically developing individuals, regarding the Turkish context, (Bağcı, 2010; Arıca-Akkök, 2015; Kara, 2015; Uysal & Gökmen, 2016; Peçenek, 2018), no study has ever investigated how the mentioned process is achieved in the individuals with DS. Therefore, the present study seeks to address this gap in our knowledge. On the basis of its comparative design, the study is also considered to be an original attempt.

The contribution of the present dissertation could be grounded upon any of the following areas: Contribution to Turkish figurative language studies, contribution to DS individuals’ education and development, and contribution to communication studies regarding the society. On the other hand, the results of the study might also be a contribution to the awareness of the families of DS individuals.

In addition to what has been mentioned above, first, the current study attempts to conduct a multidisciplinary study that embodies the expertise of special education specialists besides linguistics. The findings of this study on this perspective could contribute to a wide range of disciplines such as cognitive linguistics, special education, inclusive teaching, speech and language therapy and even genetic disorders. This is to say that the results of this dissertation

can contribute to the establishment of a bridge between linguistics and clinical sciences.

Secondly, the main concern of the present study is to highlight the figurative language comprehension limits or potentials of DS individuals. Given that the individuals with Down syndrome have a relative strength in receptive vocabulary rather than expressive one (Chapman, 2006), the main focus is directed to the interpretation of the idioms (Gibbs, 1999). Thus, the present study will contribute to the understanding of metacognitive skill development and communication of Turkish individuals with Down syndrome. The absence of figurative language comprehension skills of DS individuals allows this study to be an original attempt in the context of Turkish idiom studies.

Thirdly, the findings of the present study may raise the awareness of both the families of the DS individuals and the society in which they live in a positive manner. This awareness concerning the idiom comprehension limits or potentials of DS individuals can contribute to the development and design of purposeful curricula or the review of the presently employed ones in education. This way, individualized educational programs can be developed, taking the DS student capacities into consideration at schools.

Furthermore, because the communication between individuals is based also on the ability to interpret the speaker's intended meaning (Lacroix et al., 2010), understanding of the figurative meaning promotes the flow of communication process. Subsequently, a raised awareness in the educational steps to be taken for the DS individuals may help them become communicatively competent individuals. Furthermore, the current study may also shed some light to the ways that would help the DS individuals establish more effective interpersonal

relationships as well as gain more effective comprehension skills in listening and reading.

1. 2. THE HYPOTHESES

The present study has grounded its assumptions on the following hypotheses:

1. Mild level DS participants are expected to have lower scores in idiom comprehension tests and tasks when compared to their chronologically same-age peers.

2. Level of familiarity with the idioms and the contextual clues are assumed to be the effective factors in the comprehension of idioms**,** particularly among the DS individuals.

3. It is expected that the semantic properties of the tested idioms will matter in the correct figurative interpretation on the part of the DS participants.

1.3. RESEARCH QUESTIONS

1**.** In terms of the processing and comprehension of different types of Turkish idioms, what specific characteristics does the mild-degree DS individuals' performance display?

2. When the level of familiarity of the idioms considered; does the performance of DS individuals display certain changes in relation to;

(a) the first- and third-degree idioms (terms are explained in Chapter 2),

(b) verbal and visual contexts in which the idioms are used?

3. Depending on the results of the applied tests and tasks, in what ways does the performance of DS individuals differ from that of the chronologically same-age peers?

4. When the mental age test scores of DS individuals and their figurative language test and task scores are taken into consideration, to what extent is their performance similar to their typically developing mental age peers?

1.4. LIMITATIONS

One major limitation of this study is the relatively small size of the DS group and the comparative groups sampled. The underlying reasons for this limitation can be explained as follows:

1. First of all, we studied with a group mild-degree DS individual. Although many people with Down syndrome experience similar intellectual, medical, and physical challenges, it is said that every person with Down syndrome is unique (https://www.everydayhealth.com/down-syndrome/definition-different-types-down-syndrome/). However, among the general three levels of DS, there are severe, moderate and mild levels of severity. Those who suffer from severe or moderate levels were reported to be hard to study with as their intellectual or physical abilities would not support the study. Therefore, also considering the educational opportunities DS individuals made use of, we had to study with the mild group individuals whose IQ levels were reported to be around 50–69 points. Reaching the limited number of right participants with the support of a rehabilitation center, gaining family approvals, selection of the participants in terms of their ages and educational backgrounds and, against all odds, being able to continue the study with the same participants in each phase of the tests and tasks were not easy. Therefore, the number of the DS participants was limited. The participant selection process is explained in detail in the Methodology section. Although the gained results do not mean a total generalization, the amount of data collected for this case study are considered to have been significant enough to shed light on the characteristic idiom comprehension skills of the DS individuals with whom we studied.

2. There is a similar limitation in the number of chronologically same –age peers as well as the number of mentally same-age peers. This limitation stems from the practicality of the tasks. To be more precise, one of the reasons is to persuade the families having typically developing children to participate in the tasks. This participation includes taking the subject to the office of the practitioner where the mental tests are given and then applying the idiom comprehension tasks. The second reason is related with the financial aspect of the research. The cost of mental tests is not very affordable without any financial support.

1.5. GENERAL LAYOUT OF THE DISSERTATION

This dissertation is divided into five main chapters. **Chapter 1** introduces the study in detail concerning the aim, the significance, the hypotheses, the research questions and the limitations. **Chapter 2** sets for the literature survey in relation to (a) the studies carried out on figurative language and idioms, (b) Down Syndrome and unravels how little is known about it, figurative language research on and also figurative comprehension abilities of DS intellectuals as compared to typically developing peers. **Chapter 3** presents the main methodology used in this dissertation, including the data collection tools and procedures and the detailed participant selection processes and the matching criteria. **Chapter 4** presents both the findings and subsequently the discussion in detail in the light of the research questions and also provides a comparison among the current theories on idiom comprehension. Finally, **Chapter 5** presents the conclusion that underlines the outstanding features of the present study, with the addition of further study suggestions.

CHAPTER 2

LITERATURE SURVEY

The main content included in Chapter 2 is a comprehensive compilation of core studies which have so far been conducted mainly upon the figurative language, idioms and the figurative language, development of both typically developing children and Down syndrome individuals. In this context, the literature review presents the basic studies carried out on the figurative language in Turkish with the aim of presenting evidence for the lack of specific studies concerning the figurative language comprehension of, as well as for the lack of contrastive studies between the typically developing young adults and their mentally- and chronologically same age peers.

The scope of the literature review also presents the studies depicting idiom interpretation and comprehension of the individuals with Down syndrome as well as other mental disorders such as Alzheimer's disease, autism, schizophrenia, aphasia, Asperger syndrome, Williams' syndrome, Fragile X syndrome and children with mental retardation and poor comprehending skills. The development of this literature review starts with a broad review of contemporary developmental research and moves toward viewpoints. The literature review concludes by examining gaps in the current understanding of Down syndrome language profile by uncovering the need for the study of figurative language comprehension and interpretation of DS individuals and their peers.

In the current section, firstly a brief introduction will be given on the figurative language and idioms and also the interface between cognitive development and

the use of figurative language. Secondly, the studies that are conducted upon the figurative language are mentioned. Thirdly, a brief introduction to the etiology of Down syndrome is presented. Fourtly, there will be an overview of the studies carried upon the individuals with other mental disorders. Finally, the the literature on individuals with Down syndrome will be presented with reference to relevant literature**.**

2. 1. ON FIGURATIVE LANGUAGE AND IDIOMS

Use of figurative language was long examined as part of the aesthetic effects used in literature particularly in poetry. For instance, in Shakespeare's Sonnet 18, he defines his love's ("lover" is used for men while "love" for women) kindness, charm and beauty saying, '*Shall I compare you to a Summer's day?*'. There are countless literary examples. However, today's studies place the use of figurative language in a much broader framework, including the cognitive aspects of human communication. (Dancygier & Sweetser, 2014).

It was after 1980s, with the introduction of Conceptual Metaphor Theory (CMT) (Lakoff and Johnson,1980), figurative language raised the linguists' concern about the figures of speech not only as an instrument used in elaborated expressions but also as a tool used in everyday language primarily within 'the realm of our ordinary conceptual system' (Ortony, 1993).

Díaz-Vera (2015) defines the notion of figuration as:

> Figuration refers to a meaning that is dependent on a figurative extension from another meaning. Figurative language has got an inherently second-order nature. Figurative expressions (such as *it made my blood boil*) can only be recognized as such because

> of their contrast with more literal expressions (as in *it made me angry*) (p.4).

In light of this definition, it is possible to say that the figuration process deals with the inevitable collaboration between the intended meaning and the literal meaning. Only if the literal meaning paves the way for the understanding, will the figurative meaning emerge.

The comprehension of idioms has been of concern for many researchers and has been studied based on different variables such as familiarity, decompositionality, and context which will be elaborated in Section 2.3. Apart from these variables, idioms were also studied from different aspects which directly affect the comprehension and acquisition processes. In this context, the researchers delved into the classification of the idioms from different aspects such as *semantic compositionality* (Nunberg et al., 1994) and *decompositionality* (Gibbs et al., 1989, Gibbs 1991), *semantic degree* (Subaşı-Uzun,1991), and *transparency* (Cacciari & Levorato, 1998).

In terms of semantic decompositionality, idioms are classified as *idiomatic phrases* and *idiomatically combining expressions* (Nunberg et al., 1994:496). *Idiomatically combining phrases* refer to the idioms whose constituents transmit traceable part of their larger figurative meaning. In this kind of phrases, there are correspondences between the figurative meaning of the idiom and its individual constituents.

On the other hand, Gibbs et al. (1989) and Gibbs (1991) classified three types of idioms according to their degree of decomposition. It was claimed that the first type of idioms was *normally decomposable idioms* in which the constituents of the idioms directly determine the figurative meaning for the idioms. The second type of idioms was *abnormally decomposable idioms*. Although they

were recognized as a type of decomposable idioms, their individual constituents have some kind of metaphorical relationship in itself. The third type of idioms was *nondecomposable idioms*. This type of idioms refers to the idioms whose individual components do not assign their figurative meaning. None of the components includes any hints about the figurative interpretation of the idiom.

Another type of classification of idiom is carried by Subaşı-Uzun (1991) which we take as a point of reference in the present study. According to Subaşı-Uzun idioms are categorized into first degree idioms, second degree idioms and third degree idioms in terms of their semantic properties. *First degree idioms* are the idioms which are also called as full idioms. In this kind of idioms, there is no one to one relationship between the individual constituents of the idioms and the figurative interpretation. *Second degree idioms*, also called as quasi-idioms, are the ones in which one of the constituents of the idiom contributes to the figurative understanding of the idiom. While one of the constituents refers to the figurative meaning, the other constituent(s) preserves its denotational value. *Third degree idioms* are the idioms in which the idiomatization process is the weakest. In this type of idioms, the connotational values preserve their meaning, and thus, become a part of idiomatization. To put it differently, the combination of the constituents' connotational meaning equals to the overall idiomatic meaning.

The other type of classification is made by Cacciari and Levorato (1998) in terms of transparency. They divided the idioms into three according to the level of transparency: transparent idioms, quasi-metaphorical idioms and opaque idioms. 'Transparency' refers to the degree of agreement between the literal and figurative interpretations of an idiom. Thus, *transparent idioms* are those in which "there should be little if any difference between an image of the literal meaning and an image of figurative meanings of an idiom" (Cacciari, 1995:46). *Quasi- metaphorical idioms* are idioms which involve a metaphorical base for

the figurative interpretation. *Opaque idioms* are the ones whose components do not contribute to the comprehension of figurative meaning.

Throughout the years, many scholars have provided their own definition and classification of the idioms. In a more general sense, it is possible to define idioms as phrases whose individual components refer to a meaning beyond their literal interpretation.

2.2. COGNITIVE DEVELOPMENT AND ITS RELATION TO THE USE OF FIGURATIVE LANGUAGE

Initially, a general picture of the cognitive development and its relation with the use of figurative language could be drawn in order to clarify the relation between the two. Cognitive development was first examined by Piaget who had a biology background and was interested in the adaptation of human organism to its environment (Huitt & Hummel, 2003).

Table 1-

Piaget's four stages of cognitive development

Sensorimotor Stage (Infancy)	0 to 2 years	After the birth, the child acquires his first habits directed through objects.
Preoperational Stage (Toddler and Early Childhood)	2 to 7 years	The child starts to use language for communication. This stage is divided into two sub-stages- the symbolic functional state and the intuitive functional state.
Concrete Operational Stage (Elementary and Early Adolescence)	7 to 11 years	The seven types of conversation emerge: mass, liquid, number, length, area, volume, and weight. Operational thinking, logical reasoning and perspective-taking develop.
Formal Operational Stage (Adolescence and Adulthood)	11 to adult life	The children make use of the logical use of the symbols and relate them with abstract concepts. Metacognition, abstract thought and problem-solving abilities occur.

(Adapted from Huitt and Hummel, 2003)

According to Piaget's theory (1970, 1998), cognitive development is organized into four stages, as it is illustrated in Table 1. By the help these stages, it is possible to define the individual's adaptation stages to the social and linguistic environment. Piaget asserts that cognitive growth lies at the heart of the growth of a humanbeing as an organism, and that language is dependent on it. In other words, among other aspects of human cognition, language is a distinctive and individual aspect of human cognition. Based on this information, the current study approaches the relationship between language and cognition through the concept of figurative language.

What Piaget put forward a long time ago is clearly improbable for the typically developing children, but it is impossible to suppose that children with DS are going through the same stages because of the diverse heterogeneity that they exhbit. What the researchers have agreed upon is that Down syndrome is characterized by impaired cognitive performance (Patterson et al., 2013:306). However, within increased education and training input, as well as enhanced socialization, cognitive performances in individuals with DS could be improved particularly in childhood and adolescence.

It has been a clear fact that children with DS have a distinctive cognitive phenotype (Chapman & Hesketh, 2000; Silverman, 2007). While certain differences were spotted, there was also a pattern of relative strengths in this population (Abbeduto et al., 2001, Vicari et al.,2002). In general, children with DS tend to have a distinct set of memory and information-processing abilities, including a lower capacity for working memory. (Vicari et al., 1995). In relation to their nonverbal mental age, DS children have relative strengths in visiospatial processing and intact implicit memory, though they have diminished long-term

memory for explicit knowledge (Jarrold et al., 2009). They also have weaker verbal processing and auditory short-term memory capabilities (Patterson et al. 2013: 307).

All in all, it is an indisputable fact that discrepancies observed in the cognitive development of both typical and Down syndrome individuals would also be detected in their figurative language interpretation skills.

2.3. STUDIES ON FIGURATIVE LANGUAGE

The present section outlines some key linguistic studies conducted upon the process of idiom comprehension in typically developing children as well as those carried out on atypical individuals.

A review of recent literature indicates that there are growing number of published studies conducted upon the comprehension of the idioms by typically developing children. In the following lines, some of the profound studies that have been carried out so far are presented. Figure 1 illustrates the review of general understanding for the idiom comprehension studies in a diachronic perspective.

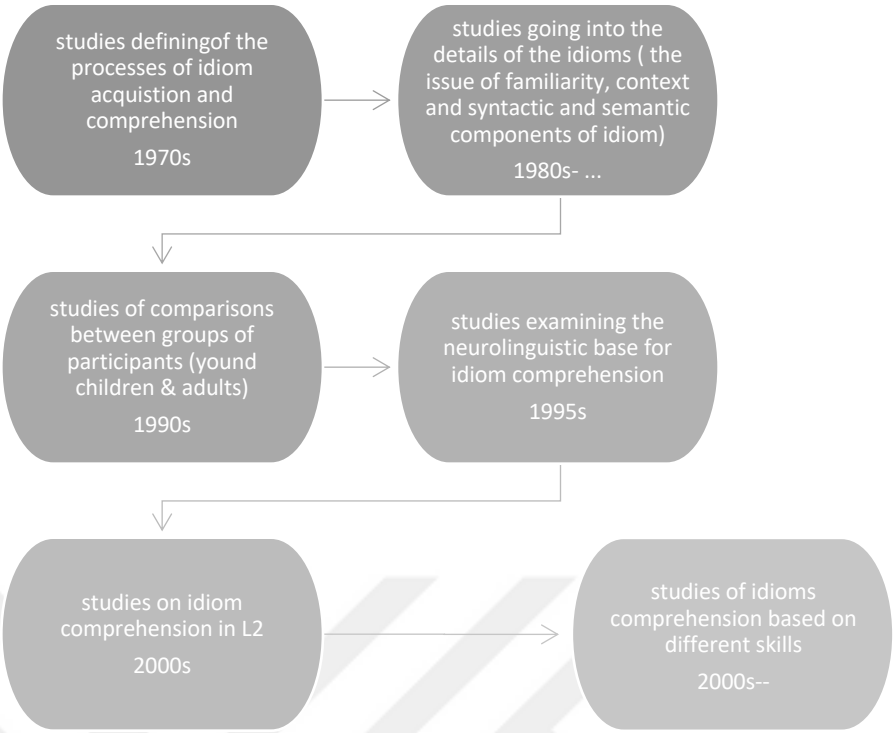


Figure 1. A general outline of idiom comprehension studies

The studies upon the comprehension and processing of idioms began in 1970s, particularly within the context of cognitive linguistic studies, indicating the attempts of scholars such as Bobrow and Bell (1973), Clark and Lucy (1975), Clark, (1979), Swinney and Cutler (1979), Gibbs (1980; 1994), Gibbs et al. (1997), Cacciari & Tabossi (1988), and Cacciari & Glucksberg (1991), Glucksberg (1999; 2001), Glucksberg and McGlone (1999).

The scholars in the pursue of defining the process of idiom comprehension have developed certain theories. First, *multiple processing hypothesis* by Clark & Lucy (1975, 1979) proposed that individuals generally construct a literal interpretation process for the idiom, then this interpretation is compared to the context and if the interpretation does not match the context, nonliteral meaning is constructed again. Secondly, *idiom list hypothesis* by Bobrow and Bell (1973) supposed that idioms are located in a special mental lexicon that is thought to

be distinct from the regular lexicon. Individuals process idioms by accessing this special mental lexicon, the processing mechanism of which is totally different from that of the literal mode. Thirdly, another hypothesis called *lexical representation hypothesis,* also known as simultaneous processing hypothesis by Swinney and Cutler (1979), proposes the opposite of what Bobrow and Bell (1973) put forward. In this hypothesis, Swinney & Cutler (1979) argued that "idioms are stored and retrieved from the lexicon by following the same procedure as any other word" (p.28). In the fourth hypothesis, Gibbs (1980) highlighted the process of idiom comprehension by *direct access hypothesis.* This hypothesis was also called *figurative-first hypothesis* by Vego- Moreno (2001). The hypothesis sets for the rationale that idioms are considered as lexical items whose idiomatic meaning is directly retrieved from the mental lexicon when the idiomatic string is heard. In another compelling hypothesis developed by Cacciari and Tabossi (1988) and Cacciari and Glucksberg (1991) is named as *configuration hypothesis*, often referred to as the phrase- induced model (Glucksberg, 1997; 1999; 2001). According this hypothesis, idioms are represented in the lexicon as configurations of words. To put it differently, an idiom occurring in a discourse is comprehended literally until the context allows it to be recognizable as a memorized expression. Immediately after, its figurative meaning interpreted.

Finally, in a more recent hypothesis named the *conceptual metaphor hypothesis*, Gibbs (Gibbs, 1994; Gibbs et. al., 1997) have argued that idioms are motivated by "pre-existing metaphorical schemas" in our minds. Thus, understanding an idiom is a matter of mapping the metaphors that inspire a specific idiom.

The preliminary studies on idioms did not go beyond the definition of idioms and the process of idiom acquisition. As the time progressed, there emerged a tendency to explain the process of idiom comprehension in detail.

In the context of idiom-based studies, one of the highly-focused issues is the level of **familiarity,** which means the degree of knowing of or having been exposed to the idiom (Ortony et al. ,1978; Schweigert, 1986; Schweigert & Moates, 1988; Cronk, 1990; Cronk et al., 1993; Nippold & Taylor, 1995; Giora & Fein, 1999; Lee & Park, 2010; Fanari, et. al. 2010; Nordmann et al., 2014), **context (**Gibbs, 1980; Levorato & Cacciari, 1992; Liontas, 2002; Qualls et al., 2002; Cain et al., 2009; Cieślicka, 2011; Cacciari et al. 2018; Carrol & Littlemore, 2020), **syntactic** (Reagan, 1987; Hamblin & Gibbs, 1999; Peterson et al., 2001) and **semantic components of the idioms** (Gibbs, 1991; Cutting and Bock, 1997; Cacciari & Levorato, 1998; Levorato and Cacciari, 1999; Tabossi, et al. 2008; Boulenger et. al., 2009; McAuliffe, 2010) are producing the main tenets of the literature review. Furthermore, the current studies also include the research concerning descriptive norms for certain idioms in a variety of languages such as in English (Bulkes & Tannen, 2017), in German (Citron, et al., 2016) in Italian (Tabossi et al., 2011), and French (Bonin et al., 2013; Bonin et al., 2018).

The study of Schweigert (1985, 1986) could be counted as one of the pioneer studies in this field. He examined the effect of familiarity on idiom comprehension with 48 undergraduate students. Firstly, a task concerning familiarity was given to some of the students and they were asked to rate on a 5-point scale their familiarity with the idioms from familiar to unfamiliar. After their familiarity was assessed, 12 familiar and 12 unfamiliar idioms were presented in sentences including their literal meaning and figurative meaning, and in unbiased sentences where both the idiomatic meaning and the literal meaning were appropriate. Then, the duration of the subjects' reading was measured. The results showed that the subjects were faster in reading familiar idioms.

Nippold and Taylor (1995) studied the effects of transparency and familiarity on the development of idiom comprehension of children among 11, 13 and 17 years of age. The results highlighted when the degree of transparency and the familiarity increased, idioms were easier to comprehend than the less familiar and opaque idioms.

Caillies and Butcher (2007) aims to examine the impact of semantic compositionality, that is the constituents of some of the questioned idioms carry the idiomatic meaning, on the processing of idiomatic expressions. Designing two experiments, the researchers have argued that there are decomposable and nondecomposable idioms; in other words, decomposable idioms are strings of words a part of which is used literally. On the other hand, nondecomposable idioms are the ones whose figurative meaning cannot be deduced from the words that make it up. Nondecomposable idioms are represented differently in individual memories and thus the processing time of idiomatic expressions differs among individuals. The results demonstrated that compositionality has a profound effect on the activation of figurative meaning. Moreover, decomposable idiomatic expressions were comprehended faster than nondecomposable idioms.

In another study, Levorato et al. (2007) carried out a longitudinal study that makes a comparison between text comprehension and idiom comprehension skills of first grade students. 172 first grade children were given a short story and multiple-choice tasks in order to evaluate their text comprehension skills. According to their scores, the children were divided into four categories namely very poor, poor, adequate and good comprehenders. Very poor and poor comprehenders constituted ‘less skilled comprehenders’. Then, their ability to comprehend idioms was tested by having them read a short story including the idiom, followed by multiple choice tasks. The researchers hypothesized that figurative interpretation is linked to the reading comprehension skills. As the

findings indicated, less skilled comprehenders supllied more literal completions than skilled comprehenders. On the other hand, more idiomatic completions were supplied by competent and older youngsters, who also benefited from context knowledge.

From developmental and comparative perspectives, it is evident that 1990s and afterwards are prominent with the studies that focus on individuals' differences in terms of idiom comprehension (Cacciari & Levorato, 1989; Gibbs et al. 1989; Cronk et. al. 1993; Nippold & Rudzinski, 1993; Nippold et al., 2001; Nippold & Taylor, 2002; Nippold & Duthie, 2003).

Starting from 1995s, the need for neurolinguistic explanation for idiom comprehension has emerged. The scholars aimed to explore how the interpretation of figurative language is actualized in the brain. Some of the scholars' concerns mostly focused on the role of the hemispheric differences (Bottini et al., 1994, Papagno et al., 2006; Mashal et al., 2008; Proverbio et. al., 2009; Briner, 2010; Cieślicka & Heredia, 2011; Kana et. al.,2012; Häuser et al., 2016; Sela et al., 2017; Carrol & Littlemore, 2020) in understanding the idioms. Moreover, they aimed to propose evidence with neuroimaging studies especially including fMRI or eye movements (Zempleni et al., 2007; Papagno & Romero Lauro, 2010; Bohrn et al., 2012; Titone et al., 2019).

2000s are prominent also with the idiom comprehension studies concerning second language acquisition (Liontas, 2002; Abel, 2003; Cieślicka, 2006; Huang, 2007; Saberian & Fotovatnia, 2011; Karlsson, 2013). Most of studies attempted to clarify the issue of idiom understanding in second language learning, the phenomenon of L1 transfer in the process of idiom comprehension (Abel, 2003; Cooper, 2012) and the effect of context in the interpretation of idioms in L2 (Cieślicka, 2011; Augstkains, 2019; Suner, 2019).

As for the studies carried out on Turkish idioms, the following examples are worth mentioning:

One of the preliminary studies presented by Subaşı-Uzun (1991), she established the semantic classification of Turkish idioms for the first time, which contributes the methodology of the present study. In the following year, she studied the effect of internal semantics of idioms and familiarity levels on the comprehension processes among a group of the typically developing participants with different ages. (Subaşı-Uzun, 1992).

Another study includes the comprehension of body part idioms. Özkan and Şadiyeva (2003) presented a general overview of the comprehension of somatic idioms which they define as the idioms based on the names of body parts.

Şahin (2004) provided a comprehensive study containing idioms with organ words with a developmental perspective. Furthermore, Yunus (2006) carried out a comparative study in which the Turkish and Chinese idioms with organ words are compared in terms of their connotative meaning and figurative uses.

In another overall study, Arıca-Akkök aimed to explore to what extent English idioms (2007) and Turkish idioms (2008) are predictable in a group of undergraduate students. The results of the Arıca-Akkök's study (2008) indicated that Turkish students were largely examined to predict the meanings of familiar the 2nd and the 3rd degree idioms with a metonymic motivation in English idiom context. On the other hand, in Turkish idiom context, undergraduate students were mostly observed to predict the meanings of familiar the 2nd degree idioms with a metaphoric base.

In the same year, Elkilic (2008) conducted a study aiming to examine Turkish students' understanding of English transparent and opaque idiomatic expressions and also attempted to clarify how the comprehension of opaque and transparent idioms changed between intermediate and advanced level of students.

Mürsel (2009) in his thesis, aims to find out the effect of comics in teaching of idioms and proverbs at teaching of the idioms. In a later study, Çalışkan (2010) aims to apply the Conceptual Metaphor Theory in teaching Turkish idioms to the second language learners. The researcher proposed a model of framework on somatic idioms (ayak, burun, kulak, kalp/ yürek, yüz/çehre/beniz) which are used frequently in daily language and established some activities that can be used as classroom activities in teaching Turkish language.

İşeri (2010) highlighted that the undergraduate students had some difficulties in interpreting the idiomatic meaning in terms of the predictability levels of Turkish idioms especially transparent idioms. The results of the study recommended that the undergraduate students within the scope of that study were able to predict the third-degree idioms better than first degree and second-degree idioms.

Bayat and Çetinkaya (2014) proposed a descriptive survey which investigates the comprehensibility of idioms basing on the familiarity and transparency. The participants are composed of 229 students attending secondary schools. The students were given an idiom comprehension test composed of 36 idioms which have three different levels in terms of familiarity and transparency. Participants were asked to write the meanings of idioms presented within a context. With the support of statistical data, the findings of the study showed that the participants

understood better those idioms ranking high in terms of familiarity and medium in terms of transparency.

In his dissertation, Uysal (2015) aimed to find out the effect of prototypicality on the idiom comprehension in the groups of preschoolers, third graders, fifth graders and eight graders. He explored the tendency in the older groups to select the figurative meanings. The findings of the study also supported the view that the frozenness or the syntactic components of the idiom has no effect on the idiomatic meaning. The results also asserted that the effect prototypically should also be taken into the consideration besides the familiarity or transparency of the idiom.

Erten-Dalak (2017) investigated the use of communicative approach in a group of participants who is learning Turkish as a foreign language. In this study, the main focus is directed to the teaching Turkish idioms to the second language learners.

Among the more recent studies, Güven (2020) aimed to address the concept of idiom on the basis of its being a multiple word expression. In her thesis, the author proposed to a grammatical study on Turkish idioms which are chosen correspondingly with the distributional models. Özavşar (2021) investigated the metaphors and metonymies in relation to the idioms concerning the phenomenon of death basing on the Conceptual Metaphor Theory. Contrary to an experimental research, this study follows a descriptive perspective.

In summary, it is important to note that idiom studies in Turkish context formerly have a descriptive and developmental foundations. The researcher aims to provide a general understanding of the idiom comprehension. There were

number of studies that covered the comprehension of the idioms with regard to the metaphor and metonymy motivation. In other respects, the researcher also draw attention to the components of idioms and the profound effects of idiom understanding and interpretation.

2. 4. DOWN SYNDROME IN BRIEF

Down syndrome is a chromosomal disorder which takes its source from the presence of extra copy of chromosome 21 leading to total 47 chromosomes instead of the normal 46 (Baum et al., 2008; Barlow- Stewart, 2015). This abnormality leads to some differences both in bodily systems and mental development (Wajuihian, 2016). Some of the structural and physical abnormalities could be detected especially in facial appearance: almond-like eyes, short neck, flattered face, and small ears (Martin et al., 2009). With regard to mental development, Pangalos et al. (1994) stated that it is observed that "there is slower rate of development in intelligence, attention, verbal communication, learning, memory and performing motor abilities in individuals with DS" (p.476).

Despite having considerable differences among themselves, individuals with Down syndrome display certain characteristics related to language and communication skills. For instance, receptive language is detected to be stronger than expressive language, with phonology, syntax, and some aspects of pragmatics presenting particular developmental challenges (Martin et al., 2009).

Moreover, DS is the most frequent genetic cause of intellectual disability (ID) (Bittles et al., 2007), which is recognized as a main clinical feature of DS. Thus, most people with DS have some degree of ID that affects learning and cognition (Tracy, 2011).

As Martin et al (2009) put it, “most of the people of DS- nearly about 80%- have moderate intellectual disability”, although some have severe intellectual disability while others have IQ scores in the average range (Pueschel, 1995; Roizen, 2007). Visuo-spatial processing and perception are generally viewed as relative strengths in individuals with Down syndrome (Jarrold, Baddeley, & Hewes, 1999; Klein & Mervis, 1999). Although visual long-term memory appears to be impaired (Jarrold, Baddeley, & Phillips, 2007), this impairment may be restricted to visual-object learning tasks, and visual-spatial tasks may constitute an area of relative strength (Vicari, Bellucci, & Carlesimo, 2005).

Along with these intellectual disabilities, the most often cited cognitive problems of DS individuals are confined to capability in processing the given information, “limited attentional capacity, slower reaction time, deficiency in auditory-vocal processing, limitation of short-term memory, slower retrieval of learned information from long-term memory, reduced perceptual discrimination and generalization capability and inability with respect to the abstract attitude” (Owens, 1989:9).

To understand the current state of individuals with Down syndrome better, one should go into the details of the diagnose and assessment processes. Worldwide, individuals with Down syndrome are categorized according to their mental retardation from mild to moderate and severe. In Turkey, any family who has a child with Down syndrome firstly has to obtain a medical diagnosis in which the type of Down syndrome, namely Trisomy 21, translocation, and mosaic, is determined. From the early days of birth, the families who have children with DS have the right to take both physical and cognitive therapies although they cover limited sessions. When a DS child is 36 months old, the family brings the child to the Guidance and Research Centers where “the

families receive orientation and guidance regarding their children's educational needs" (Melekoglu et al. 2009:291). In these centers, children with DS are assessed through intelligence scales, and the counselors determine the severity of the disability that a child has. These centers prepare a report based on the state of a child. Preschool education is compulsory for children with special needs. According to the directions given in the report, the child with DS participates in an inclusion or integration programme with typically developing peers. If the degree of disability is high, the child is directed to the special education classes where the children with special needs are educated. According the General Directorate of Special Education and Guidance Report (2021), "the children with hearing, visual or mild intellectual disabilities or mild autism should receive primary education with typically developing peers". It is essential that they should attend the ongoing programs and inclusion services in the mainstream schools with their peers (p.28). However, the number of children with disabilities who go to the mainstream schools is not so high[1]. The aforementioned procedures are repeated throughout the education process. In the beginning of each academic year, the child with DS goes under evaluation and are directed to the schools. If the level of disability is high, the families are advised and are directed to the rehabilitation centers in order to take more rehabilitation to close the gap with typically developing peers.

2. 5. STUDIES ON FIGURATIVE LANGUAGE USE IN MENTALLY RETARDED INDIVIDUALS

The relevant literature on the comprehension of figurative usage in the group of mentally retarded individuals is relatively limited with regard to the studies conducted upon typically developing persons. This section begins with the definition of the term 'mental retardation' and follows the body of literature in

[1] According to the Activity Report by the General Directorate of Special Education Guidance and Counselling Services (2021), in Turkey, there are totally 2.161 children with mild mental retardation going to primary and secondary mainstream schools with typically developing peers (p.14).

which the studies on the idiom comprehension by mentally retarded groups are reviewed.

As Guo et al. (2009) put it, mental retardation is defined as;

> A disability characteries by significant limitations both in intellectual functioning and in adaptive behavior, as expressed in conceptual, social and practical adaptive skills. The disability is often congenital and present at birth, but by definition could be present before age 18 (p.635).

Based on this definition, the following studies will shed light on how the individuals with different mental disorders namely William's syndrome, Fragile X syndrome, aphasics, schizophrenic patients, individuals with autism spectrum disorders or Alzheimer disease comprehend figurative language.

Kempler et al. (1988) aimed to address the groups of individuals with mental retardation namely Alzheimer disease. In this research, the groups of individuals diagnosed with Alzheimer disease along with cognitive impairments were given tests of familiar phrases including idioms and proverbs and novel utterances. The results of the data showed that from the early stages of Alzheimer disease, patients had difficulty in understanding familiar phrases in regard to single words or novel phrases. In other words, the individuals performed worse in the given test which required an interpretation of abstract meanings. Moreover, when they were given familiar phrases with alternative interpretations, they tended to select concrete remarks, which affirms a common observation that AD patients have difficulty in interpreting abstract meanings.

Nippold (1991) studied the difficulty of comprehending the idioms in a group of language-disordered students and adolescents. In the study, the researcher discussed the properties of idioms in relation to the recent findings. The utmost aim was to offer a guideline for speech pathologists while evaluating the idiom comprehension skills of language-disordered students and adolescents. The research also underlined the treatment approach emphasizing the importance of determining the figurative meaning of especially unfamiliar idioms.

In another study, Ezell and Goldstein (1991) investigated the comparison of idiom comprehension of a group of typically developing children and children with mild mental retardation. Younger children were matched with mild mental retardation group according to receptive vocabulary skills on the basis of idioms given both in contextualized examples and in picture tasks. The results showed that typically developing 9-year-old children received the best scores in the idiomatic contexts. However, 9- year- old children with mental retardation performed significantly worse than typically developing younger children.

Aside from the studies conducted upon the individuals with mental retardation, the figurative competence in the individuals with Autism spectrum disorders drew the attention of scholars such as Happe (1995) and MacKay and Shaw (2004), Loukusa and Moilanen (2009), Lim (2010), Whyte et al. (2013; 2014), Kalandadze et al. (2018), Kim et al. (2018), and Saban- Bezalel and Mashal (2019). The researchers attempted to examine the comprehension of figurative language of autistic subjects and the results proved the partial weakness of the individuals with autism in the given tasks. Most of these studies also discuss the social cognitive profile of ASD individuals in terms of deficiency in Theory of Mind abilities and structural language skills emphasizing the relationship between the core linguistic abilities and figurative language comprehension of ASD individuals.

In a different group of individuals, Titone et. al. (2002) investigated the impaired idiom processing in schizophrenia. Interestingly enough, this study aimed to provide the alternative accounts of idiom interpretation namely idiom priming effects. The subjects listened to sentences including literally reasonable and improbable idioms and were asked to tell whether they are idiom-related or literal target. Since “schizophrenia patients have difficulty in grasping the contextual information from the discourse to facilitate their understanding” (p.313), they performed worse in this experiment. The findings of the study showed that the patients had reduced priming with literally improbable idioms but better priming with literally probable ones.

Papagno and Caporali (2007) studied a total of 15 aphasic patients in their study titled ‘Testing idiom comprehension in aphasic patients: The effects of task and idiom type’. The patients were given three tests namely, a sentence-to-picture matching task, a sentence-to-word matching task and an oral definition task. The overall findings of of all these tasks showed that the idiom comprehension in aphasic patients was impaired compared to that of the control group and the type of the task and the type of idioms significantly mattered in the figurative interpretation of the idioms.

Schettino A. et al (2010) carried out a neurocognitive study which investigated the role of the prefrontal cortex involved in idiom processing in schizophrenic patients. They hypothesized that executive task performances of the participants showed an impairment in idiom comprehension. In this study, 45 schizophrenic patients and 45 control participants that are matched according to age and educational level were given a sentence-to- picture matching tasks and their reaction times and accuracy were masured. Patients with schizophrenia performed significantly worse by producing slow responses. They were also proved to be impaired in both literal and idiomatic sentences. The researchers

also asserted that impairment in idiom comprehension stemmed from dysexecutive deficits.

In another study with patients with Alzheimer's disease, Papagno et al. (2003) investigated idiom comprehension by focusing on the role of central executive. Idiom comprehension of 15 patients suspected with mild Alzheimer's disease was intestigated. The patients were given a sentence-to-picture matching task and an oral task. In this task, patients were asked to choose between two pictures, one depicting the figurative and the other illustrating the literal meaning. They were also given a literal sentence comprehension test and a writing task. The findings showed that Alzheimer disease patients performed worse in sentence-to-picture matching task than in an oral task. Moreover, as they had better performance in the oral task, the researchers claimed that patients with Alzheimer disease tended more towards literal interpretation than figurative interpretation.

Papagno and Cacciari (2005) found that the aphasic patients have some impairments in the comprehension of ambiguous idioms especially in those also have a literal interpretation. They gave participants a string-to-word matching task, and participants showed better scores in non-ambiguous idioms. The findings of the study showed that the difference observed in the comprehension could result from either to a different method used in the understanding of these idioms or to the different type of task employed in the present study.

In another study, Lacroix et al. (2010) argued that French speaking children and adolescents who were diagnosed with Williams' syndrome have relative weaknesses in understanding idioms. The study investigated the comprehension of idiomatic expressions by 20 participants suffering from Williams' syndrome using a story comprehension task. The study revealed that

although children with WS have some difficulties in understanding idioms, their understanding increases as they get older; however, they cannot perform as good as the typically developing counterparts.

Qualls et al. (2004) focused on the comprehension of idioms by adolescents with language-based learning difficulties (LBLD). The tested idioms were given in an enriched context since the researchers aimed to test the effects of context and familiarity on the comprehension of 24 idioms by 22 adolescents with LBLD. The researchers compared these subjects with typically developing peers on the basis of their reading abilities. 24 idioms were categorized as low, moderate, and high levels of familiarity. The subjects were also given a verififcation task to verify the figurative meaning of the idiom. Results showed that the LBLD adolescents exhibited lower performance in comparison with their TD counterparts; however, they performed significantly better in moderately familiar idioms in the verification task. It was claimed that their low ability to comprehend the figurative meaning in context could be explainable on the basis of their deficiency in metalinguistic skills.

2. 6. STUDIES ON FIGURATIVE LANGUAGE USE IN DS INDIVIDUALS

In the last four decades, following the publication of Lakoff and Johnson's (1980) *Metaphors we live by*, the research carried out on figurative language and thought have brought us new understandings of their integral relationship to the linguistic system. Cognitive linguistics and cognitive science conferences and journals have seen a proliferation of metaphor studies, and the topic has caught an increasingly high attention including everyday use of language. Other traditionally recognized figures of speech, such as metonymy and irony (an old topic in cognitive science) have also been productively re-examined during the same period. However, even today, the study of metaphors still preserves its 'star status' (Dancygier & Sweetser, 2014). It is worth noting that along with metaphors, studies on idiom comprehension and production have also been of

interest to scholars in the field the cognitive linguistics (Kerbel & Grunwell, 1998; Papagno & Vallar, 2001; Roch & Levorato, 2010; Roch et al., 2013; Lifshitz- Vahav et al. 2016; Shnitzer- Meirovich, 2018; Panzeri et al., 2021).

According to Ypsilanti and Grouios (2008), the linguistic abilities of individuals with DS have been of scientific interest for over 30 years, dating back to when Dodd (1975) explored speech reproduction in children with DS.

As noted by the interest in studying idioms derives from the features that characterize these linguistic expressions: “(a) they are often ambiguous expressions that have both a literal and a figurative meaning. These features significantly differ from each other (b) they are conventionalized expressions, shared by the members of the linguistic community and are represented in the mental lexicon; and (c) as such they have to be acquired by children as part of the linguistic repertoire” (Levorato & Cacciari ,1992; Levorato,1993; Levorato et al., 2007: 473).

Roch and Levorato (2010), from which the present study inspired, carried out a study on individuals with Down syndrome. In this study, idiom interpretation was examined in relation to the ability to comprehend the linguistic context including the tested idiom. The proposed hypothesis that there is a strong relationship between the interpration of figurative meaning of the idiom and the context including the contextual clues concerning the questioned idiom. This hypothesis was derived from the Global Elaboration Model (Levorato & Cacciari, 1995, 1999) According to this model, it is proposed that one could grasp the figurative meaning of the idiom given in context when the literal interpretation is inappropriate. To put it differently, a comprehender can realize that a literal interpretation of an idiomatic expression is improper according to the context in which the idiom is provided. Thus he/ she attributes an acceptable figurative

meaning to the idiom because the context supplies the required semantic information to access the figurative meaning. In this way, it is claimed that even the unfamiliar idioms could be interpreted figuratively. In this study, the context of a story including nonfamiliar -both transparent and opaque- idioms were presented to 20 participants with Down syndrome and to 20 first-grade typically developing children who had the same level of text comprehension. The study's findings revealed that differences in idiom comprehension in both groups can be explained by differences in text comprehension. In Down syndrome individual individuals, there is a similar connection between idiom and and text comprehension skills and in typical development, and it is unaffected by idiom type (semantic analyzability) or sentence comprehension.

The main focus of the present study is to study the effect of familiarity and the contextual back up on the process of the interpretation and comprehension of idioms, with particular regard to the differences between the compared groups, namely DS individuals and typically developing peers. In line with this objective, the literature review is also enriched with the studies that have been conducted with participants with DS focusing on their language skills in the Turkish context.

Studies on the development of idiom comprehension skills of Down syndrome people is rather limited. Furthermore, the review of literature clearly demonstrates that there has been no study designed to explain the figurative language comprehension skills of Down syndrome individuals in Turkish context so far. Generally speaking, studies conducted with DS people so far are on the general features of their language skills (Bilginer, 2002; Acarlar, 2006; Cengiz et al. 2017). There are also some comparative studies, comparing DS, typically developing and autistic individuals (Erdem 2011; Özer, 2012; Yıldırım-Erişkin, 2013). Aside from these studies, there are also studies based upon the comments of the mothers about the development of their children’s language skills (Turan, 2012; Servi, 2014).

Bilginer (2002) published a general description of the language development of the DS individuals without getting into the details of specific problems. In a more detailed review, Acarlar (2006) studied the language development of DS children and adults. This study was comprehensive summary depicting both the strengths and the weakness of the DS children and adolescents. DS subjects were explained as having some weaknesses concerning receptive skills, lexical and syntactic interpretation and short-term memory. However, there was no reference to their figurative language comprehension.

In a later study, Cengiz et al. (2017) also focused on the language development of DS children and showed that they had some distinctive problems. In this study, the researchers provided a brief introduction to the language development of typically developing children and made comparisons with children with Down syndrome. The researchers also pointed out the differences in the findings of the earlier studies. Most studies claimed that the reading abilities of the DS children were behind their intelligence skills, whereas some others proposed that the reading ability was equivalent to their intelligence level. The study also offered suggestions for families, child development specialists and professionals in the field of language development of children with DS.

Erdem (2011) in her PhD thesis concentrated on the relationship between theory of mind and language skills of DS children, who were compared with the typically developing peers. This study is an experimental study carried out to evaluate the syntactic, semantic and pragmatic skills of 35 DS children aged between 3- 7 years and their comparison with the typically developing non-verbal mental aged peers. The study revealed that there was not much significant difference between the participants with respect to the theory of mind

scores. On the other hand, there was a significant correlation between the verbal and nonverbal tasks and pragmatics skills of DS children.

Another study, again focusing on the language skills of DS children from a comparative perspective, was carried out by Özer (2012). She employed 25 typically developing participants aged between 2.0 and 7 years and 25 DS children aged between 2 and 16 years, showing that the children with Down syndrome had difficulties in receptive and expressive language skills**,** especially in relation to syntactic and morphological structures. It was also noted that the DS children had problems in understanding the meaning of morphologically complex words, identifying grammatical errors, and distinguishing between the words with similar meanings.

Two further studies were conducted by Yıldırım-Erişkin (2013) and Yıldırım-Erişkin and Ege (2015) to compare the language development of three different groups of children. There were 31 typically developing children, 30 DS children and 30 autistic children. The researchers compared a group of subjects including children with Down syndrome, children with autism, and typically developing children in terms of basic concepts and mean length of utterance. To test the basic concepts, she employed Boehm Test of Basic Concepts (Boehm, 2011) which is a comprehensive assessment material evaluating the basic concepts of young children. This test includes concepts regarding “context of space, quantity, and time” such as *high, low, front*, *first,* and *back* (Boehm, 2013:4). To evaluate the mean length of utterance (MLU), she recorded a natural conversation with the children. The results showed that the most challenging concepts for children were *around* and *some,* and *not too much.* The findings also revealed that while the relationship between the MLU and basic concept total score of the typically developing children was not significant, there were significant differences between MLU and basic concept in the group of the children with DS and autism.

Another study was carried out by Turan (2012) with the mothers of DS children. The study made a comparison between the practices and beliefs of the mothers who have typically developing children and the ones who have children with special needs. 181 mothers having 3 to 4 years old DS children having special needs were given questionnaires about their concerns and attitudes towards their children. The results showed that there were differences between the two groups. The study also underlined the importance of the quality of child-directed language use as well as the type of interaction between the mother and the child.

In a similar study, Servi (2014, 2016) designed a semi-structured interview to learn about the views of those mothers having children with developmental disorders such as autism, down syndrome and mental retardation. The interview questions were about the children's early language acquisition and language development periods as well as their present language performances. Based on the mothers' views, there emerged different propositions. Most of the mothers (40%) asserted that their children learnt language through modelling, another group (36.7%) expressed that their children learnt language and social skills through imitation, and the rest of them (23.3%) claimed that their children learnt language through intensive social interaction with the family. Furthermore, the mothers explained that imitation, mimicry, games, and other interesting activities such as singing and reading a book together were among the effective tools in supporting their children's language and communication skills.

Yıldız (2008) observed the use of Turkish grammatical morphemes in 20 DS individuals. Based upon natural conversations and narratives, the researcher concentrated on the frequency of noun and verb suffixes used by children. The

results implied that Down syndrome individuals had some difficulties in the production of noun-making suffixes.

On the other hand, Aydın (2014) investigated the phonological development of 14 DS children focusing on developmental delays and making a comparison with their chronological age peers. The results indicated weak scores in DS children's uttering of some phonemes. The findings also showed that DS children did not articulate some phonemes such as /r/, /h/ and also they used some phonemes interchangeably such as /l/ instead of /r/ and /d/ instead of /t/. It was proposed that the reason why the children with DS could not articulate some phonemes was that there was a mechanical problem with the speech organs, and not that there was a neurological deformity in articulation.

A more recent study by Kurada et al. (2017) investigated the use of parts of speech of 14 DS children aged between 2.2 and 4.7. Language Development Survey (LDS) that included 14 semantic categories such as foods, vehicles, belongings, parts of body**,** etc. was used as the testing material. The findings of the study revealed that words in the verb category were more frequently used when compared to the words in the noun category. The 'people' category of the testing material marked a more frequent use of the family member references, such as 'mother, father, grandmother, child, aunt' by these children**.** The results of this study were consistent with those of Bird et al. (2005) and Limongi et al. (2012).

Additionally, the results of the study conducted by Kagitcibasi et. al (2001) showed that the children who attended early inclusive education developed better linguistic skills leading to standing one step ahead in life when compared to the children who had inclusive education sometime later.

Since it has a broad range of spectrum, the linguistic skills of the children with any type of intellectual disabilities need detailed investigations not only in linguistics but also in speech therapy, special education, cognitive sciences psychology or sociology. This dissertation means to be a contribution to the path leading to more comprehensive studies on the understanding and solutions of the problems.

CHAPTER 3

METHODOLOGY

The purpose of the present chapter is to describe in detail the process undertaken to implement both qualitative and quantitative research methodology to explore the figurative language comprehension of young adults with mild-level Down syndrome. The methodology section mainly presents the procedures concerning (a) data collection, and (b) ethical approval and (c) the pilot study. Under data collection sub-heading, there are related methodological steps explaining the selection of participants, their chronological and mental age peer groupings, the tools used for data collection, the validity and reliability of the testing tools, etc. The data analysis sub-section explains how the collected data were analyzed and how the findings were reached.

3.1. DATA COLLECTION

3.1.1. Methodology of Participant Selection

In this section, the participant selection procedure will be scrutinized concerning the selection of (a) the DS participants; (b) their mental age peers**,** and (c) their chronological age peers.

3.1.1.1. Selection of the DS Subjects

In this study, there were 3 female and 5 male participants with Down syndrome. While choosing the participants with DS, the researcher checked the information about the Down syndrome diagnosis in the health board report and special education evaluation report. The chronological ages of the participants varied between 15 to 21 years old (m=17.3).

Generally speaking, a study carried out on atypical individuals comes with its own unique set of challenges. Among the challenges encountered, the most problematic issues are ethical concerns, recruitment issues, and participant attrition. The case was not different in this study. In order to reach the DS individuals who went to mainstream schools with typically developing peers and also who had a mild degree of mental retardation, we first tried to reach the nongovernmental organizations that support the families and individuals with Down syndrome. A major Istanbul-centered organization replied to our demand. However, considering the difficulties in the process of data collection, we limited our scope to Ankara. Then, we met a special education teacher who really helped us to conduct the pilot study. Before carrying out the pilot study, we had a chance to make observation for three months with a group of individuals having different kinds of intellectual disabilities. After the observation period, we built a rapport with the group. Then, we asked for the consent from the family. Firstly, the mental test was applied to evaluate the degree of mental retardation. Then idiom-picture matching tasks and idiom-in-context tasks were applied sequentially. After the pilot study, we tried to reach more participants with DS. We made contact with a parent who was known to have a child with DS and obtained more information about the state of her child. Then we went to the Rehabilitation Center in order to access more participants. Only 6 more participants met our criteria: having mild degree of mental retardation, going to the mainstream schools, being young adults. We reached a total of 8 participants. The rest of the participants taking part in the study were tested in the Rehabilitation Center. Table 2, includes the detailed information about the participants with Down syndrome.

Table 2

The profiles of the participants with DS.

#	Name	Gender	Chronological age	Mental age
1	T***	M	21	10
2	A***	M	21	12
3	E***	F	15	10
4	T*** B***	F	15	10
5	F***	M	21	11
6	İ***	F	15	9
7	B***	M	15	11
8	T*** F***	M	16	9

3.1.1.2. Mental Age Peers

DS participants who took part in this study were assessed to find out their mental age scales with *Standford Binet: Fourth Edition*. After their mental scores were acquired, the second step was to determine the TD participants who have the same mental scores with the DS individuals. In the same vein, for this purpose, TD participants were assessed with Standford Binet Scales. Those examined individuals who did not have the same mental age were excluded from the present study. There are 4 typically developing participants matched according to their mental ages. Two of them went to the primary school and the other two to secondary school. Since these participants were not mature enough, their families were asked for the consent to participate in the present study. Table 3 presents the profiles of TD individuals that participated in this study.

Table 3

The profiles of TD participants who are mental peers of DS individuals.

#	Name	Gender	Mental Age
1	F****	M	12
2	S***	M	11
3	I****	F	10
4	S****	F	9

In other words, these individuals are defined as the mental age peers of the DS participants in this present study. There are 4 individuals whose mental ages range from 9 to 12 (m=10.5). All of the individuals are going to the mainstream schools and are native speakers of Turkish.

3.1.1.3. Chronological Age Peers

Regarding the chronological age, this study has chosen young adults as subjects. In the study, there were 3 TD chronological age peers of the DS participants, whose ages ranged between 21 and 15 (see Table 4). One of the subjects was going to the university and the rest to were going to the mainstream schools. Although gender differences were not taken into consideration as a variable, the researcher paid attention to the genders of the DS participants and TD counterparts while making comparisons. In other words, since all of the chronologically 21-year-old participants with DS were male, we compared their scores with that of a chronologically 21-year-old male TD participant.

Table 4

The profiles of typically developing individuals who are chronological age peers of DS individuals.

#	Name	Gender	Chronological Age
1	M****	M	21
2	B****	M	16
3	B****	F	15

These typically developing participants were compared to subjects with DS in terms of their chronological ages. As it stated above, in Table 1, the chronological ages of the participants with DS are limited to 15 year-old, 16 year-old and 21 year-old. Thus, we worked with 3 typically developing participants in the present study.

3.1.2. Tools of Data Collection

In the present study, three kinds of data collection tools were utilized. These are mental age intelligence scales, idiom-picture matching tasks, and idiom in-context tasks applied to both DS and typical subjects.

In this section, the tools that are employed in the data collection procedure will be explained. Firstly, (a) the rationale behind process of the selection of the idioms, then (b) the grouping of the whole participants involving DS individuals, chronological and mental age peers, and lastly (c) the two tasks evaluating figurative language comprehension, and the scales assessing the mental age of the target group will be dealt with.

Selecting the Idioms

To decide on the idioms to be used in the study, the researcher made a good use of a study carried out by Kara (2015), which provides a detailed list of the idioms included in the published primary and secondary-level Turkish lesson coursebooks and workbooks, approved by the Ministry of Education. Kara's analysis discovered that there were a total of 161 idioms in the mentioned coursebooks, 76 of which were categorized as body part idioms. In his study, Kara (2015) focused on the typical schoolchildren's comprehension of the figurative language in the context of different types of idioms, trying to find out to what extent they are interpreted figuratively or literally.

The Figure 2 shows the process of the idiom comprehension and interpretation tasks in the present study. This diagram illustrates the steps followed while preparing the testing materials.

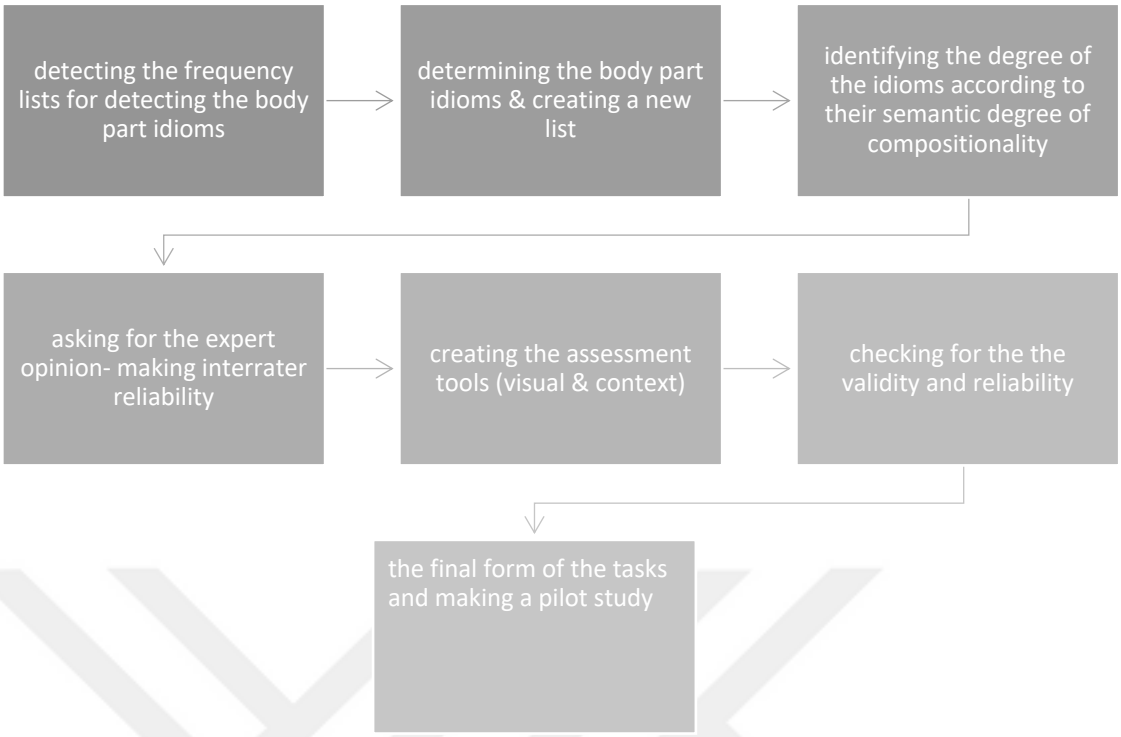


Figure 2. The process of creating the comprehension and interpretation tasks

Here, in the current study, we employed the frequency lists and detected those idioms including body parts. The reason for selecting the body part idioms is that Turkish language has a great deal of idiom frequencies concerning body parts (Baş, 2015).

In the first phase of the selection of the idioms, based on Kara (2015), those idioms that were shown to have been comprehended figuratively by 25 out of 40 students in Kara's study were opted, and a new list was created. In order to ensure inter-rater reliability, this list has been evaluated by three experts in the field of linguistics for their classification of first degree, second degree and third degree idiomaticity.

In the second phase, the idioms that all of the experts agreed upon as bearing the certain degree of idiomaticity were included. This new list is regarded as *familiar idioms* since those 25 students out of 40 participated in Kara's study (2015) comprehended these idioms figuratively. In the second phase, the unfamiliar idioms to be used in this study were selected again on the basis of Kara's findings. In this context, those idioms which were figuratively comprehended by at least 63% and more of the participants in Kara's study were included in our list of familiar idioms; whereas, those idioms comprehended by less than 17% of the participants in the mentioned study were regarded as *unfamiliar idioms*. Idioms that prone to have multiple meanings and also containing some kinds of violence were excluded from the present study. The following is a list of familiar and unfamiliar idioms included in this study:

Table 5-
Idioms that are tested in the present study

	Familiar Idioms	**Unfamiliar Idioms**
1st Degree Idioms	*Kafadan atmak*	*Çiçeği burnunda*
	Eline yüzüne bulaştırmak	*Diş bilemek*
	Her işe burnunu sokmak	*Karnı tok olmak*
	Karnı zil çalmak	*Yüz karası*
	Kulak misafiri olmak	*Göz(ünü) boyamak*
	Yüreği ağzına gelmek	*Beyin yıkamak*
3rd Degree Idioms	*Ağzı açık kalmak*	*Karın ağrısı*
	Baş başa kalmak	*Elini ayağını öpmek*
	Burnunun dibinde	*Aklı başından gitmek*
	Dişini sıkmak	*Elinin altında olmak*
	Her kafadan bir ses çıkmak	*Gözünün önüne gelmek*
	Gözünün yaşına bakmamak	*Sırtüstü yatmak*

After the process of selection of idioms is completed, the first step was to ensure the validity and reliability of the comprehension tasks and then

conducting a pilot study on the participants with Down syndrome. Individual tasks were created according to their suitability for the present research questions. Several tests were undertaken to ensure the materials' validity and suitability for the tasks. After the degree of reliability and validity were tested, the piloting of the tasks was carried out with a group of two young participants with Down syndrome. The outcomes of this piloting phase will also be described in this section.

A total 24 idiom tasks including both 12 familiar and 12 unfamiliar idioms were tested for validity and reliability. The tasks were practiced by 72 typical university students and the results were statistically analyzed using Cronbach's Alpha test.

Table 6

The statistical results of the tasks

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.706	0.707	24

The measurement showed a value of 0.706**,** which corresponds to the interpretation that if a value equals ≥ 0,50, the test has high reliability. Given this, all of the generated tasks were approved to be valid and reliable as a testing material.

3.1.2.1. Putting the Idioms into Tasks

Based on the relevant literature, in the present research, the participants were tested by two different tasks, namely idiom-picture matching tasks and idiom-in-context tasks. These two tasks were employed in the present study because the focus of the study is limited to the comprehension and interpretation of the idioms. In this context, the production of the idioms is excluded from the scope

of the study. While idiom-picture matching tasks are used to test the *comprehension* of idioms, the idiom in-context tasks are used to test the *interpretation* of idioms.

These visuals were drawn by a professional illustrator experienced in drawing children's books. Any visual which was not clear enough to depict the figurative meaning was redrawn. Moreover, as visualizing the literal and figurative meaning of an idiom was extremely important, a redrawing procedure was carried out when there was a need based on the feedbacks provided by Turkish native speakers. After the redrawing phase was completed, the tasks were pretested among native speakers of Turkish.

In the first idiom-picture matching task, the participants were asked to choose from one of the three given visuals. While choosing the visuals depicting the figurative meaning of the tested idioms, the participants were shown three pictures. Of the three visuals, the first one depicts the literal representation of the idiom, the second one depicts the figurative meaning, and the third one is an irrelevant representation. Only one example for each task is provided in this section in order to conceptualize the rationale of the tasks tested. All the tasks used in the present study can be found in Appendix 2a including idiom-picture matching tasks (pp. 153- 165) and Appendix 2b presenting idiom-in-context tasks (pp.166- 171). Figure 3 illustrates the idiom– *karnı zil çalmak*- feeling peckish.



Figure 3. The visuals depicting the idiom *karnı zil çalmak*

In Figure 3, the first visual (the left side) illustrates the literal meaning of the idiom *'karnı zil çalmak'*. There is a man whom we can see a bell ringing in his stomach. The second visual in the middle depicts the figurative meaning of the idiom, for which an illustration of a man who is starving and touches his stomach is shown. The last visual, on the other hand, bears no semantic relationship to the tested idiom, either literally or figuratively. There is just a running man. The participants were asked to point only one of the visuals which best expresses the meaning of the idiom.

3.1.2.2. Idiom- in-context Tasks

The second task which was applied to both DS participants and TD controls is an idiom in-context task. In these tasks, there are short paragraphs that include some semantic clues about the idiom in question. The researcher read these stories aloud to the participants and at the end of each story, participants were asked to reply to the question "What does it mean "karnı zil çalmak" in relation to this story?". The following is an example of the stories:

> "*Ali, ortaokul üçüncü sınıfa giden çok başarılı bir öğrencidir. O gün sabah uyuyakalmış ve okul servisine zorlukla yetişmiştir. Bu nedenle kahvaltı yapmamıştır. Okulda kantinden bir şeyler alıp yemek istemiş fakat her*

seferinde tenefüste arkadaşlarıyla zil çalar çalmaz bahçeye koştuğundan bir türlü akşama kadar yemek yiyememiştir. Akşam eve döndüğünde annesine şöyle seslenmiştir: «Anneee! Yemekte ne var? Karnım zil çalıyor!"

Buradaki karnım zil çalıyor neyi ifade eder?"

"*Ali is a very successful third grade student who goes to the secondary school. One morning, he overslept and caught the school bus at the last minute; therefore, he did not have a breakfast. At school, he wanted to buy something to eat from the canteen, but as soon as the bell rang, each time he ran to the garden to play with his friends. Thus, he could not eat anything until the evening. When he returned home in the evening, he called out to his mother: Mummy!! What's there for dinner?* ***Karnım zil çalıyor!*** *(****My stomach is ringing****)!"*

After the participants listened to the paragraphs, they were given some time to give their answers to the questions asked by the researcher. All the answers were voice-recorded and assessed by the researcher.

3.1.3. Mental-Age Assessment Scale

In this section, the mental age scale employed in the present study is presented. The important reason for us to use this scale is that it is an official scale used in Guidance and Research Centers with the apporival of Ministry of Education. Another reason is that although this scale is an old one, it has a wide range of usage and editions.

Standford Binet Intelligence Scales (Fourth Edition)

The Stanford-Binet is regarded as one of the first samples of an adaptive test (Reckase, 1989). Experts who intend to evaluate the participants make use of

the information about the subject to decide on where to begin testing and which of the items are appropriate for that examinee. “This format reduces the time required to obtain reliable information from a test, and decreases the frustration examinees experience when presented with items that are too hard or too easy” (Roid, 2003a: 37).

According to Becker (2003), one element of test structure involves that of point scales and age scales. She also states that “a point scale is the currently widespread arrangement of tests into subtests, with all items of a given type administered together” (p.3). Age scales are used to turn out a direct equivalence of the child’s performance to his or her mental age. Psychometric along with developmental information is employed to place items on the test. The participant experiences a variety of items changing from amount to the legibility. For instance, definitions are shown from concrete to abstract words in order to make the comparison of abstract words. The argument has often been made that this format is more engaging and gives the examiner better chance to evaluate the examinee’s performance.

In Table 7, the item content of the Standford Binet: Fourth Edition is shown. Standford Binet mental ages scales have four other editions published on different dates, nonetheless, only the fourth edition was employed in the present study since it is more adapted and updated.

Table 7-

Item Content of the Standford Binet: The Fourth Edition - adapted by Becker (2003).

Item content	Percentage
Knowledge	26 %
Fluid reasoning	17 %
Visual Spatial Processing	18 %
Quantitative Reasoning	21 %
Working Memory	12%
Short Term Memory	6%

It should be noted that, in contrast to the information provided in Table 5, The Standford Binet was used not only to test knowledge itself, but also to test the multiple domains of individuals within a wide range of ages. Table 8 illustrates the structures and the abilities measured by Standford Binet Test.

Table 8

Test structure of Standford Binet: The Fourth Edition - adapted by Becker (2003).

Structure	Abilities Measured
Hybrid structure Verbal routing test Non-verbal routing test Verbal and non-verbal age scales	General Intelligence Knowledge Fluid reasoning Quantitative reasoning Visual- spatial processing Working memory Non-verbal IQ Verbal IQ

In the present dissertation, The Standford Binet Intelligence Scales was employed for various reasons. The first reason is that the validity and reliability of scores for this test are evaluated very high (Silva, 1986; Öner, 2008). The second reason is that this test is the most widely used test in the literature. According to Fernald et al. (2009), Standford Binet Test is the most recommended test by the teachers while assessing the cognitive development of children in the early development of inventory. The third and the last reason

that creates the structure of this thesis is that this test is used as one of the main assessment scales in order to evaluate the mental abilities of children with mental disabilities and also used by the Ministry of Education notably by the Counselling and Research Centers in Turkey. In the present study, Standford Binet Intelligence Scale: Fourth Edition which has been translated and adapted to Turkish language and culture by Uğurel-Şermin (1987) was used.

3.2. ETHICAL APPROVAL

This study is approved by Hacettepe University Non-interventional Clinical Researches Ethics Board and Hacettepe University Graduate School of Social Sciences (Appendix 3).

All parents of the both TD and DS children were provided with full details of the present study and were also given a written consent form for their child to take part (Appendix 4a). Furthermore, all the control group members, including typically developing participants, were also given the written informed consent form (Appendix 4b). The approval from the families was required since all the participants with DS had a degree of mental retardation. Additionally, the approval of the parents of typically developing children was taken since the chronological age of these children ranged between 9 to 12 years. Apart from this, the typically developing chronological age peers were old enough to approve the informed consent; thus, they gave their own ethical approval.

3.3. THE PILOT STUDY

Following the validity and reliability tests, a pilot study was carried out with a limited number of participants to see how the tools would work. This group included one young DS individual at the age of 21 (chronologically) and evaluated as at the age of 11 (mentally) and two typically developing peers, one for the comparison of chronological age and the other for the comparison of

mental age. This pilot study is conducted for various reasons. The first one is trying out and testing the idiom- picture matching and idiom-in context tasks. These tasks are produced by the researcher and are tested in terms of validity and reliability. However, it was exteremely important to test the materials beforehand with the DS subjects, as the design of the study was based on a special group of individuals. The second reason is to identify possible forthcoming problems during the process of implementation. This side is closely associated with the researcher. This was the first time that we studied with a group of individuals with special needs, therefore, the pilot study guided us to follow the ways while conducting a research with a group of special needs.

The findings of the pilot study showed that the evaluation materials were applicable for the individulas with DS. The findings also demonstrated that these materials could be useful in finding the answers for the research questions proposed in Chapter 1.

CHAPTER 4

FINDINGS AND DISCUSSION

In this chapter, the findings of the present dissertation in relation to the research questions raised in Chapter 1 are presented, and the collected data are analyzed by focusing on the participant characteristics and their comparisons based on idiom comprehension scores related to the given tasks.

In the first section of the chapter, the first research question is addressed by evaluating a total of 8 participants with DS in detail. Figure 4 illustrates the distribution of DS participants with their chronological and mental ages.

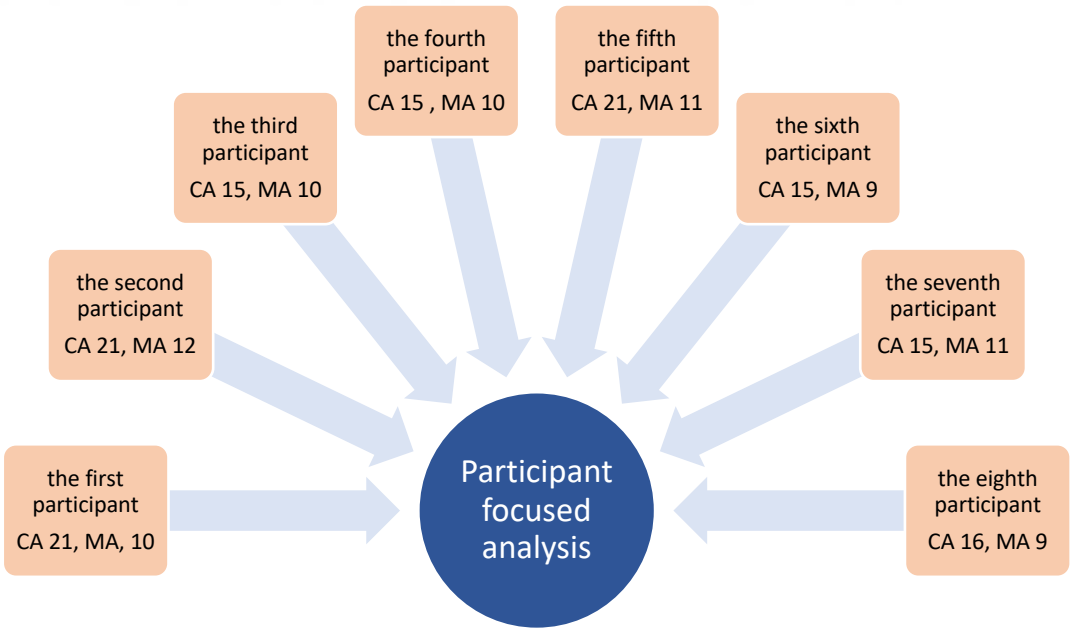


Figure 4. Distribution of DS participants

In the second section of this chapter, a familiarity-based analysis of idioms is carried out based on the answers given by the participants with DS. Figure 5

illustrates the general design of the route followed during the familiarity-based data analysis depicting the 12 familiar and 12 unfamiliar idioms involving both first degree and third-degree idioms, respectively. Similarly, analyses of idiom-picture matching tasks as well as idiom in-context tasks are presented respectively.

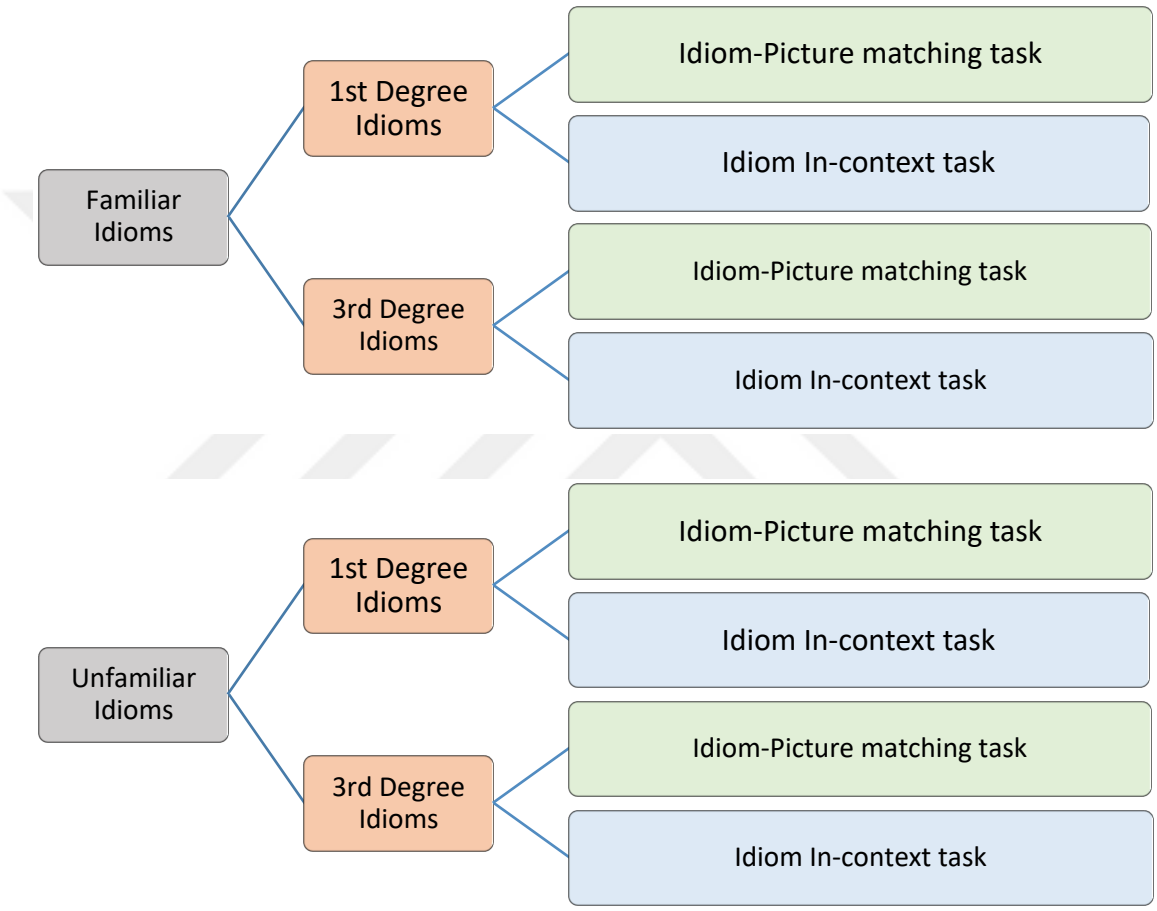


Figure 5. The rationale for idiom-based analysis

In the third section, as shown in Figure 6, the age-based analysis is presented. In this section, the findings related to the comparisons between the DS participants and their chronologically and mentally matched peers are presented.

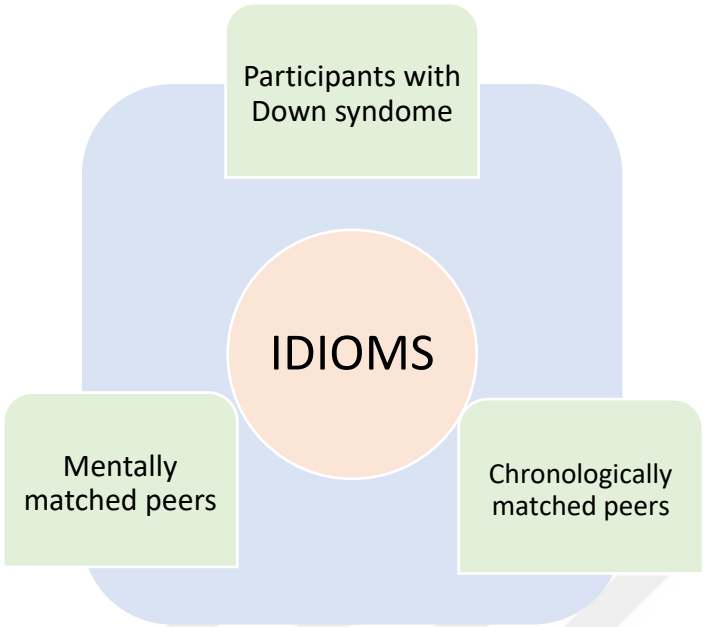


Figure 6. The age- based analysis structure

The aim of the third section is to compare the performances of all the three groups of participants obtained from idiom comprehension tasks.

4.1. INDIVIDUAL PERFORMANCES OF DS PARTICIPANTS

The present section aims to address the results of the first research question stated in Chapter 1:

RQ. 1: *In terms of the processing and comprehension of different types of Turkish idioms, what specific characteristics does each DS individual's performance display?*

The main purpose is to mention and discuss the performance of each of the DS participants and how these performances change in relation to both the type and the familiarity of the idioms. Within the scope of this dissertation, the analysis for each of the eight participants with DS is presented in detail. In the

following tables, *lit* stands for *literal* answers and *fig* means *figurative* answers given by the participants.

4.1.1. The First DS Participant- (T ***)

The first participant was a male and chronologically 21 years old, but he was evaluated as being at the age of 10 on the basis of his mental age scores. He was a newly high school graduate**,** attending the intervention programme with two of his classmates in the Special Education and Rehabilitation Center. Table 9 depicts the performance of the participant in each task.

Table 9-

General distribution of answers for the tasks- The first DS participant CA 21, MA 10

Idioms		**FAMILIAR**		**Idioms**		**UNFAMILIAR**	
		Visual	In-context			Visual	In-context
First Degree Idioms	KA	Lit	Fig	**First Degree Idioms**	CB	Lit	Lit
	EYB	Lit	Lit		DB	Lit	Lit
	HIBS	Lit	Lit		KTO	Lit	Fig
	KZC	Fig	Fig		YK	Lit	Fig
	KMO	Fig	Fig		GB	Lit	Lit
	YAG	Fig	Fig		BY	Lit	Lit
Third Degree Idioms	AAK	Lit	Fig	**Third Degree Idioms**	KAG	Lit	Lit
	BBK	Fig	Fig		EAO	Lit	Fig
	BD	Lit	Fig		ABG	Fig	Fig
	DS	Lit	Lit		EAOL	Lit	Lit
	HKBSC	Lit	Lit		GÖG	Fig	Fig
	GYB	Lit	Fig		SÜY	Lit	Lit

As it can be seen from Table 9, this participant has scored better in the familiar idioms, and proportionally 50% of the given tasks were processed figuratively in the correct way. However, the case is not the same for unfamiliar ones. Of the answers of the participants given to the questioned unfamiliar idioms, only 29% of them are interpreted as figuratively. In terms of degree of semantic categorization, this participant interpreted the figurative meaning especially those in the first degree idioms. Although the context is of great importance, the participant could not make use of context in the unfamiliar idioms.

4.1.2. The Second DS Participant- (A***)

The second participant was a male and chronologically 21 years old, but he was evaluated as being at the age of 12 on the basis of his mental age scores. He was a newly high school graduate, attending the intervention programme with two of his classmates in the Special Education and Rehabilitation Center. Table 10 depicts the performance of the participant in each task.

Table 10-

General distribution of answers for the tasks- The second DS participant- CA 21, MA 12

Idioms		**FAMILIAR**		**Idioms**		**UNFAMILIAR**	
		Visual	In-context			Visual	In-context
First Degree Idioms	KA	Lit	Fig	**First Degree Idioms**	CB	Lit	Lit
	EYB	Lit	Lit		DB	Fig	Fig
	HIBS	Lit	Fig		KTO	Lit	Fig
	KZC	Fig	Fig		YK	Lit	Fig
	KMO	Fig	Fig		GB	Lit	Fig
	YAG	Fig	Fig		BY	Fig	Fig
Third Degree Idioms	AAK	Fig	Fig	**Third Degree Idioms**	KAG	Fig	Fig
	BBK	Fig	Fig		EAO	Lit	Fig
	BD	Lit	Fig		ABG	Fig	Fig
	DS	Lit	Fig		EAOL	Lit	Lit
	HKBSC	Lit	Fig		GÖG	Fig	Fig
	GYB	Lit	Fig		SÜY	Lit	Lit

It is clearly interpreted that the number of the figurative answers given by the participant is higher than the literal answers. Out of the overall answers, 77% of them are interpreted as figuratively in the given tasks. Additionally, the vast majority of the figurative interpretations were for the familiar idioms. Only 34% of the familiar idioms were interpreted literally in both visual and in-context tasks.

4. 1. 3. The Third DS participant- (E***)

The third participant was a female and chronologically 15 years old, and she was evaluated as being at the age of 10 on the basis of her mental scores. She was attending the Özel Eğitim İş Uygulama Okulu and was also participating the intervention programme at the Special Education and Rehabilitation Center where the present study was carried out. As Table 11 indicates, the familiarity of the idioms has a profound role in interpreting the figurative understanding.

Table 11-

General distribution of answers for the tasks- The third DS participant- CA 15, MA 10

Idioms		**FAMILIAR**		**Idioms**		**UNFAMILIAR**	
		Visual	In-context			Visual	In-context
First Degree Idioms	KA	Lit	Fig	**First Degree Idioms**	CB	Fig	Lit
	EYB	Lit	Lit		DB	Lit	Fig
	HIBS	Lit	Fig		KTO	Lit	Fig
	KZC	Fig	Fig		YK	Lit	Fig
	KMO	Fig	Fig		GB	Lit	Lit
	YAG	Fig	Fig		BY	Lit	Lit
Third Degree Idioms	AAK	Fig	Fig	**Third Degree Idioms**	KAG	Lit	Lit
	BBK	Lit	Fig		EAO	Lit	Lit
	BD	Lit	Lit		ABG	Fig	Fig
	DS	Lit	Fig		EAOL	Lit	Lit
	HKBSC	Lit	Fig		GÖG	Lit	Fig
	GYB	Lit	Fig		SÜY	Lit	Lit

Table 11 depicts that this participant is less able to score the figurative answers in the visual tasks. Out of 24 visual tasks, only 6 was interpreted as figurative. That is, she performed 25% in figurative understanding of idioms in the idiom-picture matching tasks. It is also noted that when the idioms were given in context, the participant could easily interpret the figurative meaning. For the

familiar idioms, 10 out of 12 idioms were comprehended figuratively in idiom-in context tasks. Similarly, context has a significant role in determining the figurative understanding for unfamiliar idioms; nonetheless, it is not sufficient for this case. Only 5 out of 12 unfamiliar idioms were interpreted figuratively by this participant. In terms of semantic analyzability, this participant scored better figurative comprehension in the first degree idioms. While they performed 67% figurative interpretation in the familiar first degree idioms, they exhibited 33% performance in the unfamiliar first degree idioms.

4. 1. 4. The fourth DS participant – (T*** B***)

The fourth participant is a female and chronologically 15 years old, and she was evaluated as being at the age of 10 on the basis of her mental scores. She was attending the Özel Eğitim İş Uygulama Okulu with her peers and also was attending the additional intervention programme at the Special Education and Rehabilitation Center where the tasks were applied. Table 12 presents the anwers obtained from the tasks that are applied to the fourth participant.

Table 12-

General distribution of answers for the tasks- The fourth DS participant- CA 15, MA 10

Idioms		**FAMILIAR**		**Idioms**		**UNFAMILIAR**	
		Visual	In-context			Visual	In-context
First Degree Idioms	KA	Fig	Fig	**First Degree Idioms**	CB	Lit	Lit
	EYB	Lit	Lit		DB	Lit	Lit
	HIBS	Lit	Lit		KTO	Lit	Fig
	KZC	Fig	Fig		YK	Fig	Fig
	KMO	Fig	Fig		GB	Lit	Lit
	YAG	Fig	Fig		BY	Lit	Lit
Third	AAK	Lit	Lit	**Third**	KAG	Lit	Lit

Degree Idioms	BBK	Fig	Fig	**Degree Idioms**	EAO	Fig	Fig
	BD	Lit	Fig		ABG	Fig	Fig
	DS	Lit	Fig		EAOL	Lit	Lit
	HKBSC	Lit	Lit		GÖG	Lit	Fig
	GYB	Lit	Fig		SÜY	Fig	Fig

Table 12 shows that the fourth participant comprehended most of the familiar idioms figuratively in both tasks. Among the familiar idioms, she only interpreted the idioms *eline yüzüne bulaştırmak* and *her işe burnunu sokmak* literally. She has difficulty understanding the unfamiliar idioms, particularly the first-degree idioms. Out of the visual tasks, only 9 were intepreted as figurative, on the other hand, she performed 54% in figurative understanding of the idioms in the idiom-in context task. Still, context has a facililator affect on the comprehension of idiom. Again, the participant had better scores in the first degree idioms.

4.1.5. The fifth DS participant- (F***)

The fifth participant is a male and chronologically 21 years old, and he was evaluated as being at the age of 11 on the basis of his mental scores. He was a newly graduate and was attending the intervention programme in the Special Education and Rehabilitation Center where the present study was carried out. Table 13 presents the performance of the participant in each task showing his figurative and literal answers.

Table 13-

General distribution of answers for the tasks- The fifth DS participant-CA 21, MA 11

Idioms		**FAMILIAR**		**Idioms**		**UNFAMILIAR**	
		Visual	In-context			Visual	In-context
First Degree	KA	Lit	Fig	**First Degree**	CB	Lit	Lit
	EYB	Lit	Lit		DB	Lit	Fig

Idioms	HIBS	Lit	Lit	**Idioms**	KTO	Fig	Fig
	KZC	Fig	Fig		YK	Fig	Fig
	KMO	Fig	Fig		GB	Lit	Lit
	YAG	Lit	Fig		BY	Lit	Lit
Third Degree Idioms	AAK	Fig	Fig	**Third Degree Idioms**	KAG	Lit	Lit
	BBK	Fig	Fig		EAO	Fig	Fig
	BD	Lit	Lit		ABG	Fig	Fig
	DS	Lit	Fig		EAOL	Lit	Lit
	HKBSC	Lit	Lit		GÖG	Lit	Fig
	GYB	Lit	Fig		SÜY	Lit	Lit

Having mental age of 11, this participant with DS has scored better in familiar idioms. There is no significant difference between the first-degree idioms and third-degree idioms. However, the participant has better scores in the familiar idioms in contrast to the familiar ones. In terms of semantic analyzability of the idioms, this participant had distinctive scores. He was less able to score figurative understanding in the third degree idioms. He interpreted nearly half of the first degree idioms figuratively and also he has the same scores for the third degree of idioms.

4. 1. 6. The sixth DS participant- (İ***)

The sixth participant is a female and chronologically 15 years old, and she was evaluated as being at the age of 9 on the basis of her mental scores. She was attending the Özel Eğitim İş Uygulama Okulu with her peers and also was attending the additional intervention programme at the Special Education and Rehabilitation Center where the tasks were applied. Table 14 shows the answers elicited from the tasks given to the sixth participant.

Table 14-

General distribution of answers for the tasks- The sixth DS participant- CA 15, MA 9

Idioms		FAMILIAR		Idioms		UNFAMILIAR	
		Visual	In-context			Visual	In-context
First Degree Idioms	KA	Lit	Fig	**First Degree Idioms**	CB	Lit	Lit
	EYB	Lit	Lit		DB	Lit	Fig
	HIBS	Lit	Fig		KTO	Lit	Lit
	KZC	Fig	Fig		YK	Lit	Lit
	KMO	Fig	Fig		GB	Lit	Lit
	YAG	Fig	Fig		BY	Lit	Lit
Third Degree Idioms	AAK	Lit	Fig	**Third Degree Idioms**	KAG	Lit	Fig
	BBK	Fig	Fig		EAO	Lit	Lit
	BD	Lit	Fig		ABG	Lit	Fig
	DS	Lit	Lit		EAOL	Lit	Lit
	HKBSC	Lit	Lit		GÖG	Fig	Fig
	GYB	Lit	Fig		SÜY	Lit	Lit

As it is clearly seen in Table 14, this participant with DS has a better figurative understanding in familiar idioms. Moreover, she has scored 75% of the familiar idioms figuratively. Nevertheless, the comprehension rate of figurative answers differs in the unfamiliar idioms. This participant with DS has lower scores in unfamiliar idioms where she interpreted nearly 20% of the idioms figuratively. In terms of semantic analyzability, this participant scored better figurative comprehension in the first degree idioms. However, the case was opposite for the unfamiliar idioms. While he performed 67% figurative interpretation in the familiar first degree idioms, he exhibited 9% performance in the unfamiliar first degree idioms. It possible to interpret that this participant was evaluaed as at the age of 9 mentally, so her mental age would affect the process of idiom comprehension.

4.1.7. The seventh DS participant- (B***)

The seventh participant is a male and chronologically 15 years old, and he was evaluated as being at the age of 11 on the basis of his mental scores. He was attending the Özel Eğitim İş Uygulama Okulu with her peers and also was attending the additional intervention programme at the Special Education and Rehabilitation Center where the tasks were carried out. Table 15 shows the performance of the participant in each task showing his figurative and literal answers.

Table 15-

General distribution of answers for the tasks- The seventh DS participant- CA 15, MA 11

Idioms		**FAMILIAR**		**Idioms**		**UNFAMILIAR**	
		Visual	In-context			Visual	In-context
First Degree Idioms	KA	Fig	Fig	**First Degree Idioms**	CB	Lit	Lit
	EYB	Lit	Fig		DB	Lit	Fig
	HIBS	Lit	Fig		KTO	Lit	Lit
	KZC	Fig	Fig		YK	Lit	Lit
	KMO	Fig	Fig		GB	Lit	Fig
	YAG	Fig	Fig		BY	Lit	Lit
Third Degree Idioms	AAK	Fig	Fig	**Third Degree Idioms**	KAG	Lit	Lit
	BBK	Fig	Fig		EAO	Lit	Lit
	BD	Lit	Fig		ABG	Lit	Fig
	DS	Lit	Lit		EAOL	Fig	Fig
	HKBSC	Lit	Fig		GÖG	Fig	Fig
	GYB	Lit	Fig		SÜY	Lit	Lit

As shown in Table 15, the seventh participant, being at the age of 11 regarding the mental age, has better figurative understanding in familiar idioms, especially

in first degree idioms. Another notable finding reveals that when the idioms were given in context, the participant would easily access the figurative interpretation. For the familiar idioms, 11 out of 12 idioms were comprehended figuratively in idiom-in context tasks. Similarly, context has a significant role in determining the figurative understanding for unfamiliar idioms; nonetheless, it is not sufficient for this case. Only 5 out of 12 unfamiliar idioms were interpreted figuratively by this participant. In terms of semantic analyzability, it was clear that this participant scored better figurative comprehension in the first degree idioms. While they performed 80% figurative interpretation in the familiar first degree idioms, they exhibited 16% performance in the unfamiliar first degree idioms.

4.1.8. The eighth DS participant- (T*** F***)

The eighth participant is a male and chronologically 16 years old, but he was evaluated as being at the age of 9 on the basis of his mental scores. He was attending the Özel Eğitim İş Uygulama Okulu with her peers and also was attending the additional intervention programme at the Special Education and Rehabilitation Center where the tasks were carried out. Table 16 depicts the performance of the participant in each task including his figurative and literal answers.

Table 16-

General distribution of answers for the tasks- The eight DS participant- CA 15, MA 9

Idioms		**FAMILIAR**		**Idioms**		**UNFAMILIAR**	
		Visual	In-context			Visual	In-context
First Degree Idioms	KA	Lit	Fig	**First Degree Idioms**	CB	Lit	Fig
	EYB	Lit	Lit		DB	Lit	Lit
	HIBS	Lit	Lit		KTO	Lit	Lit
	KZC	Fig	Fig		YK	Lit	Lit
	KMO	Fig	Fig		GB	Lit	Lit

	YAG	Fig	Fig		BY	Lit	Lit
Third Degree Idioms	AAK	Lit	Fig	**Third Degree Idioms**	KAG	Lit	Lit
	BBK	Fig	Fig		EAO	Lit	Fig
	BD	Lit	Lit		ABG	Lit	Fig
	DS	Lit	Fig		EAOL	Lit	Lit
	HKBSC	Lit	Lit		GÖG	Lit	Fig
	GYB	Lit	Fig		SÜY	Fig	Fig

Table 16 shows that this participant has a better figurative comprehension in familiar idioms, whereas he has lower scores in the unfamiliar ones. It is worth highlighting the fact that this participant comprehends the meaning in context only when the idiom is a familiar one. In terms of semantic analyzability, this participant scored better figurative comprehension in the first degree idioms. While they performed 58% figurative interpretation in the familiar first degree idioms, they exhibited 8% performance in the unfamiliar first degree idioms.

Although we had a limited number of participants, the findings of the study still show an important point. Some of the participants who had 9 mental age performed figurative interpretation especially in the unfamiliar third degree idioms. This means that if an individual with Down syndrome is younger (mentally) and given an unfamiliar idiom, s/he tends to interpret the literal meaning instead of figurative one.

Regardless of chronological or mental age, familiarity of the idioms affects the figurative competence of the participants. As the processing of idioms is a demanding phenomenon, adding one more challenge, namely unfamiliarity, makes the processing even harder for the participants with DS. Moreover, like the typically developing peers, individuals with DS make use of context in the process of figurative interpretation of the idioms.

4.2. GENERAL FINDINGS AND PERFORMANCE EVALUATION OF IDIOMS BASED ON TYPES

In this section, the analysis of the idioms by focusing on the familiarity aspect is presented. The main goal here is to answer the second research question stated in Chapter 1.

RQ 2: When the familiarity and unfamiliarity of the idioms are taken as the basic factor; does the performance of DS individuals display certain changes in relation to;

(a) the first- and third-degree idioms,

(b) verbal and visual contexts in which the idioms are used?

The analysis of the familiar and unfamiliar idioms will be carried out respectively.

4.2.1. Analysis of the Familiar Idioms

This section includes the findings of the two tasks including 12 familiar idioms tested with a group of the participants with Down syndrome. Half of the idioms are first degree idioms like '*kafadan atmak, eline yüzüne bulaştırmak, her işe burnunu sokmak, karnı zil çalmak, kulak misafiri olmak, yüreği ağzına gelmek*'. The other half includes third degree idioms namely, '*ağzı açık kalmak*, *baş başa kalmak, burnunun dibinde, dişini sıkmak, her kafadan bir ses çıkmak, gözünün yaşına bakmamak*'.

4.2.1.1. **Analysis of the First-Degree Idioms**

As Şubaşı- Uzun (2001) puts it, the first-degree idioms are those also called as the full idioms. In terms of semantic compositionality, there is no one to one correspondence between the individual meaning of the constituents and the

whole figurative meaning of the idiom. The first-degree idioms are the type of idioms in which the idiomatization process in the brain is the weakest, since all the constituents have a connotational value, for this reason, the first-degree idioms are relatively difficult to interpret in comparison with the third-degree idioms. In the idiomatization process, these connotational counterparts conserves their literalness and thus intergrated in the process of idiomatization.

In Figure 7, the 6 first-degree idioms are analyzed according to the answers of the participants with DS.

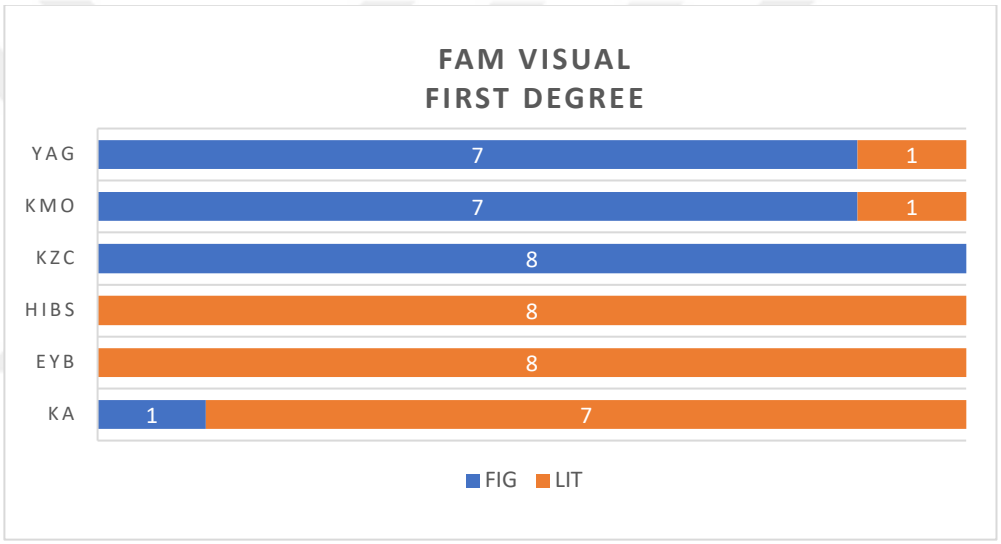


Figure 7. The first-degree idioms evaluated in idiom-picture matching task

Figure 7 illustrates the answers given to the first-degree idioms in idiom- picture matching task. It is indicated that idioms *her işe burnunu sokmak* and *eline yüzüne bulaştırmak* were interpreted literally by all of the participants with DS. Moreover, to the exception of one subject, 7 out of 8 participants with DS interpreted the idiom *kafadan atmak* literally. On the other hand, the participants with DS have performed better in half of the idioms. Furthermore, *yüreği ağzına gelmek* and *kulak misafiri olmak* seemed to be comprehended figuratively by 7 out of 8 participants with DS. In other words, almost all the participants with DS comprehended them figuratively.

Furthermore, in the idiom-picture matching task, the individuals with DS participated in the present study comprehended the first-degree idioms more figuratively than the third-degree idioms. They achieved almost 50% figurative comprehension.

In Figure 8, the analysis of the first-degree idioms in idiom-in-context task is shown. The findings of the idiom in-context-task revealed that participants with Down syndrome make use of the given context. Like typically developing participants, DS participants were able to understand the meaning of the idiom by making an inference from the clues embedded in the context that requires complex mental ability.

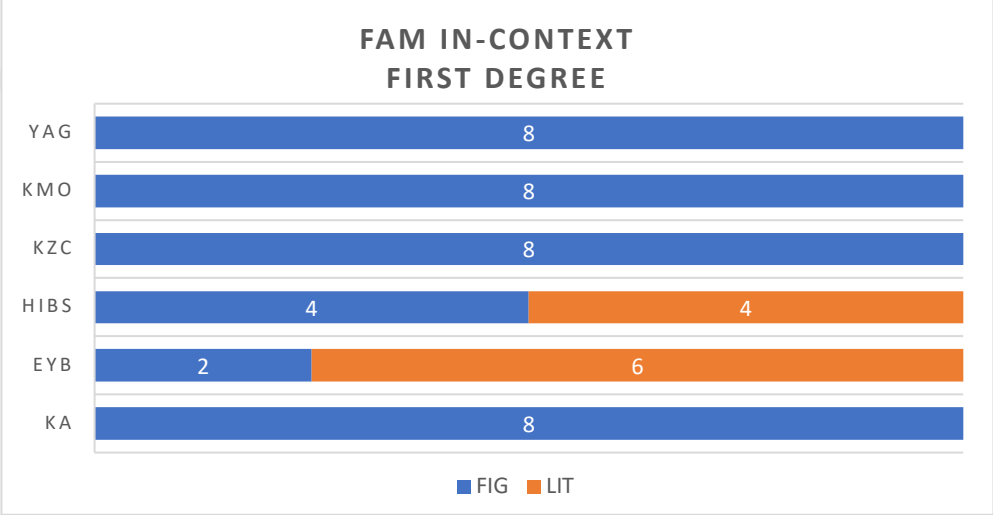


Figure 8. The first-degree idioms evaluated in idiom in-context task

The evaluation of Figure 8 depicting the first-degree idioms in idiom- in-context task revealed that the idioms *kafadan atmak, karnı zil çalmak, kulak misafiri olmak* and *yüreği ağzına gelmek* were interpreted figuratively by all the participants with DS. On the other hand, 4 out of 8 participants perceived the idiom *her işe burnunu sokmak* as figuratively. As opposed to the rest of the

idioms, only in one idiom *eline yüzüne bulaştırmak,* 2 out of 8 participants with DS comprehended the idiom figuratively.

4.2.1.2. The Analysis of Third-Degree Idioms

Acoording to Subaşı-Uzun (2001), the third degree idioms are the type of idioms whose every individual component assign to the figurative interpretations of the idiom. Thanks to this feature of this type of idioms, individuals can better comprehend the figurative meaning by making use of the semantic representations of each component.

In Figure 9, 6 third degree idioms are analyzed based on the answers of the participants with DS in the idiom-picture matching tasks.

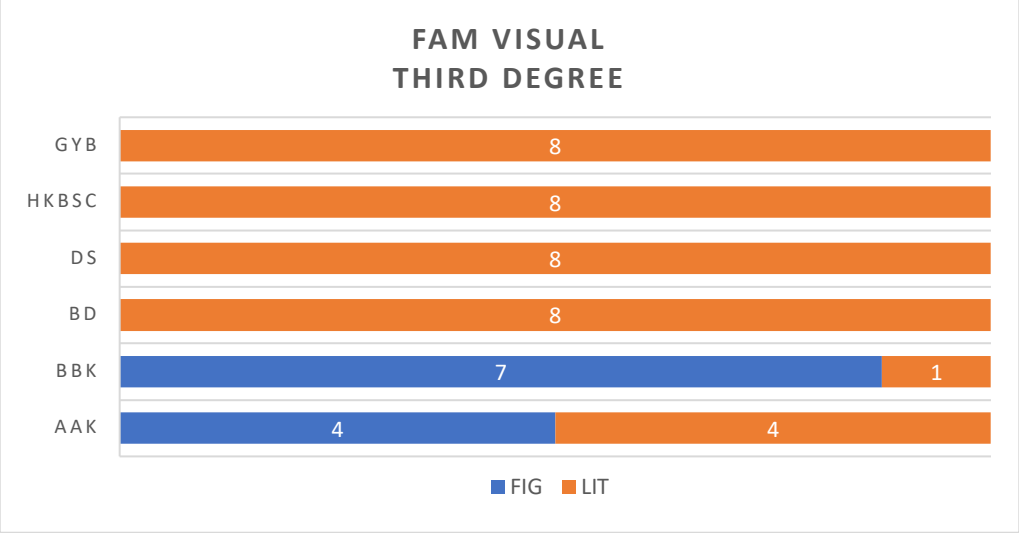


Figure 9. The third-degree idioms evaluated in idiom-picture matching task

It is apparent that all of the participants with DS interpreted idioms *her kafadan bir ses çıkmak, gözünün yaşına bakmamak*, and *dişini sıkmak* and *burnunun dibinde* literally in idiom-picture matching task. On the other hand, while half of the participants interpreted the idiom *ağzı açık kalmak* figuratively, the other half comprehended it literally. Almost majority of the participants, however, interpret the idiom *baş başa kalmak* figuratively. This striking discrepancy could be linked

to the task itself. On the one hand, the visual describing the literal meaning of the idiom is depicted in a scene with two men whose heads are suck to each other. On the other hand, the visual depicting the figurative meaning of the idiom includes a woman and man eating a romantic dinner together. Most of the participants with DS (7 out of 8) selected the second picture depicting the figurative meaning of the idiom which is more probable to be seen in their daily lives.

Another noteworthy finding is that the third-degree idioms were perceived more literally when compared with the first-degree idioms. This finding is in contrast with what we hypothesized earlier in Chapter 1. Although the results of other studies indicated that most of the children attempted to do compositional analysis and they discovered that assigning independent meanings to the different constituents of idioms and combining them to get the figurative interpretation was easier. (Kara, 2015; Arıca-Akkök, 2008). In our case, a limited number of participants with DS somehow performed better in the first degree idioms in comparison with the typically developing peers.

Figure 10 portrays the findings of the third-degree idioms tested in the idiom in-context task. It is apparent that the context has a facilitating effect in comprehending the figurative meaning of the idioms. Two out of 6 third degree idioms were comprehended figuratively by all of the participants in idiom in-context task. In two idioms *dişini sıkmak* and *burnunun dibinde*, 5 out of 8 participants came up with figurative interpretation.

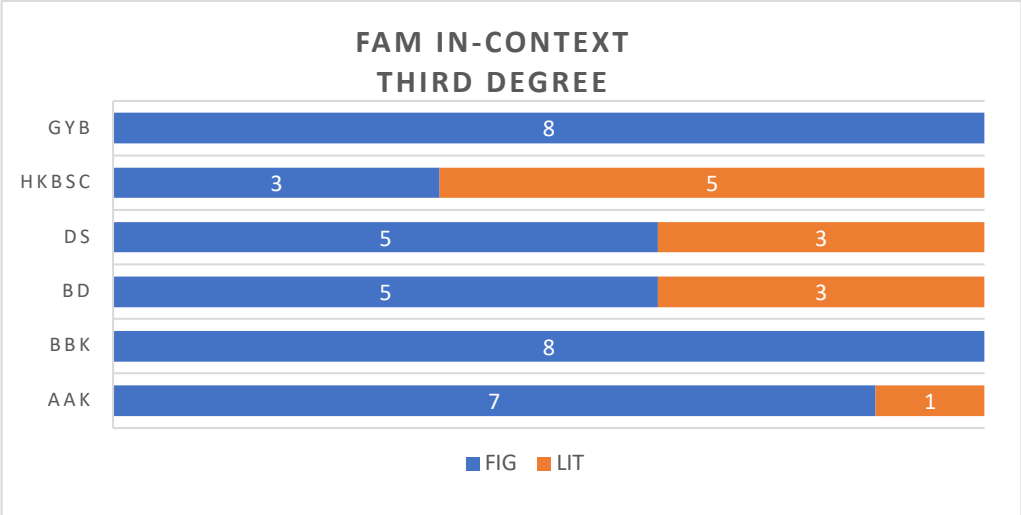


Figure 10. The third-degree idioms evaluated in idiom in-context task

As it is shown in Figure 10, a relatively notable difference is seen in two idioms- *her kafadan bir ses çıkmak* and *ağzı açık kalmak.* The participants with DS had difficulty comprehending the figurative meaning even when the idiom was provided in the context. For the idiom *her kafadan bir ses çıkmak,* the context includes a short story about a family who is planning to make an activity together for the weekend. Every member of the family has his/her own suggestion and nobody can make a deal to a common activity, thus they cannot go anywhere to enjoy. At this point, participants were expected to comment on the figurative meaning but 3 of them failed to understand the context itself.

The overall findings of the familiar idioms support the hypothesis proposed in Chapter 1. This hypothesis postulates that the contextual clues are assumed to be facilitating factors in the comprehension of idioms, especially among the participants with DS. The participants with DS interpreted familiar idioms figuratively particularly in the idiom in-context tasks. Like DS counterparts, typically developing subjects are also good at comprehending the figurative meaning of the idiom derived from the context.

The findings of this study are consistent with those of Levorato and Cacciari (2004) in the sense that the comprehension of the idiom is highly dependent on the ability to be familiar with the figurative meaning of the idiom.

Another finding also highlights the interpretation that the first-degree idioms are more figuratively comprehended by the participants with DS. This finding supports the idea that 'figurative meaning has an advantage over the literal one in idiom' (Almhamood, 2014). In other word, these kinds of idioms that are highly conventionalized and well known by many users of the language are probably understood without the influence of their individual words (Titone and Connie, 1999). As stated before, first degree idioms are those in which the semantic components preserve their connotational value. The fact that there is no one to one correspondence between the components of the first degree idioms and the correct figurative meanings to be assigned makes the comprehension more difficult; however, for those typical speakers who have a good mastery of the native language in the figurative sense, this fact normally poses little or no problem.

4.2.2. Analysis of Unfamiliar Idioms

In this section, findings of the two tasks including 12 unfamiliar idioms given to the participants with Down syndrome are presented. One half of the unfamiliar idioms include the first-degree idioms such as '*diş bilemek, çiçeği burnunda, karnı tok olmak, yüz karası, göz(ünü) boyamak, beyin yıkamak'* and the other half includes third degree idioms like '*karın ağrısı el ayak öpmek, aklı başından gitmek, elinin altında olmak, gözünün önüne gelmek, sırtüstü yatmak*.'. The analyses of the first-degree idioms and the third-degree idioms will be dealt with respectively.

4.2.2.1. Analysis of First-Degree Unfamiliar Idioms

The initial evaluation of the first-degree idioms used in the idiom- picture matching task revealed that there is a notable decrease in the figurative interpretation of the participants with DS. As shown in Figure 11, the idiom *göz(ünü) boyamak* was interpreted literally by all of the participants. Moreover, the idioms *diş bilemek*, *çiçeği burnunda*, *karnı tok olmak* and *beyin yıkamak* were perceived as literally by the majority of the participants. In other words, only one out of 8 participants comprehended them figuratively as expected.

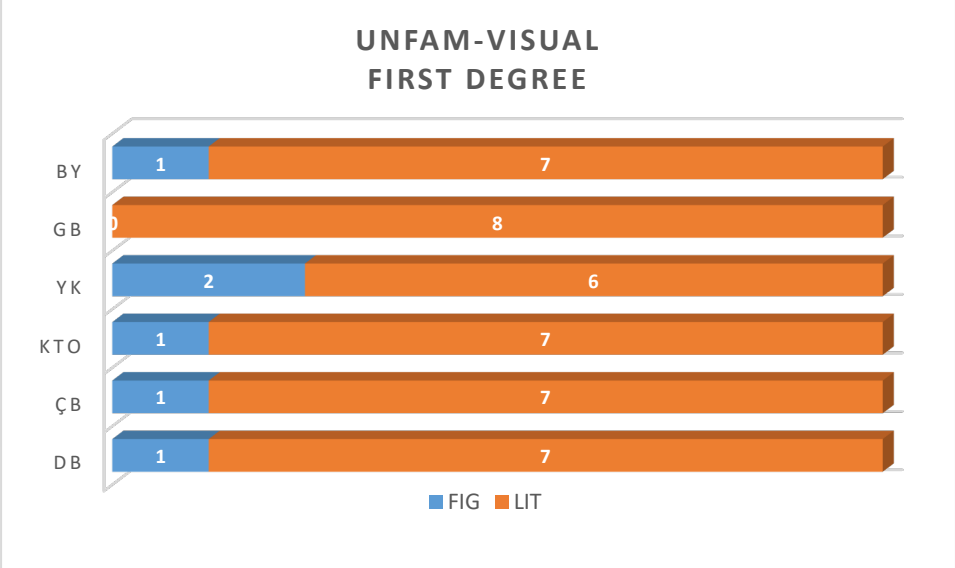


Figure 11. The first-degree unfamiliar idioms evaluated in idiom- picture matching task

Another finding is that the familiarity has a profound effect on the interpretation of the idioms. The figurative answers of the participants with DS tended to decrease as the familiarity of the idiom decreases. In other words, the participants with DS perceived the unfamiliar idioms, especially the first degree idioms, more literally. The participants with DS showed an approximately 13 % figurative understanding of the idiom. This supports the idea proposed by Connie (1994a) that the frequency with which an individual encounters a word in any form regarding the idiom familiarity has a profound effect on the figurative comprehension of the idioms. All in all, the degree of familiarity contributes to the understanding of figurative competence of the participants with DS.

4.2.2.2. Analysis of Third-Degree Idioms

Figure 12 shows the analysis of the third-degree idioms. These are unfamiliar idioms tested in the idiom-in-context task. In terms of the effect of the context on the perception, it is assumed that the context has still an effect. However, participants with DS offer more literal understanding to the questioned idioms when another variable such as unfamiliarity was added to the idiom.

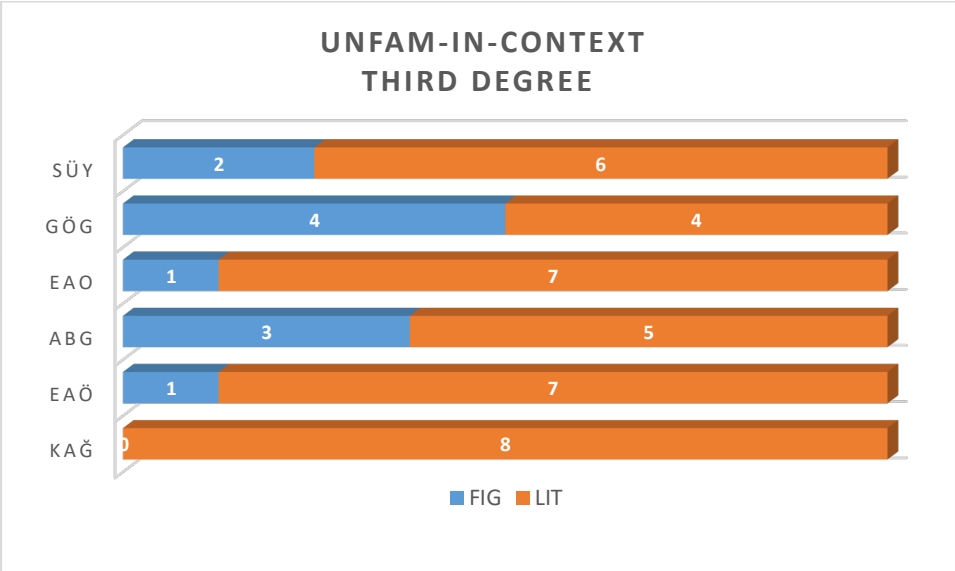


Figure 12. The third-degree idioms evaluated in idiom in-context task

As it is seen in Figure 12, the idiom *karın ağrısı* was perceived literally again in the idiom-in-context task. While the idiom *göz(ünün) önüne gelmek* was answered figuratively by half of the participants with DS.

The contextual information is having the appearance of limited contribution to the performances of DS participants, especially when they were introduced by unfamiliar idioms. Based on this, the participants gained 23% figurative comprehension scores. In the scope of this study, the familiarity of the idioms is a significant indicator when compared with the effect of the contextual back-up. To put it differently, for the individuals with DS taking part in the present study, the effect of familiarity of the idiom outweighs the effect of context while comprehending the figurative meaning.

4. 3. AGE- BASED ANALYSIS

The present section aims to address the third and the fourth research questions mentioned in Chapter 1:

RQ.3: *Depending on the results of the applied tests and tasks, in what ways does the performance of DS individuals differ from that of the chronological age peers?*

RQ.4: *When the mental age test scores of DS individuals and their figurative language test and task scores are taken into consideration, to what extent is their performance similar to their typically developing mental age peers?*

The present section provides the analyses of the participants with DS focusing on certain age-based matching criteria with typical peers. The main aim is to clarify how the performances of the participants with DS differ from those of mentally and chronologically compared peers. The results are presented on the basis of each of the tested idioms. For every idiom, two figures are supplied for each given task. The lines on the figures indicate the given answers of the participants. Blue lines are used for DS participants, orange lines are for typically developing chronologically matched peers, and grey lines are for typically developing mentally matched peers.

4.3.1. Familiar Idioms

In this section, the findings of 12 familiar idioms obtained through age- based comparisons will be discussed. The findings are addressed within two

subsections: the analysis of first-degree idioms and the analysis of third-degree idioms.

4.3.1.1. Analysis of First-Degree Idioms

In the following section, the 6 first-degree idioms tested in the present study are analyzed in detail by making age-based comparisons between participants. The idioms investigated will be analyzed respectively. The idioms are namely *kafadan atmak, eline yüzüne bulaştırmak, her işe burnunu sokmak, karnı zil çalmak, kulak misafiri olmak,* and *yüreği ağzına gelmek*.

4.3.1.1.1. Analysis of *Kafadan atmak*

The idiom *kafadan atmak* could be literally translated as 'to throw from the head'. However, it figuratively means 'to make up something' or 'take a shot in the dark'. Figure 13 shows the comparison of the figurative and literal answers of all the participants.

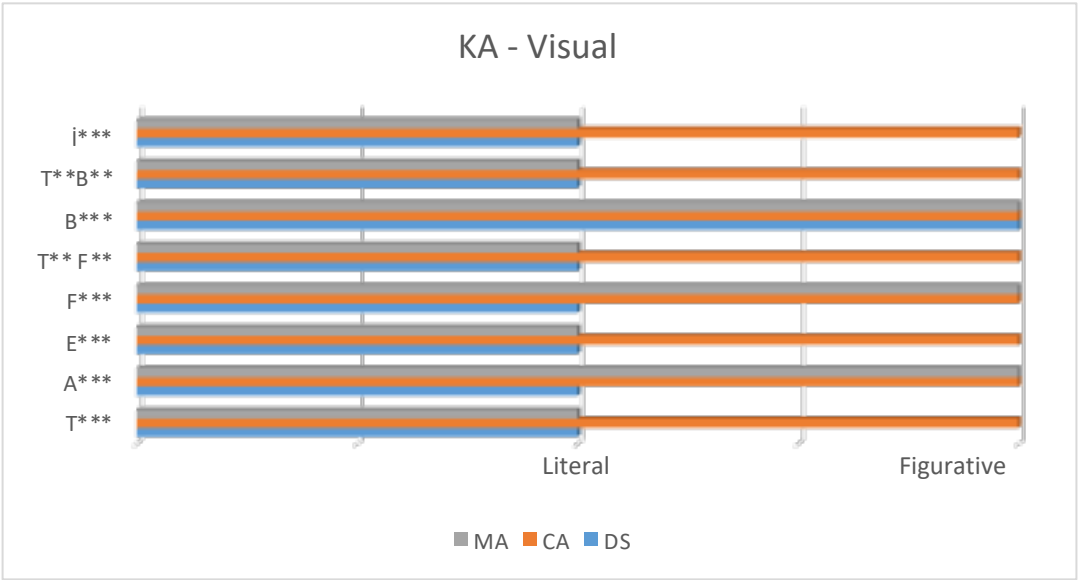


Figure 13. The idiom *kafadan atmak* in idiom-picture matching task

As presented in Figure 13, 7 out of 8 DS participants interpreted the idiom *kafadan atmak* literally. One of the participants with DS gave the figurative

answer in this idiom-picture matching task. Interestingly, half of the mentally compared peers seemed to have literal conceptualization this task as well. Here, the chronological age peers have all conceptualized *kafadan atmak* figuratively.

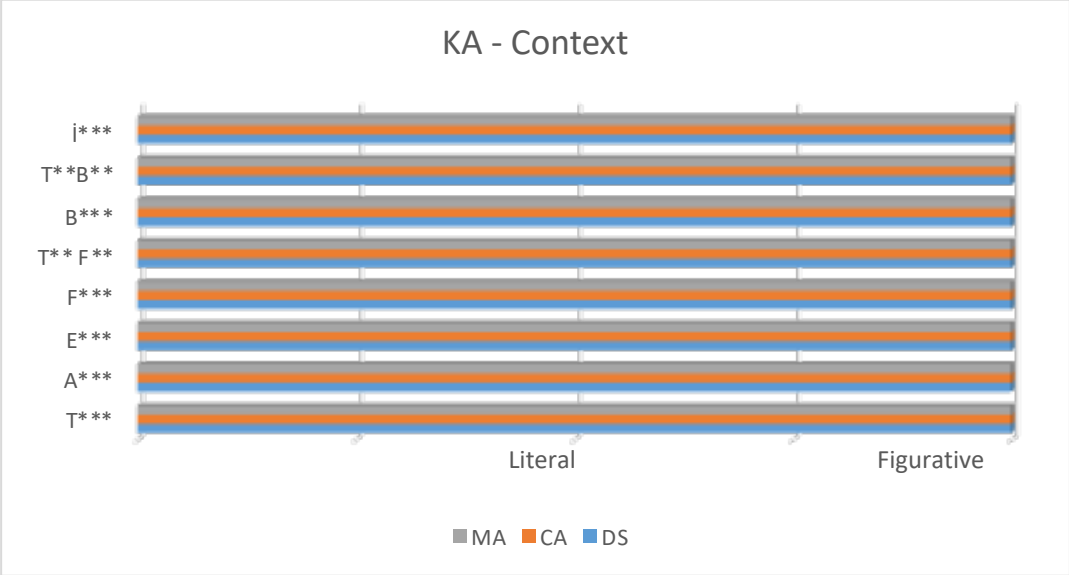


Figure 14. The idiom *kafadan atmak* in idiom-in-context task

Figure 14 illustrates the literal and figurative answers given by all the participants in the idiom-in context task. All of the participants were able to understand the meaning of *kafadan atmak* as 'to conjure up which is not real'. This finding could simply reflect the fact that if the idiom is backed up with a context, DS participants can easily comprehend the figurative meaning of the questioned idiom.

4.3.1.1.2. Analysis of *Eline yüzüne bulaştırmak*

The idiom *eline yüzüne bulaştırmak* could be literally translated as 'to spread into your hand and face'. However, it figuratively means 'ruin or spoil something' or 'to make a hash of something'. Figure 15 demonstrates the distribution of literal and figurative answers given by all the groups of participants. All the participants with DS gave literal answers to the idiom *eline yüzüne bulaştırmak* in idiom- picture matching task. They selected the visual depicting a baby who

eats his meal and literally spills it all over his feeding chair. The meal is spilled everywhere, especially on the child's face and hands. However, all the chronologically and mentally age compared peers gave figurative answers selecting the visual depicting the figurative meaning. The visual of figurative meaning includes a man who tries to drive a nail on the wall but happens to damage the whole wall.

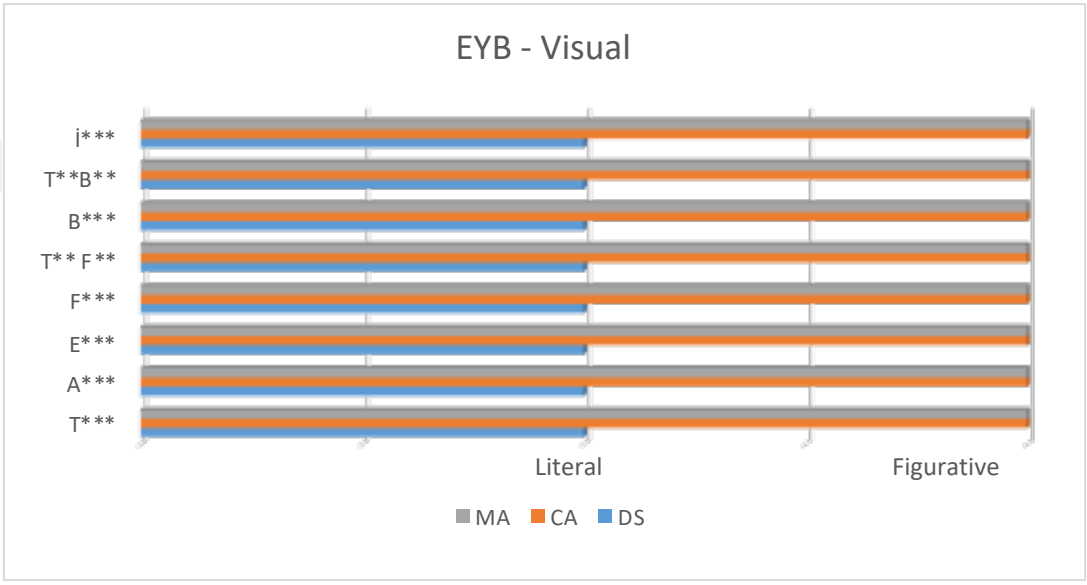


Figure 15. The idiom *eline yüzüne bulaştırmak* in idiom-picture matching task

In Figure 15, the distribution of literal and figurative answers given by all the participants are shown. All the chronological and mental age compared peers answered the idiom figuratively.

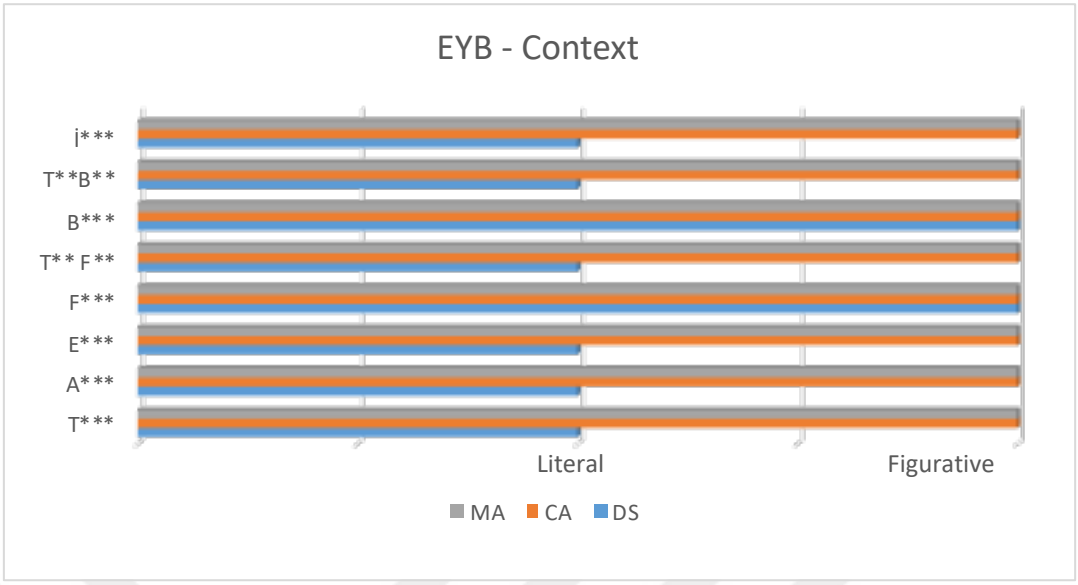


Figure 16. The idiom *eline yüzüne bulaştırmak* in idiom-in-context task

Figure 16 also reveals the least figuratively answered idiom in the present study. Although the idiom in-context task is tested, only 2 out of 8 participants with DS comprehended the idiom figuratively. They showed a rate of 25% success in figurative comprehension.

4.3.1.1.3. Analysis of *Her işe burnunu sokmak*

The idiom *her işe burnunu sokmak* could be literally translated as ‘to put in your nose into every job’. However, it figuratively means ‘to interfere in’ or ‘to put one’s nose in’. Figure 17 shows the distribution of literal and figurative answers given by all the participants. Although both mentally compared typical participants and chronologically compared typical participants comprehended the idiom *her işe burnunu sokmak* figuratively, all the participants with DS interpreted the idiom literally.

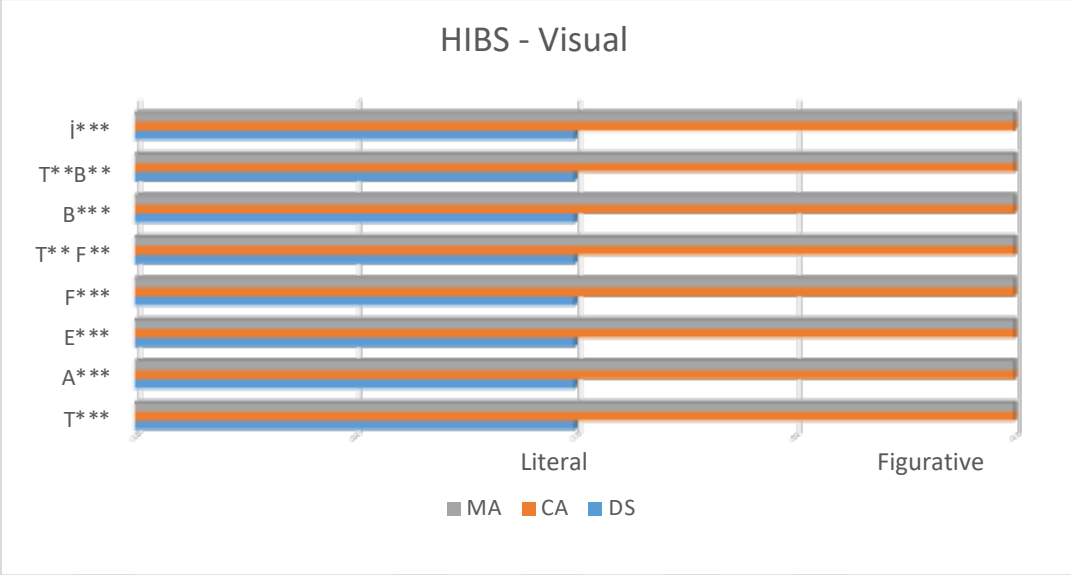


Figure 17. The idiom *her işe burnunu sokmak* in idiom-picture matching task

The idiom *her işe burnunu sokmak* is one of the idioms that was literally comprehended by all the participants with DS.

Figure 18 shows the answers of all participants to the idiom *her işe burnunu sokmak,* which was tested through idiom in-context task.

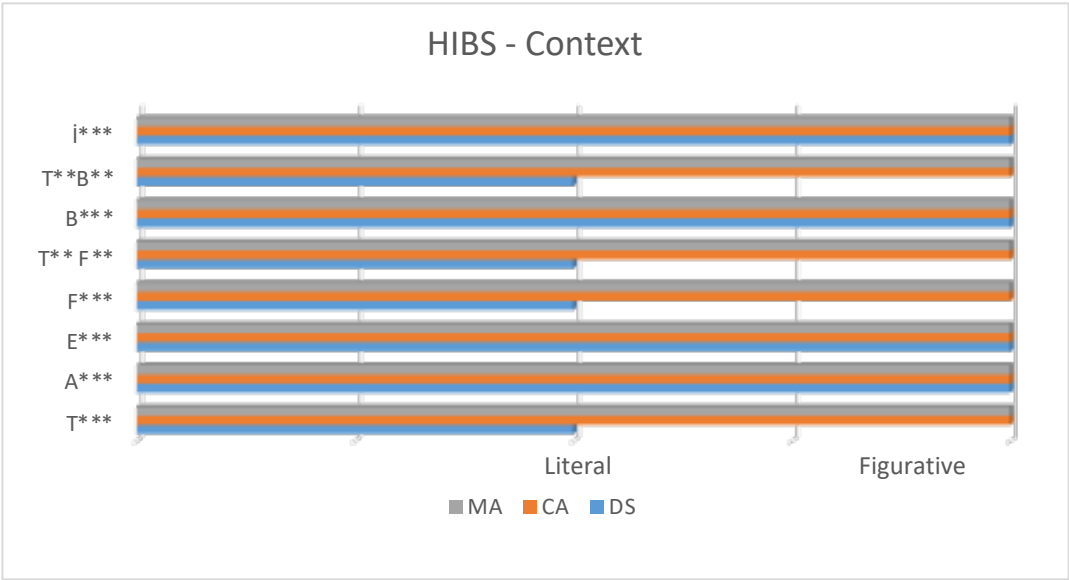


Figure 18. The idiom *her işe burnunu sokmak* in idiom-in-context task

As illustrated in Figure 18, half of the participants with DS conceptualized *her işe burnunu sokmak* figuratively in idiom in-context task. The other half answered the idiom as literal despite having been provided with the context. That is to say, they accomplished 50% comprehension in this task.

4.3.1.1.4. Analysis of *Karnı zil çalmak*

The idiom *karnı zil çalmak* could be literally translated as 'one's belly is ringing'. However, it figuratively means 'to feel peckish' or 'to be starving'. Figure 19 shows that all the participants tested, including participants with DS, comprehended *karnı zil çalmak* figuratively in idiom-picture matching task. All the participants selected the visual depicting the figurative meaning of the idiom. The visual includes a man who is very hungry and is touching his stomach, dreaming about some delicious meals.

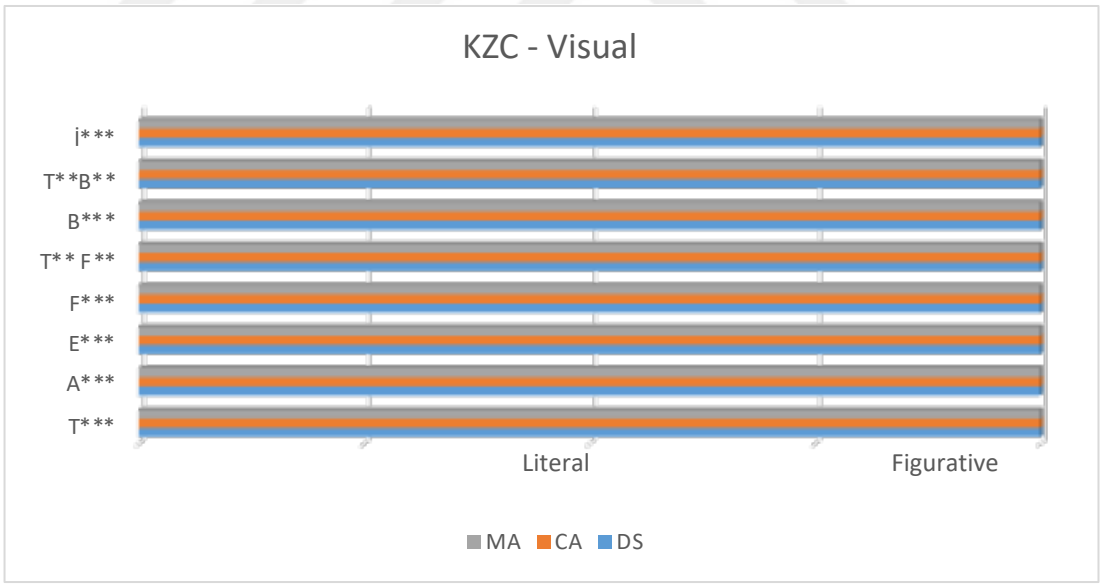


Figure 19. The idiom *karnı zil çalmak* in idiom-picture matching task

The idiom *karnı zil çalmak* is the only idiom that was interpreted figuratively by all the participants. Furthermore, within the scope of this study, *karnı zil çalmak* was comprehended figuratively in all of the tasks.

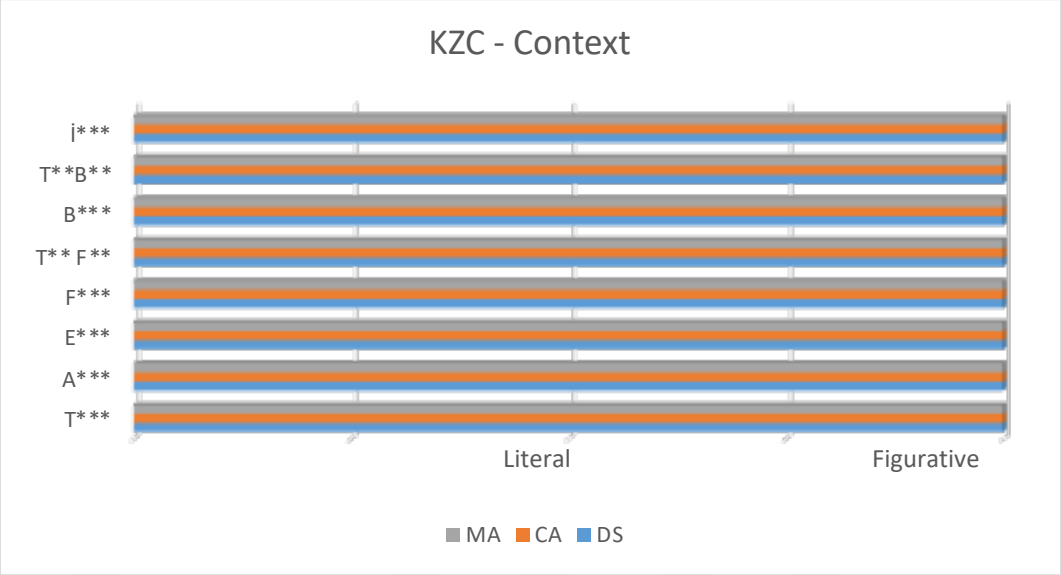


Figure 20. The idiom *karnı zil çalmak* in idiom-in-context task

As illustrated in Figure 20, *karnı zil çalmak* was conceptualized figuratively in idiom in-context task by all the participants. It could be due to its common usage in the daily lives of human beings.

4.3.1.1.5. Analysis of *Kulak misafiri olmak*

The idiom *kulak misafiri olmak* could be literally translated as ‘to be guest to the ear’’. However, it figuratively means ‘to eavesdrop’ or ‘to listen in (usually willfully)’. Figure 21 shows the distribution the literal and figurative answers given to the idiom *kulak misafiri olmak* in idiom-picture matching task.

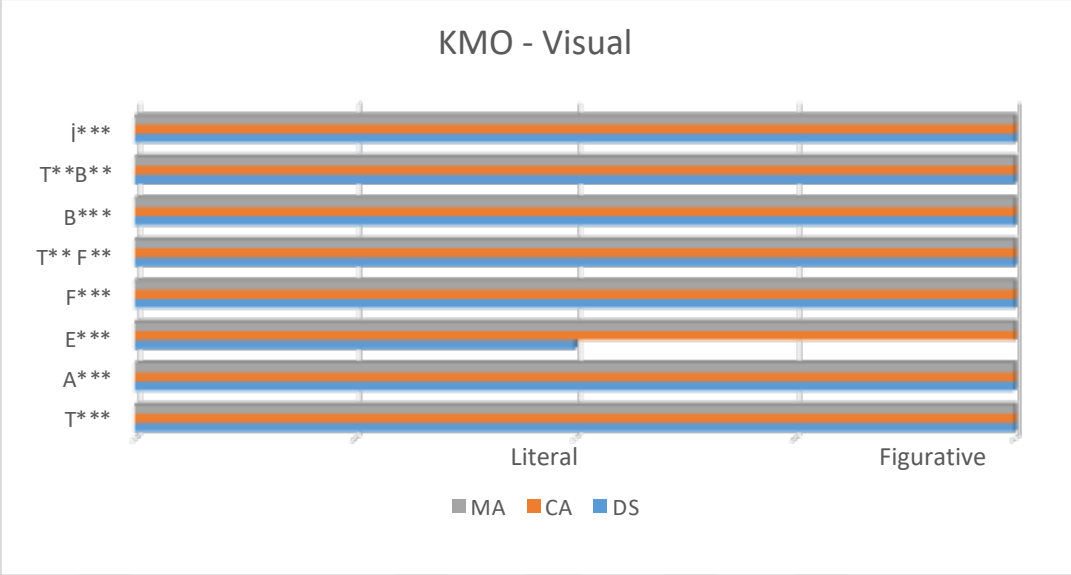


Figure 21. The idiom *kulak misafiri olmak* in idiom-picture matching task

Figure 21 shows that 7 out of 8 participants perceived the idiom figuratively. The participants with DS have scored 88% figurative understanding of *kulak misafiri olmak i*n the idiom- picture matching task.

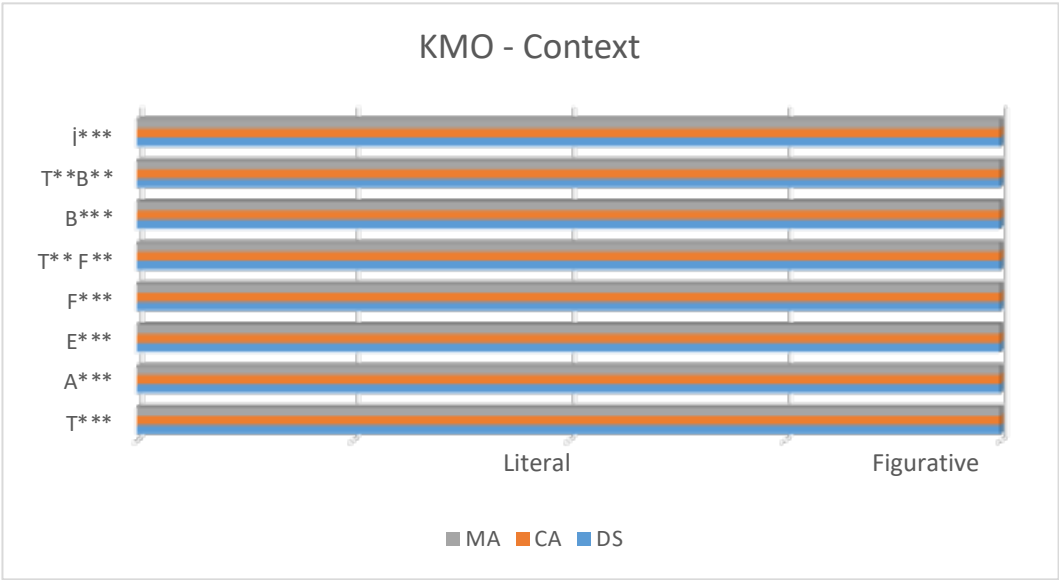


Figure 22. The idiom *kulak misafiri olmak* in idiom-in-context task

As seen in Figure 22, all the participants who took part in the present study comprehended the idiom *kulak misafiri olmak* figuratively in idiom in-context task.

4.3.1.1.6. Analysis of *Yüreği ağzına gelmek*

The idiom *yüreği ağzına gelmek* could be literally translated as 'one's heart comes to his/her mouth'. However, it figuratively means 'to have the heart in the mouth' or 'your heart sinks into your boots'. Figure 23 depicts both literal and figurative answers given to the idiom by all of the participants.

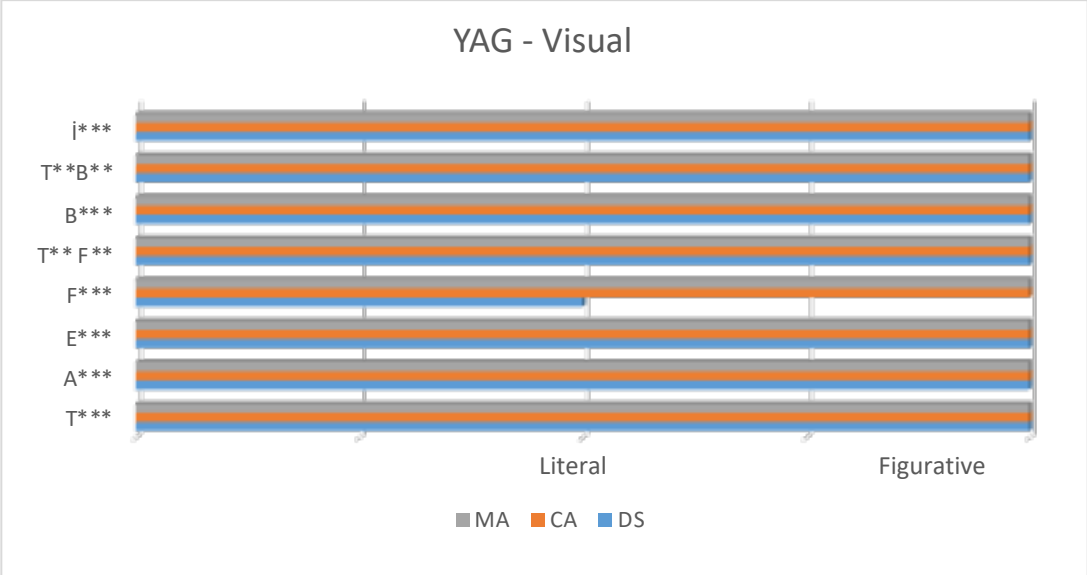


Figure 23. The idiom *yüreği ağzına gelmek* in idiom-picture matching task

As Figure 23 indicates, all the chronologically and mentally compared typically developing peers comprehended the idioms figuratively. While 7 out of 8 participants with DS gave figurative answers to the idiom, only one participant interpreted it literally.

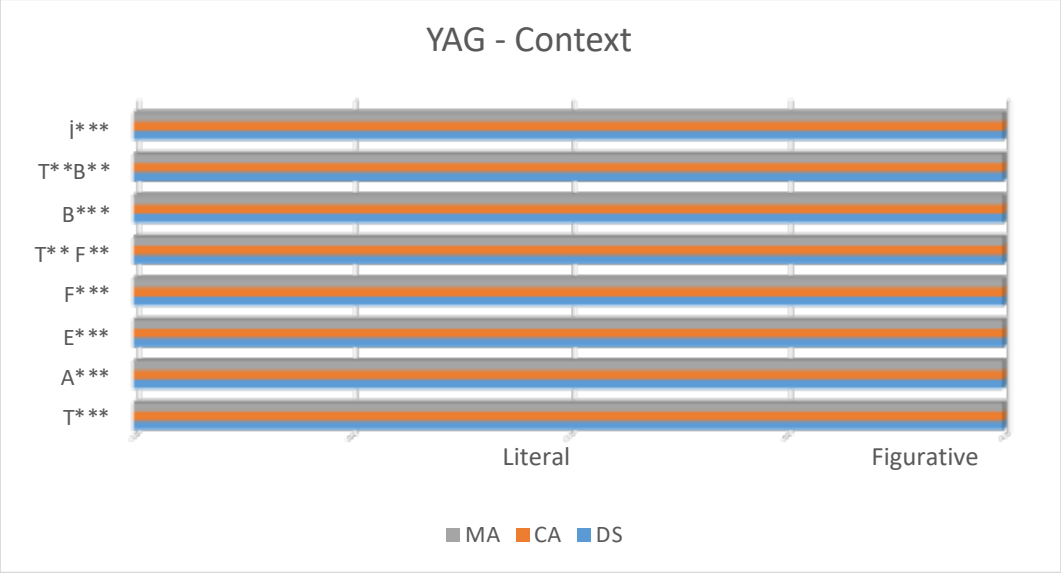


Figure 24. The idiom *yüreği ağzına gelmek* in idiom-in-context task

As shown in Figure 24, the idiom *yüreği ağzına gelmek* was answered figuratively by all the participants in idiom in-context task.

4.3.1.2. Analysis of Third-Degree Idioms

In the following section, the 6 third-degree idioms questioned in the present study are analyzed in detail by making age-based comparisons between participants. The idioms in question will be analyzed respectively. The idioms are: *ağzı açık kalmak, baş başa kalmak, burnunun dibinde, dişini sıkmak, her kafadan bir ses çıkmak,* and *gözünün yaşına bakmamak.*

4.3.1.2.1. Analysis of *Ağzı açık kalmak*

The idiom *ağzı açık kalmak* could be literally translated as ‘to keep mouth open’. However, it figuratively means ‘to be alone together with someone’. Figure 25 shows a comparison of the literal and figurative answers of the three groups of the participants. The answers of DS participants are shown with blue bar, their chronologically compared peers with orange bar, and their mentally compared peers with grey bar. The same procedure will be applied in the rest of the study.

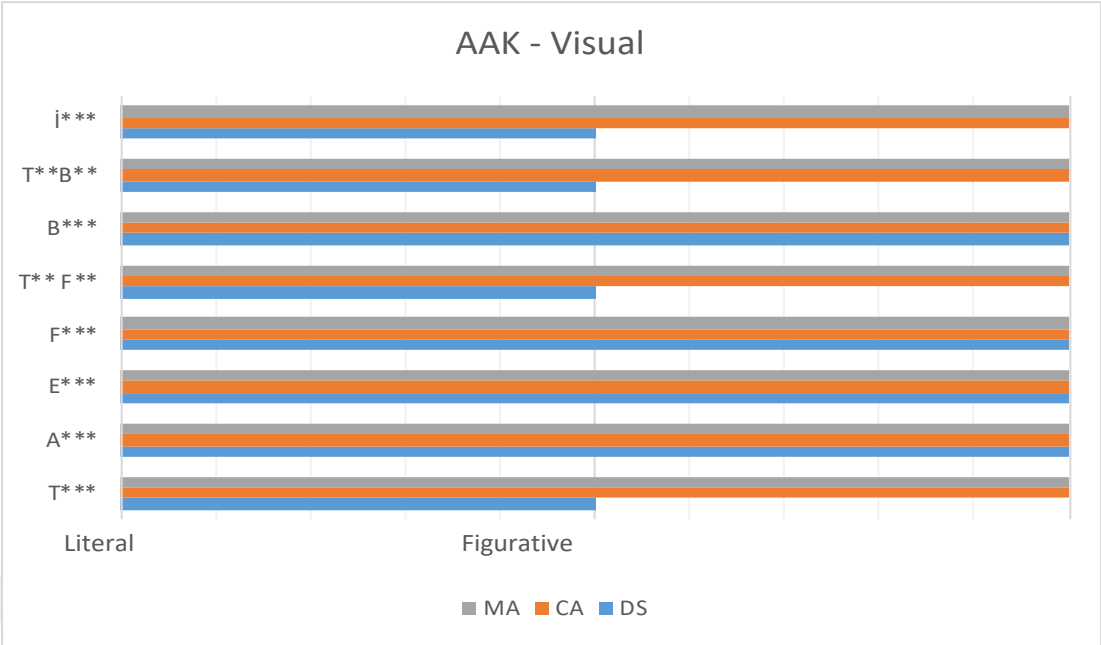


Figure 25. The idiom *ağzı açık kalmak* in idiom-picture matching task

As it is seen in Figure 25, half of the DS participants conceptualized the idiom - *ağzı açık kalmak* figuratively in idiom-picture matching task. Compared to their chronological age peers who conceptualized the idiom figuratively, participants with DS gained an average score in this task.

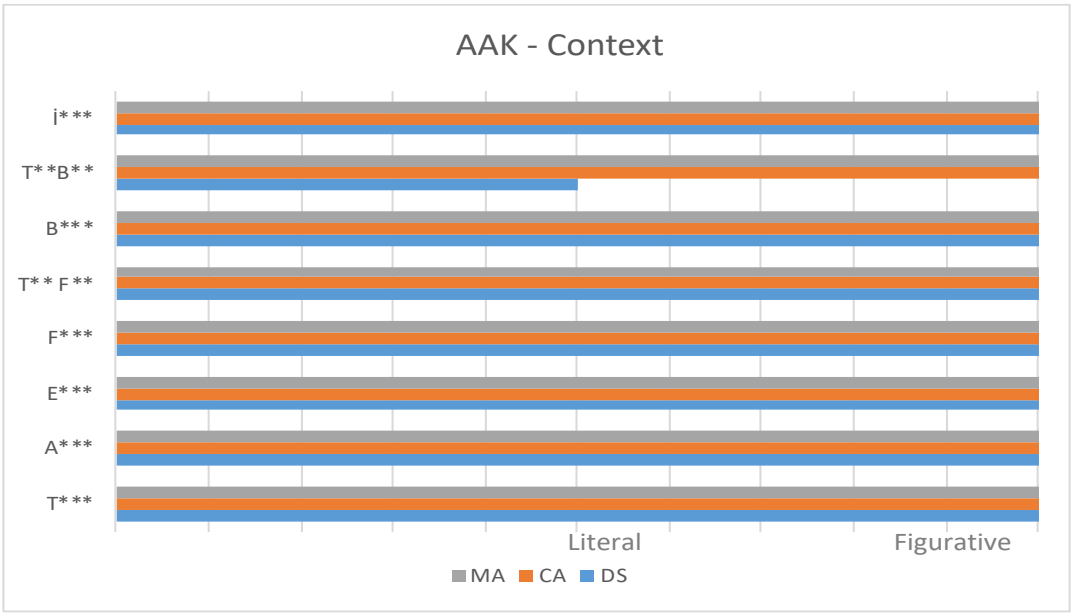


Figure 26. The idiom *ağzı açık kalmak* in idiom-in-context task

On the other hand, Figure 26 indicates that almost all the participants, 7 out of 8, with DS interpreted the idiom *ağzı açık kalmak* figuratively in idiom-in-context task. The percentage of figurative comprehension of DS individuals increased from 50% to 88%. It can be mentioned that DS participants were able to understand the meaning on the basis of context.

4.3.1.2.2. Analysis of *Baş başa kalmak*

The idiom *baş başa kalmak* could be literally translated as 'to stay with head-to-head'. However, it figuratively means 'to be alone together with someone'. Figure 27 includes the answers of participants for the idiom *baş başa kalmak* in idiom-picture matching task. Almost all the participants gave figurative answers to the idiom task.

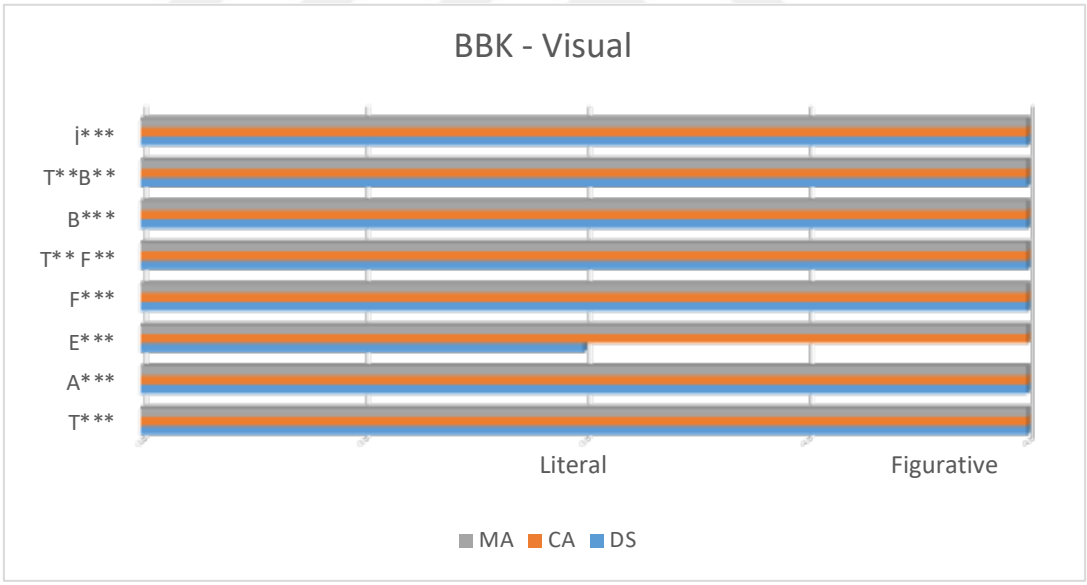


Figure 27. The idiom *baş başa kalmak* in idiom-picture matching task

As shown in Figure 27, one out of 8 DS participants comprehended *baş başa kalmak* literally, while all the rest of the participants interpreted the idiom figuratively.

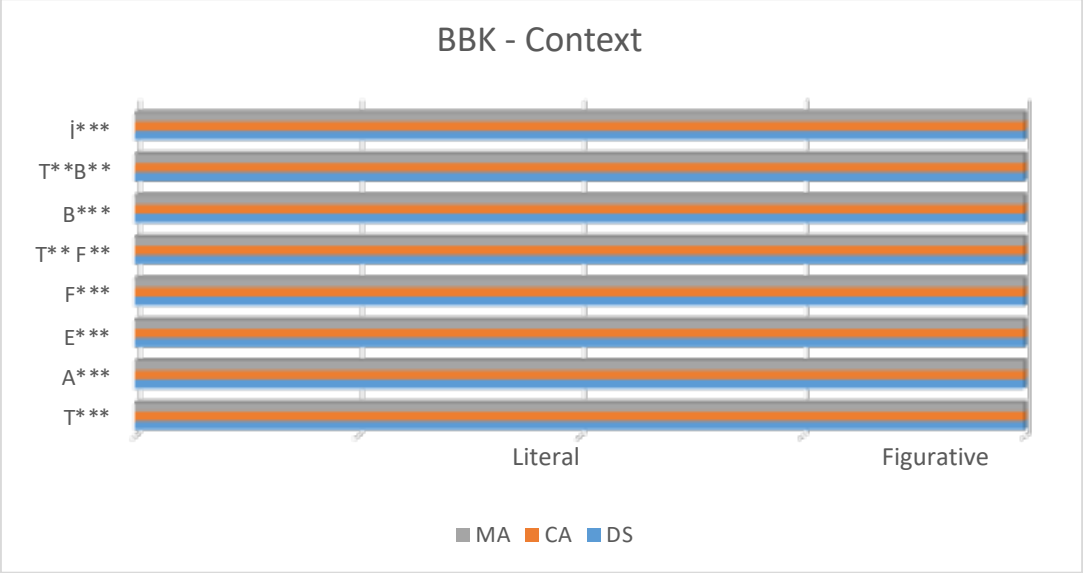


Figure 28. The idiom *baş başa kalmak* in idiom-in-context task

Figure 28 depicts all the figurative answers of the participants. All the DS participants and their peers understood *baş başa kalmak* as 'to be alone with someone in order to speak up something very special or hidden'.

4.3.1.2.3. Analysis of *Burnunun dibinde*

The idiom *burnunun dibinde* could be literally translated as 'at the bottom of somebody's nose'. However, it figuratively means 'right under someone's very nose'. It has also a synonymous idiomatic expression like 'if it was a snake, it would bite you'. Figure 29 illustrates the literal and figurative answers given by all the participants in idiom-picture matching task. In the present study, half of the participants with DS answered *burnunun dibinde* figuratively by selecting the visual depicting a man who has a flower just under his nose. Five out of 8 mental age peers also answered the questioned idiom literally. However, all of the chronologically compared peers answered it figuratively.

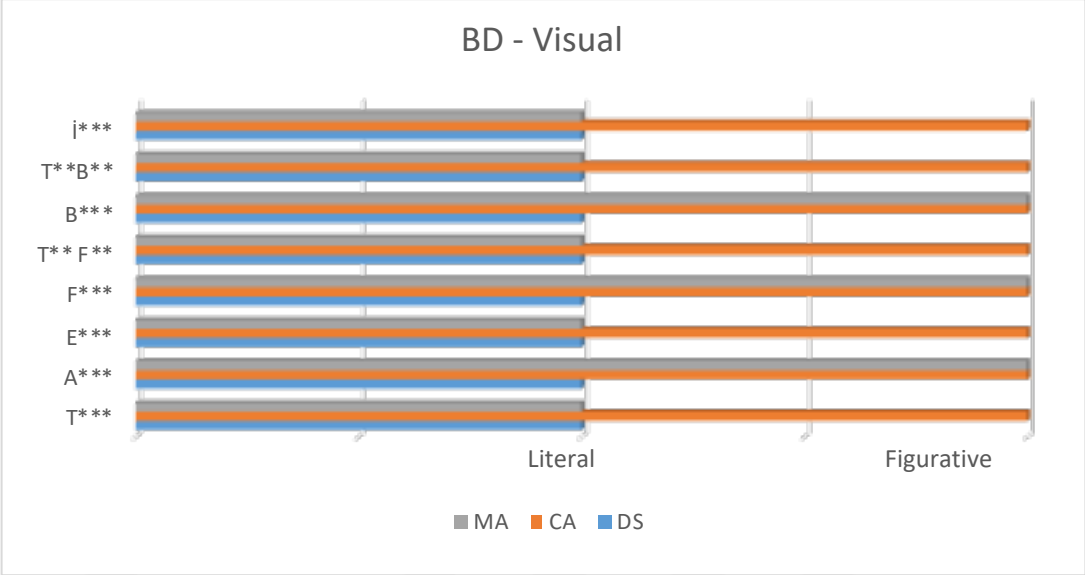


Figure 29. The idiom *burnunun dibinde* in Idiom-picture matching task

The idiom *burnunun dibinde* is one of the least figuratively answered idioms in the presented study in the idiom-picture matching task. On the other hand, in idiom-in-context task, most of the participants opted for the figurative answers.

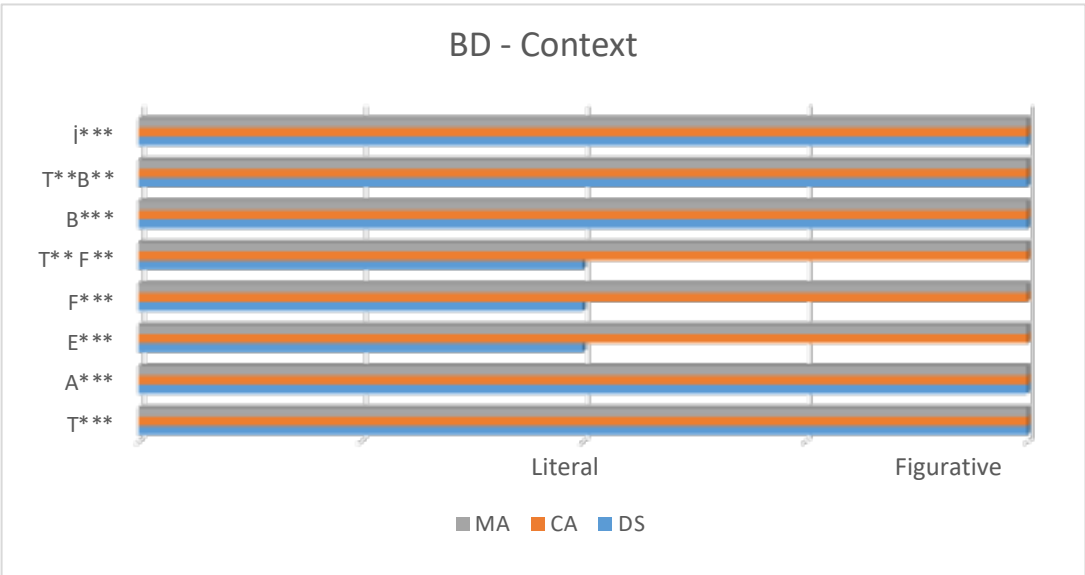


Figure 30. The idiom *burnunun dibinde* in idiom-in-context task

The distribution of figurative and literal answers of *burnunun dibinde* in idiom-in-context task is shown in Figure 30. 5 out of 8 participants comprehended the

idiom figuratively in this task. In other words, compared to the idiom-picture matching task, the success rate of figurative understanding of DS participants increased from 0% to 63% in idiom in-context task. Only 3 out of 8 DS participants gave literal answers to the contexts.

4.3.1.2.4. Analysis of *Dişini sıkmak*

The idiom *dişini sıkmak* could be literally translated as 'to squeeze your teeth'. However, it figuratively means 'to be patient' or 'to stand the gaff'. Figure 31 shows the distribution of literal and figurative answers given by all the groups of participants. All the DS participants answered the idiom *dişini sıkmak* literally by choosing the visual depicting a man really squeezing his teeth.

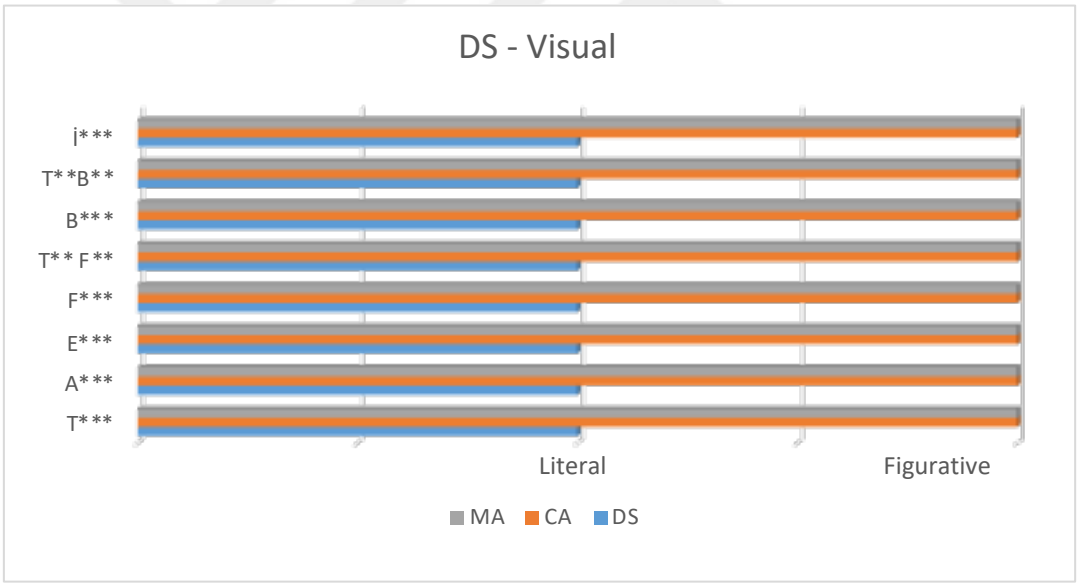


Figure 31. The idiom *dişini sıkmak* in Idiom-picture matching task

As Figure 31 shows both chronologically and mentally compared peers answered the idiom figuratively. In Figure 18, the distribution of answers obtained from the idiom in-context task is presented.

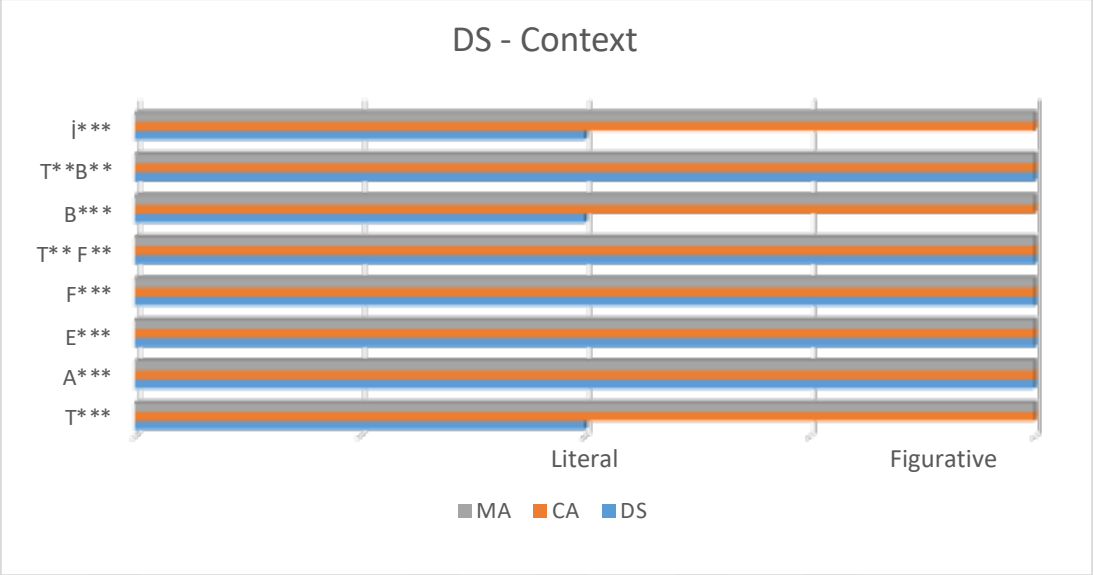


Figure 32. The idiom *dişini sıkmak* in idiom-in-context task

In Figure 32 it is shown that the participants with DS in this study appear to show a success rate of 63% figurative comprehension. Five out of 8 participants with DS answered the idiom *dişini sıkmak* figuratively in idiom-in-context task.

4.3.1.2.5. Analysis of *Her kafadan bir ses çıkmak*

The idiom *her kafadan bir ses çıkmak* could be literally translated as ‘to a voice out of every head’’. It, however, figuratively means ‘for everyone to be talking all at once’. It can be also interpreted that one’s having his or her own argument on a certain issue. Figure 33 presents the literal and figurative answers given to this idiom.

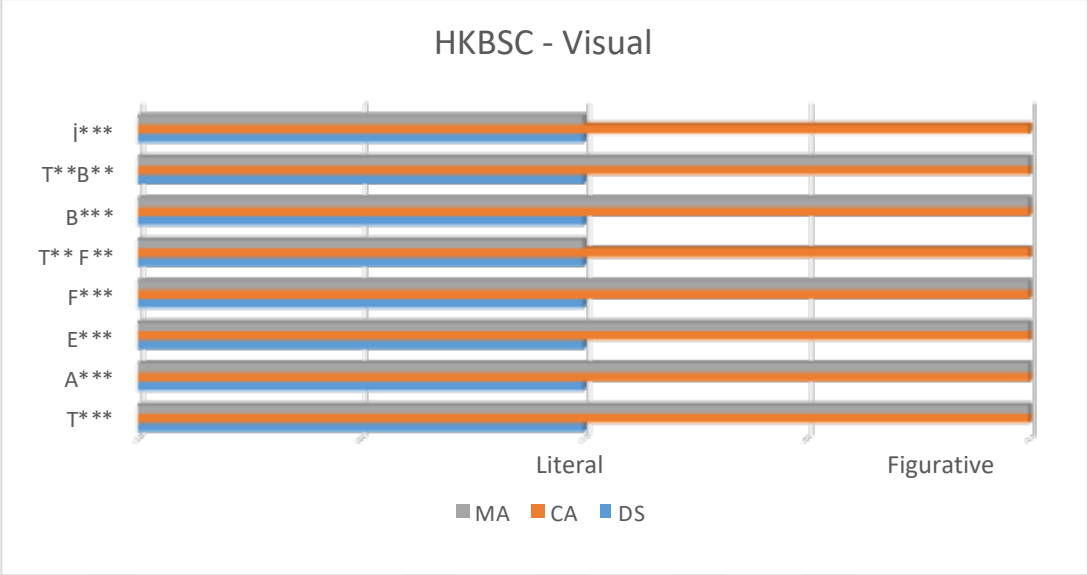


Figure 33. The idiom *her kafadan bir ses çıkmak* in idiom-picture matching task

As it is indicated in Figure 33, all the participants with DS comprehended the idiom literally. In addition, 2 out of 8 participants, who are mental age peers of the DS participants, also comprehended the idiom literally in the idiom-picture matching task. On the other hand, all the chronological age peers interpreted the idiom figuratively.

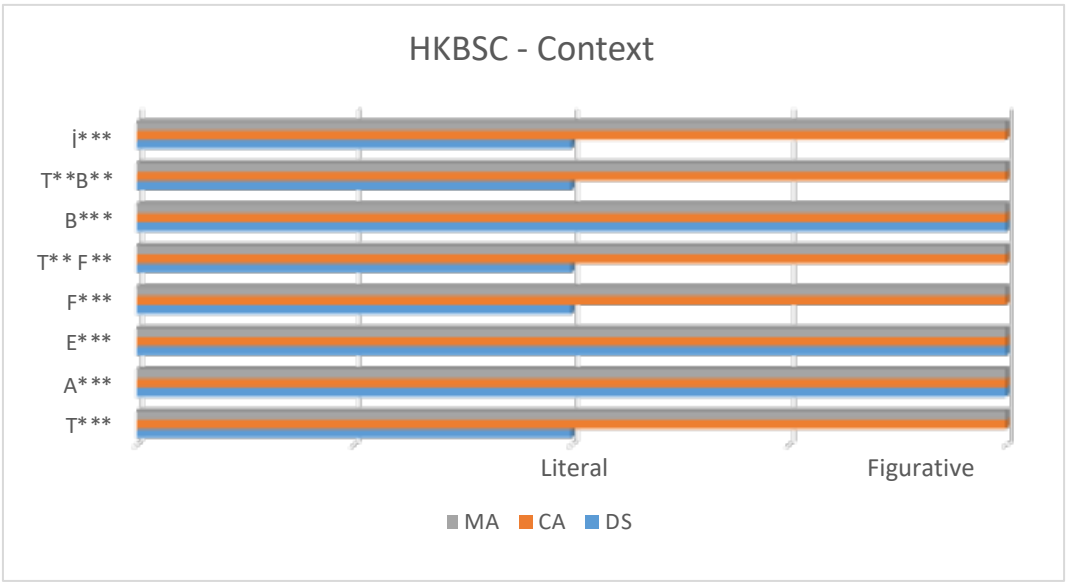


Figure 34. The idiom *her kafadan bir ses çıkmak* in idiom-in-context task

As shown in Figure 34, three out of 8 participants with DS perceived the idiom *her kafadan bir ses çıkmak* figuratively. However, the rest of the participants including chronological and mental age peers comprehended the idiom figuratively.

4.3.1.2.6. Analysis of *Gözünün yaşına bakmamak*

The idiom *gözünün yaşına bakmamak* could be literally translated as 'not to look at your tears', and its figurative meaning is 'to have no pity on somebody' or 'grant someone no quarter'. Figure 35 shows the distribution of the literal and answers in idiom- picture matching task. All the participants with DS answered the idiom *gözünün yaşına bakmamak* literally; however, all the chronological and mental age compared typically developing peers comprehended it figuratively.

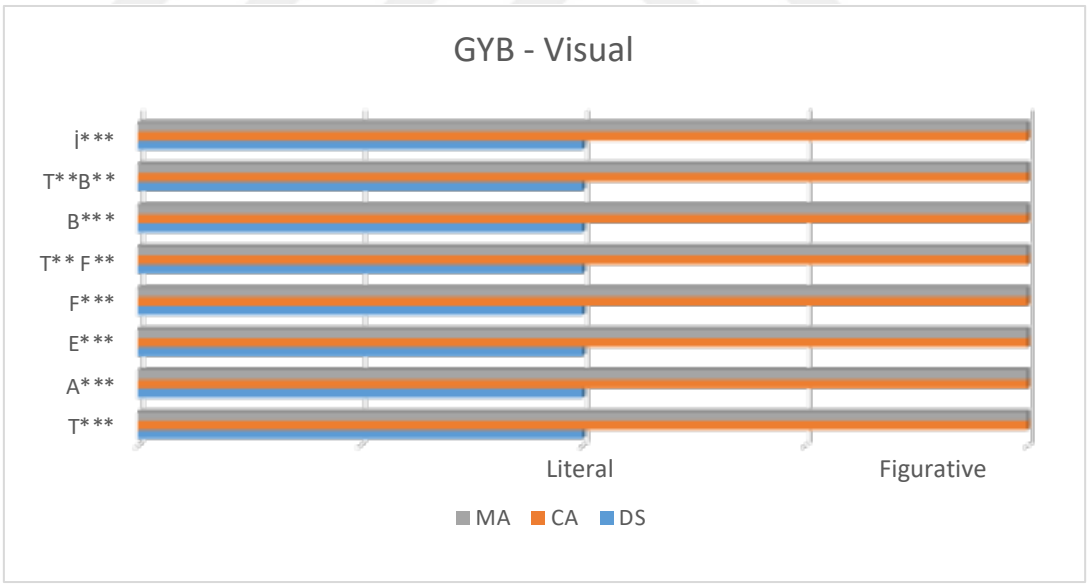


Figure 35. The idiom *gözünün yaşına bakmamak* in idiom-picture matching task

As shown in Figure 35, all the DS participants selected the visuals depicting the literal answer of *gözünün yaşına bakmamak*. The visual includes a child who closes his own eyes and tries not to look at the person who is crying. Figure 36

shows the distribution of the answers of all the participants in idiom in-context task.

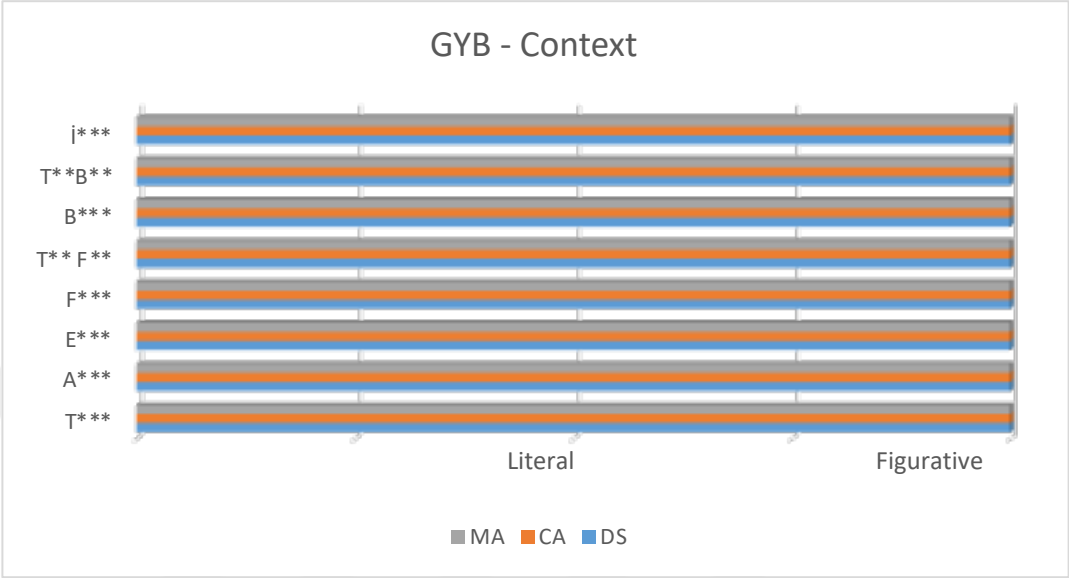


Figure 36. The idiom *gözünün yaşına bakmamak* in idiom-in-context task

Figure 36 specifies that fact that the idiom *gözünün yaşına bakmamak* is one of the most figuratively answered idiom in this task as compared to the idiom-picture matching task. To put it differently, all the participants with DS in the idiom-picture matching task tended to conceptualize *gözünün yaşına bakmamak* literally. Nevertheless, when the idiom is backed up with a context, all the participants with DS could easily grasp the figurative meaning out of context.

The findings of the present study in relation to familiar third-degree idioms revealed that contextual information is a reliable predicator in determining the figurative interpreting of the idioms. This is clearly seen in the idiom *gözünün yaşına bakmamak.* Although all of the participants with DS comprehended this idiom literally in idiom-picture matching task, they were able to understand the figurative meaning out of context. This means that an information-rich context

could accelerate the process of the speaker's determining the figurative comprehension of the idiom used.

Comprehension of familiar idioms but not the unfamiliar ones were in line with the proposed hypothesis. Both the DS participants and the typically developing peers tended to select the figurative answer regarding the context. On the other hand, only two of the third-degree idioms namely *her işe burnunu sokmak* and *her kafadan bir ses çıkmak* were less figuratively comprehended by the participants who have lower mental scores. These children, having a mental age of 9, selected a literal interpretation for the idioms and disregarded the given context.

This finding also supports the research by Gibbs (1980) by revealing that the more conventional the utterance, the easier it will be for an individual to find an appropriate figurative interpretation in the right context. For instance, the idiom *karnı zil çalmak* is the most conventional idiom among th questioned ones. All the groups of participants are assumed to have been exposed to the figurative usage of this idiom, which means 'to be starving', in their daily lives. Presumably, the frequency of the exposure of children to figurative language is the main factor in comprehension and the acquisition process of the idioms (Ortony et al., 1985; Prinz 1983; Ezell & Goldstein, 1991).

4.3.2. Unfamiliar Idioms

This section contains the findings of 12 unfamiliar idioms through the idiom-picture matching tasks and idiom-in-context tasks. Age-based comparisons are made in a detailed way by dividing them into two subsections: analysis of first-degree idioms and analysis of third-degree idioms.

4.3.2.1. Analysis of First-Degree Idioms

In the following section, the 6 first-degree idioms tested in the present study will be analyzed in detail, respectively, by making age-based comparisons between participants. The idioms are namely *diş bilemek, çiçeği burnunda, karnı tok olmak, yüz karası, göz(ünü) boyamak, beyin yıkamak.*

4.3.2.1.1. Analysis of *Diş bilemek*

The idiom *diş bilemek* could be literally translated as 'to sharpen your teeth'. However, it figuratively means 'to get one's knife into' or 'have it in for someone'. As it is shown in Figure 37, seven out of 8 participants with DS comprehended the idiom literally, whereas only one DS participant comprehended it as figurative.

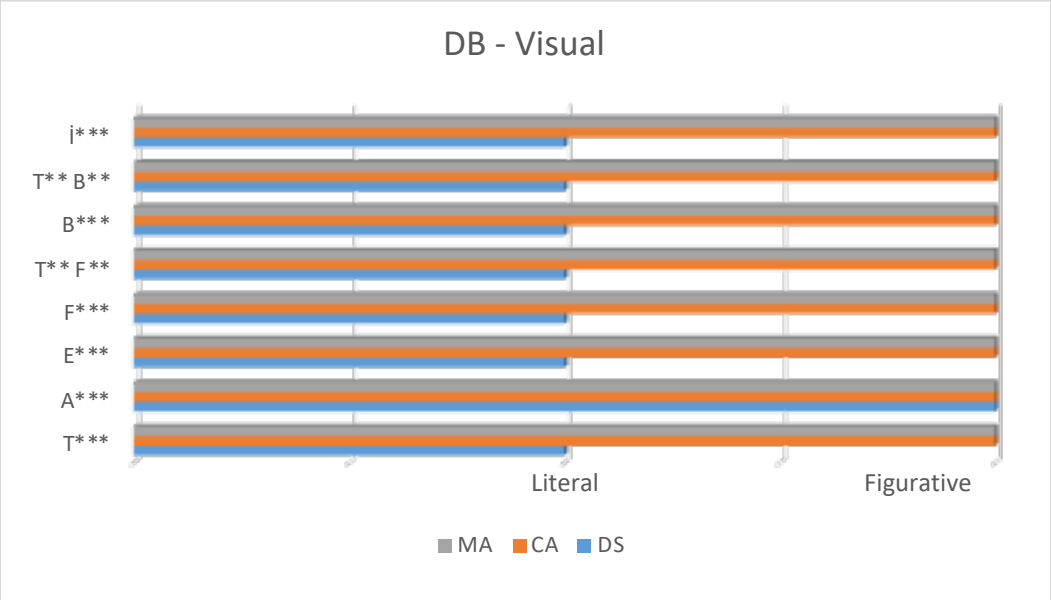


Figure 37. The idiom *diş bilemek* in idiom-picture matching task

Both the chronological age and the mental age compared typically developing peers interpreted the idiom *diş bilemek* figuratively in idiom-picture matching task as shown in Figure 37.

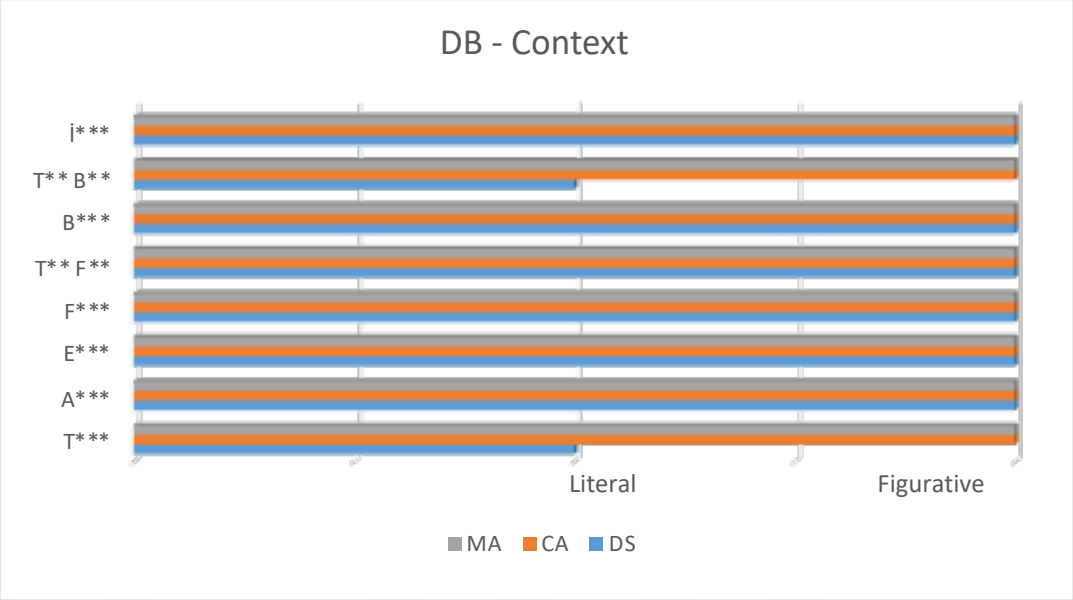


Figure 38. The idiom *diş bilemek* in idiom-in-context task

Figure 38 reveals that 6 participants with DS out of 8 grasped the figurative meaning of the idiom, while only two participants with DS answered it literally. In comparison with the idiom-picture matching task, participants with DS gained higher score in idiom- in-context task, with an increase in their percentage of figurative comprehension from approximately 13% to 75%.

4.3.2.1.2. Analysis of *Çiçeği burnunda*

The idiom *çiçeği burnunda* could be literally translated as ‘blossom in the nose’, and its figurative meaning is ‘fresh’ or ‘brand new’. It is also used for someone who is a newcomer in a job or a newly-married couple. Figure 39 shows the distribution of the literal and figurative answers given to the idiom. Only one participant with DS realized the idiom figuratively in this task. Furthermore, only 3 out of 8 mental age controls comprehended the idiom *çiçeği burnunda* as figurative in the idiom-picture matching task.

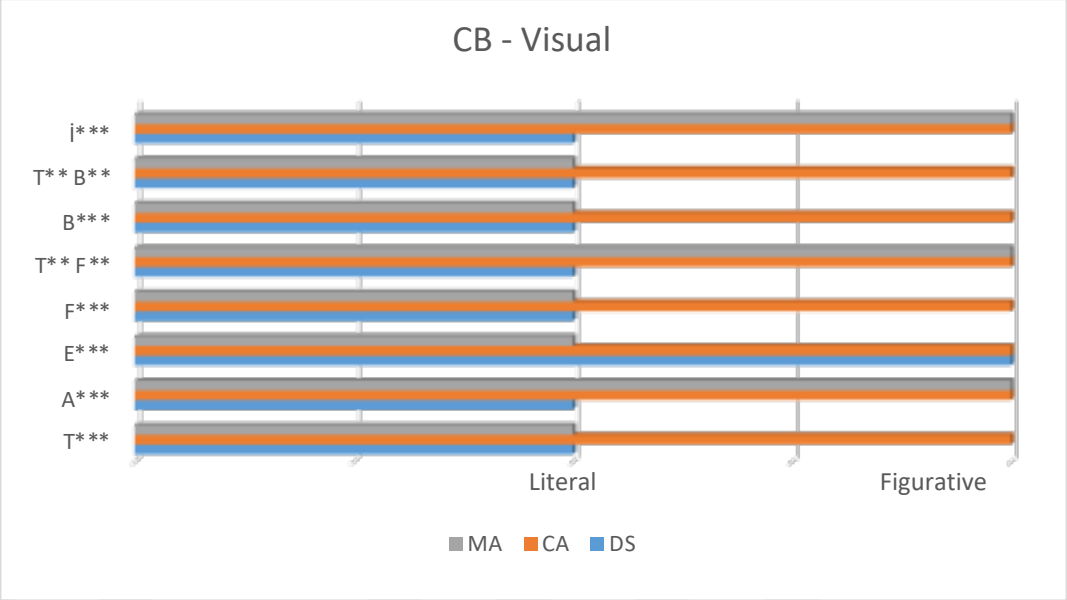


Figure 39. The idiom *çiçeği burnunda* in idiom-picture matching task

Figure 40 indicates that all of the mental age peers understood the figurative meaning from the context but participants with DS still figured the idiom *çiçeği burnunda* as literal.

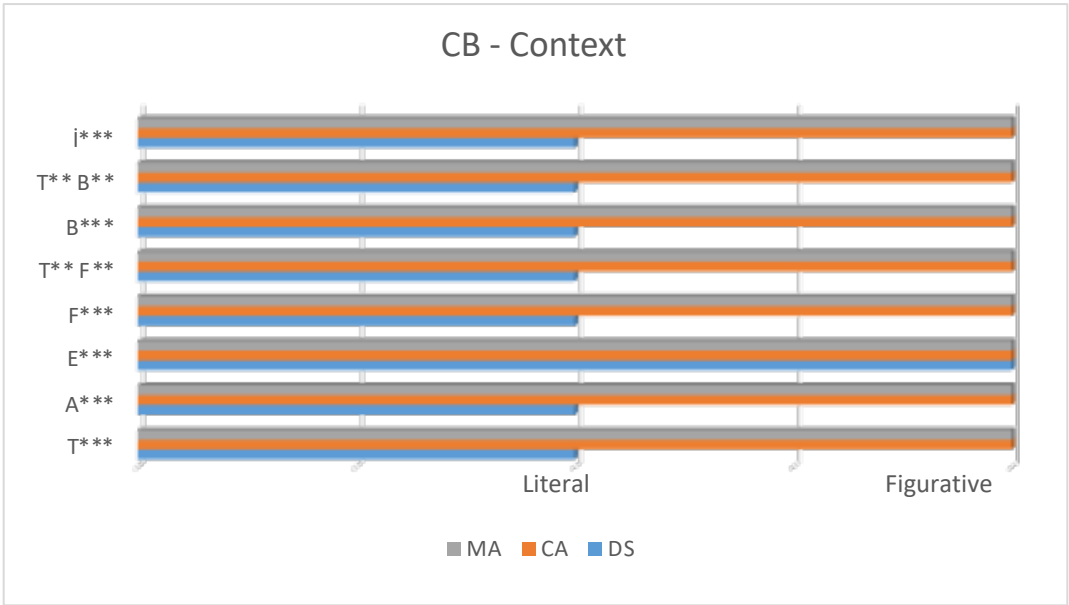


Figure 40. The idiom *çiçeği burnunda* in idiom-in-context task

In spite of the fact that typically developing matched peers could predict the idiom *çiçeği burnunda* figuratively, only one out of 8 participants with DS interpreted the idiom literally. They seemed to have difficulty distinguishing the figurative meaning even when provided with a context.

4.3.2.1.3. Analysis of *Karnı tok olmak*

The idiom *karnı tok olmak* could be literally translated as 'to have a full stomach'. However, it figuratively means 'not to listen/ care about one's remarks or opinions'. As presented in Figure 41, 7 out of 8 participants with DS perceived the idiom literally.

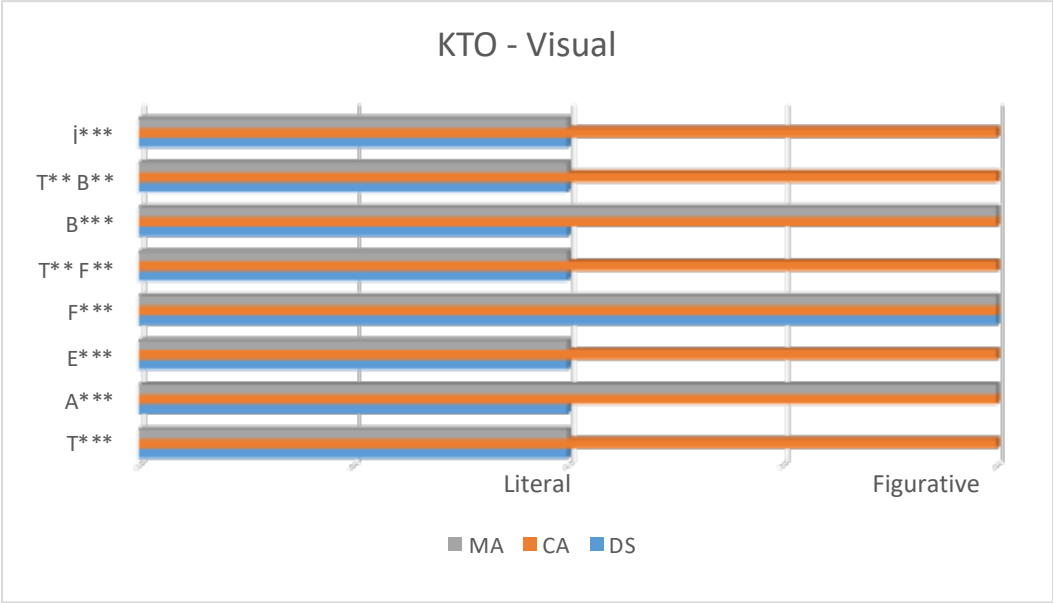


Figure 41. The idiom *karnı tok olmak* in idiom-picture matching task

Additionally, as illustrated in Figure 41, 5 out of 8 typically developing mental compared peers also figured the idiom *karnı tok olmak* as literal. Nevertheless, all the chronological age peers comprehended the idiom figuratively in idiom-picture matching task. In other words, while most of the participants with DS had difficulty interpreting the idiom *karnı tok olmak* literally in the idiom picture matching task, the mentally aged peers also have difficulties. The typically

developing peers which are mentally- matched with the DS peers have scored 27% of figurative comprehension.

Figure 42 shows the literal and figurative answers given by all the participants in the idiom-in-context task.

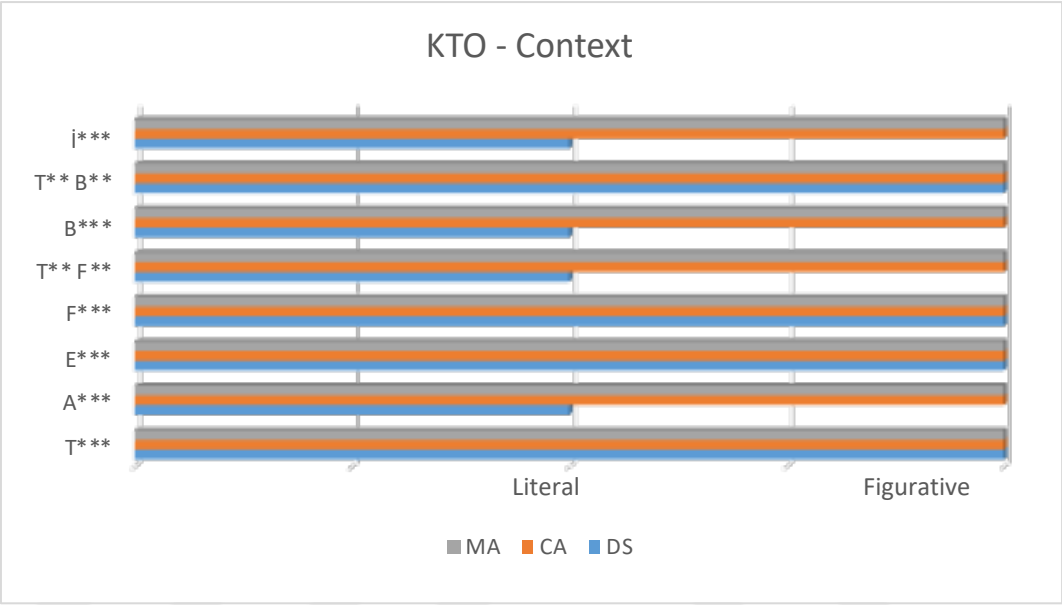


Figure 42. The idiom *karnı tok olmak* in idiom-in-context task

Figure 42 reveals that *karnı tok olmak* was perceived as figuratively by both the chronological and mental age peers. However, only half of the participants with DS interpreted the idiom literally in the idiom- in-context task. Obviously, the familiarity of the idiom still paves the way for understanding the figurative meaning for the participants with DS.

4.3.2.1.4. Analysis of *Yüz karası*

The idiom *yüz karası* could be literally translated as 'the black of face'. However, it figuratively means 'black sheep' or 'to be a disgrace to'. Figure 43 demonstrates the literal and figurative answers in the present study. On the one hand, 2 out of 8 participants with DS comprehended the idiom figuratively. On

the other hand, 5 out of 8 mentally compared peers interpreted the idiom figuratively. This is similar to the idiom-picture matching tasks. In other respects, all the chronological age controls were able to understand the figurative meaning of this idiom.

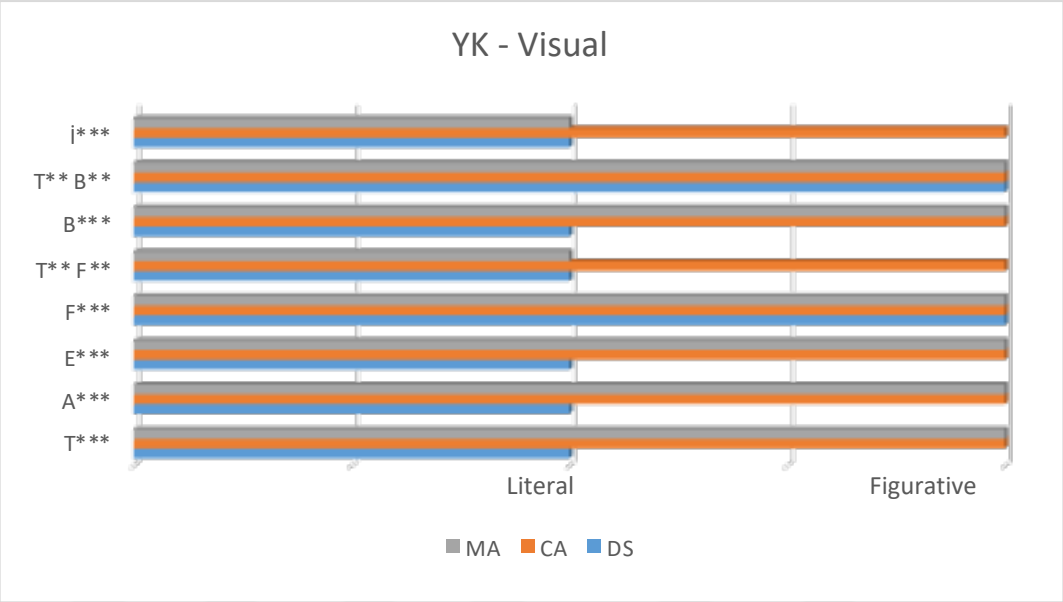


Figure 43. The idiom *yüz karası* in idiom-picture matching task

Figure 44 depicts the distribution of the figurative and literal answers given to the idiom *yüz karası*. All the chronological and mental age compared typically developing peers understood the figurative meaning of *yüz karası*.

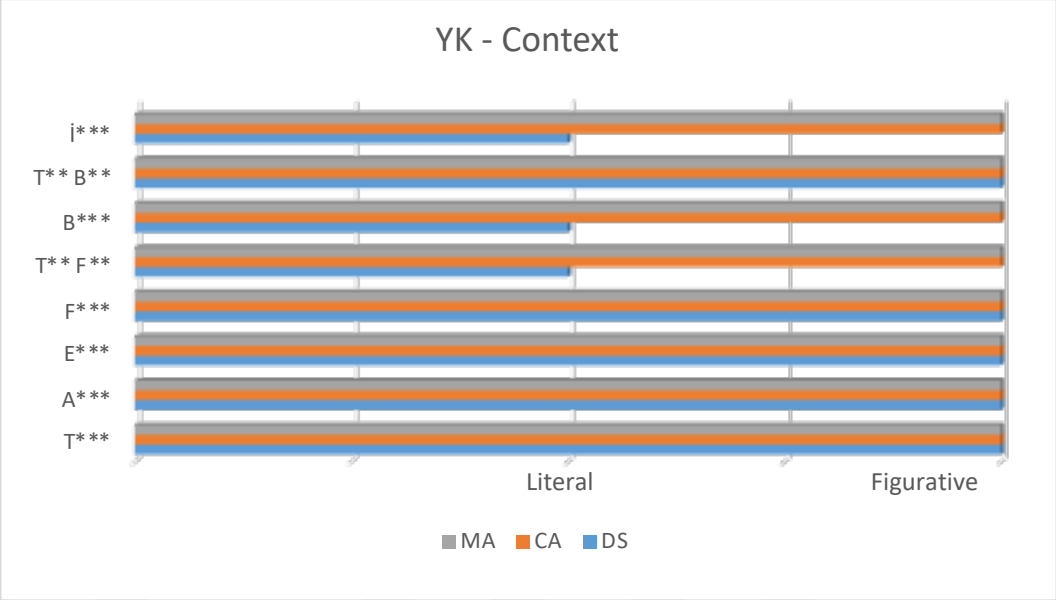


Figure 44. The idiom *yüz karası* in idiom-in-context task

As illustrated in Figure 44, five out of 8 participants with DS perceived the idiom *yüz karası* figuratively in the idiom-in-context task. They scored 63% in figurative comprehension of the idiom in this task.

4.3.2.1.5. Analysis of *Göz(ünü) boyamak*

The idiom *gözünü boyamak* could be literally translated as ‘to paint one’s eyes’. However, it figuratively means ‘throw dust in someone’s eyes’ or ‘to pull the wool over somebody’s eyes’. It can also be interpreted as dog and pony show figuratively. Figure 45 shows the distribution of the literal and figurative answers of the DS in the idiom-picture matching task.

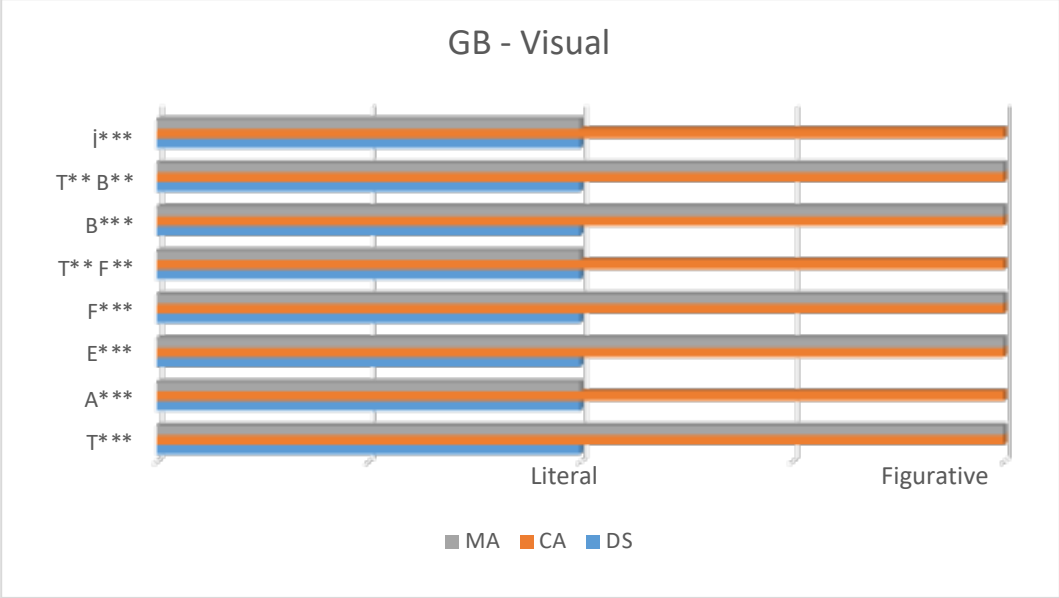


Figure 45. The idiom *göz(ünü) boyamak* in idiom-picture matching task

As it is seen in figure 45, while none of the participants with DS comprehended the idiom *gözünü boyamak* figuratively, 5 out of 8 mental age peers interpreted the idiom figuratively.

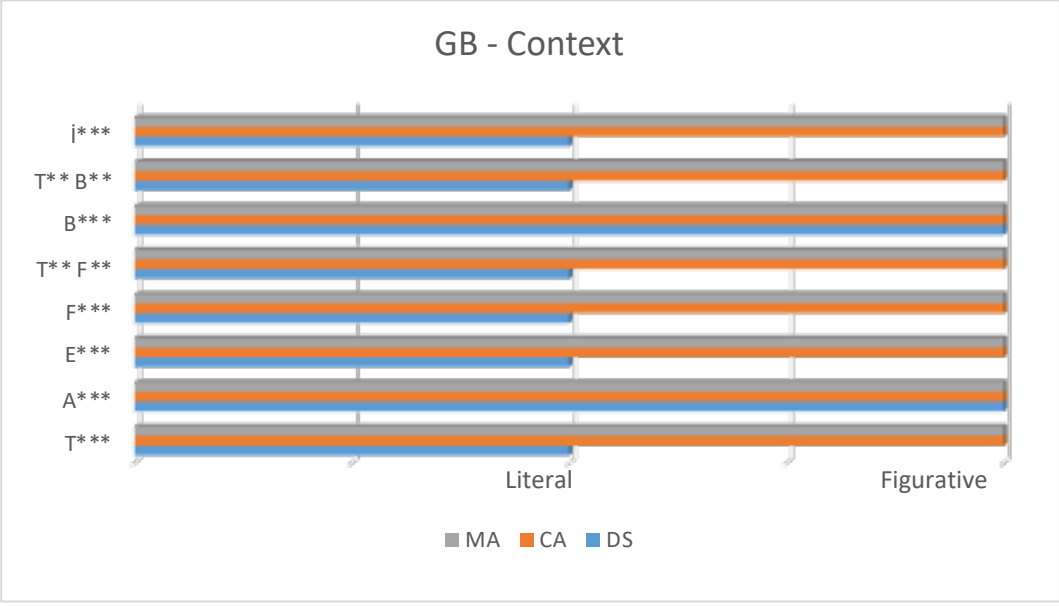


Figure 46. The idiom *göz(ünü) boyamak* in idiom-in-context task

As it is seen in Figure 46, 2 out of 8 participants with DS comprehended the idiom *gözünü boyamak* figuratively, while all the rest of the peers comprehended the idiom as figurative. The participants with DS had only 25% figurative comprehension as compared to the control group members.

4.3.2.1.6. Analysis of *Beyin yıkamak*

The idiom *beyin yıkamak* could be literally translated as 'to wash a brain'. However, its figurative meaning is 'mind abuse' or 'brain control'. Figure 47 indicated both literal and figurative answers given by all the participants in idiom- picture matching task. Only one of the participants with DS realized the idiom figuratively. On the other hand, all the achronological and mental age compared typically developing peers discerned the idiom *beyin yıkamak* figuratively.

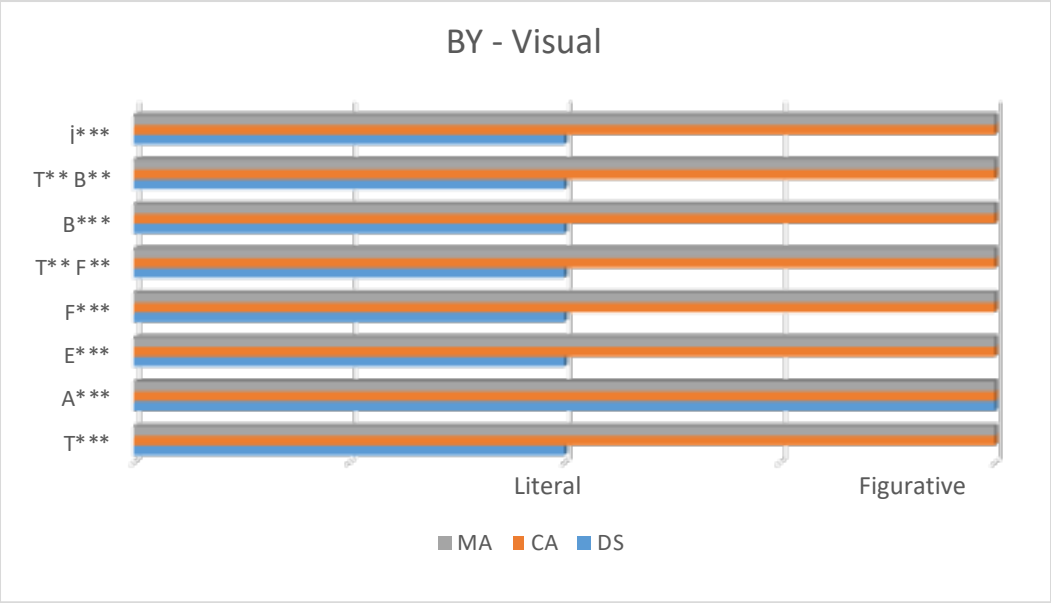


Figure 47. The idiom *beyin yıkamak* in idiom-picture matching task

Figure 48 indicates both literal and figurative answers given by all the participants in the idiom-picture matching task.

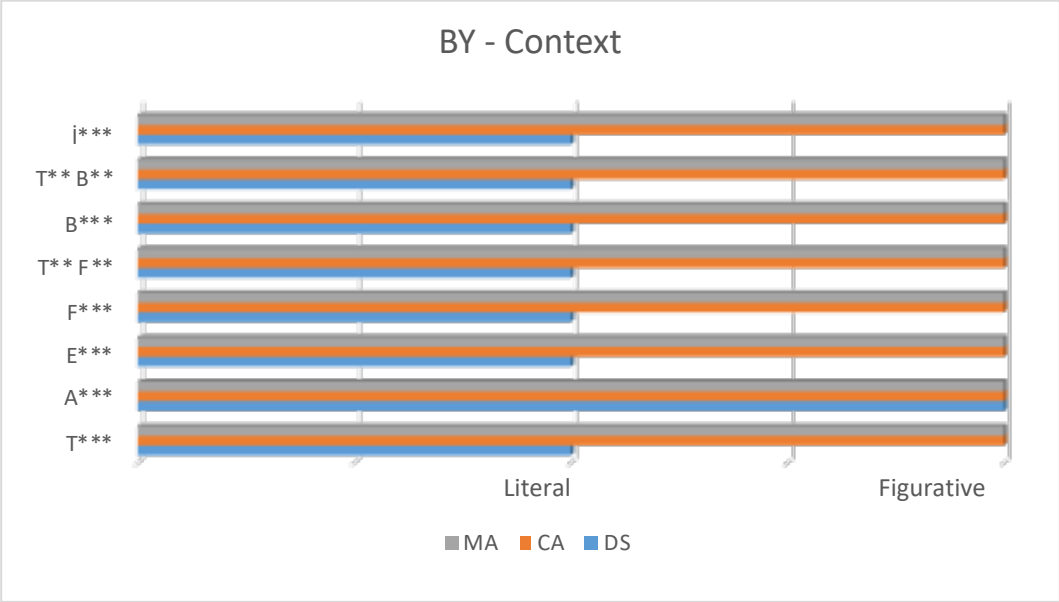


Figure 48. The idiom beyin *yıkamak* in idiom-in-context task

As it is seen in Figure 48, the same participant with DS comprehended the idiom figuratively and the other participants with DS could not grasp the meaning from the context. *Beyin yıkamak* is one of least figuratively answered unfamiliar idiom in this study. The idiom *beyin yıkamak* is the one whose connotational meaning of the components *beyin* and *yıkamak* is weak thus making it more difficult to interpret the figurative meaning.

The findings of the unfamiliar first-degree idioms showed that the familiarity of the idiom had a profound effect on the comprehension of idioms. The participants with DS had weak figurative understanding of these kinds of idioms. For instance, in idiom *diş bilemek*, only one DS participant out of 8 interpreted in the idiom figuratively in the idiom-picture matching; however, in the idiom-in-context task, 6 of the participants figuratively comprehended the idiom. Among the unfamiliar first-degree idioms, there were only two idioms that are the least

figuratively comprehended. The findings of the idioms *çiçeği burnunda* and *beyin yıkamak* are interesting since only one participant with DS figuratively comprehended the idioms in both of the tasks. Despite the fact that the participants were given the idiom within a context, they were unsuccessful in interpreting the figurative meaning of the idiom.

The idiom *göz(ünü) boyamak* is another idiom that has a notable finding. This idiom literally means 'to color one's eyes', on the other hand, it means 'throw dust in someone's eyes' or 'to pull the wool over somebody's eyes'. None of the participants with DS comprehended the idiom figuratively in the idiom-picture matching task; nonetheless, they preferred to state the meaning of the idiom by pointing at the visual depicting a woman wearing make up on her face. The more interesting point is that 5 of the mental age compared peers also interpreted the idiom literally in the idiom-picture matching task. However, in the idiom-in-context task, both mentally and chronologically matched peers comprehended the idiom figuratively, whereas only two of the DS participants were successful in figurative understanding of the idiom.

4.3.2.2. Analysis of Third-Degree Idioms

In the following section, the 6 third-degree idioms which were questioned in the present study will be analyzed in detail by making age-based comparisons between participants. The idioms that are investigated will be analyzed respectively. The idioms are namely *karın ağrısı, el ayak öpmek, aklı başından gitmek, elinin altında olmak, gözünün önüne gelmek, eline sırtüstü yatmak*

4.3.2.2.1. Analysis of *Karın ağrısı*

The idiom *karın ağrısı* could be literally translated as 'stomach pain'. However, it figuratively means 'to be pain in the neck' or 'fly in the ointment'. Figure 49

depicts the analysis of the literal and figurative answers given in the idiom-picture matching task.

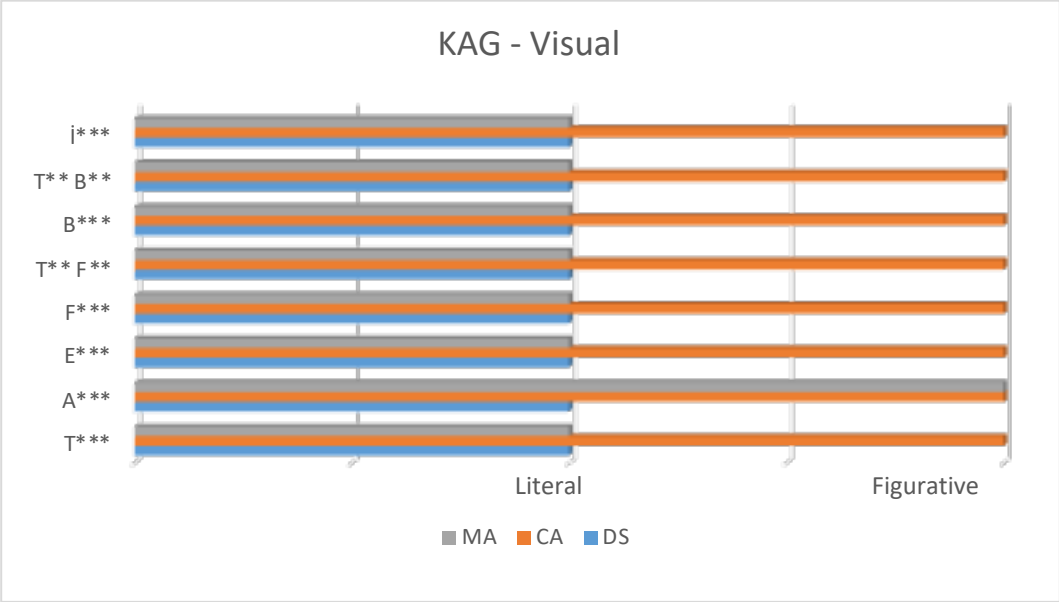


Figure 49. The idiom *karın ağrısı* in idiom-picture matching task

As it is presented in Figure 49, all of the participants with DS comprehended the idiom *karın ağrısı* as literal. Interestingly, 7 out of 8 mental age compared peers also comprehended the idiom literally. Conversely, all the chronological age compared peers interpreted the idiom figuratively.

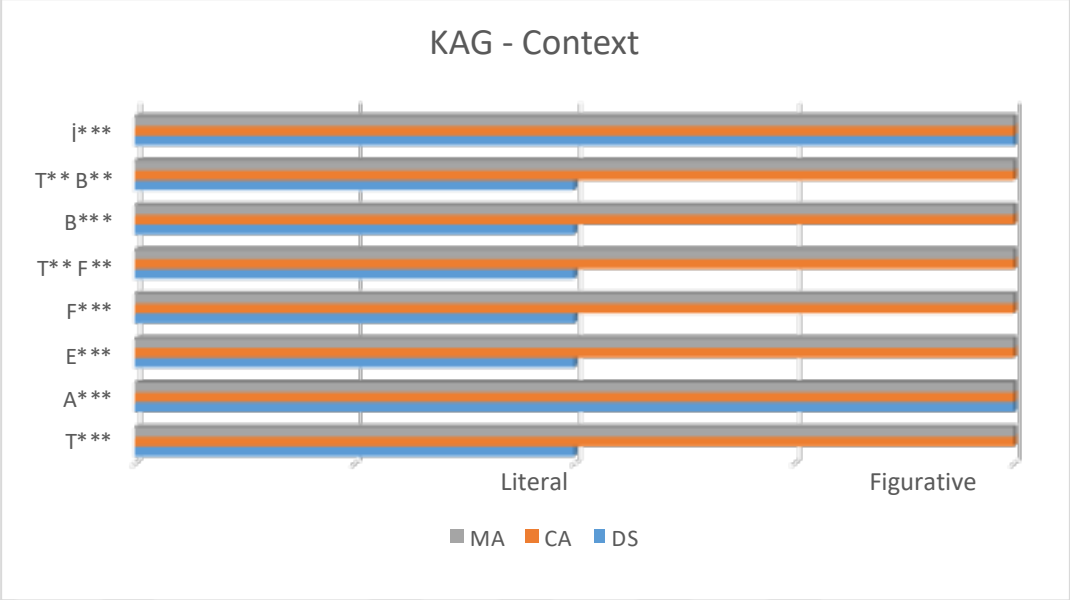


Figure 50. The idiom *karın ağrısı* in idiom-in-context task

Figure 50 shows that only two of the DS participants were able to understand the meaning of the idiom *karın ağrısı* figuratively in the idiom-in-context task with a score of 25%. All of the other participants, both chronological and mental age controls, comprehended the idiom figuratively.

4.3.2.2.2. Analysis of *El ayak öpmek*

The idiom *el ayak öpmek* could be literally translated as 'to kiss one's hands and feet'. However, it figuratively means 'to flatter someone'. Figure 51 presents the distribution of the figurative and literal answers given by all the participants in the idiom-picture matching task.

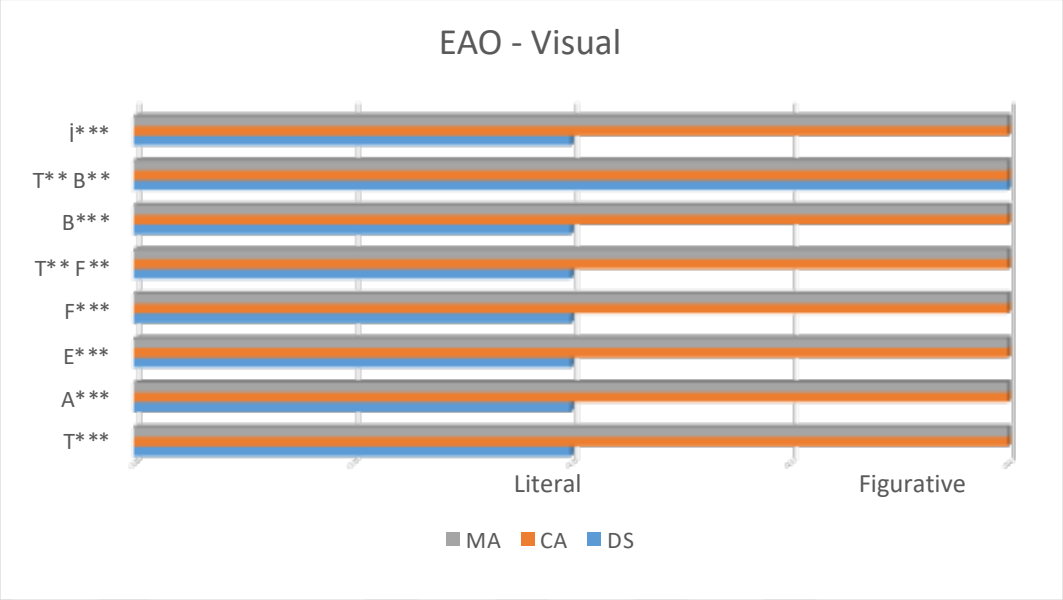


Figure 51. The idiom *el ayak öpmek* in idiom-picture matching task

As shown in Figure 51, 7 out of 8 participants with DS interpreted the idiom *el ayak öpmek* literally, whereas all of the typically developing controlled peers, that is chronological and mental age compared individuals, comprehended the idiom figuratively in the idiom-picture matching task.

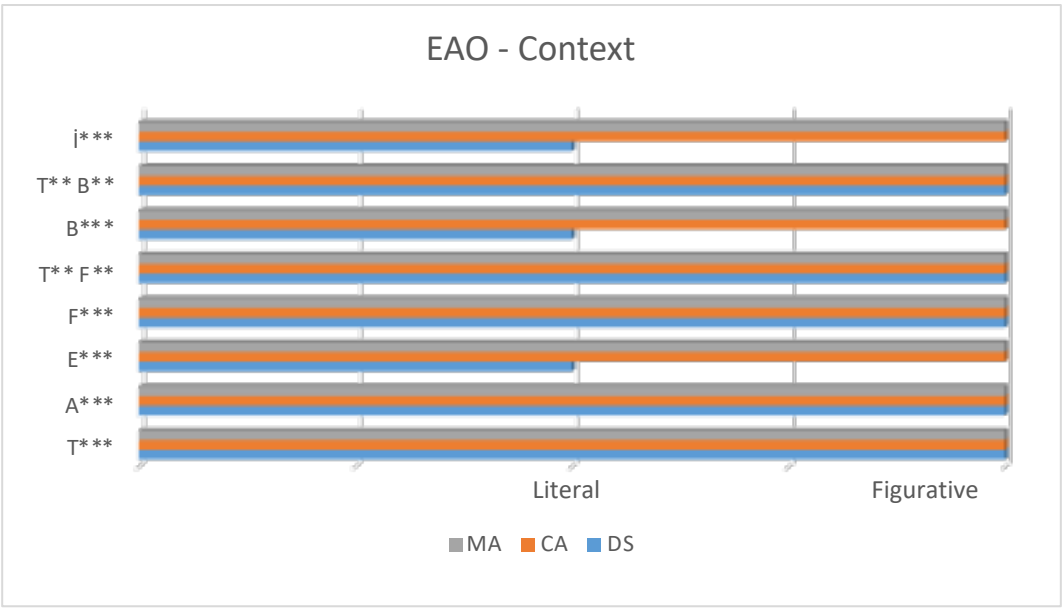


Figure 52. The idiom *el ayak öpmek* in idiom-in-context task

Figure 52 shows that 5 out of 8 participants with DS comprehended the idiom *el ayak öpmek* figuratively in the idiom-in-context task. The figurative comprehension of the participants with DS increased from 13% to 63 in this task. Only 3 participants with DS interpreted the idiom literally.

4.3.2.2.3. Analysis of *Aklı başından gitmek*

The idiom *aklı başından gitmek* could be literally translated as 'the mind's going from his head', with the figurative meaning of 'to be overwhelmed', 'to be climbing the walls' or 'jump out of one's skin'. Figure 53 indicates the distribution of the figurative and literal answers in the idiom-picture matching task.

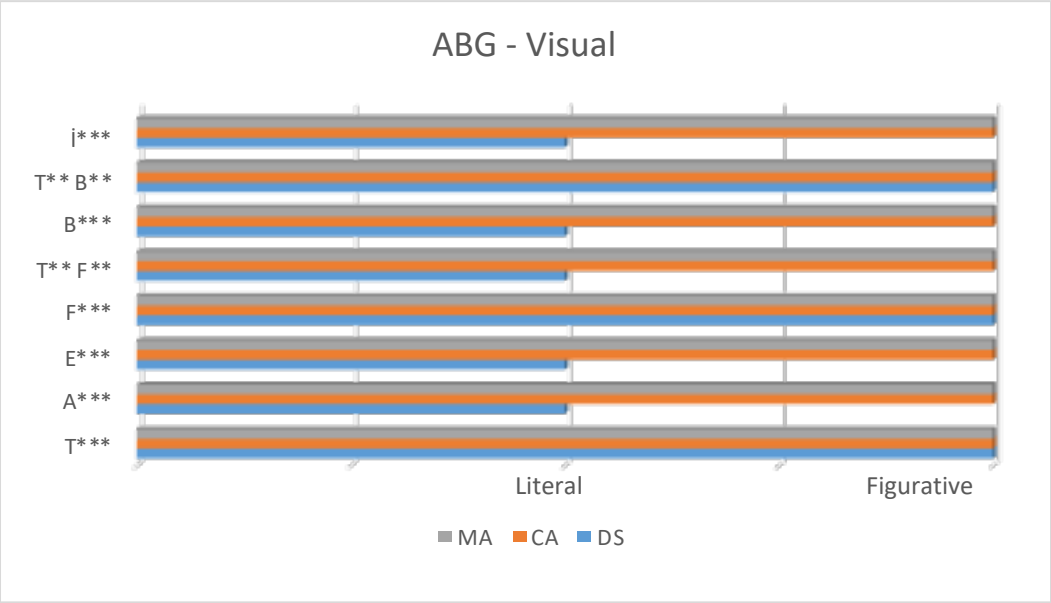


Figure 53. The idiom *aklı başından gitmek* in idiom-picture matching task

As illustrated in Figure 53, 3 out of 8 participants with DS perceived the idiom figuratively in idiom-picture matching task. All of the other participants including chronological and mental age peers interpreted the idiom figuratively.

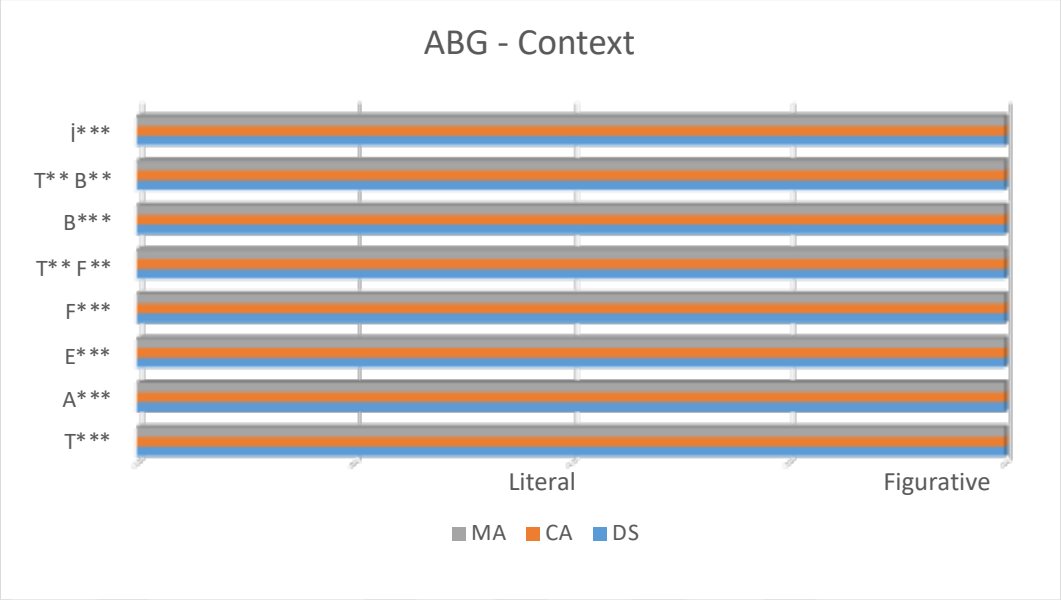


Figure 54. The idiom *aklı başından gitmek* in idiom-in-context task

As illustrated in Figure 54, the idiom *aklı başından gitmek* was comprehended figuratively by all of the participants of the present study in the idiom-in-context task. The initial findings reveal that *aklı başından gitmek* is one of the idioms that showed a sharp increase in successful comprehension of the idiom when provided with contextual back up. To put it differently, only three of the participants with DS comprehended it figuratively in the idiom-picture matching task, which shows a 38% success of figurative comprehension; however, all of the participants with DS scored 100% by comprehending the idiom *aklı başından gitmek* figuratively in the idiom in-context task.

4.3.2.2.4. Analysis of *Elinin altında olmak*

The idiom *elinin altında olmak* could be literally translated as ‘to have something under one’s hand’. However, it figuratively means ‘to keep/ have something at one’s fingertips’ or ‘to be within one’s reach’. It is generally used in a situation when somebody has something very near at hand or ready at hand.

Figure 55 indicates the literal and figurative answers given by all the participants in the idiom-picture matching task.

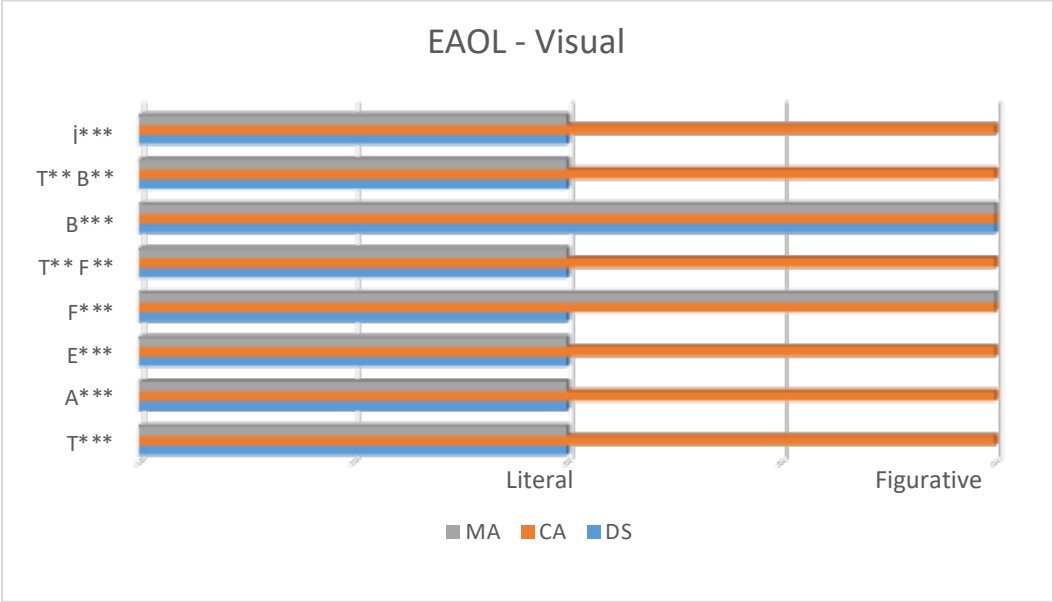


Figure 55. The idiom *elinin altında olmak* in idiom-picture matching task

As it is seen in Figure 55, only one participant with DS perceived the idiom figuratively. Furthermore, 2 out of 8 mentally compared peers also interpreted the idiom figuratively. Yet, all of the chronologically compared peers comprehended the idiom *elinin altında olmak* figuratively.

Figure 56 shows the literal and figurative answers given by all the participants in the idiom-in-context task.

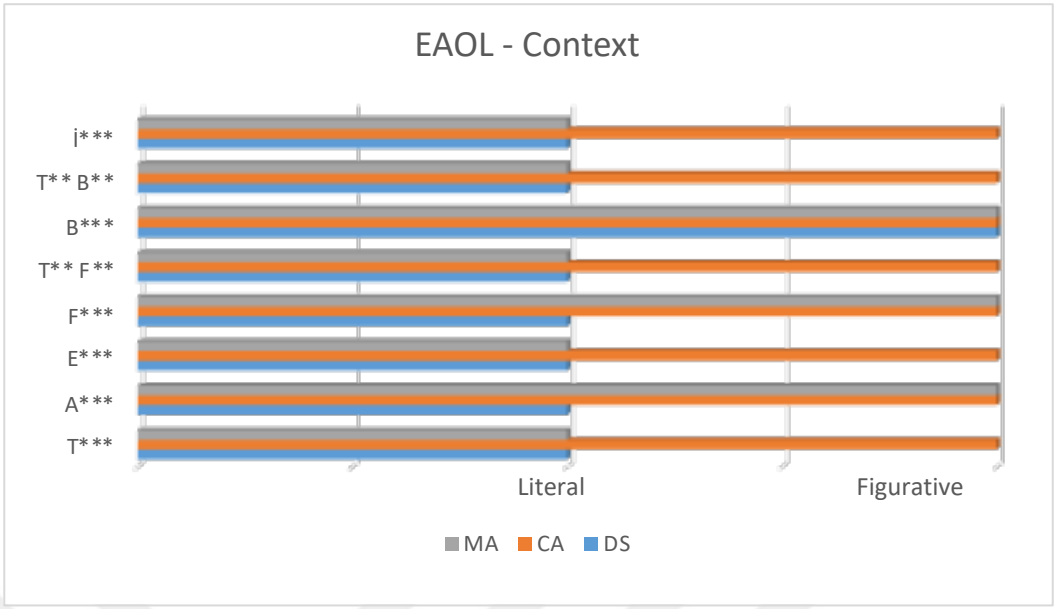


Figure 56. The idiom *elinin altında olmak* in idiom-in-context task

As it is shown in Figure 56, the same participant with DS comprehended the idiom *elinin altında olmak* figuratively and the other participants with DS could not grasp the meaning from the context. Moreover, 3 out of 8 mentally compared typical peers perceived the idiom figuratively. That is to say, *elinin altında olmak* is one of the least figuratively comprehended unfamiliar idioms in this study, even in the idiom-in-context task.

4.3.2.2.5. Analysis of *Gözünün önüne gelmek*

The idiom *gözünün önüne gelmek* could be literally translated as ‘to come in front of one’s eyes’. However, it figuratively means ‘to visualize’ or ‘to conjure up a mental picture of something’. It can also be stated as ‘swim before someone’s eyes’. Figure 57 shows the distribution of the literal and figurative answers given by all the participants in the idiom-picture matching task.

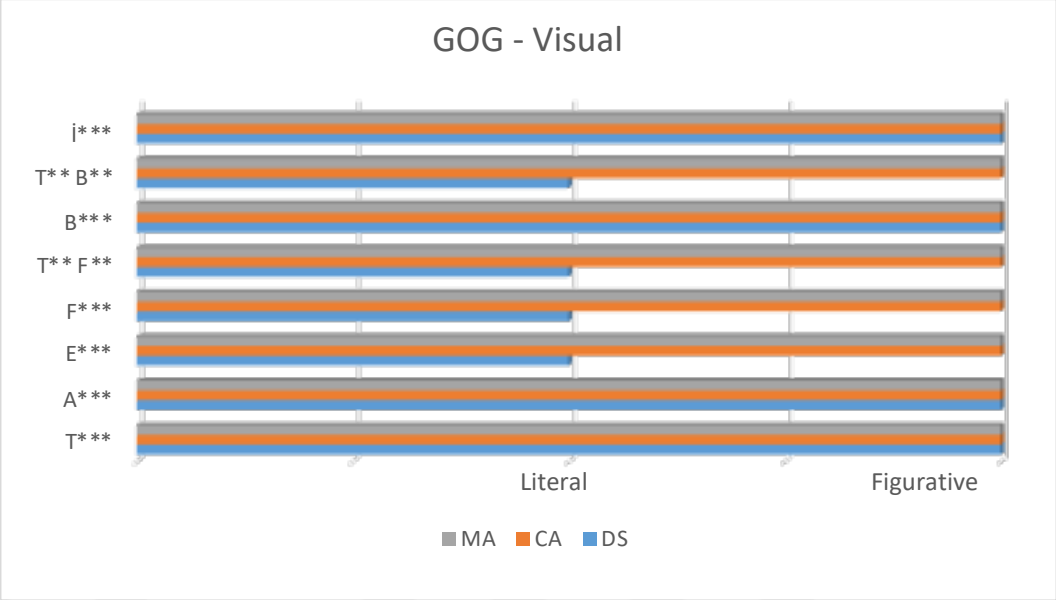


Figure 57. The idiom *gözünün önüne gelmek* in idiom-picture matching task

As indicated in Figure 57, the idiom *gözünün önüne gelmek* was conceptualized figuratively by half of the participants with DS. All the rest of the participants gave figurative answers to the idiom in the idiom- picture matching task.

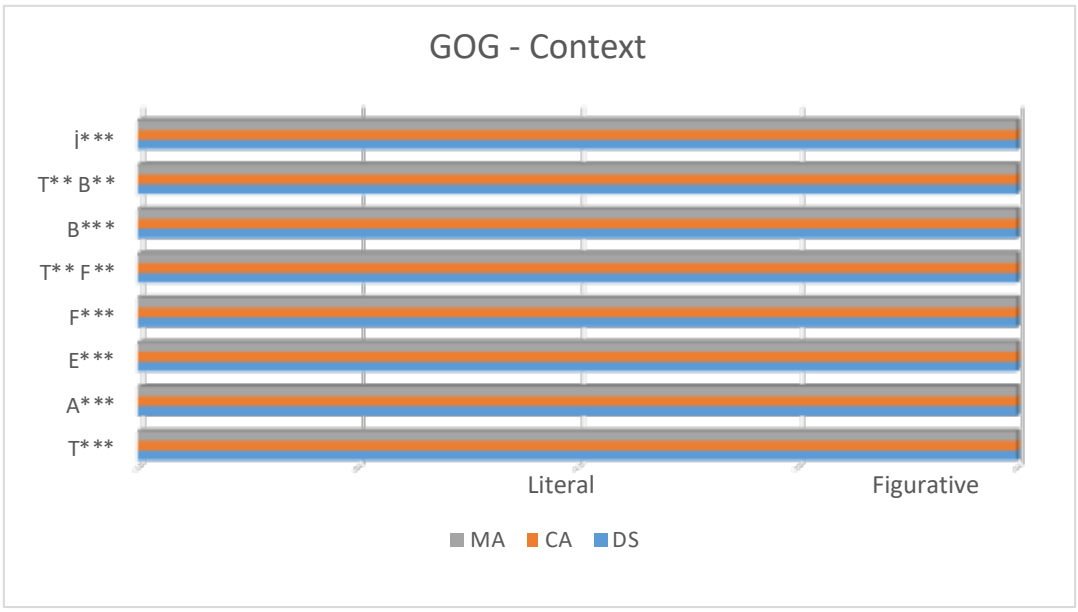


Figure 58. The idiom *gözünün önüne gelmek* in idiom-in-context task

Figure 58 reveals that all groups of participants comprehended the idiom *gözünün önüne gelmek* figuratively. Compared to the answers given in the idiom- picture matching task, the score of figurative comprehension of the participants with DS shows an increase from 38% to 100%. In short, all of the participants with DS were able to understand the figurative meaning, when they were given the idiom in context.

4.3.2.2.6. Analysis of *Sırtüstü yatmak*

The idiom *sırtüstü yatmak* could be literally translated as 'lie back' or 'to be flat on the back' with a figurative meaning of 'to lead a comfortable life without working'. Figure 59 shows the distribution of the literal and figurative answers given by all the participants in idiom-picture matching task.

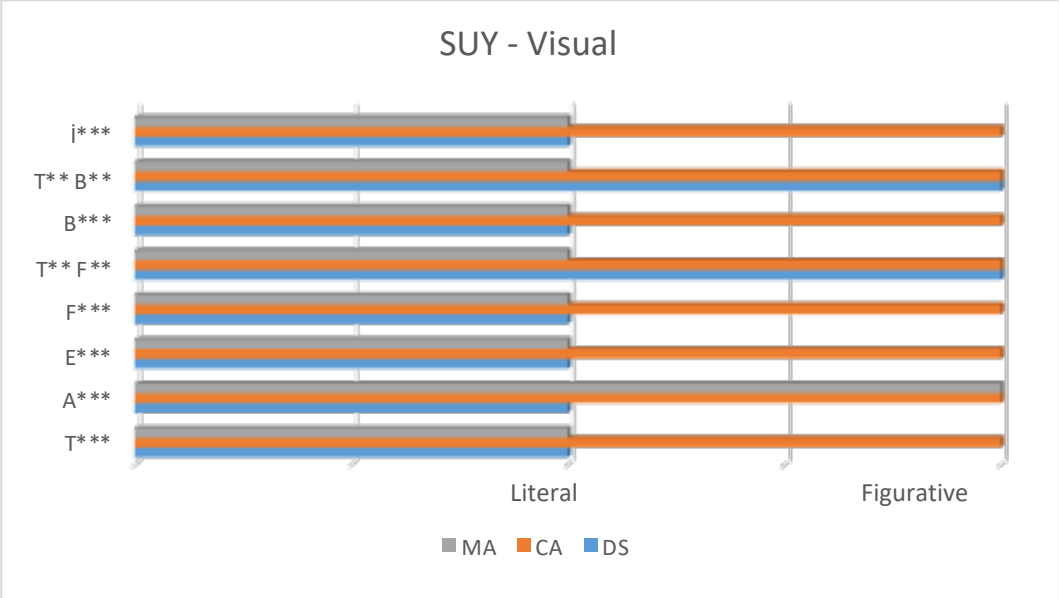


Figure 59. The idiom *sırtüstü yatmak* in idiom-picture matching task

As it is shown in Figure 59, 2 out of 8 participants with DS perceived the idiom *sırtüstü yatmak* figuratively. Interestingly, only one of the mental age compared peers interpreted the idiom figuratively in the idiom-picture matching task.

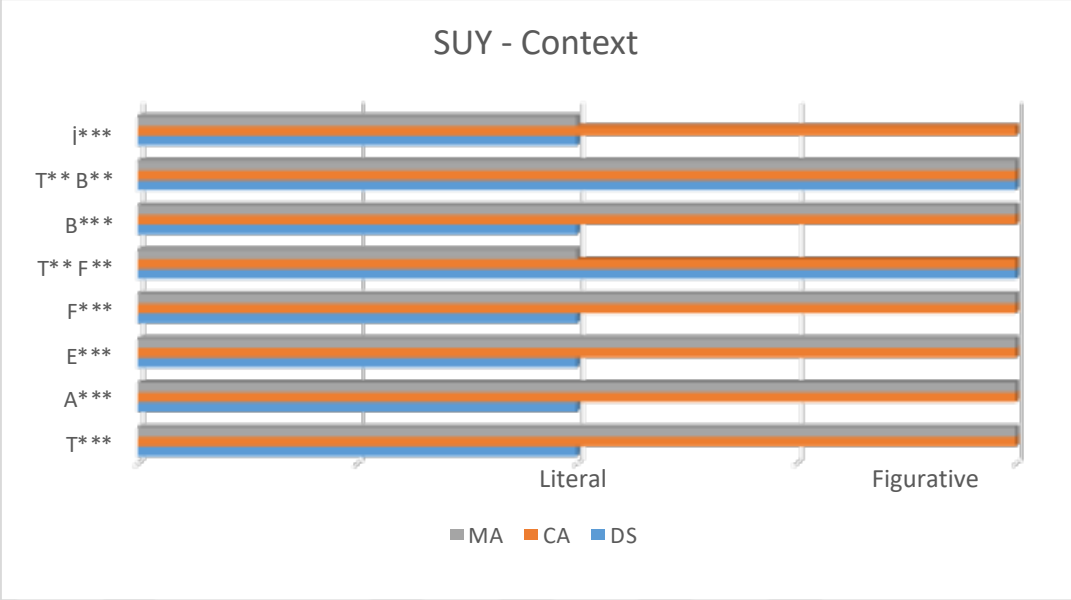


Figure 60. The idiom *sırtüstü yatmak* in idiom-in-context task

As it is shown in Figure 60, participants with DS could not comprehend the figurative meaning although the idiom was given within context. Moreover, 7 out of 8 mental age compared peers conceived the idiom *sırtüstü yatmak* figuratively. Likewise, all the chronological age peers interpreted the idiom figuratively.

The findings of the present study indicate that the familiarity and the context have significant roles in the comprehension and interpretation of the idioms, since, based on the findings, familiar idioms were more figuratively comprehended by the participants with DS. This finding is consistent with the results of the study by Arıca-Akkök (2008), which was conducted with typically developing peers. In Arıca-Akkök's study, it was observed that the students predict the familiar idioms more figuratively. Furthermore, the findings are also consistent with Roch and Levorato (2010) which revealed that both the familiarity of the idiom and its comprehension are interrelated with each other.

In addition, regarding the significance of the context in determining the meaning of the idioms, the hypothesis that context facilitates the idioms' comprehension and interpretation is validated. In other words, when the idiom was presented within a context, most of the DS individuals in the present study used this information-rich context to accelerate the process of determining their figurative comprehension.

In broad terms, this study examined the figurative competence of Down syndrome individuals compared to mental age and also chronological age peers in the context of idioms in terms of the familiarity and semantic categorization. A very general finding showed that DS participants have lower figurative comprehension, especially in unfamiliar third-degree idioms when compared to their chronological and mental age matched peers, and the gap between the DS syndrome individuals and the typically developing peers in terms of understanding the figurative meaning of the idioms is significant.

Considering the context factor, the findings of the present study again support the idea of processing of the semantic information introduced by Levorato and Cacciari (1992). Furthermore, to some extent, the given context has a facilitator role during the figurative comprehension, particularly among the participants with DS.

The findings of the study also revealed that the first-degree idioms are more figuratively interpreted than the third-degree idioms. This finding contradicts with the hypothesis in Chapter 1, since the relevant literature showed that typically developing children who have no cognitive delays or any intellectual disabilities generally comprehended the third-degree idioms figuratively compared to the first-degree idioms (Arıca-Akkök, 2008; Kara, 2015). Because all the components of the idioms could have connotational value, the participants

preferred to interpret on not the literal meaning but the figurative meaning of the questioned idiom. For instance, in the idiom *her kafadan bir ses çıkmak*, which figuratively means every person has its own opinion about an issue, the components of the idiom have their denotations also in figurative meaning.

The findings of this study have implications for the future studies in a number of aspects related with impaired figurative understanding. Though it is conducted on a limited group of participants, the present dissertation underlines the weak performances of DS individuals in the figurative language comprehension. An individual with DS generally has literal understanding of the idioms even when s/he is compared with their typically developing peers on the basis of mental age scores. Why do two individuals having the same mental scores not perform the same in accessing the figurative meaning of the idioms that require a demanding cognitive process? It is not easy for a researcher to give a definitive answer to this question based on these findings alone. However, in a very broad sense, it is possible to say that there could be some factors affecting the DS individuals' weak figurative understanding. In the following lines, a number of possible answers to this question will be discussed.

It may be reasonable to explain a DS individual's having poorer performance than typically developing peer on the basis of cognitive development. It is possible to categorize the factors affecting cognitive development of a DS individual as internal and external. Internal factors are those that are congenital and emerge over time after being diagnosed with Down syndrome. External factors, on the other hand, are the ones that emerge right after an individual with DS is born. These factors include each component around the DS individual, such as, family, friends, school, and society.

In terms of internal factors, it is well known that the cognitive development of Down syndrome is also associated with specific health concerns such as congenital heart defects, sleep problems, and hearing impairments (Smith,

2014). It is reported that children with Down sydrome who have congenital heart defects have poorer language skills and executive control along with neurocognitive skills (Bellinger et al., 2003, Snookes et al., 2010). Those having heart defects are at greater risk of cognitive difficulties, as well as neurocognitive impairments. As a different health concern, the relationship between the sleep and cognition has been an interest for the scholars since "sleep plays a vital role in memory consolidation processes" (Stickgold, 2005: 39). For instance, sleep apnoea is associated with increased cognitive impairments in adolescents and adults with Down syndrome (Andreou et al, 2002). Several other studies have looked into the association between hearing levels and language or other cognitive activities in people with Down syndrome (Abbeduto et al., 2003; Miolo et al.,2005). Given the language deficit associated with Down syndrome, it is proposed that frequent middle ear inflections fluctuating to otitis media (known as hearing loss) may be related to later language difficulties (Laws & Hall, 2014).

A further issue is to uncover the external factors that affect the cognitive development of a DS individual. The main external factor that affects the cognitive development is 'family'. The previous studies showed that family had a profound role in the cognitive development of DS individuals (Silverman, 2007). For instance, the parents' use of language is closely associated with the linguistic development of an individual with DS (Bird et al., 2005; O'Grady, 2007). Even the social status of parents is a determining fact for the cognitive and linguistic development (Silverman, 2007). One of the most important external factors is the time course of inclusive education that the individual with DS gets. Recent studies have underlined the importance of early inclusive education and how this education affects the whole cognitive profile of a DS individual (Polisse, 2002; Green et al., 2014). It is possible to interpret that the amount of the inclusive education is the most important factor that widens or closes the gap among such a heterogeneous group. Another external factor is related to the DS individuals' social interactions with peers. It is indicated that

friendship dyads in social environments help friends to interact with each other and engage in communication (Hollingsworth & Buysse, 2009). Accordingly, an individual with Down syndrome who is in close relationship with friends also exhibits better cognitive skills.

All in all, the cognitive development and figurative understanding are affected by various distinctive factors. Two broad categorization of such factors as internal and external factors could be our point of reference in understanding why an individual with DS performed worse than his/her typically developing, same-mental-age match in comprehending the figurative meaning of idioms.

CHAPTER 5

CONCLUSION

The present section presents overall concluding remarks by providing general answers for the research questions, proposes implications for practice, and provides suggestions for further studies.

The present study was an attempt to investigate the figurative language interpretation of the individuals with Down syndrome. The main focus was on the relationship between the mental and chronological age and the comprehension of idioms. The findings of the study contribute to understand the nature of the figurative competence of the individuals with DS with mild mental retardation. Based on this, the present study provides a basis for the inter-/multidisciplinary studies particularly on the interface of cognitive linguistics and special education.

The major contribution of the present thesis is for the figurative competence of the individuals with DS. Consistent with the findings of the study by Roch and Levorato (2010) on idiom comprehension, it was found that the understanding of idioms is correlated with mental and also chronological ages of the individuals. Furthermore, the familiarity and the semantic composition of the idioms have profound role in interpreting the figurative meaning of idioms. The findings also showed that there is a need for rehabilitation specifically aiming to enhance the comprehension of the idioms as a part of linguistic abilities.

Despite there is a number of individual differences between the people with Down syndrome, “the individuals with Down syndrome typically show intellectual disability from mild to severe” (Chapman & Hesketh, 2000: 57). However, it is possible to determine the specific characteristics among these individuals showing the strength and weakness, since “these individuals frequently show good social skills but problems in language development” (Fidler et al., 2005). Furthermore, it is highlighted that there is a more delay in linguistic skills of Down syndrome rather than the cognitive skills. (Abbeduto et al., 2007).

Various researches have indicated that these individuals have some problems in the interpersonal relations (Cobos & Castro, 2010) although “social development is recognized as being a strength in individuals with DS (Fidler et al., 2005). Individuals with Down syndrome are known/labeled as *happy children* who have always smiling faces showing to share their emotions. However, although these children show high levels of affection sharing emotions, they are not capable of using this ability to understand the other person’s intention (Hahn et al., 2013). The individuals with DS typically have difficulty in understanding the intentions, beliefs or implicit behaviours and meanings of others. Given this, Thirion-Marissiaux and Nader-Grosbois (2008) put forward that the problems in understanding the emotions and the intentions could be related to the development of the Theory of Mind abilities.

On the other hand, another study indicated the strength of the individuals with Down syndrome in the comprehension of idioms. The study conducted by Roch and Levorato (2010) aimed to investigate whether the comprehension process of idioms is similar in children and adolescents with DS to the typically developing peers who are matched according to the same level of text comprehension. Moreoever, the study also proved that the use of information from context is a key factor while attributing the intended meaning to unfamiliar

idioms. In the same vein, the findings of the present thesis are consisted with the Roch and Levorato (2010). This means that the information-rich context helps to process the determination of the figurative comprehension of the indidividuals with DS.

Various studies have demonstrated that the cognitive abilities of the individuals with Down syndrome evolve in response to a variety of circumstances including the development of brain, hereditary features or individual differences (Silverman, 2007; Abbeduto et al., 2007; Roberts et al., 2007). Additionally, the most important factor is considered to be included in early intervention. Early intervention is a collaborative consensus including the participation of the family, caregivers and the practitioners (Bilginer, 2002). Thus, a well-developed plan aimed to compensate the needs for the individual is required.

The conclusion part also includes a summary of the main findings of the present study via the answers for the following research questions.

1. In terms of the processing and comprehension of different types of Turkish idioms, what specific characteristics does the mild-degree DS individuals' performance display?

The findings of the present dissertation showed that the participants with Down syndrome display specific characteristics in different types of idioms. The semantic degree of idioms has played a pivotal role in comprehending the idioms. In contrast to findings of some of the studies in literature, Down syndrome intellectuals were able to acquire better scores in figurative understanding of the first-degree idioms. These idioms are the kinds that are 'more figurative' than the other idioms. Although it is mentioned that it is 'more difficult' to comprehend the third-degree idioms, the findings showed just the opposite results. Of course, it is not possible to generalize it to all the individuals with DS, nonetheless, within the scope of the present study, it was noticed that

the individuals with DS, to some extent, have had similar scores with typically developing participants especially for the tasks testing the idioms, namely *karnı zil çalmak*, *kulak misafiri olmak,* and *baş başa kalmak.*

2. When the level of familiarity of the idioms considered; does the performance of DS individuals display certain changes in relation to;

   (a) the first- and third-degree idioms (terms are explained in Chapter 2),

The findings of the study are consistent with the previous literature on the issue of familiarity of the idioms. The familiarity of the idiom is a positive function of the comprehension process. As the familiarity of the idioms increases so does the figurative comprehension. In the light of this, the findings of the thesis revealed that the participants with DS have better figurative understanding in the first-degree idioms. Some of the third-degree idioms were also comprehended figuratively such as *ağzı açık kalmak*, *aklı başında gitmek* and *gözünün önüne gelmek.*

   (b) verbal and visual contexts in which the idioms are used?

One of the most noteworthy results showed that the context has a facilitating role in the comprehension of idioms. As it is clearly indicated in Chapter 4, the contextual information accelerates the figurative understanding of the idioms especially in the group of participants with Down syndrome. Thus, the present research contributes to the validity of the Global Elaboration Model (Levorato and Cacciari, 1995, 1999) and also sheds more light on the figurative competence of Down syndrome individuals and underlines the importance of the contextual reinforcement in the interpretation of idioms.

3. Depending on the results of the applied tests and tasks, in what ways does the performance of DS individuals differ from that of the chronologically same- age peers?

The findings of the present dissertation have indicated that the participants with DS have relatively lower scores compared to their chronologically-matched peers. Down syndrome individuals' being behind their chronological peers, which has also been mentioned in the literature, is also supported with the findings of the study.

4. When the mental age test scores of DS individuals and their figurative language test and task scores are taken into consideration, to what extent is their performance similar to their typically developing mental age peers?

The results of the tasks revealed that there is a significant difference between the individuals with Down syndrome and mental age-compared typically developing peers in the interpretation of idioms. Compared to their mental age peers, the individuals with Down syndrome had difficulty in the figurative interpretations of the idioms. In other words, there was a gap between a typically developing individual and an individual with Down syndrome in terms of figurative understanding of idioms. For instance, one participant with DS and a typically developing individual were both given a mental test and were evaluated as 9 considering the mental age. The findings of the tasks indicated that the individual with Down syndrome had more literal interpretation of the idioms whereas the typically developing peer had better figurative comprehension. The two groups were not on two separate ends but Down syndrome individual was closer to the literal understanding of the idioms.

5. What do the findings of the research imply in relation to the communicative competence and linguistic development of DS individuals?

The findings of the present study have implied that, consistent with the relevant literature, the participants with Down syndrome have specific deficits in terms of cognitive development, particularly in the development of figurative competence. It is important to note that the participants with DS had a weaker profile of idiom comprehension compared to their mentally matched typically developing peers.

The findings of the study, to some extent, are consistent with the findings of the study conducted by Özer (2012). In that study, she proposed that as the chronological/ mental ages of the both the typically developing children and the children with Down syndrome increased, the language scores including receptive and expressive skills of both typically developing children and children with Down syndrome increases. In the current study, atypical participants with DS showed better performance as their mental ages increased. However, it is known that there are significant individual differences among the participants with DS. These differences emerge as a consequence of certain components as mentioned earlier. For instance, Miolo et al. (2005), noted that the adolescents with Down syndrome have difficulty in comprehending the novel or less familiar words, nevertheless, they score better in familiar abstract words.

The important point to bear in mind is that, in contrast to TD children, there was no *reliable* relationship between MA and the comprehension of idioms in terms of the individuals with DS. Furthermore, in line with previous studies investigating comprehension of lexicalized figurative expressions (Karmiloff-Smith et al., 1995; Mervis et al., 2003; Sullivan et al., 2003; Thomas et al., 2010), the participants with DS gained relatively lower scores compared to the TD controls in idiom comprehension, but the difference between the two groups for comprehension of the first-degree idioms was not significant.

This difference can be attributed to the idea that the language use of both typically developing and Down syndrome children can be affected by various reasons such as environmental conditions or the language that the family use (Bird, E., 2005 and Limongi et. al., 2012). It was claimed that individuals with DS could comprehend the figurative language less than the typically developing peers, especially with the ones mentally-matched.

Developing and utilizing new testing materials including idiom-picture matching tasks and idiom-in-context tasks, which have been successfully tested and validated with a number of typically developing individuals and which have potential to be used as a tool for using and assessing figurative language comprehension abilities of atypical individuals, could be another contribution of the present study to the field in question.

Implications for Practice

Due to the importance of figurative language in daily conversations and social interactions in society, and conceptual thinking, the findings of this study could have implications for both language therapists and teachers in intervention programs with the aim of improving social communication skills as well as word knowledge abilities in general, and improving figurative language abilities in particular. Furthermore, the results also provide further evidence that in certain atypical groups, such as DS, the figurative language comprehension scores are not in line with the scores that the peers matched for mental age. Again, the finding is of importance to clinical psychologists, special education experts, teachers and therapists when they are assessing or providing therapies and education to individuals with DS.

Accordingly, one of the implications is that the present study revealed the need for teaching idioms to the individuals with Down syndrome. The use of idioms in

the target programmes should be added to the Individualized Education Programme (IEP- *Bireyselleştirilmiş Eğitim Programı- BEP* in Turkish). It is a joint agreement including the family, special education teacher, the directorate of the school.

As Kutay (2018:150) discussed, the Primary Instruction and Education Law (No. 222), declares that “schools and classes must provide accommodations for children with special needs” (cited in Şenel, 1998). In addition, Special Education Regulation, published in 2020, provides definitions for the basic principles of special education and emphasizes the importance of including those students with special needs in regular education classrooms. Besides those classrooms, children with special needs are provided with IEP programme. Article 12- 2b states that grounded upon the education programme provided by the Ministry, the IEP programmes should be adapted within the family (MEB, 2018). The team of IEP development unit includes certain collaboration of a group of members, namely, the principal or the vice-principal of the school that child with special needs goes to, guidance teacher, core teacher, field teacher, the parents and the child with special needs. The utmost aim of this collaboration is to meet educational needs of those students with special needs (Melekoglu et al., 2009:9).

According to the Route Map for IEP, in this programme, the members of IEP set goals for the child with special needs and one of these goals is directed to the language, communication and speaking abilities (MEB, 2004: 50). Concerning the findings of the present dissertation, it is suggested that the targets including teaching idioms should be added to the IEPs of the children with special needs.

The second implication of this study is that the usage and awareness of idioms could be practiced by the professionals of speech and language therapy and

the special education teachers. It is a well-known issue that idioms are of importance for the participants with DS considering their communication skills and so are for the speech and language pathologists. While conducting the language studies, the speech and language pathologists are advised to add the idioms- as a part of language skill- to their practice plans. In the field, the therapists could trigger the individuals with DS to think the abstract concepts and thus develop abstract thinking abilities.

The third implication of the present dissertation is that the families having children with DS could be motivated to use idioms in their daily lives. The present dissertation revealed that the exposure to the idioms and thus the familiarity has a profound role in the interpretation of idioms.

Recommendations for Further Research

According to some experts, “individuals with special needs especially with Down syndrome is not a homogeneous group” (Karmiloff-Smith et al., 2016:13). Taking the individual variation at multiple levels into consideration, it is revealed that there are still some unanswered questions remaining.

In the following lines, some of the humble recommendations are provided for the future research:

The first recommendation is that it would be helpful to design an experimental study in which the researcher can teach the idioms to individuals with DS. The further work which systematically evaluates the influence of teaching the idioms in the interpretation of the figurative comprehension is required. What is more, it would be significant to design phenomenological studies that clearly depict the experiences of the teachers during the process of teaching idioms. This reveals

both the techniques or methodologies that a teacher employs while teaching a group of individuals with special needs, not typically developing peers.

The second recommendation is that it would be helpful to design comparative studies which evaluate the relationship between Theory of Mind abilities and/ or the lexical knowledge of the atypical participants and the comprehension of idioms.

The third recommendation is that difference in methodological design would enhance the involvement of the research and make it more generalizable to a certain community, namely DS individuals. The mixed design of methods including both qualitative and quantitative data could affect the results. The more participants are included in the study, the more reliable and significant results are acquired. However, it should be remembered that reaching the participants with DS is a challenging process that requires a number of variables to be taken into account (for detailed reasons see Chapter 3).

The fourth recommendation is that the difference in the types of the idioms could lead to the difference in the further research. The present research mainly concentrated on the idioms including body parts. It would be helpful to conduct a research in which different types of idioms are applied. These different kinds could be idioms including color terms or plants or the type of the idioms. On the other hand, the present thesis limited the idioms into the semantic compositionality thus for further research, idioms would be grounded upon according to the syntactic decompositionality or opacity of the idioms (see Chapter 2 for further information). The results could also be compared with the present research.

Following the present dissertation, the final relatively important recommendation is that it would also be helpful to design a comparative study including mild, moderate and severe degrees of mental retardation. A comparative study would make it clearer to see the differences, if any, among the participants having different levels of mental abilities.

Obviously, there are many challenges that parents of a child with special needs or disability face, thus offering a useful plan for their child's mental and emotional growth with suitable care and learning would be an enormous help for these families. Of course, this is put into the practice by the governmental or the national policies (Alkahtani, 2016). However, we should all feel responsible in helping these families as a teacher, a neighbor, a friend or even as a member of the shared society.

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APPENDICES

APPENDIX 1

Idioms that are tested in the study

	Familiar Idioms	Unfamiliar Idioms
1st Degree Idioms	*Kafadan atmak*	*Çiçeği burnunda*
	Eline yüzüne bulaştırmak	*Diş bilemek*
	Her işe burnunu sokmak	*Karnı tok olmak*
	Karnı zil çalmak	*Yüz karası*
	Kulak misafiri olmak	*Göz(ünü) boyamak*
	Yüreği ağzına gelmek	*Beyin yıkamak*
3rd Degree Idioms	*Ağzı açık kalmak*	*Karın ağrısı*
	Baş başa kalmak	*Elini ayağını öpmek*
	Burnunun dibinde	*Aklı başından gitmek*
	Dişini sıkmak	*Elinin altında olmak*
	Her kafadan bir ses çıkmak	*Gözünün önüne gelmek*
	Gözünün yaşına bakmamak	*Sırtüstü yatmak*

Translation of Idioms / English Equivalents of Idioms

Familiar Idioms- The first degree idioms

Kafadan atmak

To make up; cook something up; talk through one's hat; take a shot in the dark; whistle in the dark.

Eline yüzüne bulaştırmak

To ruin, spoil, make a mess of; make a hash of; make a pig's ear out of.

Her işe burnunu sokmak

To interfere in; put one's nose in.

Karnı zil çalmak

To feel peckish; be starving; be famished.

Kulak misafiri olmak

To eavesdrop; listen in; eaves drop on; overhear.

Yüreği ağzına gelmek

To have the hearth in the mouth; your heart sinks into your boots; nearly jump out of your skin.

Familiar Idioms- The third degree idioms

Ağzı açık kalmak

your jaw drops; bowl over; have one's mouth hit the floor; drop one's jaw.

Başbaşa kalmak

To be alone together, be alone with.

Burnunun dibinde

under someone's / one's nose, right under someone's very nose, happen under one's rose, if it was a snake, it would bite you.

Dişini sıkmak

To be patient; stand the gaff; gritt one's teeth; tough it out.

Her kafadan bir ses çıkmak

for everyone to be talking all at once.

Gözünün yaşına bakmamak

have no pity on somebody; show no pity/ mercy; give / grant someone no quarter.

Unfamiliar Idioms- The first degree Idioms

Çiçeği burnunda

fresh; brand new; very young; newly; someone (who is a rank newcomer to (a job)

Diş bilemek

get one's knife into; have it in for someone.

Karnı tok olmak

To have a full stomach.

Yüz karası

offscourings; blach sheep; let the side down; to be a disgrace to.

Göz(ünü) boyamak

throw dust in someone's eyes; pull the wool over somebody's eyes; mislead; lead someone up/ down the garden path; feed someone a line.

Beyin yıkamak

brainwash; mind abuse; thought control.

Unfamiliar Idioms- The third degree idioms

Karın ağrısı

worry; a pain in the neck; fly in the ointment.

Elini ayağını öpmek

To lick somebody's arse; lick the dust; to flatter someone; to implore.

Aklı başından gitmek

jump out of one's skin; go overboard; climb the wall; leap out of one's skin; to be overwhelmed; be aside oneself.

Elinin altında olmak

keep/have something at one's fingertips; be within arm's reach; lie by.

Gözünün önüne gelmek

swim before someone's eyes; conjure up a mental picture of …; take into consideration; visualize; envisage.

Sırtüstü yatmak

lie back, lie on one's back; to be flat on the back; laze sth away; lead a comfortable life without working.

APPENDIX 2a

IDIOM- PICTURE MATCHING TASKS

FAMILIAR- FIRST DEGREE IDIOMS

The idiom *kafadan atmak* (KA)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

The idiom *eline yüzüne bulaştırmak* (EYB)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

The idiom *her işe burnunu sokmak* (HIBS)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

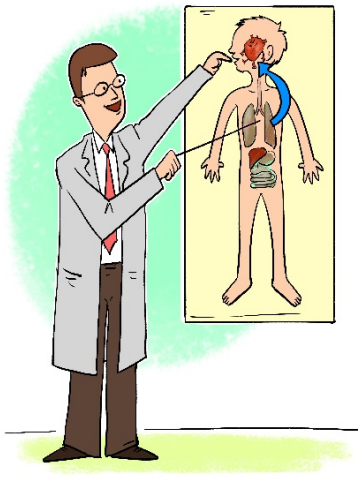
The idiom *karnı zil çalmak* (KZC)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

The idiom *kulak misafiri olmak* (KMO)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

The idiom *yüreği ağzına gelmek* (YAG)

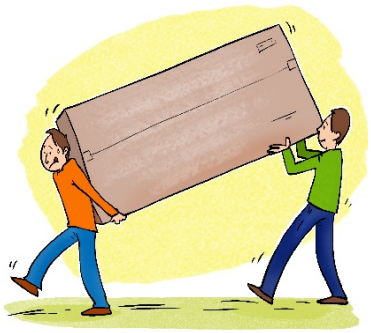
The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

IDIOM- PICTURE MATCHING TASKS
FAMILIAR- THIRD DEGREE IDIOMS

The idiom *ağzı açık kalmak* (AAK)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

The idiom *baş başa kalmak* (BBK)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

The idiom *burnunun dibinde* (BD)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

The idiom *dişini sıkmak* (DS)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

The idiom *her kafadan bir ses çıkmak* (HKBSC)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

The idiom *gözünün yaşına bakmamak* (GYB)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

IDIOM- PICTURE MATCHING TASKS
UNFAMILIAR- FIRST DEGREE IDIOMS

The idiom *çiçeği burnunda* (CB)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

The idiom *diş bilemek* (DB)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

The idiom *karnı tok olmak* (KTO)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

The idiom *yüz karası* (YK)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

The idiom *göz(ünü) boyamak* (GB)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

The idiom *beyin yıkamak* (BY)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

IDIOM- PICTURE MATCHING TASKS
UNFAMILIAR- THIRD DEGREE IDIOMS

The idiom *karın ağrısı* (KAG)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

The idiom *elini ayağını öpmek* (EAO)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

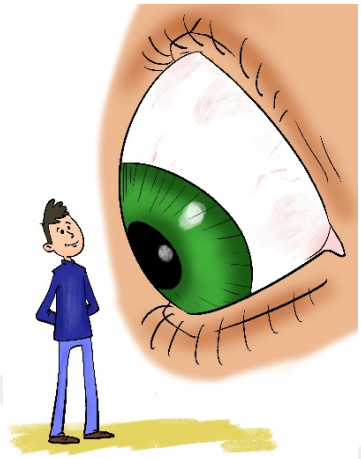
The idiom *aklı başından gitmek* (ABG)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

The idiom *elinin altında olmak* (EAOL)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

The idiom *gözünün önüne gelmek* (GOG)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

The idiom *sırtüstü yatmak* (SUY)

The visual for literal meaning	The visual for figurative meaning	Irrelevant visual
		

APPENDIX 2b

English Translations of Stories used Idiom in context tasks: Familiar Idioms

Kafadan atmak

Öğretmen bir gün sınıfta Ali'yi tahtaya kaldırdı. Ali'ye şu soruyu sordu: "Ali bir yılda kaç hafta vardır?" Ali: "100 hafta vardır öğretmenim". Öğretmen, "Hayır" diyerek başını salladı. "O zaman 85 hafta vardır öğretmenim" dedi Ali. "Tamam tamam 70 hafta vardır o zaman" dedi yine. Öğretmen yine yanlış cevap verdiğini belirterek kafasını salladı. "Bu konuya hiç çalışmadığın belli öyle ***kafadan atıyorsun ki!****" dedi.*

One day, the teacher called Ali to the blackboard and asked Ali the following question: "How many weeks are there in a year, Ali?" Ali replied, "There are 100 weeks, teacher". The teacher shook his head, "No." Then, there are 85 weeks, my teacher" Ali said. "Okay okay, there are 70 weeks then," he said again. The teacher shook his head again, stating that he had given the wrong answer. The teacher replied, "You obviously have never studied on this subject, you are so ***kafadan atıyorsun****!" (making it up)*

Eline yüzüne bulaştırmak

Alinin babası Ali'ye yepyeni bir bisiklet almıştı. Haftasonu okul olmadığı zamanlarda Ali sürekli bisikletini alıp dışarıda bahçede sürmeye gidiyordu. Bir gün eve dönerken bisikletinin tekerine bir çivi saplandığını farketmişti. Üzgün bir şekilde eve dönmüş. Babası tekeri görmüş ve hemen durumu anlamış. Ali'ye "Hiç merak etme Aliciğim ben onu hemen tamir ederim" demiş ve alet çantasını alıp bisikletin başına oturmuştu. Önce tekeri sökmüş yerinden çıkarmış daha sonra da diğer parçaları sökmeye başlamış ama bir türlü tamir edememişti. Bu sırada Ali'nin annesi yanlarına gelmiş ve söyle demiş: "Keşke bunu bir tamirciye götürseydin Bey, gördün mü bak ***eline yüzüne bulaştırmışsın!".***

Ali's father has bought a brand-new bike for Ali. On the weekends, when there was no school, Ali was always taking his bike and going out to ride on the schoolyard. One day, on his way home, he noticed a nail stucked in the wheel of his bicycle. He returned his home and he was very sad. His father saw the wheel and immediately understood the situation. He told that "Don't worry, Ali, I'll fix it right away" and took his toolbox and began to fix it. Firstly, he disassembled the wheel, then he started to disassemble the other parts, but he could not fix it. Meanwhile, Ali's mother came and said: "My dear, I wish you would have taken the bicycle to a repairer, look! ***eline yüzüne bulaştırmışsın****!" (You messed it up!).*

Her işe burnunu sokmak

Ece 12 yaşında bir kız çocuğudur ve her konuyla ilgili söyleyecek çok şeyi vardır. Yine bir gün annesi ve babası yemekten sonra çaylarını içerken sohbet etmeye başlamışlar. Babası politikayla ilgili bir konudan konuşmaya başlamış. Ece hemen araya girip politika ile ilgili yorum yapıyormuş. Kısa bir süre geçtikten sonra annesi bahçe işlerinden bahsetmeye başlamış, çiçeklerden ve bitkilerden bahsederken Ece yine araya girip çiçeklerden böceklerden bahsediyormuş. Sonunda annesi dayanamayıp kızarak "Ece, ***her işe burnunu sokuyorsun****!" demiş.*

Ece is a 12-year-old girl and has a lot to say about every subject. One day, her mother and father started to chat while drinking their tea after dinner. Her father started to talk about something related to politics. Ece immediately intervened and commented on politics. After a short while, her mother started to talk about gardening, and while talking about flowers and plants, Ece again intervened and talked about insects and flowers. Finally, her mother could not stand and said, "Ece, ***her işe burnunu sokuyorsun****!" (You interfere in every subject!)*

Karnı zil çalmak

Ali, ortaokul üçüncü sınıfa giden çok başarılı bir öğrencidir. O gün sabah uyuyakalmış ve okul servisine zorlukla yetişmiştir. Bu nedenle kahvaltı yapmamıştır. Okulda kantinden bir şeyler alıp yemek istemiş fakat her seferinde tenefüste arkadaşlarıyla zil çalar çalmaz bahçeye koştuğundan bir türlü akşama kadar yemek yiyememiştir. Akşam eve döndüğünde annesine şöyle seslenmiştir: «Anneee! Yemekte ne var? ***Karnım zil çalıyor****!»*

"*Ali is a very successful third grade student who goes to the secondary school. One morning, he overslept and caught the school bus at the last minute; therefore, he did not have a breakfast. At school, he wanted to buy something to eat from the canteen, but as soon as the bell rang, each time he ran to the garden to play with his friends. Thus, he could not eat anything until the evening. When he returned home in the evening, he called out to his mother: Mummy!! What's there for dinner?* ***Karnım zil çalıyor!*** *(My stomach is ringing)!"*

Kulak misafiri olmak

Özge ve Fatma çok yakın iki arkadaşlardır. Bir gün Fatma, Özge'yi çay içmek için evine davet eder. Birlikte çaylarını alıp Fatma'nın odasına geçerler. Fatma geçen gün okuldaki matematik sınavından çok düşük aldığını söyler ve bunun nedenini anlatmaya başlar. Tam o sırada evin küçük kedisi Fatma'nın odasına girer ve kapıyı aralıklı bırakır. Fatma'nın annesi Serpil Hanım da hiç ses çıkarmadan kapının arkasından onları dinlemektedir. Kızların anlattıklarına ***kulak misafiri olmuştur.***

*“Özge and Fatma are very close friends. One day, Fatma invites Özge to her home for tea. They bring cups of tea together and go to Fatma's room. Fatma says that she got very low grades in the math exam and she begins to explain the reason. At that moment, her little cat enters Fatma's room by leaving the door open. Serpil Hanım who is Fatma's mother is listening to them behind the door without making any noise. She overheard what the girls were saying (**kulak misafiri olmuştur**).”*

Yüreği ağzına gelmek

*Dün annemle birlikte alışverişe çıkmıştık. Yolda birlikte yürürken yoldan karşıdan karşıya geçmeye çalışan yaşlı bir teyze gördüm. Tam o sırada teyzenin bulunduğu yöne yeşil ışık yanmıştı ve teyze yavaş yavaş ilerledi. Teyze tam yolun ortasına gelmişti ki trafik kurallarına uymayıp kırmızı ışıkta geçen bir araç hızla teyzeye yaklaşıyordu, neyse ki araç çok ani bir fren yapıp güçlükle durabildi. O an **yüreğim ağzıma geldi**.*

*“Yesterday I went to shopping with my mother. While we were walking on the street together, we saw an old woman who were trying to cross over the road. At that moment, the lights were green for the direction of the old woman and she began to walk slowly. The woman was right in the middle of the road when a vehicle did not obey the traffic rules and run the red light. The car was getting closer to the old woman so rapidly. Fortunately, the vehicle braked very suddenly and was able to stop at the very last minute. At that moment, **yüreğim ağzıma geldi** (my heart was in my mouth!).”*

Ağzı açık kalmak

*Özlem ve Melih okul çıkışında birlikte kitapçıya öğretmenlerinin söylediği hikaye kitabını almaya gitmişlerdi. Yolda yürürken yaşlı bir adam gördüler. Bu adam yolun kenarına oturmuş, yoldan geçenleri neşelendirmek için elindeki mızıkasıyla müzik çalıyordu. Müziğin sesini duyunca biraz daha yaklaşıp dinlemek istediler. Orta yaşlı olan bu amca Özlem’in onun dinlediğini farkedince küçük bir numara yapmaya karar verdi. Özleme doğru yaklaşıp elini Özlem’in kulağının arkasına götürdü ve o da ne! Minicik bir bülbül avucunun içindeydi. Bu numarayı gören Özlem ve Melih’in **ağzı açıkta kaldı.***

*“After the school, Özlem and Melih went to the bookstore together to buy a book that their teacher advised them. While walking on the road, they saw an old man. This man was sitting on the corner of the road was playing music with his harmonica to cheer up the passers-by. When they heard the sound of the music, they wanted to come a little closer to listen the old man. When the old man realized that Özlem and Melih were listening to them, he decided to do a little trick. He approached Özlem and put his hand behind Özlem’s ear and abracadabra! A tiny nightingale was in his palm. When Özlem and Melih saw this trick, **ağzı açıkta kaldı** (their mouth fell open). “*

Baş başa kalmak

Ali ve Ayşe, Mehmet'in doğum günü partisine gitmişlerdi. Parti çok kalabalıktı. Herkes dans edip eğleniyordu. Ali ile Ayşe uzun süredir görüşmüyorlardı. Ali, Ayşe ile konuşmayı çok istiyordu ama ortam çok gürültülüydü. Daha sonra, Ali Ayşe'ye "Ayşe biraz dışarıdaki bahçeye çıkalım mı, ne dersin?" demişti. Ayşe'de "tabiki" demiş ve birlikte dışarı çıkmışlardı. En sonunda ikisi ***baş başa kalmış,*** *sessiz ve gürültüsüz bu ortamda birlikte sohbet etmeye başlamışlar.*

"Ali and Ayşe had gone to Mehmet's birthday party. The party was very crowded. Everyone was dancing and having fun. Ali and Ayşe had not seen each other for a long time. Ali tried to talk to Ayşe but the atmosphere was very noisy. Later Ali asked Ayşe: Shall we go out to the garden for a bit?". Ayşe said "of course" and they went out to the garden together. In the end, they were ***baş başa kalmış*** *(alone together) and started to chat in this quiet place."*

Burnunun dibinde

Dışarda lapa lapa kar yağıyordu. Mehmet çok heyecanlanmıştı çünkü karı çok seviyordu. Karda oynanan bir sürü oyun biliyordu ama en çok babasıyla kar topu oynamayı seviyordu. Mehmet ve babası Samet Bey dışarı çıkıp kartopu oynamak için kıyafetlerini giyindiler. Mehmet de montunu, beresini ve botlarını giymişti fakat mavi çizgili eldivenlerini bir türlü bulamıyordu. Botlarını çıkarıp eve girdi ve her yeri yeniden dikkatli bir şekilde aradı hatta Samet Beyle birlikte aradılar. Fakat yine de bulamadılar. Mehmet'in annesi Sevgi Hanım da aramaya katıldı ve ne görsün eldiven her zamanki yerinde vestiyerin üstünde olmasına rağmen bu sefer yere düşmüştü. Gülerek eldiveni Mehmet'e uzattı ve «Alın bakalım, ***burnunuzun dibinde duruyormuş****» dedi.*

"It was snowing flakes outside. Mehmet was very excited because he loved the snow very much. He knew a lot of games playing with snow, but most of all, he liked to play snowballs with his father. Mehmet and his father, Samet Bey got dressed to go outside and play snowballs. Mehmet had also put on his coat, cap and boots, but he could not find his blue-striped gloves. He took off his boots and entered the house back and carefully searched everywhere again with Samet Bey. But they still couldn't find the gloves. Mehmet's mother, Sevgi Hanım, also began to search for the gloves and she realized that although the gloves were in its usual place on the cloakroom, it had fallen down to the ground. While laughing at Mehmet, she handed the gloves to Mehmet and said: 'Here, ***burnunuzun didinde duruyormuş*** *(it is right under your nose)'".*

Dişini sıkmak

Ali, tüm yıl boyunca üniversiteye giriş sınavlarına hazırlanıyormuş. Hem okulda ders çalışıyor hem de evde gelip tekrar edip geceleri bolca soru çözüyormuş.

*En son okulda yapılan matematik ve fizik derslerinin sınavlarından çok düşük not almış ve ağlayarak annesinin yanına gelip düşük not aldığını anlatmış. Annesi de ona şöyle demiş: "Üzülme Aliciğim, biraz **dişini sıkar** ve daha çok çalışırsan daha yüksek notlar alabilirsin, ben sana inanıyorum" demiş.*

*"Ali has been studying for the university entrance exam for a whole year. He was studying both at school and at home and he was repeating the topics and solving a lot of questions at nights. Although he studied hard, he got a very low grade in the maths and physics exams at school, and crying loudly, he told his mother that he had a low grade. His mother replied: 'Don't worry Ali, eğer biraz **dişini sıkarsan** (if you grind your teeth a little) and study harder, you can get higher grades, I really believe in you."*

Her kafadan bir ses çıkmak

*Bir pazar günü sabahı Ahmet Bey kahvaltı masasında otururken ailesine şöyle bir soru sormuş. "Çocuklar bugün ne yapsak acaba?". Ayşe, "Bence hep beraber sinemaya gidelim baba" demiş. Fatma demiş ki "Hayır baba, bence hava çok güzel bence piknik harika olur, hem ip de atlarız." Diğer taraftan Cem de "babacığım bence birlikte futbol maçına gidelim demiş". Evin annesi Gül Hanım da "Biraz alışveriş yapmamız lazım mutfakta eksiklerimiz var" demiş. Bu durumda **her kafadan bir ses çıkıyormuş.** Bir türlü nereye gideceklerine karar verememişler.*

*"On a sunday morning, while sitting at the breakfast table, Ahmet Bey asked his family a question. 'My dear children, what shall we do today?'. Ayşe said 'Daddy, I think we should all go to the cinema together'. Fatma said, "No, dad, I think the weather is very sunny, I think a picnic would be great idea, we can also skip a rope together'. On the other hand, Cem said, 'Daddy, I think we should go to the football match together'. The mother, Gül, said 'we need to do some shopping, we should also go to the market'. In this case, **her kafadan bir ses çıkıyormu**ş (there was a voice in every head). They couldn't decide where to go and what to do."*

Gözünün yaşına bakmamak

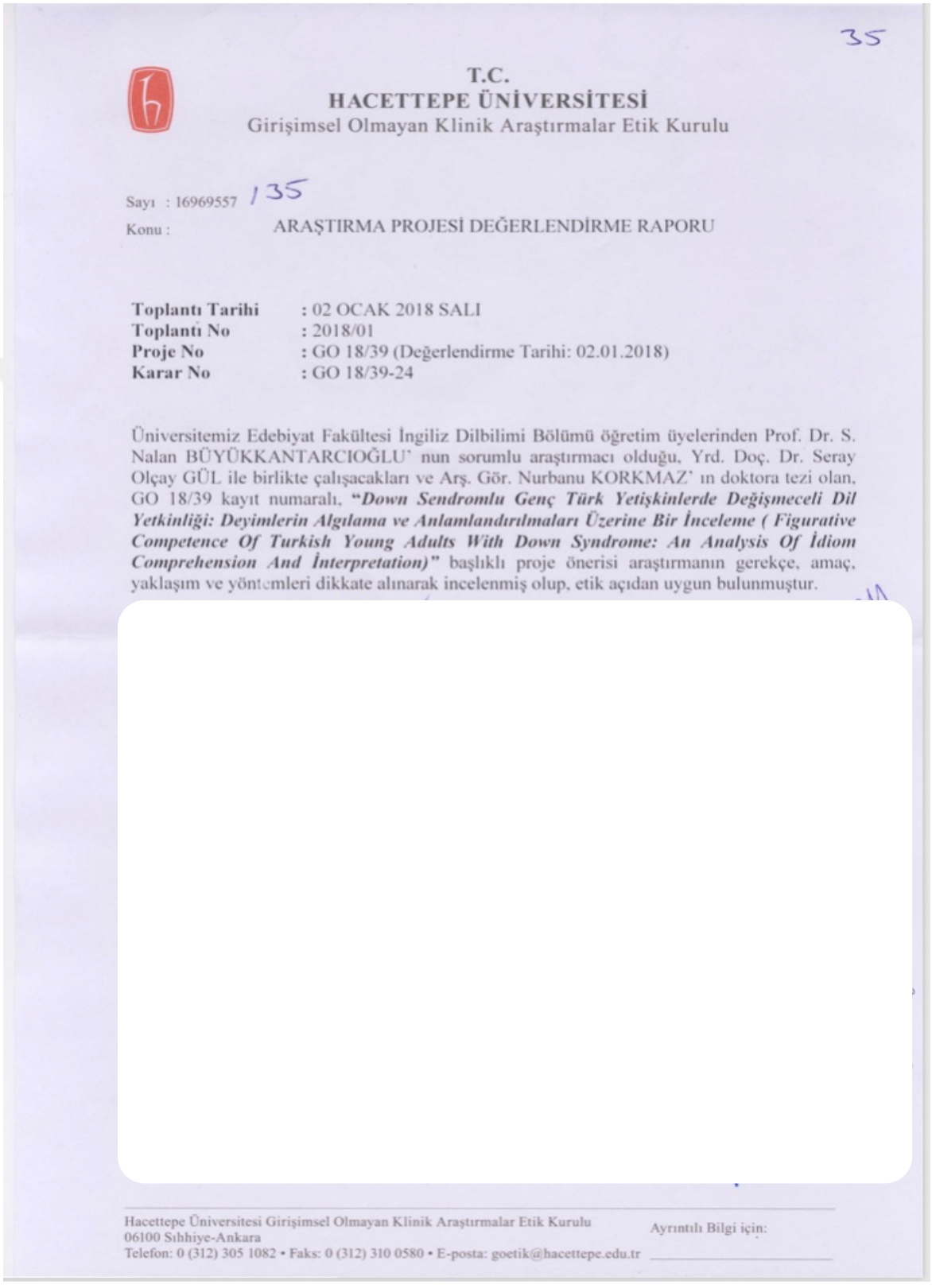
Ahmet ve Fatma aynı işyerinde çalışan iki arkadaştır. Ahmet geceleri geç uyuduğu için sabahları da işe hep geç kalmaktadır. Fatma, arkadaşı Ahmet'i geç kalmaması konusunda sürekli uyarır. Patronu, Ahmet'in işe geç geldiğini farketmiş ve bir kere Ahmet'i uyarmış fakat Ahmet yine işe geç gelmeye devam etmiştir. Yine bir gün patronu, Ahmet'in geç kaldığını farkedince "Ahmet işe gelince hemen benim yanıma gelsin!" demiş. Sonra öğle vakti olmuş ve Ahmet işyerine gelmiş. Gelir gelmez hemen patronunun odasına gitmiş. Kısa bir süre sonra patronun odasından çıkmış. Çok üzgün görünüyormuş. Fatma "Ne oldu Ahmet? neyin var? Patron ne dedi?" demiş. Ahmet, "Kovuldum!" diye yanıt

vermiş. Patron, Ahmet'in ***gözünün yaşına bakmamış*** *ve onu bu disiplinsizliğinden dolayı kovmuştur.*

"Ahmet and Fatma were two friends working at the same workplace. Since Ahmet stayed long at nights, he was always late for working the mornings. Fatma usually warned her friend about not to be late for work. One day, Ahmet was late for work and warned Ahmet twice about the working hours. Ahmet continued to come to work late again. Once again, when his boss realized that Ahmet was late, he said, 'When Ahmet comes to work, he should come to my office immediately!'. Then, in the afternoon, Ahmet came to work. As soon as he arrived, he immediately went to his boss's room. A short time later, he came out of the boss's room. He looked very sad. Fatma said, 'What happened Ahmet? What did the boss say?'. Ahmet replied, 'I am fired!'. Patron Ahmet'in ***gözünün yaşına bakmamış (****The boss had no pity on him) and fired him for his indiscipline."*

APPENDIX 3

Ethical Approval Form



35

T.C.
HACETTEPE ÜNİVERSİTESİ
Girişimsel Olmayan Klinik Araştırmalar Etik Kurulu

Sayı : 16969557 135
Konu : ARAŞTIRMA PROJESİ DEĞERLENDİRME RAPORU

Toplantı Tarihi : 02 OCAK 2018 SALI
Toplantı No : 2018/01
Proje No : GO 18/39 (Değerlendirme Tarihi: 02.01.2018)
Karar No : GO 18/39-24

Üniversitemiz Edebiyat Fakültesi İngiliz Dilbilimi Bölümü öğretim üyelerinden Prof. Dr. S. Nalan BÜYÜKKANTARCIOĞLU' nun sorumlu araştırmacı olduğu, Yrd. Doç. Dr. Seray Olçay GÜL ile birlikte çalışacakları ve Arş. Gör. Nurbanu KORKMAZ' ın doktora tezi olan, GO 18/39 kayıt numaralı, ***"Down Sendromlu Genç Türk Yetişkinlerde Değişmeceli Dil Yetkinliği: Deyimlerin Algılama ve Anlamlandırılmaları Üzerine Bir İnceleme (Figurative Competence Of Turkish Young Adults With Down Syndrome: An Analysis Of İdiom Comprehension And İnterpretation)"*** başlıklı proje önerisi araştırmanın gerekçe, amaç, yaklaşım ve yöntemleri dikkate alınarak incelenmiş olup, etik açıdan uygun bulunmuştur.

Hacettepe Üniversitesi Girişimsel Olmayan Klinik Araştırmalar Etik Kurulu
06100 Sıhhiye-Ankara
Telefon: 0 (312) 305 1082 • Faks: 0 (312) 310 0580 • E-posta: goetik@hacettepe.edu.tr

Ayrıntılı Bilgi için:

APPENDIX 4a

Informed Consent Form

ARAŞTIRMA AMAÇLI ÇALIŞMA İÇİN AYDINLATILMIŞ ONAM FORMU

(Down Sendromlu / Tipik Bireyin Ebeveyni İçin)

"Down Sendromlu Genç Türk Yetişkinlerde Değişmeceli Dil Yetkinliği: Deyimlerin Algılama ve Anlamlandırılmaları Üzerine Bir İnceleme" başlıklı bir araştırma yapmaktayız. Araştırma Hacettepe Üniversitesi Edebiyat Fakültesi İngiliz Dilbilimi Bölümü tarafından yürütülecektir. Bu araştırmaya katılıp katılmamakta serbestsiniz. Kararınızdan önce araştırma hakkında sizi bilgilendirmek istiyoruz. Bu bilgileri okuyup anladıktan sonra araştırmaya katılmak isterseniz formu imzalayınız.

Eğer araştırmaya katılmayı kabul ederseniz, Hacettepe Üniversitesi Özel Eğitim Ölçme Değerlendirme Birimi'nde Milli Eğitim Bakanlığı'na bağlı tüm birimlerde de kullanılan *Standford Binet Zeka Testi* ve *Peabody Resim- Kelime Eşleştirme Testi* çocuğunuza uygulanıp çocuğunuzun zeka yaşı değerlendirilecektir. Yaklaşık olarak 40- 50 dakika süren bu işlem sonrasında yine izniniz doğrultusunda bu çalışmayı gerçekleştirebilmek için çocuğunuza Türkçe'deki deyimleri içeren 3 resim sunup çocuğunuzun bunlardan birini (en iyi ifade eden görseli) seçmesini isteyeceğiz. Toplam 12 adet deyimden oluşan bu test yaklaşık 15 dakika sürecektir.

Araştırmanın ikinci bölümünde çocuğunuza uydurulmuş kısa hikayeler anlatılacaktır. Bu hikayeler deyimleri içeriyor olup, hikayenin hemen bitiminde deyimin ne anlama geldiği konusunda çocuğunuzun cevap vermesi beklenecektir. Her iki deyim anlama ve algılama testleri sırasında çocuğunuzun ses kaydı alınacak ve bu kayıtlar sadece bilimsel ya da akademik tüm çalışmalarda kullanılabilecektir. Tüm testlerin uygulanması ve görüşme yaklaşık 60 dakika sürecektir. Çocuğunuz tüm kişisel/ demografik bilgileri saklı kalacaktır.

Bu çalışmaya katılmayı reddedebilirsiniz. Bu araştırmaya katılmak tamamen isteğe bağlıdır ve reddettiğiniz takdirde çocuğunuz hiç bir teste tabi tutulmayacaktır. Yine çalışmanın herhangi bir aşamasında onayınızı çekmek hakkına da sahipsiniz.

(Katılımcının Beyanı)

Sayın Prof. Dr. S. Nalan Büyükkantarcıoğlu /Arş.Gör.Nurbanu Korkmaz tarafından Hacettepe Üniversitesi Edebiyat Fakültesi İngiliz Dilbilimi Anabilim Dalı'nda akademik bir araştırma yapılacağı belirtilerek bu araştırma ile ilgili yukarıdaki bilgiler bana aktarıldı.

Araştırma sonuçlarının eğitim ve bilimsel amaçlarla kullanımı sırasında kişisel bilgilerimin ihtimamla korunacağı konusunda bana yeterli güven verildi.

Uygulama sırasında herhangi bir sebep göstermeden araştırmadan çekilebilirim. Araştırma için yapılacak harcamalarla ilgili herhangi bir parasal sorumluluk altına girmiyorum.

Araştırma sırasında bir sorun ile karşılaştığımda; herhangi bir saatte, araştırma ile ilgili sorularım icin sorumlu araştırmacı Prof. Dr. S. Nalan Büyükkantarcıoğlu'nu nolu telefondan, tüm zeka yaşı beirleme ve uygulanan mental testlerle alakalı sorum için Doç. Dr. Seray Olçay'ı nolu telefondan veya tüm sorumlarım için yardımcı araştırmacı Arş.Gör. Nurbanu Korkmaz'ı [redacted] nolu telefonlardan veya Hacettepe Üniversitesi Edebiyat Fakültesi İngiliz Dilbilimi Anabilim Dalı adresinden arayabileceğimi biliyorum.

Bu araştırmaya katılmak zorunda değilim ve katılmak istemeyebilirim. Araştırmaya katılmam konusunda zorlayıcı bir davranışla karşılaşmış değilim.

Bana yapılan tüm açıklamaları ayrıntılarıyla anlamış bulunmaktayım. Kendi başıma belli bir düşünme süresi sonunda adı geçen bu araştırma projesinde çocuğumun "katılımcı" olarak yer alması kararını aldım. Bu konuda yapılan daveti memnuniyet ve gönüllülük içerisinde kabul ediyorum.

İmzalı bu form kağıdının bir kopyası bana verilecektir.

Katılımcı	**Görüşme tanığı**
Adı, soyadı:	Adı, soyadı:
Adres:	Adres:
Tel.	Tel.
İmza:	İmza:

Katılımcının yasal temsilcisi; yoksa	**Katılımcı ile**
1.derece yakını (veya bakım veren kişi)	**görüşen uygulayıcı**
Adı soyadı, unvanı:	Adı soyadı, unvanı:
Adres:	Adres:
Tel.	Tel.
İmza:	İmza:

APPENDIX 4b

Informed Consent Form (for Control Group)

ARAŞTIRMA AMAÇLI ÇALIŞMA İÇİN AYDINLATILMIŞ ONAM FORMU

(Kontrol Grubu)

"Down Sendromlu Genç Türk Yetişkinlerde Değişmeceli Dil Yetkinliği: Deyimlerin Algılama ve Anlamlandırılmaları Üzerine Bir İnceleme" başlıklı bir araştırma yapmaktayız. Araştırma Hacettepe Üniversitesi Edebiyat Fakültesi İngiliz Dilbilimi Bölümü tarafından yürütülecektir.

Bu araştırmaya katılıp katılmamakta serbestsiniz. Kararınızdan önce araştırma hakkında sizi bilgilendirmek istiyoruz. Bu bilgileri okuyup anladıktan sonra araştırmaya katılmak isterseniz formu imzalayınız.

Bu çalışma Down Sendromlu bireylerin Türkçe'deki deyimleri anlama ve anlamlandırmaları üzerine olup, çalışmanın gerçekleştirilebilemesi için bir de kontrol grubu oluşturulmuştur. Bu grup herhangi bir Down Sendromu tanısı almamış olan tipik bireylerden olmuşmaktadır. Bu bağlamda, siz de bu çalışmaya davet edilmektesiniz. Eğer araştırmaya katılmayı kabul ederseniz, Hacettepe Üniversitesi Özel Eğitim Ölçme Değerlendirme Birimi'nde Milli Eğitim Bakanlığı'na bağlı tüm birimlerde de kullanılan *Standford Binet Zeka Testi* ve *Peabody Resim- Kelime Eşleştirme Testi* size uygulanıp mental yaşınız değerlendirilecektir. Yaklaşık olarak 40- 50 dakika süren bu işlem sonrasında yine izniniz doğrultusunda bu çalışmayı gerçekleştirebilmek bilmek için size Türkçe'deki deyimleri içeren 3 resim sunup bunlardan birini (en iyi ifade eden görseli) seçmenizi isteyeceğiz. Toplam 12 adet deyimden oluşan bu test yaklaşık 15 dakika sürecektir.

Araştırmanın ikinci bölümünde size uydurulmuş kısa hikayeler anlatılacaktır. Bu hikayeler görsel testte size sunulan 12 deyimi içeriyor olup, hikayenin hemen bitiminde deyimin ne anlama geldiği konusunda cevap vermenizi bekleyeceğiz. Her iki deyim anlama ve algılama testleri sırasında sizden ses kaydı alınacak ve bu kayıtlar sadece bilimsel ya da akademik tüm çalışmalarda kullanılabilecektir. Tüm testlerin uygulanması ve görüşme yaklaşık 60 dakika sürecektir. Tüm kişisel/ demografik bilgileriniz saklı kalacaktır.

Bu çalışmaya katılmayı reddedebilirsiniz. Bu araştırmaya katılmak tamamen isteğe bağlıdır ve reddettiğiniz takdirde hiç bir teste tabi tutulmayacaksınız. Yine çalışmanın herhangi bir aşamasında onayınızı çekmek hakkına da sahipsiniz.

(Katılımcının Beyanı)

Sayın Prof. Dr. S. Nalan Büyükkantarcıoğlu/ Ar.Gör. Nurbanu Korkmaz tarafından Hacettepe Üniversitesi Edebiyat Fakültesi İngiliz Dilbilimi Anabilim

Dalı'nda akademik bir araştırma yapılacağı belirtilerek bu araştırma ile ilgili yukarıdaki bilgiler bana aktarıldı.

Araştırma sonuçlarının eğitim ve bilimsel amaçlarla kullanımı sırasında kişisel bilgilerimin ihtimamla korunacağı konusunda bana yeterli güven verildi.

Uygulama sırasında herhangi bir sebep göstermeden araştırmadan çekilebilirim. Araştırma için yapılacak harcamalarla ilgili herhangi bir parasal sorumluluk altına girmiyorum.

Araştırma sırasında bir sorun ile karşılaştığımda; herhangi bir saatte, araştırma ile ilgili sorularım için sorumlu araştırmacılar Prof. Dr. S. Nalan Büyükkantrcıoğlu'nu ; ve Doç. Dr. Seray Olçay'ı nolu telefondan aynı zamanda Ar. Gör. Nurbanu Korkmaz'ı nolu telefonlardan veya Hacettepe Üniversitesi Edebiyat Fakültesi İngiliz Dilbilimi Anabilim Dalı adresinden arayabileceğimi biliyorum.

Bu araştırmaya katılmak zorunda değilim ve katılmayabilirim. Araştırmaya katılmam konusunda zorlayıcı bir davranışla karşılaşmış değilim.

Bana yapılan tüm açıklamaları ayrıntılarıyla anlamış bulunmaktayım. Kendi başıma belli bir düşünme süresi sonunda adı geçen bu araştırma projesine "katılımcı" olarak yer alma kararı aldım. Bu konuda yapılan daveti memnuniyet ve gönüllülük içerisinde kabul ediyorum.

İmzalı bu form kâğıdının bir kopyası bana verilecektir.

Katılımcı	**Görüşme tanığı**
Adı, soyadı:	Adı, soyadı:
Adres:	Adres:
Tel.	Tel.
İmza:	İmza:

Katılımcının yasal temsilcisi; yoksa 1.derece yakını (veya bakım veren kişi)	**Katılımcı ile görüşen uygulayıcı**
Adı soyadı, unvanı:	Adı soyadı, unvanı:
Adres:	Adres:
Tel.	Tel.
İmza:	İmza:

APPENDIX 5. ORIGINALITY REPORT

HACETTEPE ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ
DOKTORA TEZ ÇALIŞMASI ORİJİNALLİK RAPORU

HACETTEPE ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ
İNGİLİZ DİLBİLİMİ ANABİLİM DALI BAŞKANLIĞI'NA

Tarih: 05/07/2021

Tez Başlığı: DOWN SENDROMLU GENÇ TÜRK YETİŞKİNLERDE DEĞİŞMECELİ DİL YETKİNLİĞİ: DEYİMLERİN ALGILAMA ve ANLAMLANDIRILMALARI ÜZERİNE BİR İNCELEME

Yukarıda başlığı gösterilen tez çalışmamın a) Kapak sayfası, b) Giriş, c) Ana bölümler ve d) Sonuç kısımlarından oluşan toplam 218 sayfalık kısmına ilişkin, 04/ 07/ 2021 tarihinde şahsım/tez danışmanım tarafından Turnitin adlı intihal tespit programından aşağıda işaretlenmiş filtrelemeler uygulanarak alınmış olan orijinallik raporuna göre, tezimin benzerlik oranı % 8 'dir.

Uygulanan filtrelemeler:

1- ☒ Kabul/Onay ve Bildirim sayfaları hariç
2- ☒ Kaynakça hariç
3- ☒ Alıntılar hariç
4- ☐ Alıntılar dâhil
5- ☒ 5 kelimeden daha az örtüşme içeren metin kısımları hariç

Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü Tez Çalışması Orijinallik Raporu Alınması ve Kullanılması Uygulama Esasları'nı inceledim ve bu Uygulama Esasları'nda belirtilen azami benzerlik oranlarına göre tez çalışmamın herhangi bir intihal içermediğini; aksinin tespit edileceği muhtemel durumda doğabilecek her türlü hukuki sorumluluğu kabul ettiğimi ve yukarıda vermiş olduğum bilgilerin doğru olduğunu beyan ederim.

Gereğini saygılarımla arz ederim.

[redacted]

05.07.2021

Adı Soyadı: Nurbanu Korkmaz
Öğrenci No: H11168411
Anabilim Dalı: İngiliz Dilbilimi
Programı: Bütünleşik Doktora
Statüsü: ☐ Doktora ☒ Bütünleşik Dr.

DANIŞMAN ONAYI

UYGUNDUR.

[redacted]

Prof. Dr. S. Nalan
BÜYÜKKANTARCIOĞLU

HACETTEPE UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
Ph.D. DISSERTATION ORIGINALITY REPORT

HACETTEPE UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
ENGLISH LINGUISTICS DEPARTMENT

Date: 05 / 07/ 2021

Thesis Title : FIGURATIVE LANGUAGE COMPETENCE OF TURKISH YOUNG ADULTS WITH DOWN SYNDROME: AN ANALYSIS OF IDIOM COMPREHENSION AND INTERPRETATION

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I respectfully submit this for approval.

05/ 07 / 2021

Name Surname: Nurbanu KORKMAZ
Student No: H11168411
Department: English Linguistics
Program: Integrated Ph.D.
Status: ☐ Ph.D. ☒ Combined MA/ Ph.D.

ADVISOR APPROVAL

Prof. Dr. S. Nalan
BÜYÜKKANTARCIOĞLU

Figurative Language Competence of Turkish Young Adults with Down syndrome: An Analysis of Idiom Comprehension and Interpretation

ORIGINALITY REPORT

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