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Pronoun reference in Greek speakers with Alzheimer's Disease

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PhD Thesis

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“Be near me when my light is low,
When the blood creeps and the nerves prick
And tingle, and the heart is sick,
And all the wheels of Being slow.”
Alfred Lord Tennyson via Bridges and Sidtis (2013, pp. 10-11)

“It is also Om Shri Maitreya, you don't go across my vibes,
but with them, losing the pronoun. It is Thy, it is Thee,
it is I, it is me.”
Abstract from a poem “It’s a been a long time” by Joanne Kyger

To the AD participants of this study and their families

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List of Abbreviations

AD	Alzheimer's disease
ADs	patients with Alzheimer's disease
aMCI	amnestic Mild Cognitive Impairment
BNT	Boston Naming Test
CT	Classification Tree
DP	Determiner Phrase
ECM	Exceptional Case Marking
ECM-PRON	Exceptional Case Marking with Pronoun
ECM-CL	Exceptional Case Marking with Clitic
GDS	Geriatric Depression Scale
H_1	Alternative Hypothesis
H_0	Null Hypothesis
ILH	Informational Load Hypothesis
LF	Logical Form
MCI	Mild Cognitive Impairment
ML	Machine Learning
MMSE	Mini-Mental State Examination
NLP	Natural Language Processing
NN	Nearest Neighbor
NP(s)	Noun Phrase(s)
PCT	Pronoun Comprehension Task
POS	Part of Speech
PPVT	Peabody Picture Vocabulary Test
RFC	Right Frontier Constraint
RF	Right Frontier
SPM	Sentence Picture Matching Test
SPC(s)	Secondary Predicate Construction(s)
SMO	Sequential Minimal Optimization
SVM	Support Vector Machine algorithm
TCs	o Controls
TVJ	Truth Value Judgment task
VFT	Verbal Fluency Task

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ABSTRACT

The PhD thesis entitled "Pronoun reference in Greek speakers with Alzheimer's Disease" investigates pronoun reference in Greek speakers with Alzheimer's Disease (hence AD). In particular, the thesis examines pronoun production with the use of spontaneous and semi-spontaneous speech in order to investigate whether Greek speakers with AD overuse pronouns with unbound, ambiguous, and ungoverned antecedents. The thesis also investigates two aspects of pronoun comprehension: (a) whether there is a breakdown of the binding relations in object strong personal pronouns, clitic and reflexive pronoun contexts; (b) whether Greek speakers with AD comprehend number (and secondarily) gender agreement in object strong personal pronoun and clitic contexts and if the distance between pronouns and their antecedents contributes to this comprehension. Finally, the thesis investigates if there are correlations between executive functions (working memory, and inhibitory control) and other linguistic performances (semantic fluency, naming) with pronoun production and comprehension in AD. The results of the pronoun production and comprehension studies have shown that there is a problem in both modalities. More specifically, Greek speakers with AD overused pronouns –compared to words in total– in their modern Cookie-Theft picture descriptions and displayed a higher pronoun-to-noun ratio which correlated to a naming deficit. Regarding pronoun comprehension, Greek speakers with AD faced difficulties with the binding relations of reflexive pronouns, and clitics which correlated to a working memory deficit and a naming problem, respectively. Moreover, pronoun number agreement was found to be impaired regardless of the pronoun type (strong personal pronouns, clitics) with the lowest performance in singular number and long condition, which correlated firstly with a working memory deficit and secondarily, with naming and semantic fluency deficits. Hence, based on the findings in both pronoun production and comprehension, we can conclude that it seems that the underlying deficit in AD is not one and it is not related to only one cognitive function or one linguistic parameter, but to an ensemble of cognitive and linguistic functions that interact with one another.

Introduction

Language is a fundamental component of the human mind and human interaction. Alzheimer's Disease (henceforth AD) is a progressive, neurodegenerative disease that affects this only human characteristic, that is language, with evident consequences to everyday interactions even from the early stages. The central aim of this PhD thesis is to examine one part of the human language in AD. Thus, the topic of this PhD research is pronoun reference assignment in people with AD, focusing on pronoun use, thus pronoun production and comprehension. Performance in pronoun production will be assessed through spontaneous and semi-spontaneous speech. Performance in pronoun production will be analyzed computationally in order to examine if Greek participants with AD overuse pronouns with unbounded or inappropriate, ambiguous antecedents and to investigate how many pronouns are produced in their speech in comparison to nouns and words in total. Performance in pronoun comprehension will be assessed with (a) a picture-selection task, which will investigate the binding relations of strong personal pronouns, reflexives and clitics in Greek people with AD, and (b) a cross-modal pronoun comprehension task, which will examine the comprehension of number and indirectly gender agreement in strong and weak (clitic) personal pronouns, and the role of distance between the pronoun and its antecedent in number agreement constructions. The kind of pronouns that will be tested in this PhD study is mostly object pronouns following previous crosslinguistic studies in pronoun comprehension. The investigation of object clitics has been chosen because by this way we can compare clitics and strong personal pronouns and because subject pronouns are mostly null in Greek and cannot be captured with computational measures, like an NLP tool that I used in the modality of pronoun production. Finally, the thesis aims to examine if there are any associations between cognitive deficits, such as (impairments in working memory and inhibitory control) and deficits in other domains of linguistic performance, such as naming and semantic fluency) and linguistic ones as in the tasks designed and performed in the current investigation and if the performance of our AD participants in executive functions can predict their performance in the linguistic tasks.

Pronoun reference in AD has been chosen as a topic to be studied in this PhD thesis, because it is characterized by some interesting facts. Firstly, there is a lack of evidence from Greek speaking participants with AD regarding pronoun use. Therefore,

the goal of this PhD thesis is to fill this gap on crosslinguistic bibliography and research by providing insights from the Greek language. The basic question that this PhD thesis tries to answer —in first place— is how Greek speaking participants with AD produce and comprehend pronouns. Crosslinguistic studies have revealed an impairment in both pronoun production and comprehension as we will see in the following chapters of this thesis. Hence, a central aim of this PhD thesis is to examine if these findings can be replicated in Greek speaking participants with AD. Greek language has a rich morphological system with two kinds of personal pronouns (strong pronouns and clitics) and four phi-features (person, number, gender, case). Therefore, pronoun use in Greek is an intriguing research topic for testing linguistic and executive functions' performances in relation to the disease of Alzheimer's. AD is a progressive disorder that causes a gradual degradation in various linguistic and cognitive aspects of the human brain. In particular, based on crosslinguistic findings, AD can cause problems in pronoun production with pronoun overuse as well as problems in pronoun comprehension with difficulties in number agreement between pronouns and their antecedents. In the aforementioned literature, both problems in pronoun production and comprehension have been related to other linguistic problems, such as a naming impairment but also with cognitive deficits, such as a working memory deficit. Therefore, pronoun reference is an interesting topic to study, because it is related –directly or indirectly– to cognitive aspects of linguistic processing. Hence, in this PhD thesis, the topic of pronoun reference in AD is investigated under a linguistic and cognitive approach.

The contribution of this PhD thesis consists on a) the investigation of both pronoun production and comprehension in Greek speaking participants with AD –an understudied population, b) the application of a mixed methodology (both computational linguistic measures and behavioral experiments) and on c) the application of theoretical models about pronoun comprehension –that were initially created based on healthy pronoun comprehension– to a population with a neurodegenerative disease (AD).

As we will see on the following chapters of this study, this PhD thesis contributes to the crosslinguistic studies on pronoun reference with its results from both pronoun production and comprehension tasks. In other words, this study revealed a problem with pronoun reference in Greek-speaking patients in early, mild-to-moderate stages of AD. Thus, cross-linguistic findings about impaired pronoun production and comprehension were confirmed in our Greek data.

Another contribution of this PhD thesis is the innovative methodology applied. In particular, on this PhD thesis, a computational analysis of the Greek language with the application of the POS tagger and the creation of corpora of spontaneous and semi-spontaneous speech were used. The study of pronoun production on spontaneous and semi-spontaneous speech with a computational linguistic analysis is the one part of innovation. The second part of innovation is the behavioral experiments applied for pronoun comprehension elicited structured data. Therefore, an innovation of this PhD study is the use of a mixed methodology on both structured and unstructured (spontaneous and connected) speech in an understudied language that is Greek and to an understudied pathological population in Greece, that is AD.

Regarding the main findings of this research, firstly, **it was found that Greek participants with AD, overuse pronouns without clear referents**. This finding is consistent with previous studies (Ahmed et al., 2013, Khodabaksh et al., 2015, Kavé & Goral, 2016 and Kavé & Dassa, 2018). This higher pronoun rate was related to (a) the type of speech sample, i.e. semi-spontaneous speech samples, like the modern Cookie-Theft picture descriptions, and (b) the modality, i.e. oral speech. The qualitative analysis also revealed a pronoun overuse in the modern Cookie-Theft picture descriptions that was captured, on the one hand, with the application of Duong's referential index and on the other hand, with Gordon, Grosz and Gilliom's Repeated Name Penalty phenomenon (RNP, 1993). In total, both the quantitative and qualitative analysis indicated that the discourse of people with AD is incoherent with an obvious problem in deixis due to pronoun overuse. We tried to interpret these findings based on Almor's Informational Load Hypothesis (ILH) and his Working Memory Impairment Hypothesis. However, pronoun overuse in our data was not correlated with a working memory impairment contra Almor's Informational Load Hypothesis (ILH) and Working Memory Impairment Hypothesis (Almor et al., 1999), as well as contra Kavé and Levy (2003a). In addition**, a higher pronoun-to-noun ratio was observed** which corroborated the findings of Khodabaksh et al. (2015), Fraser et al. (2016), Kavé and Dassa (2018) and Rentoumi et al. (2018). A higher pronoun-to-noun ratio was related to a naming deficit following Fraser et al. (2016) and Kavé and Goral (2016).

Furthermore, **secondary findings were observed in the part of pronoun production. In particular, a correlation was found between specific types of speech samples and types of pronouns.** More precisely, the AD group showed a preference for

demonstrative pronouns in story narrations and Cookie-Theft picture-descriptions compared to personal narratives. In parallel, the AD group preferred possessive pronouns in personal narratives compared to the Cookie-Theft picture descriptions and indefinite pronouns in the Cookie-Theft picture descriptions compared to story narrations and personal narratives. Regardless of the kind of speech sample elicited, the AD group used interrogative pronouns more frequently (compared to the Typical Control group) to ask questions related to the tasks in order to produce spontaneous or semi-spontaneous speech. In addition, the AD group did not prefer relative-indefinite pronouns compared to other kinds of pronouns. However, the prevalence of the interrogative-to-total pronouns ratio in AD regardless of the type of speech sample is against March et al.'s findings (2006, 2009).

With respect to comprehension, results showed that there is a difficulty with number agreement in pronoun comprehension regardless of the pronoun type, i.e. for both strong personal pronouns and clitics. We tried to interpret this finding based on Cardinaletti and Starke's Minimality Condition, Almor's ILH and performance on other linguistic tasks and cognitive assessments. The general pronoun comprehension deficit regardless of the pronoun type was contingent on the sentence length and specific number feature. Thus, worse performance in the long condition, and a deficit in singular number were observed. The correlational analysis revealed that pronoun number agreement in singular and plural numbers as well as in both short and long conditions were positively correlated with working memory performance. However, statistically significant correlations were found also between the worst performances in singular number and long condition with naming and semantic fluency. Semantic fluency correlated only with the singular condition, but the correlation was low and lower than the correspondent one with working memory performance. Thus, from these findings we can conclude that not only a working memory impairment contributed to the worse performances in singular number and long condition in our AD participants, but other cognitive and linguistic functions also played a role. In addition, the results of the pronoun comprehension task showed that there is a better performance in masculine compared to the feminine gender for the AD group.

Secondly, based on the results from the picture selection task, people with AD, in contrast to the control group, had difficulties in comprehending reflexives that were related to working memory problems. It was, also, found that Greek participants with AD

had a lower performance in clitic comprehension compared to the control group. In addition, the results within the AD group showed a) statistically significant differences in reflexives in comparison to clitics, with the highest performance in reflexives and the lowest in clitics and b) non-significant differences in clitics in comparison to strong personal pronouns. We have tried to interpret these findings based on Chomsky's Principles of Binding, Reuland's Reflexivity Theory, Iatridou's Binding application in Greek, Reuland's Economy Hierarchy and Minimality Condition, as well as based on performances on other linguistic tasks and cognitive correlational analysis.

To elaborate more on the frameworks and theoretical models used for the interpretation of our data on both pronoun production and comprehension in AD, we will analyze them here on the following paragraphs. In particular, the theoretical model which the study of reference in pronoun production is based on is Almor's *Informational Load Hypothesis* (ILH) and his closely related *Working Memory Impairment Hypothesis* (Almor, 1999). Working memory tasks will be used to test whether there is a connection between maintaining necessary information regarding the representations of antecedents and impaired working memory in Greek-speaking participants with AD. Reference in pronoun production will also be examined based on the *Semantic Memory Impairment Hypothesis* (Almor et al., 1999; Fraser et al., 2016; Kavè and Goral, 2016). According to the *Semantic Memory Impairment Hypothesis*, pronoun overuse, a key trait of empty speech, occurs due to naming problems (anomia). All three hypotheses will be tested to examine their applicability to our findings in Greek AD.

The theoretical model for contemplating comprehension of number (and gender) agreement in strong personal pronouns and clitics will also be Almor's ILH and *Working Memory Impairment Hypothesis*. More specifically, Greek speaking participants with AD will be tested in order to determine whether their difficulty in comprehending pronoun number agreement (and indirectly gender agreement) is due to the fact that they cannot maintain number features in their working memory, nor activate the necessary semantic information of the pronouns' antecedents.

The same theoretical model will also be implemented for the study of binding relations in participants with AD. In particular, it will be investigated whether there is a breakdown of binding relations in AD and whether this breakdown is due to limitations in working memory, problems of semantic fluency, naming and inhibitory control. However, the binding relations in AD will also be examined in the context of linguistic

theories, such as the Minimality Condition, Pragmatic Rule 1, Anagnostopoulou and Everaert's linguistic analysis of reflexives as well as in the context of linguistic analyses that view reference as an interface phenomenon, such as Reuland's *Economy Hierarchy* approach (2016) and Reflexivity Theory.

The structure of this PhD thesis will be as follows: In the first section of Chapter 1, the main characteristics of AD, its neuropathology, main symptoms in language and cognitive function, the parts of the brain that are activated in AD and the parts that are damaged due to neurons degeneration are presented. In the second section of Chapter 1, an overview of the general symptoms in linguistic and cognitive functioning in AD is provided, while in the two final sections of Chapter 1, some basic problems with respect to reference in AD are reviewed. In the first section of Chapter 2, the notions of reference and anaphora (assignment) and their basic characteristics are analyzed, as they have been examined from various perspectives (grammatical, syntactic, discoursal and pragmatic) and theoretical models (i.e., Chomsky's Principles of Binding) in typical populations, and the use of pronouns and their processing in impaired populations are described (i.e., individuals with aphasia, schizophrenia and with AD). In the second section of Chapter 2, the basic characteristics of the pronominal system of Greek are described emphasizing on the kinds of pronouns under investigation (strong personal pronouns, reflexives and clitics), while in the third section, studies on Greek anaphora for typical and atypical populations (SLI, aphasia) are reviewed. In Chapter 3, the current study is presented by formulating the research questions and hypotheses of this PhD research, the participants' selection procedure, their demographics, and the general methodology that was followed, including the description of the statistical analysis. Chapter 4 describes the study of connected speech with the use of qualitative and quantitative computational and statistical measures. Chapter 5 discusses an experimental study on the pronoun comprehension task, building on Almor et al.'s (2001) methodology, and its outcome. Chapter 6 outlines an experimental study on the breakdown of binding relations in AD. Chapter 7 summarizes the major findings of this PhD thesis, from the outcomes of pronoun production tasks to the results of pronoun comprehension experiments, including suggestions for further research.

Chapter 1
Language and Executive Functions in Alzheimer's Disease

This chapter aims to (a) present some essential characteristics of AD, its primary symptoms and stages, its neuropathology, as well as the parts of the brain that are damaged and activated during reference resolution, (b) pinpoint the problems that AD creates to the different kinds of memory as well as to other executive functions, and (c) provide an introduction to the underlying linguistic impairments, as these are distributed among the different levels of linguistic analysis and across them, with an emphasis on the topic of reference and the way referential errors create incoherence in the discourse of people with AD.

1. 1 Alzheimer's Disease

Alzheimer's disease is the most common degenerative disease leading to atrophy across a wide variety of brain regions and neuronal loss. Approximately half of all dementias are due to AD, making it by far the most significant single cause of dementia (Kukull et al., 2002 as cited in Kempler, 2005, p. 181). According to Orange and Ryan (2000, p.153), the most prevalent form of dementia is AD, which accounts for 55% to 65% of all types. According to Cummings (2008, p. 231), dementia caused by AD is more common in individuals with Down's syndrome[2] (henceforth DS) than in the general population.

Dementia is an intelligence disorder (Hier, Hagenlocker & Shindler, 1985) because, for Alzheimer's dementia, for instance, there is a degradation that is a gradual loss of connections between features and the concepts which they represent (Almor, 1999). This gradual degradation of concepts mirrors the likely neurodegenerative effect of AD and on the basis of intelligence. The different stages in AD, (mild, moderate, and severe), depict the gradual neurodegenerative effect in this disease.

The following terms are used in bibliography to describe Alzheimer's Disease: AD, dementia of the Alzheimer's type (DAT), probable Alzheimer's Disease (pAD), possible Alzheimer's Disease and definite Alzheimer's Disease (McKhann et al., 1984).

[2] For the correlation and comparison of AD and DS, see Price et al. (1982).

AD is a kind of dementia, that is why it is referred in lots of studies as DAT. The two basic clinical characteristics of DAT are a progressive decline in memory and higher cortical functions (Yoshita, Taki and Tamada, 2011). The other three terms (probable AD, possible AD and definite AD) are used to differentiate between the degrees of certainty that a doctor has about a person that can be diagnosed with AD. Probable AD (pAD) is characterized by a progressive memory decline and deterioration of other cognitive functions, i.e. language, motor skills, perception. daily- living activities). In probable AD (pAD), there is no comorbidity between AD and other systemic brain diseases that could probably cause this insidious onset of dementia. In possible AD, there is a presence of other significant diseases and an aberrant course of the AD. Definite AD is characterized by a certainty in the diagnosis of AD with a histopathologic confirmation from biopsy or autopsy and all the criteria of probable AD fulfilled (for more criteria about the clinical diagnosis of probable, possible and definite AD, see McKhann et al., 1984). In this PhD thesis we will adopt the use of the abbreviation of AD, only.

Regarding the neuropathology of AD, amyloid plaques, and neurofibrillary tangles develop in the brains of AD sufferers (Cummings, 2008, p. 343). More precisely, people with AD neuropathology have abundant senile plaques in at least one of the three lobes of the neocortex (i.e. frontal, temporal, or parietal), some neuritic plaques in the neocortex, and some neurofibrillary tangles in the neocortex (Snowdon, Greiner & Markesbery, 2000). Amyloid plaques and neurofibrillary tangles cause irregularities in neurotransmitters. "*AD is thought to be partly the result of a disturbance in the functions of cells which use acetylcholine as a neurotransmitter*" (Whitehouse et al., 1982 as cited in Caplan, 1987).

Regarding the parts of the brain that manifest atrophy in AD, damages are evident in medial temporal (Gazzaley & Small, 2011) and parietal lobes (Dubois et al., 2007, p. 734). Medial temporal lobe structures include the hippocampus and entorhinal cortex (Braak & Braak, 1991 as cited in Gazzaley & Small, 2011, p.173). AD begins in the hippocampal formation before spreading to other areas of the brain (Braak & Braak, 1996 as cited in Gazzaley & Small, 2011). The hippocampus is a complex structure organized into separate but interconnected subregions: the entorhinal cortex, the dentate gyrus, the CA subfields and the subiculum (Lorente de No, 1934; Amaral & Witter, 1989 as cited in Gazzaley & Small, 2011). The entorhinal cortex is the hippocampal subregion most vulnerable to AD, while the dentate gyrus is relatively spared; in contrast, the dentate

gyrus is most vulnerable to healthy ageing, while the entorhinal cortex is relatively spared (Gazzaley & Small, 2011). As mentioned above, AD affects the cortical layers (temporal and parietal lobes), but leaves basal ganglia, which are subcortical nuclei, intact (Sidtis, 2012).

1.2 Cognitive abilities in AD

1.2. 1 Memory in AD

There are different kinds of memories within the human mind that are affected in AD. Some kinds of memories are working memory, short-term memory, long-term memory, procedural memory, declarative memory (semantic memory and episodic memory). Working memory refers to a limited-capacity specialized memory system in which small amounts of operations are performed to achieve computational goals on information processing (Baddeley & Hitch, 1974; Waters & Caplan, 2002). According to some researchers, short-term memory is a part of working memory (e.g. Cowan), whereas according to some others (e.g. Baddeley) short-term memory differs from working memory[3]. Short-term memory describes the learning and retention of information over a period lasting from several minutes to several days. Long-term memory is the ability to recall older information and it is a kind of record of previous experiences and events (Cowan, 2008). Semantic memory is a distinct part of the long-term memory (Tulving, 1972) that includes the general knowledge of the words meaning, the vocabulary and the concepts that people attain in everyday life (Squire, 1987). Episodic memory is the memory of autobiographical events (such as time, places, and associated emotions) (Tulving, 1972).

According to da Silva Novaretti, Freitas, Mansur, Nitrini, and Radanovic (2011), the hallmark of AD is a marked impairment in episodic memory, which may exist years before a clinical diagnosis of dementia is established. In other words, AD is primarily associated with deficits in episodic memory (Peach & Shapiro 2012, p. 189). Thus, a patient with AD, in the first stages, regularly forgets new facts, faces and names. Also, a patient with AD repeats more and more questions after short pauses, changes positions in items, and is not sure if he/she remembers the date or the hour of the day.

[3] In this PhD thesis, I will adopt the notion of working memory as equivalent to short-term memory and I will not analyze it further. For a distinction between working memory and short-term memory, see also Salis et al., (2015).

However, the degradation is also attested in long term memory, a part of which is semantic memory (Peach & Shapiro, 2012, p. 280). Atrophy of brain regions in AD also affects working memory and short-term memory (McKhann et al., 1984).

Working memory deficits in AD are apparent in divided-attention tasks in which patients need to do two things at once during a short period of time (less than 30 seconds), such as remembering a series of digits while listening to a sentence. Visual short-term memory deficits are conspicuous from the early stages of the disease. AD patients perform poorly on short-term memory tasks, such as the linking between shape and colour. Therefore, AD patients have associative visual memory deficits manifested early on in the course of the disease (Pereira et al., 2014). In the mild stages of AD, patients exhibit problems in verbal short-term memory, too (Peters et al., 2009). AD leads to semantic memory deficits, especially for living things (Peach & Shapiro, 2012, p. 189).

Regarding procedural memory (a part of long-term memory), patients with AD seem to preserve it, because they manifest intact procedural functions, such as piano playing, games and sports, and they also preserve formulaic language. According to Beatty et al. (1994), as cited in Bridges and Sidtis (2013), severely impaired persons with AD not only retained the ability to play musical instruments, but also engaged in contract bridge, dominoes and canasta. However, we have to highlight, at this point, that procedural memory is disproportionally affected in language and other cognitive functions (such as in the motor planning that is required in playing a musical piece) in AD. This disproportional effect is exhibited in problems in specific linguistic levels (e.g., phonology and syntax) (Kertesz and Kertesz, 1988, p. 112) and not in playing musical instruments.

Nevertheless, memory declines gradually as a patient with AD proceeds from the early phase to the late phase of the disease. The memory decline may be mainly due to an encoding deficit. The encoding deficit is related to an inability to encode enough stimulus' features or attributes (Martin, Brouwers, Cox, & Fedio, 1985). The encoding deficit could be related to an encoding deficit on the level of semantics or on the level of phonology. Thus, patients with AD due to memory problems could possibly have problems on the process of attributing the necessary phonemes and semantic information to words with a consequence phonemic and semantic paraphasias.

1.2.1.1 Correlation of memory and linguistic problems with attention deficits

Executive functions (Diamond, 2013) are a group of top-down mental processes that are vital for a successful everyday living and a successful private and professional life. Executive functions are necessary for paying attention, concentration and solving a problem.

Attention is a non-memory domain that is a part of executive functions. According to many psychologists, attention is not a single process and a unitary phenomenon. Therefore, attention can provide different explanations to a variety of psychological phenomena. Perry and Hodges (1999) claim that attention is divided to three subtypes; selective, sustained and divided (for a different categorization, see Frey, Ruhnau and Weiz, 2015). Selective attention is related to a kind of attention that is specified to selective processes. Sustained attention is defined as the process where the focus of someone is maintained to a specific task or stimuli over a given time. Divided attention is the process where the mental state of somebody is focused to divided processes and of a parallel integration of multiple stimuli.

The functional features of attention can be subdivided to the following four: focus, shift, execute and sustain (Mirsky, 1987). These functions are localized to different brain regions. Attention is located in the prefrontal cortex, hippocampus, and rostral structures (Mirsky, 1987).

Perry and Hodges (1999) claim that, after an initial amnesic stage in AD, attention is the first non-memory domain to be affected, before deficits in language and visuospatial functions are attested. According to them, problems of daily living correlate with problems of attention.

Divided attention and some aspects of selective attention, such as set shifting, are particularly vulnerable, while sustained attention is preserved, in early AD (Perry & Hodges, 1999). Alberoni et al. (2002) have found that patients with AD have difficulty following even simple conversations. This problem in divided attention becomes amplified when the conversation involves multiple participants as they move from one topic to another. In other words, it seems that AD patients have a problem in adapting to changing conditions of conversational focus (LeDoux, Blum & Hirst, 1983) due to a divided attention deficit.

Peach and Shapiro (2012, p.248) inform us that for patients with mild AD, attention deficits–like the ones in divided attention–appear to be a causative factor for the language problems of these individuals. To be more precise, it has been found that

problems with attention as well as with memory, disrupt word-finding in early and moderate AD (Kempler & Goral, 2008). Based on Peach and Shapiro's study (2012), but also based on other studies, language is closely related to attention and this close relation is captured in AD and its deficits in language and attention, respectively. In particular, in Ferris and Farlow's study (2013), attention deficits in AD overlap with language problems. Therefore, attention deficits can be correlated to word finding difficulties.

1.2.2 Inhibition in AD

According to Miyake et al. (2000: 57), "*inhibition is one's ability to deliberately inhibit dominant, automatic or prepotent responses when necessary"*. It is described as an executive function that is linked to the frontal lobes (Miyake et al. 2000: 57). Regarding the neural correlates of inhibition, inhibitory breakdown is related to frontal lobes degeneration according to some researchers[4] (Bondi et al., 2002, Amieva et al. 2004a). More precisely, in Bondi et al., (2002) and Amieva et al.' s studies (2004), Stroop test interference scores were related to the number of neurofibrillary tangles found post-mortem in the hippocampus and temporal lobes of people with AD. Thus, inhibition is an executive function that is closely related to frontal and temporal lobes functionality. If there is a degradation in frontal and temporal lobes, like in dementia, then inhibition deficits appear.

Inhibition is related to language in AD, because there is an accelerated inhibitory breakdown[5] in AD (Spieler, Balota and Faust, 1996) that is not unrelated to language in AD. This accelerated inhibitory breakdown in AD is related to specific linguistic problems, such as the automatic process of reading in AD (see Amieva et al. 2004a), the processing of semantically related words (Collette et al. 1999) and the naming of specific stimuli (Amieva et al. 2004b). Due to inhibitory dysfunction, people with AD cannot read automatically and they cannot process easily and hence, inhibit semantically related words. In addition, in Amieva et al.'s study (2004b), patients with AD have a problem in

[4] In contrast, Collette et al. (2002) argue that problems in inhibitory processes are related to a disconnect between anterior and posterior cortical regions than to a frontal lobe dysfunction.

[5] However, according to some researchers, there is no equal distribution of the effect of AD on all inhibition processes. According to Amieva et al.'s meta-analysis (2004), AD has a strong effect on tasks requiring controlled inhibition processes, such as the Stroop test, but relatively little effect on tasks requiring automatic inhibition, such as the inhibition of return task. Therefore, Amieva et al. (2004) suggested that inhibitory deficits in AD may not be the result of a general inhibitory breakdown.

inhibiting previously learned rules, like the ones in Stroop test, that we will analyze in the following paragraphs and therefore, they have problems in naming specific stimuli.

Stroop test is a widely used measurement of inhibitory control in healthy populations and in individuals with brain disorders, such as AD. In particular, the Stroop test is an inhibition task that measures the ability of each person to inhibit or override the tendency to respond automatically to the presented stimuli, i.e. name the colour word (Miyake et al., 2000: 57).

The measurement of the inhibitory control with the Stroop test (among other tasks) in AD is probably related to pronoun production and comprehension in this disease. In particular, as we will analyze in Chapter 5, in the pronoun comprehension task, inhibition performance will be measured in order to examine how people with AD can expel the unnecessary information (thus the intervening, middle sentence) and complete the comprehension of the pronoun-antecedent dependencies. In the same manner, in Chapter 4, we will investigate if there is a pronoun overuse in Greek people with AD and if the underlying cause of this problem in linguistic production is related to a breakdown of inhibitory control. Therefore, inhibition will be measured and examined in correlation to linguistic performances in AD.

1.3 Language in AD

Even though memory problems are the more characteristic symptoms in AD, AD is accompanied by language problems, too (Kempler et al., 1987). The general characteristics of the linguistic problems in AD are anomia, that is the difficulty in finding the suitable words (Altmann, Kempler & Andersen, 2001), incoherent and empty speech, as well as semantic substitutions. The problem of naming (see for instance the problems in confrontation naming in Bayles and Tomoeda's study, 1983) is situated in the naming of verbs and nouns, as well as in semantic fluency, i.e. in naming words that are in the same semantic category (Altmann et al., 2001, Chertkow, Bub & Seidenberg, 1989). The problem of incoherent speech in AD is characterized by a speech with only a few unique words, but dramatically overused indefinite words and lots of repetitions (Nicholas, Obler, Albert, & Helm-Estabrooks, 1985; Hier et al., 1985). According to some researchers, there might be a correlation between word-finding difficulties and the characteristic "empty" speech in AD. According to Hier et al. (1985), in particular, an

increase in “empty” words, pronouns, and indefinite anaphora indicates increasing difficulties in lexical access.

In the majority of linguistic studies, the phonological level is described as preserved in AD, because researchers have not found phonological problems or problems with articulation. For example, phonemic paraphasias were not found in the Appell et al.’s study (1982). Ernst, Dalby and Dalby (1970) found a preserved reproduction of individual sounds in their sample with intact discrimination of speech sounds. In a related study by Glosser and Desser (1991) no literal paraphasias, thus cases with phonemes omissions and substitutions were found in AD patients and as Irigaray (1967) put it, AD patients have intact ability in processing phonological aspects of language for AD patients. Kertesz et al. (1986) suggest that phonology, as well as syntax, are relatively preserved. Their findings indicated that focally organized language functions in the left perisylvian cortex, such as phonology, are initially less affected in AD.

However, Ernst et al. (1970) found many articulatory errors in the reproduction of word series or long, complicated sentences and attributed them to perseverations, impaired short-term memory and incorrect word ordering. Furthermore, Constantinidis et al. (1978) observed rare transposition of phonemes, at least in the early stages and more often in the reproduction of nonsense words, with better retention of vowels than consonants and phonemic repetitions.

Macoir and Turgeon’s study (2006: 425) provides a description of the linguistic problems in AD among the different stages of the disease. Word retrieval problems and problems in initiating conversation or in humour processing are the first linguistic problems at the first early stages in AD. Word retrieval deficits are more apparent in the later stages with evident the vocabulary degradation. In addition, in these early stages of the disease, participants with AD produce circumlocutions, generic and imprecise terms and rarely semantic errors. Early stages of the AD are characterized by intact phonetics, phonology and syntax. Moreover, in this early stage, repetition, reading aloud and auditory comprehension are relatively normal, whereas the first problems in writing, semantic fluency and confrontation naming are attested. In the middle to moderate stages, no problems in phonetics and phonology are still observed, but spontaneous speech is reduced and diminished with the use of stereotypes. In addition, in these middle stages, important anomia is evident in parallel to problems of verbal and semantic paraphasias as well as occasional production of neologisms. The abilities of repetition and reading aloud

are usually preserved. However, comprehension and spelling abilities are problematic. In the severe AD, –the last stage of the disease– language is characterized by linguistic difficulties in all the levels of linguistic analysis. Severe problems are manifested in language production and comprehension with stereotyped speech and expressions, automatisms and verbal perseverations.

However, it should be highlighted that the above linguistic problems vary from patient to patient and from stage to stage. A general heterogeneity characterizes their symptoms in the level of cognitive function and the linguistic one. This heterogeneity depends on the following factors: a) the evolution of the disease, b) the relative preservation or damage of the different cognitive functions and c) the relative preservation or damage of specific components in each cognitive function, including language (e.g., Schwartz, 1990; Price et al. 1993 as cited in Macoir & Turgeon, 2006).

In the next subsections, the linguistic problems across the levels of linguistic analysis will be described with an emphasis on the levels that most problems have been attested. Firstly, I will present the linguistic deficits in AD and then I will move on to the linguistic performances in AD.

1.3.1 Linguistic Deficits in AD

1.3.1.1 Morphology and morphosyntax in AD

Patients with AD have also problems in morphology with frequent problems in the domains of inflection, derivation and compounding and in some studies in the application of specific morphological rules. Regarding the domain of inflection, according to Ullman et al. (1997) and Colombo, Fonti and Stracciari's study (2009), patients with AD have problems in verb production of the irregular past tense, specific classes of novel verbs and the application of morphological and phonological rules. More specifically, morphology in AD is damaged in terms of experiencing specific problems in irregular verbs (i.e. dug), and in the application of specific morphological and morphophonological rules (i.e. conversion of the stem in cases like, dig > dug). These morphological and morphophonological problems are related to a deterioration in the lexico-semantic system, problems in the application of the morphophonological rule of conversion during the formation of irregular verbs and a parallel damaged inhibitory control.

In particular, according to Ullman et al. (1997), patients with AD had more trouble converting irregular verbs to their past tense forms than regular or novel verbs (e.g.

plagged) and over-generalised the suffix. In other words, patients with AD manifested a deficit in the production of the irregular paradigm in the past tense due to impairments in their declarative memory. Colombo, Fonti and Stracciari (2009) came to a similar conclusion. In particular, Colombo et al. (2009) examined 20 Italian-speaking patients with AD with a verb generation task, a verb synonym task and several cognitive tests. Colombo et al. (2009) found that AD patients made more errors with irregular verbs and tended to apply the regular suffix to novel verbs. More precisely, regular verbs in *-ato* were produced more accurately (96%) than pseudo-regular verbs (90%), and these were more accurate than irregular verbs (59%). According to the semantic memory test that Colombo et al. conducted, AD patients manifested an impairment in accessing lexical and semantic knowledge compared to the control group. Colombo et al. concluded that a deficit in lexical-semantic memory was partially responsible for impaired performance in irregular verbs. Furthermore, they found that patients with AD maintained information about the frequency distribution of different verb types and classes in each conjugation, but they had problems in operating complex phonological transformations, such as thematic vowel changes. In particular, based on Colombo et al.'s results, AD patients could not convert the infinitive type of some irregular verbs to the past tense (e.g., temere 'to be afraid'> temuto 'been afraid'). The impaired mechanism of inhibition explains the performance of verb inflection in AD patients. Hence, patients with AD preserved semantic and lexical information about the conjugations of each verb, but they could not use the morphological and phonological rules to convert the verbs in the past tense due to a damaged inhibitory control.

The problem which people with AD have with inhibitory control is also manifested in the presence of a relatively large number of lexicalizations in patients' performance confirming the claim of Cortese, Balota, Sergent-Marshall, Buckner and Gold (2006). In other words, problems of access to semantic and lexical knowledge of verb inflections and application of the correct morphological, semantic and phonological rules are associated with a damaged inhibitory control and therefore, a large amount of lexicalizations without excluding unnecessary information.

However, there are some other studies that have suggested that morphological knowledge and morphological parsing are spared in AD. In particular, Kavé and Levy (2003a) have found that in AD there is a preserved use of the structural knowledge. In other words, in this study, Hebrew speaking participants with AD used correctly the

morphological forms, such as the inflected verbs and the verb roots. In contrast, they made plenty of lexico-semantic errors. Similarly, Kavé and Levy (2003b) detected a preserved sensitivity to tense and person violations, as well as to cases of gender incongruity. Kavé and Levy (2004) have found that Hebrew speaking participants with AD do not have any problem in lexical decomposition. In this study, the recognition of morphemes is intact. Hebrew speaking participants with AD could adequately decompose morphologically complex pseudowords to their roots. Based on this study, morphological parsing is spared at least in Hebrew.

As far as derivation in AD is concerned, the results of Caloi's study (2017) showed that there is a problem in grammatical gender retrieval in cases of derived nouns in Italian, like *pompiere (il)* 'the fireman' and *scrittrice (la) 'the writer'.* Caloi concluded that derivational morphology complicates the process of grammatical gender retrieval in derived nouns.

Regarding compounding in AD, Chiarelli et al. (2007) have concluded based on their results from the picture-naming task that the word-retrieval problems are evident during compound naming in AD. More specifically, in Chiarelli et al.'s study (2007), participants with AD used the most productive compound structures (VN) to bypass their problem of word retrieval. In addition, Chiarelli et al. found that their participants with AD had a selective problem in naming the second component of compounds in cases when it was a noun the second component. This specific problem was related to problems with memory storage and processing overload. Similarly to Kave and Levy's studies, the naming problems in AD were related to problems of the semantic knowledge and not to the lack of knowledge of the morphological rule of compounding.

Similarly to the findings of some studies in morphology, some studies in morphosyntax also revealed problems of semantic nature and not of morphosyntactic knowledge. According to Kempler et al. (1987) and other studies related to language production in AD, morphosyntax is relatively intact in contrast to damaged semantic and lexical knowledge. Errors in morphosyntax, e.g. omissions of prepositions or errors in words inflection are rarer in contrast to errors in semantics and the lexicon that are frequent, e.g. empty words, neologisms. The performance in the morphosyntactic ability of people with AD in structured tasks was found to be high in several studies (Bayles, 1982; Hier et al. 1985). In other words, participants with AD produced, repeated or

understood complete sentences without morphosyntactic problems, e.g. irrelevant word order or problems in agreement.

However, Altmann et al. (2001) observed that in the English language, patients with AD make more morphosyntactic mistakes compared to healthy individuals, and they demonstrate difficulties in the production of closed-class words. Thus, they argued that people with AD present a mild disorder in morphosyntax and have a difficulty accessing specific semantic and grammatical information. Also, other studies in English have shown that AD patients exhibit difficulties in noun number agreement (Grossman, Mickanin, Onishi, & Hughes, 1995) and subject-verb agreement (Sajjadi, Patterson, Tomek & Nestor, 2012).

In Greek, there are not a lot of studies investigating the morphosyntactic ability of patients with AD. Kaprinis and Stavrakaki (2007) have concluded that morphosyntactic ability is preserved in AD, in contrast to naming, which is impaired. Therefore, Kaprinis and Stavrakaki' s conclusion pinpoints an asymmetry in lexical and morphosyntactic ability. In contrast, Fyndanis, Manouilidou, Koufou, and Tsapakis (2011) have observed some morphosyntactic problems in AD. More particularly, Fyndanis et al. (2011) examined 15 Greek-speaking participants with mild to moderate AD in a sentence completion task and a sentence grammaticality judgment task. Fyndanis et al. found impairments in the functional categories of aspect, tense and agreement. More specifically, aspect was found to be more impaired than tense and agreement. This finding was related to the presence or absence of interpretable or uninterpretable features and therefore working memory and processing demands. In other words, agreement is characterized by an uninterpretable feature, and hence does not need extra-linguistic knowledge to be interpreted. The uninterpretable feature of agreement contributes to sentence processing via carrying only grammatical information. However, aspect and tense carry interpretable features that are more demanding in processing terms. Aspect and tense are more demanding, because they are based not only on grammatical information, but also on conceptual knowledge and contribute to sentence interpretation. Therefore, Fyndanis et al., detected the lowest performance in aspect and the highest in tense and agreement. Findings of a further study confirmed the same asymmetry in these different functional categories. More precisely, Fyndanis, Manouilidou, Koufou, Karampekios, and Tsapakis (2013) detected an agrammatic profile, similar to the one that has been observed in agrammatic aphasia (Varlokosta et al., 2006), when they examined

the performance of ten people with AD in structured tasks. More specifically, they found that in AD patients, aspect was the most impaired category compared to the other two categories, whereas agreement was the least impaired one. Finally, Manouilidou et al. (2020) have also examined the notion of aspect in MCI and AD, but from an innovative perspective. In this study, Manouilidou et al. (2020) examined both the lexical and the grammatical variables of the aspect in two tasks of verb production. They have tried to study the association of both variables in verb production and in correlation to time reference. In particular, Manouilidou et al. (2020) implemented a picture naming task and a sentence completion task to 11 participants with AD and 11 participants with MCI. They found that both variables of aspect are impaired in AD and MCI, but these variables can be affected disproportionally and differently. On the one hand, the lexical variable of aspect seems to play a role in the lexical representation of the verb and hence, its naming. Therefore, naming of specific verbs with specific lexical characteristics, such as the ones that denote a state (i.e., believe) or an achievement (i.e., break) were more impaired than other kinds of verbs with other lexical characteristics, such as activities (i.e. build) which were less impaired. On the other hand, in the sentence completion task, the grammatical and lexical variables of aspect did not play any role in verb production in AD and MCI. In contrast, duration as a part of time reference with its lexical representation and its role in the internal verb structure seem to influence more verb naming in AD and MCI.

1.3.1.2 Syntax in AD

> *"Nature carves language at its joints. AD does not randomly compromise syntactic function, nor is it guided by purely semantic considerations. Rather, speakers' knowledge of the fundamental syntactic properties of their language remains intact, even when much less is lost."*
>
> (Bencini et al., 2011)

According to this quote from Bencini et al., AD patients demonstrate intact syntactic functionality and properties. Caplan and Waters (2002) argue that AD patients retain the ability to structure a sentence syntactically but have impaired abilities to process words and sentences semantically. According to Kempler et al. (1987), a single, general construct, that of automaticity, construes the preservation of syntactic abilities. The

automatic nature of syntactic ability helps account for its resilience to cognitive dissolution. However, in many cases, syntax does not escape the general disorganisation of language production in AD (Appell, Kertesz & Fishman, 1982). According to Constantinidis et al. (1978, as cited in Appell et al., 1982) sentences are often left unfinished, phrases may be left hanging, and breakdown may occur in the use of phrase markers and grammatical agreement. However, syntax appears to be better preserved when there is a strong determination with the context and lexical content (descriptive vocabulary) (Appell et al., 1982). As Obler (1981, as cited in Appell et al., 1982) observes, the stimulus-boundedness, that is, the feature of dependence on context, associates with the language performance of AD patients.

More specifically, difficulties in syntactic comprehension have been attributed to working memory deficits (Kempler, Almor, Tyler, Andersen, & Macdonald, 1998a) and to slow information processing (Grossman & Rhee, 2001) by a number of researchers. In other words, for some researchers the problem of syntactic comprehension is multifactorial. As Grossman and White-Divine (1998) and Grossman and Rhee (2001) claim, AD patients have a multi-functional, sentence comprehension deficit that may be indirectly related to a semantic processing deficit or cognitive limitations, such as working memory deficits (Caplan and Waters, 2002, Waters, Caplan and Rochon, 1995) reduced control over inhibition (Irigaray, 1967), and a slowed information processing speed.

A number of researchers highlight the role of sentence length relative to a working memory impairment in AD, whereas another part of researchers pinpoints the role of syntactic complexity and canonicity in a syntactic impairment in AD. Both argumentations and studies will be discussed in the following paragraphs.

Waters, Rochon and Caplan (1998) have advocated that people with AD can interpret syntactically complex structures (with a large number of propositions and thus, a bigger sentence length) despite their problematic working memory. Similarly to Waters et al. (1998), Caplan and Waters (2002) concluded that relative to their comprehension of syntactically simple structures, patients with AD have been able to interpret complex syntactic structures as well as controls had, and have shown similar profiles of on-line sensitivity to local increases in processing load due to syntactic structural complexity.

Another study that related the number of propositions in a sentence and their processing from AD patients in relation to working memory was the study of Grossman

and Rhee (2001). Grossman and Rhee's experiments (2001, p. 1428) showed that AD patients had difficulty in understanding sentences with a large number of propositions due to a 'post-interpretive' limitation in the amount of information that AD patients can reliably process. Therefore, Grossman and Rhee's results also indicated a processing problem in syntax that was related to executive functions and not to a problem of syntactic nature. In a similar study, Grossman et al. (1996) came to the same conclusion; people with AD are more impaired in center-embedded structures (i.e. *the boy that the girl hit was angry*) that are more complex grammatically and have a longer sentence length. Grammatical complexity, and sentence length of these kinds of structures demand a substantial amount of memory resources.

In addition, in some other studies the role of syntactic information without the role of working memory was the crucial one for syntactic processing in AD. In particular, in Bickel, Pantel, Eysenbach, and Schröder' s study (2000), processing of syntactic information was decreased in participants with AD in the early stages, whereas in the late stages syntactic processing was completely impaired. For example, if participants with DAT in the early stages had mild problems in comprehending passive voiced sentences (e.g. Der Junge wird von dem Pferdgetreten 'The boy is pushed by the horse'), participants with AD in severe stages had lost completely their processing ability in the same sentences. Bickel et al. (2000) had also assumed difficulties when interpretation was based solely on syntactic information without the help of semantic information. These difficulties did not correlate with the syntactic complexity, but with the processing of syntactic information per se. In other words, syntactic processing of information was not correlated with the type of sentence, e.g,. active or passive, because there was not any significant influence on their results depending on alterations of sentence type (simple or complex).

Other researchers have found problems with syntactic comprehension, that are syntactic in nature and are not attributed to problems in semantics or executive functions and low processing. In particular, Grober and Bang (1995) argued for a genuine syntactic deficit in the comprehension of passive reversible (noncanonical) sentences (i.e. *the truck is splashed by the car*) that were visually presented in a visual sentence-picture matching task and were more impaired in the more severe stages of AD. In their study, visual sentence comprehension was impaired not only for passive structures, but also for active sentences (i.e. *the boy washes the window*), with the worst performance in passives.

Emery (2000) and Molympaki, Nerantzini, Fyndanis, Papageorgiou and Varlokosta (2013) agreed with Grober and Bang (1995) on the fact that people with AD have problems in the comprehension of noncanonical (reversible) structures with object extraction and dependency (i.e. *the man whom the woman looked is tall*). In contrast, Molympaki et al., also observed that the performance of people with AD in canonical structures of subject[6] extraction and dependency (i.e. *the man who looked the woman is tall*) was relatively intact.

Molympaki et al.'s findings on right branching relative clauses agreed with the findings of Grober et al. (1995), and others, on the role of canonicity in processing these types of clauses. Therefore, the asymmetry detected between subject and object right branching relative clauses in Greek ADs was linked to a problem of canonicity and syntactic movement, that according to Molympaki et al. may affect the processing of these structures.

The role of canonicity was also highlighted by the research of Manouilidou, de Almeida, Schwarz and Nair (2009a) on the interface of semantics and syntax. Manouilidou et al., (2009a) conducted a sentence completion task in 10 people with probable AD. They found that this population had problems in the assignment of thematic roles in psych verbs (e.g., fear, frighten). The errors that AD patients made in psych verbs revealed that the deficit was in the mapping of semantic roles with specific argument configurations that do not follow the canonical thematic hierarchy. More specifically, according to Manouilidou et al. (2009a), the presence of an argument that has the thematic role of an agent contributes to the correct assignment of thematic roles to argument realizations related to the target-verb representation. For instance, people with AD had a better performance in sentences, like (a) *the spectators enjoyed the performance* in comparison to sentences like (b) *the performance amused the spectators*. People with AD comprehended better sentences like in (a) where the subject *the spectators* has the thematic role of the experiencer of the joy. As they have also shown in a sequential study (Manouilidou and de Almeida 2009b)), Manouilidou and de Almeida suggested that AD patients are sensitive to deviations from canonicity not only in terms of thematic hierarchy, but also in terms of [+/- agentive] verb feature. Hence, they advocated that AD patients have a category-specific impairment with a selective semantic feature deficit

restricted to [-agentive] verbs and sentences. Similarly to their findings in the previous study (Manouilidou et al. 2009a), Manouilidou and de Almeida (2009b) concluded that people with AD have a deficit in detecting arguments and assigning thematic roles in cases where there is a deviation from the animacy hierarchy and the canonical thematic and animacy hierarchy for subject-Experiencer verbs, following Belletti and Rizzi's analysis (1988). In other words, people with AD made more errors in cases where they had to complete the verb form *frighten* in sentences like *The thunder frightened/feared/melted/bloomed the children*. In examples like the above, the subject of the sentence is inanimate and is not the Experiencer of the verb action.

1.3.1.3 Pragmatics and discourse in AD

Patients with AD have problems in language use that are at the level of pragmatics, social interaction (Cummings, 2016, p. 200) and communication. A range of difficulties in pragmatics and discourse contribute to ailing social functioning and interaction in people with AD. The problems in social interaction include referential communication disturbances, difficulties in forming logical inferences and in understanding allusions, metaphor and other non-literal communicative devices (LeDoux et al. 1983). They also include impaired comprehension of indirect requests and conversational implications as well as topic management deficits (Cummings, 2016, p. 200) and alteration in discourse planning (Chapman, Highley & Thompson, 1998; Chapman et al., 2002).

Regarding topic management deficits, patients display a reduced ability to shift topic in conversation, changing topics more abruptly (March, Wales, & Pattison, 2006), failure to initiate talk or even exhibit an excessive use of speech (Ehrlich, Obler, & Clark, 1997). Impaired ability to orient the interlocutor to new topics has been reported in the literature (Mentis, Briggis-Whitaker & Gramigna, 1995), whereas a failure to maintain a topic is highlighted in people with dementia of the Alzheimer's type (DAT) (Perkins, Whitworth, & Lesser, 1998). It seems that people with AD cannot use language as a tool in order to socialize, communicate with others, demand, obtain information, command, inform, give directions, construct concepts, propositions and implications, perform praxis with language (speech acts) or respond, answer questions and make a conversation in general. March, Wales and Pattison (2006) argue that patients with AD display difficulties in expressing communicative intentions, maintaining a language and information balance

and drawing inferences[7]. According to Orange and Ryan (2000, p. 156), patients with AD and those with primary progressive aphasia in the advancing stages may make socially inappropriate comments. Furthermore, as Perkins, Whitworth, and Lesser (1998) and March, Wales, and Pattison (2006) claim, people with AD cannot produce a response or manifest problems in taking their turn with delayed turn-taking latencies,and cannot maintain the conversational floor. Irigaray (1967) and Obler (1981–as cited in Appell et al. 1982)– highlighted that in the speech of AD there are a lack of commands, questions, second-person pronouns, references to the speaker as an ego and loss of terms, such as "perhaps" for the actual values of statements.

Due to early attentional/executive impairment in AD, Carlomagno, Santoro, Menditti, Pandolfi, and Marini (2005) have concluded that there is a difficulty in the pragmatic/conceptual elaboration of information contained in the discourse of AD that is related to reduced information content and lack of reference in the empty[8] speech of AD. Also, Carlomagno et al. (2005) argued that participants with AD had a more extensive communication deficit that does not relate only to their lexical-semantic deficit. Patients with AD produced irrelevant and incorrect information, a fact that Carlomagno et al. (2005) said that declares a degradation in preverbal representations of discourse information content.

Discourse production, in the context of information and using informative and non-informative prompts, was also investigated by Brandão, Castelló, van Dijk, Parente, and Peña-Casanova (2009) in 18 Catalan and Spanish-speaking participants with AD at moderate and severe stages and 16 controls. Brandão, Castelló, van Dijk, Parente, and Peña-Casanova (2009) investigated repeated propositions and incomplete propositions in transcribed interviews that were elicited from individuals with AD in the form of narratives. The main conclusion of the study was that informative prompts function as compensation and as a result, improve the discourse and communicative skills of people with AD.

Furthermore, a part of linguistic communication (pragmatics) that is the use of figurative language (for instance, idioms and metaphors) seems to be problematic in AD patients. Figurative language comprehension is the least impaired linguistic ability in AD,

[7] March, Wales, and Pattison (2006) advocates that this impairment in discourse processing, e.g. in drawing inferences and in general the deficit at gist is also evident in patients with MCI.
[8] This empty discourse of adults with AD is egocentric, concrete with ideational preservations and press of speech, then little or no speech in the late stages (Ehrlich, Obler, & Clark, 1997).

but this does not mean that it is not impaired at all. Papagno (2001) examined 39 patients with AD in the comprehension of metaphors and idioms and highlighted that there is a decline of figurative language in AD patients. This decline, Papagno (2001) claimed, is not an early symptom of dementia and can occur independently from the impairment of propositional language. In other words, decay in figurative language comprehension is not associated with deficits in the use (production and comprehension) of propositions. According to Papagno (2001), non-literal language is a relatively preserved function in very mild AD, but this does not mean that this function does not decrease over time. Metaphors have shown a certain decrement in AD.

Furthermore, following Papagno, Lucchelli, Muggia, and Rizzo's results (2003) on patients with AD, there is evidence that lexical knowledge of idioms is preserved, but patients are not able to reject the literal meaning when offered to them. More precisely, patients with AD seem to have a problem with inhibition of the literal meaning over the non-literal during comprehension, whereas they have not lost the idiomatic meaning. This problem of inhibitory control seems to be a consequence of executive control abnormalities and limitations of cognitive character.

Further into the field of figurative language, Amanzio, Geminiani, Leotta, and Cappa (2008) have found that AD patients have selective impairments in the comprehension of novel metaphors. Amanzio et al. (2008) suggested that this impairment is due to defective executive functions and verbal reasoning. The 20 AD patients, that Amanzio et al. (2008) examined had intact comprehension of conventional metaphors, e.g. Quello scolaro e` una cima 'That student is a peak' and idioms, e.g. ''Essere al verde, 'To be completely out of money.'.

All in all, figurative language processing has been found impaired in AD across the studies mentioned above with selective deficits to specific kinds of metaphors, e.g. novel metaphors. In parallel, problems in social interaction, like turn-taking, topic-maintenance, commands are the core problems in AD as far as the level of pragmatics is concerned.

1.3.1.4 Semantics in AD

It has been argued by da Silva Novaretti et. al. (2011) that there is a progressive deterioration of the semantic system in people with AD that progresses from an

impairment of name retrieval to concept retrieval, thus, characterizing a bottom-up pattern of deterioration. Furthermore, the qualitative analysis of the spontaneous speech of AD patients in Appell et al.'s study (1982) revealed a significant proportion of semantic jargon is fluent, irrelevant speech with correct grammatical rules and syntax, but lost meaning. Also, they found that patients with AD are much better in naming objects than in word fluency, i.e., in the ability to make a list of words that are in the same semantic field, for instance, animals. Moreover, Appell, Kertesz, and Fisman (1982) claim that patients with AD manifest frequent semantic paraphasias, e.g. "firebugs" for matches that various researchers (Irigaray, 1967; Constantinidis, Richard, & Ajuriaguerra, 1978 among others) have attributed to a loss of semantic differentiation for semantic fields. These semantic paraphasias could be a result of an inability to express the exact shade of meaning due to a degraded semantic memory.

The loss of semantic differentiation for semantic fields that the above researchers, -among others- have interpreted as a cause of the presence of semantic paraphasias, is also exemplified in the study of Chan, Salmon, and De La Pena (2001). Chan, Salmon, and De La Pena (2001) have found a category-specific semantic deficit in the semantic network of animals and not in that of tools in patients with AD. More specifically, different categorizations of animals and peculiar correlations between concepts of this semantic category were detected.

An opposite view is demonstrated by Tippett, Meier, Blackwood, and Diaz-Asper (2007). Tippett et al. (2007) concluded that people with AD do not exhibit a selective semantic category loss, such as the loss of semantic knowledge of the semantic field of living things (e.g. animals). In other words, Tippett et al. (2007) found that people with AD understand that animals are animate creatures, whereas for instance, kitchen supplies are inanimate. Therefore, they concluded that people with AD do not have a problem in distinguishing between living and non-living things. However, they argued that the differential category loss in AD is related to the stimuli properties, thus, the degree of familiarity of each stimulus. In cases where the stimuli of living things were less familiar, living things could not be distinguished from non-living things. Therefore, according to Tippett et al.'s study (2007) the properties of the stimuli lead to an apparent lack of discrimination between living and non-living things in AD.

According to Ahmed, Haigh, de Jager, and Garrard (2013), semantic memory integrity is a cognitive domain that is known to be subject to degradation in early AD.

Ahmed et al. (2013) investigated if AD patients in early stages manifest reduction in semantic units and in which categories precisely by calculating idea density and efficiency, among other things. AD patients showed a significant reduction in semantic units in general and references to subjects[9] (not objects, which are related to the stage of the disease) and actions as well as reduced efficiency. In other words, the discourse of AD patients was associated with more reduced information content in contrast to the control group.

1.3.1.5 Reference in AD

Referential errors are one of the typical syntactic-semantic-pragmatic problems –that characterize the language of patients with AD (Ahlsén, 2006; Chapman & Ulatowska, 1994), as well as healthy elderly individuals (Ulatowska, Hayashi, Cannito, & Fleming, 1986). Referential errors are cases where a pronoun cannot be bound clearly to a referent (Arkin & Mahendra, 2001). A pronoun cannot be found for three reasons: a) the referent is missing, b) the referent has been omitted, and c) there are more than one referent that are assigned to a pronoun (Chapman, Ulatowska, King, Johnson, & McIntire, 1995).

There are some studies that have examined these problems of reference in pronoun production and comprehension either in the context of a general analysis of discourse cohesion (and performance) in AD, or as a part of a more specific analysis of pronoun production and comprehension. More precisely, with respect to production, Chapman et al. (1995) examined the discourse coherence domains of 12 individuals with early-stage AD, 12 old-elderly TCs and 12 TCs matched in age with the AD group. Reference was one of the discourse components examined, with the use of three picture-stimuli which consisted of three Norman Rockwell prints depicting familiar everyday life-stories. Participants were requested to create a story based on the picture given, which they could see once more if they had problems with their short-term memory. No statistical significance was found for the proportion of pronouns to total referents, as well as for the number of errors across groups. However, the mean number of referential errors was relatively higher in both the AD and the old-elderly NC group compared to the NC group.

[9] There was not observed a reduction in reference to objects, a fact that is associated with the stage of the disease. As the disease progresses, there is also a reduction in reference to objects.

Chapman et al. concluded that the discourse of people with AD was incoherent and the disrupted discourse production was characterized by a higher mean of referential errors. Arkin and Mahendra (2001) assessed and analyzed the discourse performance of 11 participants with AD by using a grocery store picture description task and a five-item proverb interpretation task. Discourse-based outcome measures were obtained (i.e. ratio of topic comments to total utterances). Regarding pronoun production more specifically, Arkin and Mahendra (2001) observed a lack of clarity with a poor use of pronouns and problematic linking between pronouns and their referents.

Ahmed et al. (2013) also examined reference production in AD, as a part of a larger study of connected speech analysis in AD using Cookie-Theft picture descriptions. Ahmed et al.'s findings confirmed Chapman et al.'s conclusion about incoherent speech in people with AD. In Ahmed et al.'s analysis, overuse of pronouns and a low degree of information contributed to incoherent discourse. Kavé and Goral (2016) also observed a higher proportion of pronouns out of all the other words as well as a lower proportion of nouns. This higher proportion of pronouns accompanied this low degree of information that Ahmed et al. (2013) detailed. In more detail, in Kavé and Goral's (2016) study the speech of persons with AD was more lexically impoverished and characterized by more frequent, lexically simple and shorter words. According to Adlam, Patterson, Bozeat and Hodges (2010) and Kavé and Goral (2016), among other researchers, individuals with AD produce more frequent words, like pronouns (which are the most preserved and accessible) because their semantic network is impoverished.

Another phenomenon that contributes to the deficits of referential cohesion in the speech production of people with AD is the "repeated-name penalty" or RNP phenomenon, initially discussed by Gordon, Grosz and Gilliom (1993). RNP phenomenon occurs when the narrator uses autonomous referents instead of co-reference with consequences referential errors and increased reading time. During this phenomenon, a person with AD can use two different referents to refer to the same subject. For instance:

(1) "The man is driving. At a certain point, she got out of the car. The passenger who was in the backseat threw himself forward; then the boy who was in the backseat released the parking brake."

Drummond et al. (2015)

In (1), the NPs *the passenger* and *the boy* are referred to as two independent variables, without connection to one another. Also, the pronoun *she* is not bound with the antecedent *the man*. Drummond et al. (2015) examined the narrative discourse of Brazilian people with AD and found that AD participants exhibited the RNP phenomenon, omitted the explicit referents and used inadequately and ambiguously personal pronouns.

Problems of reference have also been found in studies of comprehension. Almor et al. (1999) claimed that people with AD have deficits in referential expressions, such as pronouns, due to a working memory impairment. In a sequential study, Almor et al. (2001) observed that people with AD have problems in understanding pronoun number agreement regardless of the sentence length. This finding was also associated with a smaller working memory capacity in AD participants. In other words, the smaller working memory capacity of people with AD had, as a result, an inability to properly activate the semantic representations of the referents with a consequence of referential errors. In contrast, full NPs helped them in activating the appropriate semantic information of referents (Almor et al., 2001).

LeDoux et al. (1983) have also examined pronoun co-reference comprehension in people with AD compared to cardiac patients, young participants, and healthy elderly. Pronoun reference comprehension in sentences was constrained by either lexical, syntactic or contextual cues. LeDoux et al. (1983) found that patients with dementia had great difficulty considering the contextual constraints needed when assigning a referent to a pronoun. However, patients with dementia also had problems with grammatical constraints. These grammatical deficits were not associated with the contextual ones. According to LeDoux et al. (1983), the mechanisms that underly inferential processing of context differ from the ones that control grammatical processing.

The conclusion for patients with AD is that there seems to be a breakdown of referential operations, with errors of anaphoric reference (Cohen, 1979) at the level of production, or at the level of comprehension, whereby there is a loosening of associative links between words, and between words and the things that they represent (Appell et al., 1982). The topic of reference will be analyzed in detail in Chapter 2, and in the subsection of reference in AD in Chapters 5, 6 and 7.

1.3.2 Linguistic performances in AD

1..3.2.1 Repetition in AD

As Bayles, Tomoeda and Rein (1996) inform us, previous studies (Appel et al., 1982; Holland Boller, & Bourgeois, 1986; Murdoch, Chenery, Wilks & Boyle, 1987) found that "the repetition ability is affected in AD, but not devastated" (: 247). As we will see in the studies below, the repetition ability in AD is deteriorated in the repetition of meaningless phrases and in long phrases.

Bayles, Tomoeda and Rein (1996) examined the effect of meaningfulness and length of phrasal stimuli on the repetition ability of 57 people with AD and 52 healthy individuals cross-sectionally and in a longitudinal study. Researchers gave thirty stimulus phrases that varied in length (six and nine syllables respectively), and degree of meaningfulness (meaningful, meaningless, improbable) to the participants. The meaningless phrases (e.g. *quiet pencil jacket*) differ from the improbable phrases (e.g. *dirty copper pots contained raccoons*[10]) in that improbable phrases could be logical and truth, but they are not, whereas meaningless phrases cannot be logical. Bayles et al.'s research hypothesis was that the ability of people with AD to repeat these kinds of phrases in correlation to the progressive semantic memory loss in AD would diminish if the severity of AD increased. Bayles et al., found that meaningless nine-syllable phrases were the hardest to repeat for mild and moderate AD patients as well as for TCs, without a progressive deterioration of the ability. Therefore, it seems that there was no degradation of the stimulus meaningfulness effect in the repetition ability of people with AD as it would be expected due to a progressive semantic deficit in AD.

The repetition ability is also affected by the sentence length in AD. According to Bencini et al.'s hypothesis (2011), grammar and sentence length interact" such that AD participants should be less accurate in repeating longer (two-clause conditions), more complex sentences overall. Their results confirmed the above hypothesis. In particular, AD participants and controls were less accurate in their overall ability to repeat words from the target sentence in longer sentences, but AD participants were more affected by sentence length than the controls. More specifically, AD participants were less accurate in repeating words in the Two-Clause condition, e.g. *The reporter predicts that the cyclist will lose the regional race* compared to One-Clause condition, e.g. *The electrician mended the broken wires* and One-Clause-Auxiliary condition, e.g. *The electrician will mend the broken wires.*

[10] The examples were extracted from Bayles and Tomoeda (1996: 249).

1.4 Conclusions

In sum, in this chapter I have attempted to make an overview of the linguistic and cognitive deficits in people with AD with an introduction to reference and referential errors in AD. My goal was not to comment in detail to the studies and their methodologies applied, but to provide a theoretical background in linguistic and cognitive problems in AD. A general but crucial conclusion of the chapter is that people with AD manifest problems in various levels of linguistic analysis and on their interface. Some studies have shown that these problems may be associated with problems in the various memorial systems and other executive functions, such as attention and inhibitory control.

Chapter 2
Theoretical Background

This chapter provides an overview of some essential theoretical issues regarding reference and anaphora assignment and resolution and attempts to define these notions either within a strict syntactic basis, such as Chomsky's binding theory (1981), or to a broader, cross-level linguistic analysis perspective, such as Reuland's Primitives of Binding (2001) and Economy Hierarchy (2016), and Hinzen's grammatical reference (2016). A part of these theories will be used to interpret our results in chapters 4, 5 and 6 and hence, all these theories are introduced in the current chapter. Moreover, in this chapter, studies on reference in various brain conditions will be presented with an emphasis on AD, but also studies about reference in healthy Greek individuals (children and adults). Furthermore, some essential characteristics of Greek pronominal system will be described. Therefore, the goals of this chapter are: 1) to provide different perspectives of the notions of reference and anaphora (assignment) with the presentation of different theories, 2) to explain how reference and anaphora are related to the presence of cohesion and coherence within the discourse of an individual, 3) to present an overview of the most representative studies on reference across brain diseases with a focus on AD, 4) to give an overview of studies on Greek anaphora/reference, and 4) to present a description of the Greek pronominal system with an emphasis on strong personal pronouns, clitics and reflexives.

2.1 The terminology behind reference and anaphora

The notions of "reference", "anaphora" and "reference/anaphora resolution" relate to pronoun production and comprehension. If the notion of reference is not conceived properly by AD patients or if the mechanism of reference resolution cannot be used by AD patients, then the AD patients overproduce pronouns resulting in an incoherent discourse or impairments in pronoun comprehension. As it will be shown in this section, as well as in this PhD thesis in total, reference contributes to coherence and cohesion within a text. Studies that have examined reference from a discourse-oriented approach as a way to attribute coherence and cohesion within a text, will be presented. Regarding

AD, Almor et al. (1999) (among other researchers) have suggested that pronoun overuse is linked to a deficit in cohesion and coherence of the discourse of AD patients. To understand the relation of problems in pronoun production and comprehension, firstly, the notions of pronoun, reference and reference resolution as well as anaphora and anaphora resolution, based on different linguistic approaches and afterwards, the notions of coherence and cohesion will be defined. The understanding of all the above terms is pivotal, because without cohesion and coherence within a text or speech, reference cannot be accomplished and without reference assignment, pronoun production and comprehension would be problematic both in oral speech and written text as we will see in our following chapters.

2.1.1 And after all what is a pronoun?

In this section, we will define the notion of "pronoun" in order to understand in the following sections and chapters of this thesis why it is a problematic part of speech in AD.

If we consider pronouns from a morphosyntactic approach, Reuland (2017) defines a pronoun simply as a bundle of phi-features on the level of morphosyntax. According to Reuland (2017), a pronoun lacks lexical content, and since it only consists of phi-features, it has a 'variable' interpretation. In other words, according to Reuland, pronouns carry a variable operator that must be valued in syntactic terms i.e by checking of formal features, such as case. We will examine this morphosyntactic approach of pronouns in chapter 5, when we will discuss about how people with AD comprehended pronouns and their phi-features in our picture-selection task.

If we examine pronouns under a discoursal approach, pronouns serve as clear signals which direct the reader/listener elsewhere in the context, either linguistic or extralinguistic in order to identify the referent (Chapman et al., 1989). In other words, pronouns are viewed as unique markers within a text that point to lexical items, which, in turn, refer to semantic participants (Ulatowska et al., 1986, p. 27). However, pronouns are not only related to lexical items that denote semantic knowledge. Not only are pronouns semantic tools in the way they refer to semantic entities that words convey by their meanings, but they also carry pragmatic roles, which can be analysed through deictic vs anaphoric functions in discourse (March et al., 2006). Pronouns and other deictic words are similar to open-class words in the sense that they have referential meaning in context,

despite the fact that pronoun reference necessarily varies between contexts much more than open-class word meaning (Altmann et al., 2001, p. 1072). Pronouns are the most frequently used referential forms to refer to the subject of a preceding utterance. Thus, they are preferred by the speaker and expected by the listener (Almor, 2000).

As we will see in chapter 4, the use of pronouns from people with AD differs from healthy individuals. In a way, the use of pronouns in AD is deviant. Therefore, pronouns in AD loose this cohesive, discoursal character that helps the reader to navigate within the sentence and from sentence to sentence and within the context and discourse. By this way, an incoherent output is produced. Under this perspective, pronouns are seen as discoursal features that create coherence or disconnect sentential parts from one another depending on which individual uses them, an AD participant or a healthy individual and in which way.

2.1.2 Reference and anaphora

In this subsection, we will define reference and anaphora from different perspectives in order to use these definitions or at least parts of these definitions and their perspectives to interpret our findings in chapters 4, 5 and 6, respectively. In particular, some researchers have conceived reference as a semantic relation (Chapman & Ulatowska, 1989), whereas some others, like Reuland (2011), have perceived anaphora as a strict syntactic relation, based on Chomsky's binding principles (1981). In chapter 4, we will see how semantics and in particular, a naming dedicit that is closely related to lexical semantics and the semantics of a word affects pronoun production in AD. Moreover, we will see how this strict syntactic relation, that is anaphora, according to Chomsky, is affected in AD with pronoun comprehension deficits.

However, there is also a third definition of reference/anaphora that is also taken into consideration in this PhD thesis. According to Hinzen and Wolfsdorf, pronouns share also lexicogrammatical features for reference and not strictly syntactic ones. Therefore, Hinzen (2016) defines reference as a grammatical phenomenon and not a syntactic one. He "sees" grammar as a separate system from syntax. Hinzen does not "see" reference in the context of Chomsky's Binding Principles and under a syntactic perspective. He believes that reference in words can be accomplished by two measures. Each word has to have a referential identity, and grammatical configurations, such as gender values.

According to Hinzen's view, reference does not need a binding condition, but just a referential identity and the establishment of some grammatical configurations to be completed. Referential identity has a descriptive value, and thus refers to the lexicon and word knowledge. For instance, in the sentence "She is a he", the pronoun *she* declares that this pronoun has another pronoun as a referent, which is *he*, that has the feature of male, which is a common, world knowledge. In other words, according to Hinzen, the notion of reference constitutes of grammatical rules and a referential identity. For instance, in our example "*She is a he*", we have two grammatical features (pronouns), that both refer to specific lexical entities with specific gender characteristics, and thus, grammatical configurations. We can observe that, by Hinzen' s way of thinking, reference has two facets, a grammatical and a lexical one that are interconnected. In Hinzen's words, "reference is regulated grammatically in addition to lexically", thus, grammar and lexicon regulate referential dependencies. In Wolfsdorf' s words (2017, p.288), "grammatical reference incorporates lexical reference".

In order to support the grammatical notion of reference, which is established in every kind of pronoun with different grammatical configurations. Hinzen gives an example of deixis, that is closely related to reference. He advocates that there is no language acquisition of deixis in children before the age of two and half, that is, before children acquire grammar.

As we will see in our chapters 4, 5, 6 and 7, all the above definitions of reference and anaphora can not be applied in AD. In a way, it is like people with AD cannot define the morphosyntactic, the semantic, or the pragmatic notions of reference and anaphora. Therefore, they exhibit referential problems and anaphoric errors in both pronoun production and comprehension, as we will analyze in the related chapters.

2.1.3 Reference and anaphora resolution

Since we have defined both the notions of pronouns and reference and anaphora, we move on now to the notions of reference and anaphora resolution that will be examined as part of pronoun production and comprehension in AD. According to Chapman and Ulatowska (1989, p. 654), reference resolution involves a complex interaction between semantic, syntactic and pragmatic knowledge as well as memory[11]. Reference resolution is used to

[11] As Chapman and Ulatowska (1989) support, memory plays a critical role in tracing referents. If memory is impaired, then tracing referents is also problematic.

describe referential relations not only of anaphors and pronouns, but also verbs and nouns. In particular, reference resolution in pronouns and nouns differs in various manners: a) pronouns are function words and belong to closed class words, whereas nouns are content words and belong to open-class words, and b) pronouns depend more on contextual information, whereas nouns are more contextually free (Chapman & Ulatowska, 1989). Pronouns with the above characteristics are related to the process of reference resolution and assignment[12].

To hark back to the notion of reference resolution and its strict correlation with pronouns, reference resolution is a broader term than anaphora resolution; it is an umbrella term. According to some studies, the scope of (co)reference resolution is more general than anaphora resolution since (co)reference is a set of referring expressions with the same coreferential index, whereas anaphora is related to syntactic, hierarchical relations (i.e. c-command). In other words, co-reference resolution is the task of identifying all the nominal phrases that refer to the same entity in the text, sometimes referred to as "*mention detection and chaining*" (Zitouni, Luo and Florian, 2010).

Moving on to the discourse-oriented approach on reference and anaphora, Halliday and Hasan (1976) believe that anaphora indicates reference within the text, gaining meaning from previously uttered information in discourse, and therefore relying purely on the linguistic context. To delve more deeply into the definition of co-reference as part of a cohesive discourse, according to Glosser and Deser (1991), co-reference is a cohesive linguistic device that is determined by the principle that interpretation of one linguistic element, such as a pronoun, depends on or presupposes another linguistic element, such as an antecedent. In other words, anaphora is the "glue" that binds the individual (sentential) elements together in order to achieve the impression of coherence (Glosser and Deser, 1991, p. 70). By achieving coherence, repetitions are minimized within the same context. If we take context into consideration and under a syntactic approach, anaphora resolution is the process of identifying the referent of an anaphoric element (e.g. NP) or /expression in the context, and thus, forming an anaphoric dependency (like a reflexive-antecedent relationship). In a broad definition, an anaphor can be defined as an expression that depends on another previously mentioned expression in order to obtain its meaning and interpretation (Garrod et al., 1990).

[12] Reference resolution is mostly related to the on-line processing of reference assignment whereas, reference assignment characterizes the phenomenon of reference attribution. In this PhD thesis, we will perceive and examine these two notions as equal and will not analyze their differences any further.

2.1.4 The various kinds of constraints on reference and anaphora assignment

In this section, we will refer to different constraints that regulate anaphora and reference assignment and the way they are distributed to the different levels of linguistic analysis. As we will see in our results and discussion, in chapters 4,5 and 6, the factors that regulate pronoun reference assignment in Greek AD are related with morphosyntax, semantics and pragmatics. The first part of the analysis will be the constraints on the pragmatic level.

According to Reuland (2016, p.7), anaphoric dependencies are established under pragmatic conditions. However, the way these anaphoric dependencies manifest themselves is subject to syntactic constraints. In short, as Reuland argues, pragmatic effects can be masked by syntactic factors. Vonk (1984) gives an example of a pragmatic constraint in (2):

(2) *Bill told Harry that John bored him.*

In (2) "*Him*" refers to Bill and not to Harry, because of the experiencer constraint. The experiencer constraint is a pragmatic constraint that does not allow co-reference of *him* to *Harry*, but only to *Bill*. *Bill* cannot know or talk about *Harry*'s feelings, as long as only *Harry* can experience them.

In contrast, in (3):

(3) *Bill told Harry that he bored John*.

He is unconstrained and has neither *Harry* nor *Bill* as a necessary antecedent; it can refer to both.

Other researchers suggest constraints on other linguistic levels, too. More specifically, anaphora resolution depends on syntactic constraints (Nicol & Swinney, 1989) and prominence (Gernshbacher & Shroyer, 1989), semantic and prosodic constraints (Barss, 2003; Huang, 2004; Kazanina & Phillips, 2010) that differ from language to language[13]

[13]Cunnings, Patterson and Felser (2014 in Koornneef and Reuland 2016), follow a cue-based approach that pronoun resolution relies on memory cues for the assignment of values. According to this cue-based approach *recency* and *linear proximity* play a role in the process of anaphora and pronoun resolution rather

(Koster & Reuland, 1991; Cole, Hermon & Lee, 2000; Kaiser & Trueswell, 2008). In other words, some constraints apply to some languages, but not to others. For instance, the locality constraints apply to English reflexives, but not to Mandarin Chinese (Cole, Hermon & Lee, 2000). For example, in (4)

(4) $John_i$ thinks [Tom_j knows [$Bill_k$ likes himself $*_{i/*j/k}$]]

(Cole, Hermon & Lee, 2000: 1-2)

the reflexive *himself* should be close to its antecedent in English, whereas in (5) the reflexive *ziji* 'self" does not have the same restriction.

(5) Zhangsan renwei [Lisi zhidao Wangwu xihuan $ziji_{i/j/k}$]]

Zhangsan think Lisi know Wangwu like self.

'Zhangsan thinks that Lisi knows that Wangwu likes himself.'

(Cole, Hermon & Lee, 2000: 1-2)

In other words, there are several factors that affect anaphora and reference assignment and differ sometimes from language to language. In addition, there are some constraints that are morphological, thus the form of an anaphoric element (null or overt pronouns) morphosyntactic, like the presence of quantifiers (Chien & Wexler, 1990; Philip & Coopmans, 1996), syntactic, like the position of pronouns (Vonk, 1984) and antecedents[14] (subject or object) and pragmatic, like the experiencer constraint in (2) and (3). I will not analyze in detail these constraints, because they are out of the scope of this PhD thesis. However, there are also some other factors that are on the interface of syntax with semantics and also constrain the process of reference and anaphora assignment. These are the phi-features of nominal expressions that are the gender, the number and the case and their values. These phi-features facilitate the strategy of anaphora assignment and the correct identification of the referent (Arnold et al., 2000) and in this way, they determine the process of pronoun assignment (Vonk, 1984). We will see in chapters 5 and 6 how these phi-features and especially, the number as a feature played a role in reference assignment.

We also have to highlight that the retrieval of the antecedent information is an automatic process. However, it depends on distance and featural overlap, two factors that strongly affect the activation of antecedent information (O'Brien et al., 1997). In O'Brien

than the structural condition of c-command. (see also Cunnings et al., 2014 for unimodular vs multi-modular approaches to anaphor resolution).

[14] Miltsakaki (2007) concluded that Greek pronouns are sensitive to the syntactic position of antecedents.

et al.'s study, antecedents were only reactivated when the distance between the anaphor and the target antecedent was either relatively short or moderate and when there was an adjective-modifier that increased the featural overlap between the anaphoric phrase and the antecedent. We will see and analyze the role of distance between an antecedent and a pronoun in our experiment on pronoun number agreement in Chapter 6.

2.1.4.1 Avrutin (2000)

In this section I will present the D-linked hypothesis put forward by Avrutin (2000). It offers a pragmatic view of anaphora assignment and we will use it in the interpretation of results regarding clitics (see chapter 5). According to Avrutin (2000), D-linking and local binding are the operations via which pronouns and reflexives[15] (respectively) relate to an antecedent. Local binding is established within the same clause, while D-linked relations are established across clauses. Clitics are d-linked (bound in discourse), but are also bound in syntax in order to be assigned the feature of [+-human] and get interpreted at LF (Corver & Delfitto, 1993). According to Avrutin (2000) and Corver and Delfitto (1993), clitics are underspecified for the feature of humanness, unlike strong personal pronouns that are specified positively for this feature. Hence, clitics need either the operation of binding or d-linking for their interpretation.

2.1.5 The notions of coherence and cohesion in pronoun anaphora assignment and resolution

In this section, I will refer to the notions of coherence and cohesion, because these notions are important in understanding how pronouns are produced, placed and being comprehended by individuals with or without AD.

As we have seen with Avrutin's D-linking argument, pronoun anaphora resolution highly correlates with discourse's connected speech, cohesion and coherence. According to Boschi et al. (2017), discourse and pragmatic features identify elements in speech that contribute to the continuation of conversation and include cohesion, coherence, correct use of pronouns, and conjunctions. These features measure how the context contributes to the meaning of the discourse produced and are used to calculate the

[15] A predicate is reflexive iff one semantic argument bears two of the predicate's semantic roles (Volkova & Reuland, 2014).

appropriate amounts of information. According to Halliday and Hasan (1976), in Jones (2013, p. 281), "*cohesion is a way of describing "relations of meaning" within and between sentences, within discourse, and at the same time, it is the existence of these relationships that makes a collection of utterances a meaningful unit"*. In cohesion, the relationships are not only semantic but also structural (Ripich et al., 1983). Cohesion occurs when the interpretation of an element in discourse depends on that of another element (Ripich et al., 2000), thus contributing to the continuity of the discourse (Ripich et al., 1983). It refers to conjoining discourse elements in the form of references, substitutions, ellipsis, conjunctions and lexical markers (Dijkstra et al. 2004). Cohesion may have distinctions in referential cohesion (e.g. correct pronominal reference), temporal cohesion (e.g. correct use of verb tense) and causal cohesion (e.g. appropriate conjunctions).

Coherence is a term which has been used to characterize conceptual, organizational aspects of discourse at the suprasegmental level (Glosser et al., 1991). Reference is a principle cohesive device that contributes to the comprehensibility of texts and functions as a pragmatic goal of discourse via, for instance, the recreation of referential field (Ulatowska et al. 1986, p. 27).

All in all, reference resolution —considered from any approach— is an automatic process that is characterized by various linguistic constraints. Moreover, reference resolution contributes to the coherence and cohesion within a text, and it is a mechanism to conceive meaning. If reference resolution is established, then the necessary communication message is transferred to the recipient. If not, referential problems, incoherence and chaotic speech are created, like in the case of AD, as it will be seen in section 2.3 and Chapter 4, respectively.

2.2 Reference assignment in the context of Chomsky's Binding Theory (1981) and Chomsky's predecessors

In this section, we will refer to Chomsky's Binding Theory and to Grodzinsky and Reinhart's Pragmatic Rule 1 with the scope to use these theories in chapter 5 and our picture-selection task. In the context of generative grammar, binding has the definition of (6):

(6) *An element β is related referentially (is bound) to an element α (a binds b) if a is in an A-position (that is an argument position) if a c-commands β and a and β are coindexed*[16] *(co-reference)*[17].

Chomsky (1981)

Therefore, Binding Theory refers to the referential dependencies between constituents only in argument position and their interpretations. An argument position (A-position) is a syntactic position, in which an argument is syntactically licensed by being assigned a case and in this syntactic position the argument acquires a syntactic function (subject, object). Binding Theory, also, includes the syntactic notion of *c-command* (Chomsky, 1981). The term *c-command* refers to a dominance relation. A definition[18] of c-command is given in (7).

(7) *Node A c (c=constituent)-commands node B if and only if the branching node most immediately dominating A also dominates B*[19].

The notion of c-command is closely related to binding. In other words, the presence of c-command is necessary for the operation of binding inside the boundaries of a governing category. The three principles of Binding Theory are presented in (8).

(8) *Principle A: An anaphor/reflexive is bound in its governing category.*
Principle B: A pronominal/pronoun is free in its governing category[20].
Principle C: An R-expression is free.

(Chomsky, 1981, p.188)

Simply put, according to Principle A, anaphors (reflexives and reciprocal[21] pronouns) must be locally bound, that is, they must have a NP antecedent inside their governing category in A-position. As it can be seen in the example (9), the reflexive

[16] Coindexing refers to two elements in a structure with the same referential index.
[17] When two elements corefer, then they agree in their phi-features. For the definition of co-reference, see below in this section.
[18] The definition was extracted from Caplan and Hildebrandt (1988, p.18).
[19] Schematically, c-command, which is a structural relation, is given as follows:
[a [$_{\gamma}$ …. b….]] extracted from Reinhart (1976).

[20] Reflexives and (personal) pronouns are generally in complementary distribution; they cannot co-occur in the same syntactic environment.
[21] Haegeman (1991, p. 210) argues that reciprocals such *as each other* are subject to the same interpretative constraints as reflexives.

pronoun *himself*, which is in object position, must be bound from the NP *Joe* that is in subject position, thus A-position, and within its minimal domain.

(9) Joe_i *adores* $himself_i$.

The minimal domain is defined as the domain that includes a governing category and an accessible subject (Haegeman, 1991, p. 209). In (9) the governing category is the verb *adores* and the accessible subject is the NP *Joe*.

In addition, as it can be discerned in (10),

(10) Joe_j *thinks that* $Fred_i$ *adores* $himself_i$.

the reflexive *himself* must co-refer not just with any subject, but with the subject of the same clause, thus the subject that is inside its local domain. Furthermore, as it can be noted in (11) if the reflexive cannot be bound by the subject of its clause, the sentence becomes ungrammatical (at least in English).

(11) **Joe thinks that* you_i *adore* $himself_i$.

In other words, we can conclude the following: a) anaphors, like reflexives, do not have an inherent reference, but they are referentially defective elements and b) reflexives, as anaphors, must depend on a linguistically expressed antecedent within their local domain to be interpreted.

In contrast, pronouns differ from reflexives with respect to locality restrictions, inherent reference and binding. As shown in (11) and according to Principle B, personal, definite pronouns and clitics (pronominals) cannot be bound within their local domain/governing category. Alternatively, personal pronouns, and clitics must be free inside their governing category. Thus in (12),

(12) Joe_i *sees* $him_{*i/j}$.

the pronouns *him* cannot be bound inside its minimal domain, that is, by the NP *Joe* that is in A-position (subject). In contrast, the personal pronoun *him* can freely corefer to a

possible NP from the context, which is outside its governing category. It can be observed in (12) that pronouns do not follow locality restrictions, such as reflexives. In addition, according to Reuland (2017), pronouns have a possibility of co-reference: pronouns may, but they must not depend on an antecedent. In other words, they are not referentially defective, but they can co-refer with NPs outside their minimal domain such as in (13) and (14).

(13) *If you tickle Joe$_i$, he$_{i/j}$ laughs.*

(14) *If you tickle him$_i$, Joe$_i$ laughs.*

In (13), the personal pronoun *he* can co-refer with the NP *Joe* in a subordinate clause on its left, thus, outside its minimal domain. In (14), *him* is not placed usually before its antecedent, thus outside its governing category. But in (14) the structure is grammatical, because the pronoun is inside a subordinate clause.

Furthermore, according to Principle C (see 11), referential expressions (R-expressions), like names, must be unbound in all syntactic environments and must not be linked to a NP in A-position. In other words, referential expressions must be free everywhere (Chomsky, 1981, p. 188). R-expressions do not need an antecedent and do not tolerate binding from another element (Haegeman, 1991, p. 214). For instance, in (15),

(15) *He thinks that Joe adores Fred.*

he cannot be bound to an NP in a subordinate clause on its right[22], thus in our case, with *Joe* or *Fred*. *Joe* and *Fred* must be referentially free. Full nominal expressions, like *Joe* and *Fred* are referentially independent and thus, select a referent from the universe of discourse, the things we know and talk about, and from their inherent properties (Haegeman, 1991, p. 190). In (15) both *Joe* and *Fred* have an inherent gender value (e.g.

[22] This constraint reminds me of the Right Frontier Constraint (RFC, Polanyi, 1985, 1988). This constraint is incorporated in discourse structure interpretation and especially in anaphora resolution. According to RFC, anaphoric relations have their resolution in antecedents, which lie in the Right Frontier (RF) of discourse and the pronoun is preferably attached to the referent lying with the RF. In other words, this constraint determines that the only possible attachments of a new discourse utterance can be the previous utterance or any other in subordinating way related to it.

a masculine gender). Thus, *Joe* is a man, who has a friendly relationship with *Fred*, whereas *Fred* is also a man, who is probably a friend with *Joe.*

As we have seen from the three principles[23], there are structural constraints on form and meaning of anaphors, pronominals and R-expressions that crucially involve a hierarchical linguistic structure (c-command, governing, binding) and not just linear order (Chomsky, 1981).

It is no surprise that these conditions (of binding and c-command) have been a constant preoccupation of linguistic research. The main lines of dispute are whether the linguistic structure involved in conditions on anaphora is syntactic alone (Chomsky, 1981; Lasnik, 1989) or whether semantic/conceptual structure also plays a role (see for instance, Levinson, 1991; Culicover & Jackendoff, 1995). Perovic et al. (2013) advocate that pronouns can either be interpreted as bound variables when they are subject to syntactic binding, or have a co-referential interpretation, when they are subject to constraints that are extra syntactic. Thus, binding is not available across sentences, whereas co-reference is possible across sentences. Reinhart (1983, 1986) argues that different modules of grammar govern binding and co-reference and that pronouns fall under Principle B concerning their bound variable interpretation, but not for their coreferential reading. A pragmatic principle Rule 1 governs the coreferential reading and its relation. Pragmatic Rule 1 is defined by Grodzinsky and Reinhart (1993: 79) as follows in (16):

(16) "NP α cannot corefer with NP β if replacing it with γ, γ a variable, A-bound by β, yields an indistinguishable interpretation."

Intrasentential co-reference with a c-commanding antecedent is possible only when it yields a distinguishable interpretation from the co-indexed representation (i.e. the bound variable reading) of the same string. In other words, Pragmatic Rule 1 says that co-reference establishes if it yields an interpretation that is distinguishable from the co-indexed one. This rule needs two distinct operations/interpretations, the syntactic one and the discourse-oriented (co-reference reading).

[23] If these principles can be applied in Greek will be analyzed in the section on the Greek pronominal system.

2.2.1 Reuland's Primitives of Binding and his extended theory

In this section, I will present Reuland's Primitives of Binding (2001) and its extended model, by emphasizing the role of the executive functions in pronoun reference. I will use these theories to interpret part of my findings in Chapter 5. I will begin with Reuland's Primitives of Binding and then move on to its extended theory. In particular, Reuland (2001) has postulated some primitives that govern binding. According to the Primitives of Binding account, referential dependencies (and hence, referential assignment) are established at different levels, and the number of interpretive steps necessary for forming a referential dependency determines the cost of the operation, and thus the choice of the specific level. Anaphoric elements, such as reflexives establish their referential dependencies in the narrow syntax that is an operation with low cost. Pronouns form discourse-related dependencies (co-reference) or bound variable dependencies that are costlier compared to the syntactic ones, because they involve operations among different levels.

Schematically, figure 1 depicts the economy-hierarchy.

LEVEL OPERATION

Narrow syntax (feature checking)

↓

Semantics (bound variable)

↓

Discourse (co-reference)

↓

(Non-linguistic source) (deixis)

Figure 1. The Economy-Hierarchy (Vasić, Avrutin & Ruigendijk., 2006)

As we can see in the above schema, different operations from different linguistic and non-linguistic levels take place resulting in different interpretations and anaphoric relations, as well as different processing demands and costs.

The operations that occur in narrow syntax are the most automatic and economical, so establishing a syntactic dependency is the preferred way of assigning a referent to a pronominal element (Vasić et al., 2006). The most expensive for processing demands is the non-linguistic source, the operation of deixis. The operation of deixis is placed on the general framework/level of world-knowledge. Semantic and discourse-

oriented operations are somewhere in the middle of the syntactic and non-linguistic source. Semantic dependencies require one cross-modular dependency, whereas discourse dependencies need two.

Reuland (2016) extends and restates his theory of 2001 and argues that anaphoric dependencies are characterized by a general principle of economy, the semantic relation of binding as well as the lexical, syntactic and discourse related properties of the sentence that includes these anaphoric dependencies. The resolution of anaphoric dependencies can be completed by syntactic, semantic and discourse processes. These processes are governed by the principle of economy. Hence, morphosyntax is less costly than semantics and semantics is less costly than discourse.

Also, Reuland (2016) studies binding and its products, anaphoric dependencies as a process of value assignment in correlation with low-cost cognitive functions within the context of an economical processing and processes in the lexicon, in syntax, in semantics and discourse. In Reuland's Feature Determinacy Thesis (2011), morphosyntactic features and the way the computational system of human language operates on them, depending on its available resources, determines syntactic binding of pronominal elements (including anaphors) in a particular (morphosyntactic) environment (and discourse).

Furthermore, in Reuland' s way of thinking (2016), binding is based on three simple universal principles: a) reflexivity[24] must be licensed (reflexivity condition), b) simplex anaphors and pronominals are subject to a condition of chain formation where only the highest element in a syntactic dependency ('a chain') can be fully specified for syntactic features, hence syntactic computations, and c) the encoding of anaphoric dependencies is subject to a principle of economy, which, in specified environments, gives rise to categorical effects, in other preferences. Chomsky's derivational economy (1995) is the basis of the economy principle, where rejection is the final principle and based on this fact, and access to subsequent components in the hierarchy to derive precisely the same interpretation for the given expression is prohibited (Reuland, 2016). For matters of economy, an abundant derivation is cancelled and bypassed (Chomsky, 1995; Reinhart, 2006).

[24] The a point refers to Reflexivity Theory (Reinhart and Reuland, 1993) that includes two principles. According to Principle A, "*a reflexive-marked predicate must be interpreted reflexively"* and according to Principle B, "*a reflexively interpreted predicate must be reflexive-marked*".

Regardless of whether we adopt or not Reuland's Primitives of Binding (2001) and/or its extended version, we must keep in mind the suggestion of Caplan and Waters (1999) that pronoun comprehension might best be a post-interpretive process. Hence, pronoun comprehension as a post-interpretive process demands more computational effort and needs more working memory and executive functions in general in healthy populations, and in patients with AD, in particular.

In the context of Caplan and Waters' approach of pronoun comprehension as a post-interpretive process, Kehler and Kehler (2002) suggests that pronoun resolution does not have a single, all-purpose strategy. In other words, the processing patterns observed in pronoun processing are a byproduct of more general cognitive inference processes that underlie the establishment of coherence. Discourse coherence and pronoun reference are mutually driven forces and mutually constrain each other. Therefore, discourse coherence guides pronoun reference and vice versa. In other words, there is an interaction between coherence relations and pronominal reference.

2.3 Reference resolution, use of pronouns and discourse in AD

One of the main goals of this section is to give firstly, the general discoursal characteristics of AD in order to deepen into the theories of pronoun use and comprehension in AD in the relevant chapters and with the help of our data. More specifically, in this section, firstly, we will refer to studies that are related to the use of discourse in AD that is exemplified with pronoun use. Secondly, we will refer to studies that have examined the relationship between executive functions and pronoun use in AD. The second part of the literature review will provide the theoretical background of the role of executive functions in pronoun use in AD that will be analyzed in detail in chapters 4,5,6 and 7, respectively.

The process of reference resolution and the pronoun use becomes more complex in populations with linguistic impairments, such as AD, compared to healthy populations. To begin with, Chapman et al. (2002) have found that in the discourse of people with mild AD or MCI, there was an apparent communicative decline with reduced information content. As Caplan (1992, p. 399) claims, many studies confirm the reduction in the informativeness of discourse in patients with AD (see, for instance Ripich and Terell, 1988). According to March et al. (2006), patients with AD elicited lower narrative themes,

fewer informative units, and fewer nouns in discourse with reduced linguistic content. Information considered to be essential for the coherence of discourse, like nouns, was frequently absent, and the production of information regarded as tangential or irrelevant, like pronoun overuse, was frequent. As Boschi et al. (2017) say, one characteristic of discourse in patients with AD is compromised coherence, with many irrelevant and implausible details. The irrelevant information, lack of coherence and empty speech in AD is related to problems in pragmatic/conceptual processing of discoursal information in this disease (Carlomagno et al. 2005: 520).

An explanation for this reduced information content and disrupted reference in AD is suggested by Blanken et al. (1988 in Carlomagno et al. 2005, p. 520). They suggest that there is an impaired ability to generate pre-linguistic conceptual structures of speech act representations, i.e. those representations that are presumed to control the information content of discourse. In addition to Blanken et al.'s explanation (1988), Glosser et al. (1991) point out that patients with AD have problems in macrolinguistic abilities that control higher-order, non-specific and more fussily organized cognitive processes, such as attention, memory and executive control. If we put all the above findings together, i.e. a reduced information content and cognitive problems on a macro-linguistic level, we can provide an explanation for the inability of people with AD to maintain a topic.

According to Glosser and Deser (1991 in Carlomagno et al. 2005, p. 521), patients with dementia of the Alzheimer's type performed poorly on measures of thematic coherence, thereby confirming the results of most studies regarding a general decline in maintaining thematic relevance. Thematic relevance is associated with textual coherence, which is achieved not only by the use of conventionalized linguistic forms, but also by the shared knowledge of the world, beliefs, concepts and general pragmatic tools. Coherence, as Glosser et al. (1991) note, implies logical, sequential ordering and hierarchical organization of textual units in order to realize a theme, a goal or a plan. AD patients seem to have forgotten this logical and hierarchical distribution of a text, along with shared knowledge about concepts, civilizations, and the universe.

Discourse cohesion is also disrupted in AD, as there is a use of inappropriate and referentially nonspecific lexical items (empty speech). As Dijkstra et al. (2004) conclude the language of people with AD is "*vaguer*[25]*, indefinite, aborted and repetitive, and has*

[25] According to Obler (1983 in Ulatowska et al. 1986)– people with dementia manifest vagueness, for instance difficulty in referential specificity in their spontaneous speech.

more temporal and referential cohesion errors and disruptive topic shifts than that of their healthy counterparts". Disrupted cohesion seems to mainly reflect, in a large part, impaired lexical retrieval rather than disorganization of the sentences (Glosser et al. 1991). In particular, the strong correlations found in Glosser et al.'s study (1991) between lexical error measures (i.e., verbal paraphasias and indefinite terms), and incomplete cohesion, indicated that people with AD have problems in lexical retrieval that are related to a disrupted cohesive discourse.

With this problematic discourse cohesion and disrupted informative content in the speech of AD in mind, let us move now to the more specific topic of pronoun use. According to many researchers (i.e. Ripich & Terell, 1988), pronouns are a category of words known to cause difficulties for people with AD. Regarding the modality of production, there is an overuse of pronouns without clear referents in the speech of participants with AD (Kempler, 1984,1987). According to Ska and Guenard (1993), the absence of a clear referent has been reported to occur far more frequently in the language of AD patients than in healthy elderly individuals.

This overuse of pronouns with an absence of clear referents is characteristic of a discourse, which is not based on grammatical features, such as number and grammatical relations, such as number assignment. It is instead, reliant on meaning-based features and lexically driven, by paraphrasing Ellis' words (1996) in his conversational analysis. According to Ellis's framework, the significant proportion of pronouns in people with AD belongs to a pre-grammatical discourse processing, which precedes grammatical discourse processing both ontogenetically and phylogenetically (Ellis, 1996). Grammatical discourse processing is related to structural cohesion, including all the morphosyntactic features and syntactic complexity that it carries, whereas pre-grammatical discourse is bound to semantic cohesion and is text-based. In grammatical discourse processing, integration of general knowledge and more abstract schemas are required, making it more complex and demanding for the brain function of AD patients. Therefore, people with AD unconsciously choose the prior-grammatical discourse processing, which depends on semantic cohesion and text-based strategies that are more superfluous in matters of meaning and mental representations. This choice of prior-grammatical discourse creates a problem in anaphoric references, where the use of pronouns does not depend on structural cohesion, but on a more primitive, descriptive

lexical cohesion instead. This leads to chaos and confusion (anaphoric misleadings, overuse of pronouns) in the discourse of people with AD.

The lack of discourse cohesion is evident in the chaotic speech of AD patients, which is full of empty[26] words, such as pronouns without antecedents, referential errors, repetitions, semantic paraphasias, deictic and indefinite terms (Obler, 1985). As Brodbeck and Pylkännen (2007, p. 448) mention, "*reference resolution is a fundamental component of processing coherent language, because coherence critically depends on repeated reference to the same entities."* However, this incoherent speech in patients with AD with a parallel reduced lexical content has as a consequence a problematic reference resolution, referential errors and bare of reference pronouns.

In order to understand the nature of empty speech and what constitutes 'empty speech' in dementia, we have to distinguish between anaphoric and deictic use of pronouns, that is, between the structures in 'use' within the text (anaphoric use) and the context (deictic use) (March et al., 2006). Without this distinction, we cannot understand the core of 'empty speech' in dementia (Sabat, 1994). According to March et al. (2006), the distinction between deixis and anaphora (see 18 and 19) is crucial as the two forms can share linguistic elements such as pronouns. We have to highlight that in this discrimination, anaphora is not described based on a Chomskyan, strict syntactic, approach.

(18) John is sick. *He* is taking the day off today. [Anaphoric pronoun use]

(19) Has *he* slept well? [Deictic pronoun use]

March et al. (2006)

According to Zimmerer et al. (2017), deixis/deictic anchoring refers to correlations with aspects of the world including entities, events, locations, and time. Pronouns have deictic anchoring, thus deictic reference and meaning, since they refer to world knowledge and specific word entities. For instance, in (20) the pronoun *he* refers to a specific entity that has the characteristics of 'human', 'man', 'male gender', among others. This entity is also placed in a specific time (e.g., at night) and space (e.g., a house). The characteristics of deixis or the deictic anchoring have been taken from a

[26] According to Almor et al. (1999a) in Carlomagno et al. 2005, p. 525), when dealing with empty speech in AD, measures of lexical encoding of information from connected speech samples account better for patients' difficulties in lexical processing (which occur in producing discourse) than measures on contextual tasks such as confrontation naming and so on (see also Nicholas et al. 1985; and Giles et al. 1996; for a similar position).

specific ‘context’, but not with the traditional, linguistic use of the term ‘context’. In other words, the characteristics of ‘male’, ‘human’, ‘man’, ‘house’, and ‘at night’ have been retrieved from general world knowledge and not from the text, thus the previous sentence. In contrast, in (19) the pronoun *he* is characterized by an anaphoric reference, thus the antecedent of the pronoun (reference) is in the text, and in particular, from the previous sentence. More specifically, the pronoun *he* has taken its reference from the NP *John*.

With this distinction between deictic and anaphoric anchoring under consideration, we can differentiate between elements that contribute to textual and contextual coherence respectively and how the lack of them can lead to an empty speech in AD, with ungoverned antecedents and referential errors.

However, Lai (2014), Almor et al., (1999), Almor (2000, 2004) have attributed the problems with pronoun use (overuse of pronouns, ungoverned antecedents and referential errors), to impairments in different executive functions. The focus will now turn to some studies and their correlations with executive functions.

According to Lai (2014), referential errors of Chinese-speaking adults with AD are due to semantic memory deficits but also due to a small working memory capacity. More specifically, Lai (2014) explains that in order to use pronouns properly, enough working memory capacity and a proper function of semantic memory are required. More precisely, a sufficient working memory capacity is a prerequisite for each speaker (healthy or AD) to complete the matching between each pronoun with its antecedent (earlier information) in the discourse. However, this memory capacity is impaired in persons with dementia. As a corollary, pronouns are used inappropriately. In addition, according to Lai (2014), people with AD have semantic memory problems. However, the relation between inappropriate pronoun use and semantic memory problems is not explained in Lai’s study.

In contrast, Almor et al. (1999) relate their findings in pronoun overuse and impaired sensitivity of pronoun number agreement violations (pronoun comprehension) in the context of a degraded discourse with only working memory problems and not with an impaired long-term, semantic memory. In addition, Almor et al. (1999) postulate a *Working Memory Impairment Hypothesis* to explain, on the one hand, overproduction of pronouns, and on the other hand, problems in recognizing violations of pronoun number agreement. According to this hypothesis, pronoun production increases, and working memory decreases. Almor (2000, p. 9) believes that the overall degraded working

memory capacity in AD, decreases the salience of the discourse's constituents and as a corollary, there are unbound antecedents. To put it simply, based on Almor et al.'s perspective and findings (that we will analyze thoroughly in Chapters 4, 5 and 6) pronoun overuse is related to a working memory impairment that diminishes the salience of the antecedents. In other words, people with AD overproduce pronouns, because their antecedents are not salient enough in their discourse due to degraded semantic representations of the antecedents that are related to working memory impairments.

According to Almor (2000), a general working memory impairment affects both pronoun production and comprehension with an impact on reference processing in AD. This memory impairment in AD is related with the problematic activation of referents' semantic representations and their reduced salience in AD discourse. The degraded semantic representation of referents in AD leads to the frequent use of more general expressions, such as pronouns, and to problems in detecting violations of pronoun-antecedent number agreement.

To describe this problematic activation of referents in AD patients due to their diminished working memory capacity[27] and their inability to detect pronoun number and gender agreement violations, Almor (1999, 2004) used his constructed theory about referential processing, which he called *Informational Load Hypothesis* (ILH). In general, ILH tries to interpret the processing of pronouns, among other kinds of referential expressions, by using both linguistic (pragmatic) and psychological terms. The linguistic (pragmatic) ones are the notions of quantity of information, in the context of the Griceans 'maxim of quantity' (1975) and the notion of discourse function. The psychological notions are the terms of processing cost and working memory capacity. Processing cost for referential processing is defined by the semantic relation between the representations of each antecedent with each pronoun. Processing cost is not measured based only on the semantic representation of the antecedent but also based on the cost produced by the semantic relation between each antecedent with each pronoun.

In the context of ILH, AD patients produce more pronouns that cost less, and can be combined more easily in discourse. Consequently, they overuse them, because of the

[27] Working memory capacity is a key factor in the analysis of working memory functionality in AD. Research in AD has indicated that persons with AD have shorter immediate memory spans. The shorter immediate memory spans have as a result that AD participants suffer from more demanding processes than less demanding ones (Lai et al., 2014).

degraded semantic[28] representation of referents in their brains due to their diminished working memory capacity. Therefore, a semantic overlap between the referent's representation and the previously mentioned discourse's representation is attested (Almor & Nair, 2007). As a corollary, the RNP phenomenon is detected (see 1.3.12 and Chapter 4 for more details). The RNP phenomenon is a result of ILH's imbalance between function and cost during the integration of the referential expression into the representation of the discourse (Almor & Nair, 2007). For AD patients, full NPs that are costly referential expressions for healthy individuals, aid the activation of antecedents' semantic representations in AD, and therefore, AD patients choose them more than healthy participants. Hence, there is an imbalance between function and cost in pronoun processing for AD participants.

2.4 Reference and interpretation of pronouns in other mental states

In this section we will refer to the process of reference in other mental states in order to provide a background of reference in other pathological populations, too. In parallel, the presentation of reference in schizophrenia and aphasia is made in order to make the necessary comparisons with the phenomenon of reference in AD.

2.4.1 Reference and use of pronouns in schizophrenia

The breakdown of anaphoric reference has been reported not only in Alzheimer's dementia, but also in other disorders such as schizophrenia[29] and aphasia (Ulatowska et al., 1986). Rochester and Martin (1977) observed a breakdown of reference in the narratives of schizophrenic patients, which were characterized by chaotic coherence with a considerable number of ambiguities. They attributed this referential breakdown to a disruption of pragmatic considerations of social use and norms by people with schizophrenia. Crow (2010) highlights a disruption of deictic anchoring in schizophrenia, a disruption which, according to his point of view, can reveal the linguistic core of psychotic syndromes. In other words, the disruption of the deictic frame in schizophrenia

[28] In general, the representation of vocabulary in semantic memory is assumed to be impaired in people with dementia (Baddeley, 1996 in Dijkstra et al., 2004).

[29] One of the major linguistic problem in schizophrenia is a deficit in Theory of Mind (ToM), see for example Frith et al. (1996).

is a loosening, a disintegration of the distinction between the indexical 'I' and the indexical 'you', the first personal pronoun and the second personal pronoun, the self and the other. As Watson et al. (2012) mention, people with schizophrenia might exhibit an abnormality in the deictic frame of interpersonal communication. In their study, with the implementation of masked videotaped assessments, they found increased use of second personal pronouns. More supporting evidence comes from Fineberg et al.'s (2015) study, whose results showed an overuse of third-person personal pronouns, such as 'they', in schizophrenia along with low use of first-person personal pronouns, such as 'I', compared to participants with depression. Fineberg et al. (2015) concluded that psychotic patients could not understand themselves as separate entities from others.

In the context of studies referring to pronoun overuse of different persons, Fineberg et al. (2016) found an increased use of first-person personal pronouns, self-referential use in patients with schizophrenia, that is in line with the majority of studies, as they have said.

However, Hinzen (2017) suggests that problems with deictic reference in schizophrenics exceed the level of pronouns. People with schizophrenia seem to have a general problem in referential definiteness with either abnormal vagueness, that is insufficient descriptive specificity when needed, confused references (several referential candidates), missing informational references, uncertain definitional meaning with lots of semantic paraphasias and neologisms as well as unclear meaning due to structural abnormalities (Hinzen, 2017, p. 216). In his point of view, the aforementioned problems in the use of referential devices are not pragmatic, as Rochester and Martin (1977) have claimed, but are based on the reduced clarification of referential intention within discourse by the interlocutor. In other words, according to Hinzen, schizophrenics' discourse is free-floating of referential and deictic anchors, and it does not include difficulties in deictic distinctions per se. The problems in schizophrenics' discourse are attested in their use, perception, and interpretation of context. In particular, lexical concepts and context in general, have referential meanings for people with schizophrenia. Thus, when people with schizophrenia use words such as *Jesus*, this word has a self-referential meaning for them. Because of this grammatical referential misuse (the conversion of lexical concepts to referential expressions) in schizophrenia, a disordered discourse is attested as a result of disordered thought.

2.4.2 Reference and interpretation of pronouns in aphasia

Pronouns have been reported to be susceptible to damage in people with aphasia and are frequently omitted in agrammatics (Martínez-Ferreiro et al., 2019). Regarding aphasia and referential abnormalities, Berko et al. (1980, in Ulatowska et al. 1986)- identified anaphoric errors in the production of pronouns without antecedents and abnormal frequency distributions of pronouns in people with Wernicke's and Broca's aphasia. Furthermore, following Ulatowska's and her colleague's assumptions (1981; 1983), people with aphasia tended to nominalize less frequently resulting in more reference ambiguity. In other words, based on Ulatowska et al.'s studies (1981;1983a, b) people with aphasia used fewer NPs and as a corollary lots of pronouns were left ungoverned without antecedents. Therefore, ambiguous pronouns emerged and created referential ambiguity.

Below, we review some studies on pronoun production and comprehension to examine referential problems in people with aphasia.

Chapman and Ulatowska (1989) investigated the discourse of 12 people with aphasia and 12 healthy individuals. Their goal was to understand how people with aphasia resolved referents of pronouns and nouns with the use of textual and extra-textual (based on world knowledge) cues during narrations. Six different stories[30] with a pronoun and a noun version were read to the participants, one at a time. Participants had to narrate the stories with the help of two cards that depicted the two main characters/figures of the stories. The six stories differed in matter of referents' specificity and plausibility. Therefore, some of the stories were more specific and plausible than the others. By the term plausibility, Chapman and Ulatowska (1989) meant the predictability of a story. The plausibility of the stories consisted of three different levels. The stories with low and middle plausibility included textual cues for pronoun disambiguation. The stories with high plausibility consisted of extra-textual cues, which were based on world knowledge and were also used to disambiguate pronouns. Chapman and Ulatowska (1989) found integration processing deficits in their participants with aphasia; more precisely, they observed a problem in cases of low and middle plausibility[31]. That is, they found a problem in the use of (con)textual cues to resolve pronoun referents based on world knowledge. People with aphasia could identify noun referents with proficiency, but not

[30] Each story had four sentences with 15 propositions and 45 words.
[31] However, this finding was not consistent in all people with aphasia.

pronoun referents. This finding led researchers to conclude that speakers with aphasia could more easily disambiguate pronouns that had a semantic/pragmatic relationship with a referent based on world knowledge. In other words, retrieval of meanings from world knowledge was more easily accessible by these speakers than meanings based on the use of textual cues. Researchers have attempted to explain these findings in correlation to plausibility effects, memory deficits in aphasia and the different properties of nouns and pronouns (content words vs function words). Plausibility, Chapman and Ulatowska (1989) concluded, is not the main factor of impaired processing in pronouns referents, but correlates to differences in language function of each person with aphasia, all of whom had different linguistic problems. On the one hand, in Chapman and Ulatowska's study, people with aphasia had difficulties with referential processing, but short-term memory did not play a role in referential processing; no errors were found in any of the participants with aphasia as the distance between the pronoun and its referent was increased and across all levels of plausibility[32]. On the other hand, due to different lexical properties of nouns and pronouns, speakers with aphasia processed nouns more easily compared to pronouns, and they had comprehension deficits in pronouns, but not nouns.

Similarly, referential problems have been found in pronoun comprehension in aphasia across studies. Studies specifically on Greek aphasia will be discussed in the Section 2.6 that reviews studies on Greek reference/anaphora.

2.5 The pronominal system in Greek

2.5.1 Personal pronouns

According to Triantafyllides's grammar (1988 [1941]) and Holton, Mackridge and Phillipaki-Warburton and Spyropoulos's grammar (2012), Modern Greek has two kinds of personal pronouns[33]: a) strong personal pronouns (emphatic), such as *εγώ* 'I', *εσύ* 'you', *αυτός* 'he' and b) clitics, such as *με*, 'me', *σε* 'you', *τον* 'him'[34]. Both types of pronouns have three grammatical persons (first, second, third), three grammatical cases (nominative, genitive, accusative) and two numbers (singular, plural). Third-person

[32] However, short-term memory might contribute to the resolution of grammatical phi-features. This phenomenon was not examined in this study.
[33] Romance, Germanic (with exception English) and Slavic languages also have this twofold discrimination of pronouns.
[34] However, according to Joseph (1993) Greek is an example of a language that manifests a tripartition in pronominal realizations. Weak pronouns are realized with an empty pronominal pro.

personal pronouns have also gender inflection. The inflectional paradigms of both strong and weak (clitics) personal pronouns are provided below in Tables 2.1 and 2.2, respectively.

Inflectional Paradigm					
First Person Second Person					
Singular	**Plural**		**Singular**	**Plural**	
Nom. *εγώ* 'I'	*εμείς* 'we'		*εσύ* 'you'	*εσείς* 'you'	
Gen. *εμένα* 'mine'	*εμάς* 'ours'		*εσένα* 'yours'	*εσάς* 'you'	
Acc. *εμένα* 'me'	*εμάς* 'us'		*εσένα* 'you'	*εσάς* 'you'	
Third Person					
Singular Number			**Plural Number**		
Male	**Feminine**	**Neuter**	**Male**	**Feminine**	**Neuter**
Nom. *αυτός* 'he'	*αυτή* 'she'	*αυτό* 'it'	*αυτοί* 'they'	*αυτές* 'they'	*αυτά* 'they'
Gen. *αυτού* 'his'	*αυτής* 'hers'	*αυτού* 'its'	*αυτών*'theirs'	*αυτών* 'theirs'	*αυτών* 'theirs'
Acc. *αυτό(ν)* 'him'	*αυτή(ν)* 'her'	*αυτό* 'it'	*αυτούς* 'them'	*αυτές* 'they'	*αυτά* 'they'

Table 2-1. *Inflectional Paradigm of Strong Personal Pronouns*

Inflectional Paradigm			
First Person		**Second Person**	
Singular	**Plural**	**Singular**	**Plural**
Gen.[35] μου	μας	σε	σας
Acc. με	μας	σου	σας
Third Person			
Singular Number		**Plural Number**	
Male Feminine Neutral		**Male Feminine Neutral**	
Nom. τος, τη, το		τοι, τες, τα	
Acc. τον, τη(ν), το		τους, τις/τες, τα	
Gen. του, της, του		τους, τους, τους	

Table 2-2. *Inflectional Paradigm of Greek weak personal pronouns*

Below, we present the basic characteristics of strong and weak personal pronouns with a main emphasis on their syntactic properties. Regarding the comparison between clitics and strong personal pronouns on a across linguistic levels basis, clitics and strong

[35] In English, there are only three cases for pronouns; subjective/nominative, e.g. *I*, objective/accusative, e.g. *me* and possessive/genitive, e.g. *my*.

pronouns have lots of differences in syntactic, phonological, semantic, and pragmatic levels (see Mavrogiorgos, 2010).

Hence, at the phonological level, strong personal pronouns carry a stress, whereas weak personal pronouns are usually monosyllabic and unstressed. On the morphological level, the strong third-person pronoun is morphologically identical to the demonstrative *afto*s 'this' (Holton, Mackridge, Philippaki-Warburton and Spyropoulos, 2012).

According to Cardinaletti and Starke (1994) and Varlokosta and Dullaart (2001, p. 782), strong pronouns differ from the deficient ones at the semantic level, too. Deficient pronouns can be expletives; thus, can have the function of fillers, whereas strong pronouns cannot, such as in (20). However, strong personal pronouns are similar to clitics on the basis of a semantic feature (+human, -human) (Baauw, Escobar and Philip, 1997) that characterizes their antecedents. Both clitics and strong personal pronouns are specified and can have both [+human] [-human] referents, such as in (21).

(20) *To/*afto eniosa oti me filise.*
it-clitic/it-strong pronoun realized 1-Sg that me kisses 3-Sg
"I felt that he kissed me."

(21) *O Costas ton/afton agkaliase.*
The Costas him-clitic/him-strong hug.
"Costas hugged him." [ton/afton=Andreas/printer]

In Greek, the strong personal pronoun *afton* can have antecedents with both the [+ human] and [-human] features due to the demonstrative morphology that characterizes this kind of pronouns (Varlokosta, 2001).

At the syntactic level, clitics have a different distribution from strong pronouns and therefore, both kinds of pronouns can or cannot occupy different syntactic positions. Strong personal pronouns may be in a subject position, such as in (22) or in an object position, as a direct object, such as in (23), or in an indirect object position (object of a preposition), such as in (24) (Varlokosta 2000, p. 740).

(22) *Afti ine piitria.*
She-Nom is-3 Sg poet
"She is a poet."

(23) *O Yanis$_i$ agkaliase afton$_{*i}$.*

John hugged-3 Sg him-Acc

"John hugged him."

(24) *O Yanis$_i$ edose to vivlio se afton$_{*i}$.*

John gave-3 Sg the book to him-Acc.

"John gave him the book."

In contrast to strong personal pronouns, clitics cannot function as objects of prepositions (Cardinaletti and Starke, 1994, Varlokosta and Dullart, 2001), e.g.,

(25) *Tha diavaso me ton

According to Holton, Mackridge, Φιλιππάκη-Warburton and Spyropoulos (2012) and similarly to strong personal pronouns, Greek clitics can function as direct or indirect objects in the accusative case respectively, like in example (26) directly before the verb.

(26) T*o mikro agori tus filise.*

The little boy-NOM them-ACC kissed

"The little boy kissed them."

In addition, clitics cannot occur in theta-positions such as the one in (27),

(27) *O Yanis ektima autus/ autus tus fitites/*tus.*

John appreciates them-strong pronouns/these the students/them-clitic

'John appreciates them/these students.'

Example extracted from Varlokosta and Dullaart (2001, p.782)

or in the periphery, like in cleft and left dislocation structures, such as in (28) and (29) respectively below.

(28) *Ine afton/ ton Yani/*ton pu thavmazo (cleft)*

Is him-strong pronoun/the John/him-clitic that admire-1Sg

'It is him/John I admire.'

Example extracted from Varlokosta and Dullaart (2001, p. 782)

In contrast, strong personal pronouns can be placed in th-positions and in peripheral positions, like in (29).

(29) *Aftin/ti Maria/*tin, tha tin do*. (left dislocation)
Her-strong pronoun/the Mary/her-clitic will her-clitic see-1 Sg
'I will see her/Mary.'
Example extracted from Varlokosta and Dullaart (2001, p. 782)

At the pragmatic and semantic levels, clitics are characterized by the non-application of the Pragmatic Rule 1 (Grodzinsky and Reinhart, 1993) to their syntactic structures. In particular, Rule 1 is not invoked in clitic environments, as long as coreference with a local antecedent is not allowed by binding, such as in (30)

(30) *O Janis$_i$ ton$_{*i}$ ide.*
John him- Acc- saw 3Sg
'John saw him.'
Varlokosta (2000, p. 740)

A similar absence of coreference is attested with strong personal pronouns, like in (31).

(31) *O Janis$_i$ ide afton$_{*i}$.*
John saw-3Sg him-Acc
'John saw him.'
Varlokosta (2000, p. 740)

Nevertheless, in some prepositional contexts, there are strong personal pronouns that allow coreference between their complements and a local antecedent. For instance, in (32) *afton* can refer either to the referential expression *Yanis* or to somebody else from the context.

(32) *O Yanis$_i$ agorase ena vivlio gia afton$_{i/j}$.*
John bought-3 Sg a book for him-Acc
"John bought a book for him."

Having all these linguistic features of clitics and strong personal pronouns in mind, the experimental stimuli of this PhD research are characterized by strong personal

pronouns in third person, th-positions (object) with [+human][-human] features, and clitics that are characterized mostly by the [+human] feature, and are placed in object positions that are head moved.

2.5.2 Reflexive pronouns

Reflexive pronouns in Greek are established as a part of a reflexive expression. Thus, Greek reflexive pronouns are more complex than English reflexives, for instance *herself.* Take, for example, the reflexive expression, *ton eafto tis*. According to Iatridou (1988), a reflexive expression, like *ton eafto tis* consists of a definite article *ton*, a head *eafton* and a possessive pronoun *tis*. In a syntactic structure like in (33):

(33) I Maria ton agapai ton eafto tis.

at a first look, the reflexive expression obeys Chomsky's Principle A, as long as there is a short-distance antecedent (I Maria), that is in subject position, c-commands and co-refers with the reflexive expression (see 34).

(34) $[\text{I Maria}]_i$ ton agapai $[\text{ton eafto tis}]_i$.

However, according to Iatridou in Greek there is a violation of the traditional version of Principle A. Principle A is violated because the anaphoric expression *ton eafto tis,* as a whole, is not coindexed with the subject *I Maria*. The NP *I Maria* is in feminine gender, in singular number and has a nominative case, whereas the reflexive expression is in feminine gender, singular number and accusative case. Hence, the subject NP *I Maria* differs from the reflexive expression *ton eafto tis* on the basis of the phi-features. Therefore, the subject *I Maria* cannot bind the whole reflexive expression *ton eafto tis,* as long as the subject and the whole reflexive expression do not share the same lexical features.

According to Iatridou (1988), examples such as *ton eafto tis* in (33) are not anaphors, but the pronominal possessor inside the NP, *tis,* functions as an anaphor in this context. Therefore, the possessive pronoun *tis* is coindexed with the antecedent *I Maria*, like in (35).

(35) [I Maria]$_k$ ton$_i$ agapai [ton eafto [tis]$_k$]$_i$.

The possessive pronoun *tis* shares the same gender and number with the DP *I Maria*. The head *eafto* is not an anaphor[36], but the possessive pronoun *tis* is an anaphor that is bound by the NP *ton eafto* based on the feature of [+proximate].

Therefore, in Greek there is a violation of the traditional Principle A, that was postulated for English, because there is not a syntactic binding of the whole referential expression with its NP. However, as seen, reflexives in Greek obey Principle A at the level of a syntactic relation between the clitic inside the referential expression with its NP within the sentence.

However, in structure (34), there is also no violation of Principle B, even if the preverbal clitic *ton* co-occurs with the reflexive *ton eafto tis*. According to Iatridou, Principle B is not violated, because the clitic *ton* is not bound by the NP in subject position *I Maria*. The clitic *ton* and the NP *I Maria* are not coindexed. The subject NP *I Maria* is coindexed with the possessive pronoun *tis* inside the anaphoric expression. In contrast, the clitic *ton* is coindexed with the whole reflexive expression *ton eafto tis*. Thus, there is no violation of Principle B.

Anagnostopoulou and Everaert (1999) have also examined if reflexive pronouns in Greek obey Principle A. They agreed with Iatridou's argumentation (1988) that a) reflexives must be locally bound, b) they cannot undergo long-distance binding, c) within the reflexive expression, the possessive pronoun is coindexed with the subject NP and not with the whole reflexive expression and d) reflexives are not subject-oriented. Therefore, according to them, reflexives in Greek follow all the criteria of Principle A, even if they have the form of an R-expression.

In addition, building on Reinhart and Reuland's distinction of referential expressions, Anagnostopoulou and Everaert (1999) suggested that reflexives in Greek fall to a new, fourth category of referential expressions with the features [+SELF, +R]. Thus, Greek reflexives have a reflexivizing function that is exhibited by the [+SELF] morpheme. Therefore, reflexives can reflexivize their predicates. The morpheme

[36] According to Efthimiou (1988, in Greek) in Theofanopoulou-Kontou (2002: 183, in Greek)— reflexive pronouns, like in (36) are anaphoric elements without a coreference index. Efthimiou agrees with Iatridou about the fact that the co-reference index is inside the clitic, which is an [+reflexive] element, and it has an obligatory binding with its antecedent.

[+SELF] in reflexives attaches directly and covertly to the predicate (the verb), but not to arguments. Hence, reflexives in Greek obey Reflexivity Condition A, which is a condition of predicates and not of arguments. Reflexivity Condition was analyzed in Subsection 2.1.1, but we will repeat it here for matters of consistency and clarity. Reflexivity Condition A says that, "a reflexive-marked syntactic predicate is reflexive." Reflexivity Condition B refers to the semantic part of the reflexivity. It says that "a reflexive semantic predicate is reflexive-marked." Thus, in Greek, in (33) the verb *agapai* has the semantic feature of reflexivity [+SELF] and the syntactic characteristic of reflexivity [+R]. In addition, Greek reflexives are also fully specified for their morphosyntactic phi-features (gender, case, number). For instance, in (33), the reflexive *ton eafto tis* has an accusative case, a feminine gender and a singular number. As long as, this reflexive expression has these phi-features, it is characterized as [+R] based on Reinhart and Reuland's categorization. Furthermore, a characteristic of Greek reflexives with the features [+SELF, +R] is that they cannot undergo chain formation, because they are not coindexed with their subjects. In particular, in (33) the subject *I Maria* cannot form a chain with the whole reflexive expression *ton eafto tis* and cannot be coindexed with it. In addition, the subject *I Maria* cannot form a chain either with the possessor *tis*, with which it is coindexed. This chain formation between *I Maria* and the possessive pronoun *tis* could be established only between arguments. Therefore, according to Anagnostopoulou and Everaert (1999), co-reference between the NP in subject position and its possessor is accomplished with covert 'incorporation' of the nominal element/the head *eafto* in LF together with the verb. Thus, in (33) a movement of the head *eafto* to a higher position, like in (36) enables the co-reference between the subject *I Maria* and the reflexive expression, where the head reflexivizes the predicate. Thus, the verb *agapai* functions as an argument of the possessor and enables the co-reference between the possessor *tis* and the subject *I Maria*.

(36) $[\text{I Maria}]_k$ eafto ton_i agapai [ton t $[\text{tis}]_k]_i$.

2.6 Greek studies

2.6.1 Studies on binding in typical populations

In this section, we will refer to Greek studies on binding in typical populations, like children and adults. This description is made in order to make an overview on Greek studies that have examined the binding relations and a topic that we will examine in

chapter five. Varlokosta (2000) has examined if there is a delay of the Principle B effect in Greek spoken by children and if Greek children interpret strong personal pronouns and clitics as reflexives. In particular, Varlokosta (2000) examined if there is an asymmetry in the acquisition of Principle B in different syntactic structures (simple and complex). The results of the first experiment indicated that the performance of Greek children was high (95%) and adult-like in syntactic environments with clitics and a bit lower (87%), but still adult-like in strong personal pronouns. The performance of children in both contexts with strong personal pronoun and clitic doubling and strong personal pronouns with prepositions was similar and high (95%). In contrast, the performance of children in contexts with strong personal pronouns and prepositional co-reference was 70% correct in contrast to 30% correct answers in contexts with non-coreference. The performance of children in the constructions with passive particles was low (35% correct answers), in contrast to a high performance in *na*-clauses (95%). In total, the results indicated that there was no effect of a delay of Principle B in Greek children. This finding is reinforced by the highly adult-like performance of Greek children in contexts with strong pronouns as complements of prepositions. In addition, the DPBE is not effective in child Greek clitic contexts similarly to strong personal pronouns contexts. The lack of delay of Principle B might be related to the underspecification or not of the feature [+human] in all the syntactic contexts tested. If there is no specification of the human feature, pragmatic Rule 1 cannot be applied.

In a sequential study, Varlokosta (2001) also examined the delay of the Principle B effect in Greek spoken by children studying pronominal, but also reflexive reference. In particular, Varlokosta examined reflexives, clitics and strong personal pronouns comprehension of Greek-speaking children in simple and complex structures, e.g. prepositional structures with either coreference or not. The results of this study reinforced the results of Varlokosta's study (2000). In other words, the results of the first experiment revealed an absence of delay of Principle B in contexts with clitics. Similarly to Varlokosta's study (2000), in this study Varlokosta correlated the lack of delay of Principle B with the absence of [+human] feature specification in children. However, Varlokosta added the notion of demonstrative morphology in strong personal pronouns. In other words, she suggested that there is no delay of acquiring Principle B in children, because strong personal pronouns are not specified for [+human] feature, due to their demonstrative morphology. Thus, children cannot apply Rule 1. In addition, the results

of the experiments with reflexives indicated that children preferred the most salient, most accessible antecedent for interpreting structures with reflexives. Thus, children preferred to use discoursal cues than syntactic ones for understanding the reflexive-antecedent relationship.

Sanoudaki (2003) also examined the acquisition of pronominal reference and the presence/absence of a delay of the Principle B effect in bilingual Greek-English children. In line with Varlokosta's findings (2000,2001), Sanoudaki found no effect of delay of a Principle B in Greek strong personal pronouns due to the demonstrative morphology that characterizes strong personal pronouns. The performance in strong personal pronouns was lower than the one with clitics due to the infelicitous use of strong personal pronouns. Children preferred the use of strong personal pronouns and thus they violated the Minimality Condition (Cardinaletti and Starke, 1999). Children did not choose the most deficient form. No differences were also found between the acquisition of pronominal reference in monolingual and bilingual Greek-English populations. Bilinguals, like monolinguals, made similar co-reference mistakes in interpreting pronouns. Moreover, in both languages, speakers followed Principle B to comprehend strong personal pronouns in English, and clitics and demonstratives in Greek despite of their imperfect performance.

Sanoudaki (2004 in Greek) found similar results in her study of the binding of pronouns and clitics in ten bilingual Greek-English children and four monolingual English and Greek children, respectively. In particular, she noticed a similar asymmetry, as in Sanoudaki (2003), on the performance of strong personal pronouns in comparison to clitics. Sanoudaki (2004) interpreted this asymmetry as in her findings in (2003). Thus, in this study there was no preference for clitics, but instead children preferred strong types of personal pronouns (e.g., *Ο μπαμπάς έντυσε αυτόν* 'Dad dressed him' instead of *Ο μπαμπάς τον έντυσε*), because they violated the Minimality Condition.

Sanoudaki and Varlokosta's study (2012) found the same violation of the Minimality Condition, as in Sanoudaki (2003; 2004). In addition, the findings of this study confirmed the results of previous works (Varlokosta 2000;2001; Sanoudaki, 2003; 2004) about an absence of delay of the Principle B effect in Greek spoken by children. In the current study, Sanoudaki and Varlokosta attempted for the first time to examine the interpretation of pronominals (clitics and strong personal pronouns) and reflexives (with one antecedent, i.e. *O vasilias agapai ton eafto tu* "The prince loves himself", or two

possible antecedents, i.e. *O vasilias dipla ston mago pleni ton eafto tu* "The prince next to the magician washes himself" in Greek-speaking adults. Sanoudaki and Varlokosta (2012) concluded that there was a strong task effect regarding the interpretation of strong personal pronouns. The fewer correct answers in strong personal pronouns, which replicated Varlokosta's findings (2000) in children, cannot be attributed to a delay of the Principle B effect, as long as the lower performance was found not only in children but also in adults, who have already acquired Principle B. In contrast, following Sanoudaki's results (2003, 2004) in children, in this truth-value judgment task, the 10 Greek-speaking adults interpreted strong personal pronouns as reflexives (25%). Therefore, in this case, Greek-speaking adults violated the syntactic Principle B. Greek adults in this truth-value judgment task and both adults and children in this picture-selection task also violated Cardinaletti and Starke's Minimality Condition in line with Sanoudaki's results (2003, 2004) in children. Hence, both Greek children and adults interpreted strong personal pronouns as reflexives and not as clitics, which is the least costly choice. However, Greek adults tried to obey the Minimality Condition by self-correcting their answers, with the addition of the pronoun *o idios* next to the strong personal pronoun, i.e., *afton ton idio*.

From the aforementioned studies in Greek typical populations, we can conclude that healthy Greek individuals (children and adults) have a difficulty in comprehending complex structures, such as with reflexives with two possible antecedents that are more demanding in processing terms. In parallel, healthy Greek adults and children do not exhibit a delay of the Principle B effect, but they have a knowledge of the exact Principle. However, they violate Pragmatic Rule 1 and the Minimality Condition that explain the asymmetries found in pronoun and clitic comprehension, respectively.

2.6.2 Studies in impaired populations

In this section, we will present studies related to pronoun comprehension in Greek children with SLI and Greek individuals with DS compared to typically developing children.

Similarly to studies in Greek typical populations, Varlokosta (2002a) conducted a truth value judgment task that consisted of three different experiments given to typically developing Greek children and one experiment applied to Greek children with SLI. Varolokosta's research goal was to test if there is an asymmetry in the acquisition of

Principle B in clitics in comparison to strong personal pronouns in Greek children with SLI and compared to healthy individuals. Varlokosta (2002a) did not notice any asymmetry in the acquisition of strong personal pronouns and clitics in both typically developing Greek children and children with SLI. In particular, both strong personal pronouns and clitics comprehension was found impaired in a subgroup of Greek children with SLI. However, Varlokosta (2002a) found variability in the pronominal comprehension, with the aforementioned group of Greek children with SLI exhibiting problems in clitics and another one having intact comprehension. The group with the intact clitic comprehension seemed to still have knowledge of the Binding Principle B. Problems in both clitics and strong personal pronouns were not related to a delay of the Principle B effect. All in all, in Greek spoken by children (typically developing and SLI children), there was no delay of Principle B effect. The absence of a delay in the Principle B effect was related to the specification or not with the [+human] feature. Clitics in Greek spoken by children were specified for the [+human] feature in syntax with application of binding (Principle B). In contrast, strong personal pronouns are underspecified for the [+human] feature. Greek children could not apply Rule 1, because of the demonstrative morphology that characterizes the strong personal pronoun *aftos.* Therefore, in Greek spoken by children there was no delay of Principle B effect, because Rule 1 was not applied. An exception to this rule was the delay of the Principle B effect in Secondary Predicate Constructions with clitics (hence SPC-clitics), like *O Goofy ton ide na chorevi* "Goofy saw him to dance" or with strong personal pronouns, like *O Goofy ton ide demeno "Goofy saw him tied up"*. In these structures, typically developing children performed at a chance level. Similarly, children with SLI did not reply correctly to any stimulus related to the SPC-clitics. Finally, an asymmetry was detected between the above structures with SPC-clitics and the *na*-clauses in Greek spoken by children, in total. In the former, there was no delay of the Principle B effect, whereas in the latter there was. This asymmetry was attributed to the A-chain violation in the cases of SPC-clitics in comparison to *na*-clauses where there is no A-chain formation and hence, violation. The A-chain violation in SPC-clitics was linked to problems with coindexation, whereas in the absence of A-chain formation in *na*-clauses was not related to coreferential problems. In the SPC-clitics, A-chains are violated, because children have not completely acquired pronominal features.

Similarly, Varlokosta and Nerantzini (2012) investigated binding relations in pronominal clitics and anaphoric reflexives in simple and complex constructions in a picture-selection task in 14 monolingual Greek-speaking children with SLI and two control groups of 56 children with typical development; one group matched on language ability and one group matched on chronological age. Varlokosta and Nerantzini found many asymmetries between SLI and TD children within each group. Both groups performed well in simple contexts, e.g. with pronominal clitics in simple contexts, while they had difficulties in comprehending clitics in complex contexts, such as *na*-clauses and SPCs. Furthermore, both groups had better performance on anaphoric reflexives compared to pronominal clitics in complex constructions. An asymmetry was observed between *na*-clauses and SPCs with higher performance of TD children on *na*-clauses compared to SPCs. SLI children did not have difficulties in all syntactic dependencies. SLI had selective difficulties in comprehending the anaphoric reflexives, but not in comprehending the pronominal clitics in syntactically simple structures, where they had high scores. In complex structures, SLI had low performance on clitics, in contrast to anaphoric reflexives where their performance was high. Varlokosta and Nerantzini (2012) concluded that Greek SLI children had a processing problem in bound reading and in accepting the correct antecedent within the relevant binding domain.

Sanoudaki and Varlokosta (2014a) also analyzed binding principles in another brain-damaged population, of Greek adults with DS compared to typically developing children. More precisely, they examined if there is a selective deficit in Greek individuals with DS in reflexive comprehension, as it has been found cross-linguistically in DS. More specifically, Sanoudaki and Varlokosta (2014a) used a picture-selection task to examine seven Greek-speaking individuals with DS and a control group, consisting of 14 typically developing children. The picture-selection task involved a clitic condition, a pronoun condition, a reflexive condition with one or two possible referents and a control condition. They found that Greek individuals with DS manifest problems in the interpretation of reflexive pronouns, –with one possible antecedent–, compared to typically developing children. This finding was in line with a cross-linguistic reflexive deficit. This selective deficit in reflexives indicates that language in DS is deviant and not delayed. If it was delayed, then Sanoudaki and Varlokosta (2014a) would have found a broader language deficit to the pronominal system in general and not only to reflexives.

All in all, from the findings of the aforementioned studies in binding relations as well pronoun comprehension in general, to different impaired populations, we can conclude to the following; a) the knowledge of Chomsky's Principle B is intact, b) violations have been attested in A-chain formations, c) Pragmatic Rule 1 has been violated in cases with coreferential errors, and d) more difficulties are attested in complex structures, that are more demanding in processing terms, with a selective deficit in reflexives for populations with DS. These conclusions are in line with ones referring to typical populations.

To conclude, in this chapter an overview of the basic notions of reference, anaphora, reference assignment and resolution was presented. By providing the definitions of these notions, as a next step further this chapter tried to bring out how cohesion and coherence are related to the notions of reference and anaphora assignment and resolution. Some representative studies of pronoun reference (e.g., Chomsky's Binding, Reuland's Primitives of Binding) were also introduced and analyzed in order to be used in the following chapters. Furthermore, the studies of reference in Greek pathological populations were described, such as in people with AD, aphasia, schizophrenia as well as in typical populations. Finally, this chapter provided some of the core characteristics and features of the pronouns under investigation (strong personal pronouns, clitics and reflexives) with an emphasis on the Greek pronominal system.

Chapter 3

The current study

This chapter presents the current study by providing the research questions, hypotheses and the methodology of the PhD thesis. Section 3.1 addresses the research questions and hypotheses of this thesis. Section 3.2 describes the participants, their demographics and their main characteristics, as well as the process of their selection. Section 3.3 presents an overview of the neuropsychological assessment implemented in the study. Section 3.4 refers to the choice of the specific linguistic protocol for this study. However, the materials used for the linguistic studies are provided in Chapters 4, 5, and 6. Section 3.5 presents the general methodology followed for the statistical analysis of the linguistic data in Chapters 4, 5 and 6, respectively, as well as the highlights of the current chapter.

3.1 General Aims, Research Questions and Hypotheses

A first general aim of this PhD thesis is to address pronoun overuse in AD's pronoun production. This general aim will be investigated with the following research questions and hypotheses;

1) Do participants with AD overuse pronouns without completing the process of reference assignment and, hence, do they produce pronouns without clear antecedents?

Hypothesis 1: Our participants with AD will have problems in pronoun production –as compared to our control group–, thus our participants with AD will overuse pronouns more than other parts of speech without clear referents, with a higher pronoun rate (pronoun-to-total-words ratio) and pronoun-to-noun ratio as compared to our control group.

2) Is there is a selective overuse of a specific kind of pronoun? Thus, how many and which kinds of pronouns participants with AD produce in their semi-spontaneous speech in comparison to words in total?

Hypothesis 2: The pronoun overuse (if attested) in AD will be related to a use of a specific kind of pronouns, but without more specific predictions. Thus, I do not have any

predictions if participants with AD use, for instance personal pronouns more than reflexives.

3) Is the use of the different kinds of ratios (i.e. pronoun-to-noun ratio, interrogative pronouns-to-total pronouns ratio) and sequentially, the use of the different kinds of pronouns (e.g. personal pronouns vs interrogative pronouns) related to the kind of speech sample (March et al. 2009) used by our AD participants as compared to our control group?

Hypothesis 3: If attested a specific kind of pronoun overuse in AD, this will be related to a specific kind of speech sample, but without more specific predictions.

4) Does the overuse of pronouns and the use of specific kinds of pronouns correlate with performance on executive functions, such as working memory (Almor's ILH, 1999 and Working Memory Impairment Hypothesis) and inhibitory control or performance on other linguistic performances, such as semantic fluency and naming abilities (Semantic Memory Impairment Hypothesis)?

Hypothesis 4:The overuse of pronouns and of specific kinds of pronouns (if attested) in AD will be related to executive functions and linguistic performances, but without more specific predictions.

A second general aim of this PhD thesis is to study how participants with AD comprehend pronouns. To this end, I formulated the following research questions:

5) Do participants with AD have problems in comprehending the binding relations in strong personal pronouns, reflexives and clitics and if these problems are related to executive functions and other linguistic performances?

Hypothesis 5: Our participants with AD will have pronoun comprehension problems –as compared to our healthy participants–, thus problems in reflexives, strong personal pronouns and clitic comprehension that will be related to executive functions and other linguistic performances.

6) Do participants with AD prefer full NPs instead of strong personal pronouns, reflexives and clitics and hence, confirm Almor's ILH?

Hypothesis 6: Our participants with AD will prefer full NPs instead of pronouns. Hence, Almor' ILH will be confirmed.

7) Do participants with AD have problems in comprehending pronoun number agreement –and indirectly gender agreement– in strong and weak personal pronouns? If problems in number –and indirectly gender agrement– will be found

in strong and weak personal pronouns in AD, does the distance between pronouns and their antecedents play any role in the pronoun reference assignment?

Hypothesis 7: Our participants with AD will have problems in pronoun number agreement –and indirectly in gender agreement– especially when there is a distance between the pronoun and its antecedent, thus in the long condition. By this way, Almor's ILH will be confirmed.

8) If pronoun number agreement comprehension problems detected in AD, are these problems related to performances in other domains of linguistic performances, such as naming and semantic fluency and other problems in cognitive abilities, such as working memory and inhibitory control? Therefore, can the performance of our AD participants in executive functions and other lingugistic tasks predict AD's performances in the pronoun comprehension task?

Hypothesis 8:If difficulties are found in the more distant pronouns-antecedents (based on hypothesis 7), these difficulties will be correlated with the problematic use of inhibitory control and working memory. Thus, we anticipate a worse performance in the long condition of the Pronoun Comprehension Task due to an impaired inhibitory control and a working memory impairment. However, if our participants with AD will have comprehension problems in pronoun number agreement irrespctively of conditions due to problems in the semantics of the number feature, these problems will be correlated to the linguistic performances of naming and semantic fluency.

Table 3-1 sums up the hypotheses of this thesis. These hypotheses will be presented, tested and discussed in chapters 4, 5, 6 and 7 with a more analytical or more concise manner depending on the needs of each analysis each time.

PhD thesis's hypotheses
1. Pronoun overuse; higher pronoun rate & pronoun-to-noun ratio in AD vs NC groups
2. Selective use of specific kinds of pronouns in AD vs NC groups but with no specific predictions
3. Selective use of specific kinds of pronouns ~[37] speech samples' kind in AD
4. Selective use of specific pronoun ratios ~ executive functions/linguistic performances in AD
5. Pronoun production measures ~ executive functions/linguistic performances in AD

[37] This symbol (~) is used to denote possible correlations.

6. Pronoun comprehension deficit in AD vs NC groups, thus reflexives, strong personal pronouns and clitics comprehension impairments in AD ~ executive functions & linguistic performances
7. Full NPs's preference vs reflexives, strong personal pronouns & clitics in AD; ILH's confirmation
8. Pronoun Number agreement deficit ~ pronoun-antecedent distance in AD; better performance in the short condition vs worse in the long one; ILH's confirmation
9. Pronoun Number agreement deficit in the long condition ~ inhibitory control dysfunction in AD
10. Pronoun Number agreement deficit in the long condition ~ working memory impairment in AD
11. Pronoun Number ageement deficit irrespectively of condition ~ naming and semantic fluency problems in AD

Table 3-1. PhD thesis's hypotheses

3.2 Participants

The participants of this study were all native Greek-speaking individuals, living in the south suburbs of Athens in Greece. The AD participants were recruited mostly from IASIS, a daycare centre for people with memory problems and psychological disorders, which is in Ano Glyfada in the south suburbs of Attiki district but also, from the General Hospital "*Asclepeion Voulas*", and from the Leisure Center for the Elderly in Voula. The participants from the Leisure Center for the Elderly in Voula were diagnosed in private health clinics and the Alzheimer Athens Day Care Center in Pangrati. Our control group consisted of healthy individuals who were either relatives and carers of our AD participants in IASIS either members of the Leisure Center for the Elderly (*ΚΑΠΗ* in Greek) in Voula.

From a pool of 79 participants, I finally assessed 19 AD and 19 TCs. The rest of participants did not fullfil the psychological criteria –as they had mild or severe depression based on their GDS performance[38]– the criteria for AD; they were MCI or they had another neurological disease, the criterion of Greek native language, of intact visual and acoustic performance, the age criterion; they were very young, as well as some participants had not completed the whole protocol.

[38] I will refer with more details to the GDS test in the section of the neuropsychological assessment.

Thus, I implemented the protocols (neuropsychological and linguistic) to 19 participants with AD (from early to moderate stages; MMSE range: 10-26) and 19 healthy individuals (typical controls, NC) (MMSE range: 27-30). All participants consented (with written consent forms) to participate in the study.

For the discrimination of MCI patients from AD patients we used doctors' diagnoses (DSM IV criteria, McKhann et al.'s criteria, 1984). We also adopted the cut-off points[39] of Solias et al. (2014 in Greek) and Tsantali et al. (2012 in Greek) for Greek populations that related the MMSE performance with age and years of education in order to discriminate AD and MCI participants from healthy participants, respectively.

The age, years of education and MMSE scores (range, mean, and standard deviation) of all participants are provided in table 3-2. We can observe that the mean years of education in the AD group is 10.7, whereas the range for years of education is 4-18. In the same group, the mean age is 76.7, whereas the age range is 64-90. For the NC group, the mean years of education is 12.6, whereas the range for years of education is 3-20. In the same group, the mean age is 72.2 and the age range is 60-92. Unpaired t-tests with applied bootstrapping were used for matching participants with AD and healthy individuals in age ($p = .08$, 95%, CI [-0.08, 0.005]) and years of education ($p = .2$, 95%, CI [-0.05, 0.23]).

	AD			**NC**		
	Range	**Mean**	**SD**	**Range**	**Mean**	**SD**
Age	64-90	76	6.7	60-92	72.4	6.7
Years of education	4-18	10	5	3-20	12.07	4.3
MMSE	10-26	18	5	27-30	28.8	1.05

Table 3-2. *Range, mean and standard deviations of age, years of education and MMSE for both groups*

Details on the demographics of the AD and healthy participants are provided below in Table 3-3. The AD group comprised of eleven males and eight females, whereas the NC group comprised of eight males and 11 females. Almost all participants were right-handed.

[39] Due to the complex process of discriminating between AD participants and MCI, we recommend reading the specific studies (Tsantali et al., 2012; Solias et al. 2014; both in Greek) for more details on the various cut-off points based on years of education and age.

		AD						NC			
Participants	**Gender**	**Age**	**Years of education**	**Laterality**	**MMSE**	**Participants**	**Gender**	**Age**	**Years of education**	**Laterality**	**MMSE**
1	M	70	18	RH	25	1	F	65	15	RH	29
2	M	79	4	RH	21	2	F	72	14	RH	29
3	M	69	12	RH	17	3	M	75	20	RH	30
4	M	78	16	RH	22	4	F	60	8	RH	29
5	F	72	7	RH	23	5	F	68	16	RH	30
6	M	76	17	RH	14	6	F	72	12	RH	30
7	F	79	16	RH	22	7	M	82	3	RH	29
8	F	68	12	RH	13	8	M	69	16	RH	30
9	M	86	12	RH	19	9	M	69	16	RH	30
10	F	80	8	RH	10	10	F	67	14	RH	30
11	F	64	6	LH	12	11	M	76	16	RH	29
12	M	72	14	RH	20	12	M	79	9	RH	27
13	M	84	4	RH	18	13	F	68	8	RH	28
14	M	84	6	RH	21	14	F	73	15	RH	30
15	F	90	4	RH	14	15	F	70	13	RH	28
16	M	77	12	RH	23	16	M	72	8	RH	28
17	M	76	14	RH	10	17	F	92	12	RH	28
18	F	77	3	RH	17	18	F	76	4	RH	28
19	F	71	6	RH	26	19	M	72	10	RH	27

Table 3-3. *Demographics of AD and NC individuals*

3.3 Neuropsychological assessment

I implemented an extended, neuropsychological protocol (Table 3.4) to assess the AD participants and the control group, in addition to the neuropsychological assessment that AD participants undertook at the centers and the hospital they were recruited from.

MMSE	Semantic Fluency Tasks (fruits, animals)
Digit ordering test	Letter Fluency Task
Digit backward span task	Noun & Verb Naming Task
Boston Naming Test (BNT)	Noun & Verb Comprehension Task

Geriatric Depression Scale (GDS)	Pseudowords repetition span test
Stroop test	Long and short words span test
	Sentence repetition span test

Table 3-4. *Neuropsychological protocol*

The neuropsychological protocol included:

(a) An adapted form of MMSE (Folstein, Folstein, & McHugh, 1975) for the Greek language (Fountoulakis et al., 2000).

(b) Working memory tasks: *digit ordering test* (Fyndanis et al.2013; MacDonald, Almor, Henderson, Kempler, & Andersen, 2001), *digit backward span task* (Alloway, 2007), *sentence repetition span test* (Economou et al., 2015), *long and short words repetition span test* (Economou et al., 2015) and *pseudowords repetition span test* (Economou et al, 2015). The digit backward span and digit ordering tests were off-line tasks that measured the participants' working memory. In the digit ordering task, each participant had to recall some digits in the correct sequential order (from the smallest to the largest one). In the digit backward span task, each participant had to recall some digits in reverse order (from the largest to the smallest). The sentence repetition span test was also an off-line test that measured verbal working memory. During this task, each participant had to repeat some sentences after the researcher that increased in length and complexity from trial to trial. An excerpt of the task is given in Figure 2.

ΕΠΑΝΑΛΗΨΗ ΠΡΟΤΑΣΕΩΝ

Θα σας πω μερικές προτάσεις. Ακούστε με προσεκτικά και επαναλάβετέ τις μετά από εμένα. Πείτε ακριβώς ό,τι λέω. (1= Καθόλου/παρατακτική σύνδεση, 2= υποτακτική σύνδεση. Τερματισμός μετά από 4 συνεχόμενα λάθη).

		0 ή 1
1	1	Βρέχει συνεχώς
	2	Πίνει γάλα
2	1	Το λεωφορείο άργησε
	2	Έφαγε πριν αναχωρήσει
3	1	Ο δρόμος ήταν άδειος
	2	Σε περίμενε να γυρίσεις
4	1	Έφυγε ξαφνικά από τη δουλειά
	2	Τα παιδιά έφαγαν ό,τι βρήκαν
5	1	Ακολούθησαν πιστά τις οδηγίες του γιατρού
	2	Έπλυνε τα δόντια του πριν ξαπλώσει
6	1	Πήρα τα χρήματα στο τέλος του μήνα
	2	Έφυγε νωρίτερα για να προφτάσει το τραίνο

Figure 2. *Sentence repetition span test*

The long and short words span test examined verbal working memory. During the long and short words span test, the researcher uttered words, while the participant had to

recall them. The number of words that had to be recalled increased as the test progressed. An excerpt of the task is given in Figure 3.

ΕΠΑΝΑΛΗΨΗ ΛΕΞΕΩΝ

Θα σας πω μερικές λέξεις. Ακούστε με προσεκτικά και μόλις τελειώσω, θέλω να τις πείτε μετά από εμένα. Πείτε ακριβώς ό,τι λέω. (Διακοπή μετά από 0 στις 2 δοκιμές μιας ενότητας)

	0 ή 1
1 κύμα – ρόδα	
2 μήλο – σύρμα	
1 βάζο – τροχός – λάμπα	
2 πρίζα – δρόμος – κότα	
1 σπίτι – νερό – παιδί – τσάντα	
2 πιάτο – δόντι – σκύλος – πόρτα	
1 πόδι – γάτα – χαρτί – φίδι – μπλούζα	
2 ψάρι – κόρη – στόμα – πουλί – σώμα	
1 φούστα – αβγό – μύτη – στρώμα – κλειδί – βρύση	
2 μάνα – χρώμα – τζάκι – θήκη – σκάλα – καρδιά	
1 γράμμα – μύγα – γόμα – μπότα – χάρτης – μπάλα – ζώνη	
2 χυμός – κλέφτης – βροχή – φούρνος – μάτι – δάσος – νύφη	
1 στήθος – δώρο – γεύμα – κύμα – χέρι – κράνος – νέφος – βάρος	
2 τοίχος – δέντρο – ύψος – σύρτης – μωρό – σκούφος – φράχτης – γέρος	
1 κάλτσα – κουβάς – αφτί – δέμα – λαγός – τέντα – σκάφος – γλώσσα – στίφτης	

Figure 3. *Long and short words span test*

The pseudowords repetition span test examined whether there was a problem in working memory as well as in phonological structures and awareness by excluding the parameter of semantics. The procedure of the task was similar to that of the other two repetition tests. The researcher was uttering pseudowords that increased in number from trial to trial, while the participant had to recall them after the researcher. An excerpt of the task is given in Figure 4.

ΕΠΑΝΑΛΗΨΗ ΨΕΥΔΟΛΕΞΕΩΝ

Θα σας πω μερικές ψεύτικες λέξεις. Ακούστε με προσεκτικά και μόλις τελειώσω, θέλω να τις πείτε μετά από εμένα. Πείτε ακριβώς ό,τι λέω. (Διακοπή μετά από 0 στις 2 δοκιμές μιας ενότητας)

	0 ή 1
1	κέμα – ρίδα
2	σίλο – μίρμα
1	ράζο – τροβός – κάμπα
2	πρίγα – δρέμος – βότα
1	σπίμι – τερό – λεδί – τσέντα
2	πχιάμο – κόντι – σκόλος – πέρτα
1	πόκι – γέτα – χερτί – φόδι – μπλίζα
2	λάρι – βόρη – στίμα – θουλί – τόμα
1	ρούστα – εβγό – λίτη – στράμα – κλικί – δρίση
2	δάνα – χρέμα – τζάλι – λίκι – σκάδα – σαρδιά
1	γρέμα – κίγα – ψόμα – μπήτα – λάρτης – μπάδα – ζότι
2	χιδός – κλόφτης – βριχή – κούρνος – λάτι – γάσος – ρίφι
1	στόθος – βόρο – κεύμα – κίδα – δέρι – κράβος – τέφος – μάρος
2	τέχος – λέντρο – όψος – σόρτης – γορό – σκύφος – φρίκτης – γέμος

Figure 4. *Pseudowords repetition span test*

There was no time limitation to any of these tasks.

(c) Semantic fluency tasks: *semantic fluency* (animals) (Newcombe, 1969), *semantic fluency* (fruits) (Troyer, Moscovitch, & Winocur, 1997). Each participant had to recall as many words as he/she could from the semantic categories of fruits and animals, respectively, in one minute.

(d) Letter fluency test (from the Greek letter "Π") (Benton & Hamser, 1976). Participants had to recall as many as possible unique words from the letter P (in Greek, π) in one minute.

(e) Naming tasks: *Boston Naming Test* (BNT) (Kaplan, Goodglass & Weintraub, 1978), *Verb and Noun Naming Test* (Economou et al. 2015). I implemented the BNT (adaptation in Greek by Tsapkini et al., 2010) to test word retrieval problems in AD. In the BNT, each participant had to name the depicted objects in the 15 pictures presented to him/her in sequential order. The Verb and Noun Naming Test assessed the production of 39 nouns and 23 verbs, respectively. The stimuli were presented to the participants in a PowerPoint presentation. In Figures 5 and 6, I provide two examples for verb and noun naming, respectively. There was no time limitation for the participants to respond.

Figure 5. Example of a pictorial stimulus for verb production

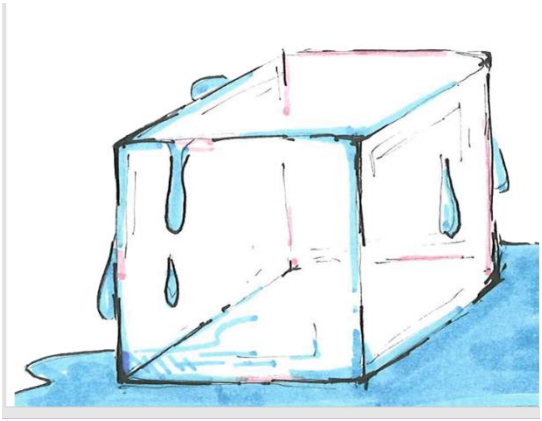

Figure 6. Example of a pictorial stimulus for noun production

(e) Verb and Noun comprehension task (Economou et al., 2015). The task was implemented to assess comprehension of nouns and verbs. The number of stimuli was the same as in the verb and noun naming task, that is, 39 nouns and 23 verbs. Four different pictures were presented to each participant in one PowerPoint slide at a time, while the researcher recited one noun or verb at a time to the participant. Then, the experimenter requested each participant to point to the target -verb or noun. For instance, in Figure 7 the researcher spoke the following phrase: "S*how me where the chef is*". The participant ought to choose the picture that corresponded to the noun *chef*. There was no time limit.

Figure 7. *Example of pictorial stimuli for noun comprehension*

A similar procedure was followed for the verb comprehension in Figure 8.

Figure 8. *Example of a pictorial stimulus for verb comprehension*

(f) Inhibitory control task: *Stroop test* (Stroop, 1935). We examined the function of inhibitory control with the Stroop test. The Stroop test is a well-known psychological

test that is widely used in clinical practice to measure the Stroop effect. In this test, color names are presented to each participant. These color names have been painted in the corresponding color, like the word *κόκκινο*, that is presented like this: KOKKINO. Each participant is obliged not to just read the word as fast as he/she can, in a minute. However, each participant has to name the color of the word that is presented to him/her which corresponds to four different colors. In other words, each participant has to say what is used in each word.

(g) Geriatric Depression Scale (GDS) (Sheikh & Yesavage, 1986). An adaptation (Fountoulakis et. al., 1999) of the Geriatric Depression Scale (GDS) was implemented to exclude people with mental disorders, such as depression.

The results of the neuropsychological assessment of the AD and NC participants are provided in Tables 3-5 and 3-6, respectively.

Participant code	MMSE	Digit ordering	Digit backwards span	BNT	Stroop test	Semantic fluency (animals)	Semantic fluency (fruits)	Letter fluency	Sentence repetition span	Long and short words span	Pseudowords repetition span	Verb naming	Noun naming	Verb comprehension	Noun comprehension	GDS
P1	25	14	6	15	2	13	7	16	20	8	3	16	36	23	38	0
P2	21	4	2	5	3	9	6	10	11	3	0	7	13	17	34	11
P3	17	4	1	7	4	5	1	3	9	6	3	2	12	11	32	3
P4	22	7	2	9	13	8	8	8	13	1	1	8	21	21	38	2
P5	23	11	2	13	8	13	9	12	17	7	4	16	33	22	38	2
P6	14	2	0	3	3	5	0	4	2	0	0	1	7	14	35	0
P7	22	6	5	9	7	0	7	19	16	6	3	7	26	22	38	3
P8	13	5	2	4	11	1	0	6	2	1	1	1	13	20	36	2
P9	19	8	3	9	6	4	8	7	6	0	0	14	23	15	34	4
P10	10	0	0	6	4	4	5	3	6	1	0	10	24	14	38	6
P11	12	1	0	14	3	7	5	4	11	5	2	5	31	17	39	1
P12	20	7	3	9	11	16	8	8	9	6	1	9	25	15	34	0
P13	18	5	1	8	5	11	10	8	14	5	1	5	22	20	37	4
P14	21	10	4	7	5	11	8	16	13	5	1	14	19	22	36	9
P15	14	3	3	8	11	6	2	5	9	2	0	12	23	16	36	4

P16	23	2	1	12	10	9	6	4	12	5	2	16	26	18	36	2
P17	10	7	3	4	8	0	0	1	8	0	3	9	13	15	38	9
P18	17	6	2	6	4	17	12	11	10	5	1	11	32	20	37	3
P19	26	10	3	11	12	6	7	10	17	6	0	14	32	19	38	5

Table 3-5. *Neuropsychological assessment of individuals with AD*

Participant code	**MMSE**	**Digit ordering**	**Digit backward span**	**BNT**	**Stroop Test**	**Semantic fluency (animals)**	**Semantic fluency (fruits)**	**Letter fluency**	**Sentence repetition**	**Long and short words**	**Pseudowords**	**Verb naming**	**Noun naming**	**Verb comprehension**	**Noun comprehension**	**GDS**
C1	29	15	11	15	0	23	16	23	19	11	8	23	39	23	39	2
C2	29	12	6	14	5	18	15	17	19	7	3	21	36	23	39	1
C3	30	13	5	15	3	14	11	6	16	6	5	22	38	23	39	2
C4	29	14	4	14	0	20	11	18	18	8	4	20	37	23	39	1
C5	30	14	9	15	0	18	13	6	20	8	7	21	37	23	39	0
C6	30	11	6	15	2	18	13	18	20	6	3	23	38	23	38	3
C7	29	9	5	12	6	12	11	7	17	6	2	11	29	21	38	0
C8	30	12	2	14	1	19	9	10	19	7	3	14	37	21	39	4
C9	30	11	9	15	3	12	13	4	20	7	2	16	31	22	39	2
C10	30	9	10	14	0	19	14	20	19	9	5	16	33	23	38	2
C11	29	12	5	14	5	19	10	15	20	7	4	19	34	23	38	1
C12	27	8	2	12	4	12	7	6	19	8	5	13	28	22	39	3
C13	28	14	2	11	4	14	15	10	19	10	4	15	32	22	39	0
C14	30	10	4	13	1	20	14	14	19	6	2	18	31	23	38	1
C15	28	12	5	13	5	10	10	9	19	9	2	18	37	22	38	2
C16	28	3	9	15	4	11	11	6	17	8	2	20	38	23	39	1
C17	28	2	1	12	11	19	10	11	18	6	0	16	33	23	39	2
C18	28	11	5	15	-1	16	15	14	19	10	4	14	30	22	39	2
C19	27	11	4	12	5	18	9	7	16	6	4	18	28	23	38	3

Table 3-6. *Neuropsychological assessment of Typical Controls*

The AD group performed significantly poorer compared to the NC group[40] on all the neuropsychological tests, except from the letter fluency task (based on the adjusted

[40] The multiple comparisons of the James test indicated a statistically significant difference between the neuropsychological assessment as a whole of the AD group compared to the NC one (p= .03). Therefore, we proceeded to further comparisons one by one. The p-value cut-off for the further comparisons was adjusted to p=.007 under Bonferroni correction based on the number of comparisons (n=16).

under Bonferroni correction cut-off for the p-value=.007, conf. level = 99.3%) as we can see in Table 3-7.

Statistical results of the neuropsychological assessment (Between-groups analysis)			
	p-value	99.3% CI	SE
MMSE	p < .001	[0.25, 0.46]	0.03
Semantic fluency 1 (fruits)	p < .001	[0.23, 0.55]	0.06
Semantic fluency 2 (animals)	p <.001	[0.21, 0.54]	0.05
Boston Naming Test (BNT)	p <.001	[0.19, 0.49]	0.05
Digit ordering task	p< .001	[0.08, 0.49]	0.07
Digit backwards span	p <.001	[0.07, 0.38]	0.05
Sentence repetition test	p< .001	[0.23, 0.53]	0.05
Pseudowords repetition test	p<.001	[0.05, 0.23]	0.03
Long and short words span	p< .001	[0.13, 0.36]	0.04
Verb naming test	p< .001	[0.21, 0.53]	0.05
Noun naming test	p < .001	[0.15, 0.43]	0.05
Verb comprehension test	p <.001	[0.10, 0.29]	0.03
Noun comprehension test	p = .01	[0.02, 0.09]	0.01
Letter fluency task	p = .03	[-0.05, 0.34]	0.07
Stroop test	p <.001	[0.06, 0.50]	0.08

Note; I report the Confidence Intervals with CI and the Standard Error with SE.

Table 3-7. *Statistical analysis of the neuropsychological assessments in AD vs NC groups*

The mean, the highest and the lowest scores, as well as the range of scores in the neuropsychological assessments, are provided for both the AD and NC groups in Tables 3-8 and 3-9, respectively.

NEUROPSYCHOLOGICAL PROTOCOL -AD GROUP															
	MMSE	**Digit ordering**	**Digit backward span**	**BNT**	**Stroop test**	**Semantic fluency (Animals)**	**Semantic fluency (Fruits)**	**Letter fluency**	**Sentence repetition span**	**Long and short words span**	**Pseudowords repetition test**	**Verb naming**	**Noun naming**	**Noun comprehension**	**Verb comprehension**	**GDS**
Mean	18	5,9	2	8,4	6,7	7,6	5,7	8,2	11	3,8	1,4	9, 3	23	20	34	3,7
SD	5	5	1, 62	3	4	5	4	5	5	3	1	5	8	7	6	3

Highest	26	14	6	15	13	17	12	19	20	8	4	16	38	38	39	11
Lowest	10	0	0	3	2	0	0	1	2	0	0	1	7	11	15	0
Range	16	14	6	12	11	17	12	8	18	8	4	15	31	27	24	11

Table 3.8 *Mean; Standard Deviation; Highest and lowest scores; Range of scores in the neuropsychological tests of the Greek AD group*

NEUROPSYCHOLOGICAL PROTOCOL -NC GROUP																
	MMSE	**Digit ordering test**	**Digit backward span test**	**BNT**	**Stroop test**	**Semantic fluency (Animals)**	**Semantic fluency (Fruits)**	**Letter fluency**	**Sentence repetition span**	**Long and short words span**	**Pseudowords repetition test**	**Verb naming**	**Noun naming**	**Noun comprehension**	**Verb comprehension**	**GDS**
Mean	29	11	5	14	3	16	12	12	19	7	4	18	34	33	27	2
SD	1,05	3,43	2,91	1,34	2,72	3,70	2,50	5,64	1,26	2,03	2,09	3,68	3,84	7,64	7,92	1,07
Highest	30	15	11	15	3	23	16	23	20	11	8	23	39	39	39	4
Lowest	27	2	1	11	0	10	7	4	16	2	0	11	28	22	19	0
Range	3	3	10	4	3	13	9	19	4	9	8	12	11	17	20	4

Table 3-9. *Mean; Standard Deviation; Highest and lowest scores; Range of scores in the neuropsychological tests of the Greek NC group*

3.4 Choosing a Linguistic Protocol

Regarding a linguistic protocol, we must highlight that it is a necessity in discourse research to use multiple tasks (March et al. 2006), because discourse is bound to different linguistic levels and linguistic phenomena. By implementing different linguistic tasks, we can specify to particular research aims and specific kinds of linguistic phenomena and levels that can be attested on the discoursal level. Therefore, in this PhD thesis, I tried to collect data from experimental tests and authentic, natural speech, because as Bucks, Singh, Cuerden and Wilcock (2000) and Perkins, Whitworth and Lesser (1998) in Wray (2008: 192) have found, data from tests and data from real conversation are markedly different in kind, in AD. Real conversations are examples of connected speech. Connected speech is a tool that is used to investigate language production in various populations, such as people with AD.

According to Boschi et al. (2017), studies focusing on reference, typically adopt story narratives and interviews rather than the picture description task (Dijkstra et al.,

2004; Gross et al., 2010; Ash et al., 2011, 2012a,b; Lai, 2014; Ash and Grossman, 2015; Drummond et al., 2015). The use of a task with visual stimuli and a sequence of actions, such as in a story, has many advantages; first, it enhances the production of more objective speech, in that requires linking facts, such as referential expressions (Drummond et al. 2015), events and people that relate profoundly with the use of reference and anaphora and second, it diminishes the overload of episodic memory.

Therefore, there was an attempt to merge this gap of authentic, spontaneous speech and task-driven speech by requesting, examining and analyzing both types of elicited speech, a) semi-structured and b) spontaneous narratives in parallel with c) a picture-selection task and d) a pronoun comprehension task. More details about the materials of the semi-spontaneous speech samples, the picture-selection task and the pronoun comprehension task are given in Chapters 4, 5 and 6, respectively.

3.5 Statistical Methodology

The statistical analysis was illustrated in R-studio (R version 3.4.4 2018-03-15). For the statistical analysis, the data was divided to families of statistical tests to control and minimize type 1 errors. A hierarchical statistical procedure was used based not on the nature of our data (which are not hierarchical in nature— but on the basis of the sequence of the applied statistical tests. Firstly, Omnibus tests were applied to check statistical significance in multiple comparisons of our data either within one independent group or between independent groups. If the Omnibus tests showed us at least one result with statistical significance, then t-tests with Bonferroni correction were applied to find out in which comparison exactly there was a statistical significance in the means of our ratios. In cases where the James test had insignificant results, any further statistical tests were not applied.

The Omnibus tests included a) a One-Sample Hottelings T^2 test (with a contrast matrix methodology for within-group analysis) and b) a James test (1954) (with between-groups analysis). Hotteling's T^2 (1931) was applied instead of one-factor Anova, because of the absence of independent samples or factors and because there was covariance in our values. Furthermore, the James test instead of F-MANOVA and Hotteling's T^2 instead of one-factor Anova tests were chosen, because the James test and Hotteling's T^2 control the type 1 error rate better, when the variance is unequal and the distribution is asymmetric (Algina et al., 1994; Wilcox, 1988; Coombs, 1996; Moder, 2010; Para-Frutos, 2013). Our

t-tests were independent for two samples, or paired for one-sample. Because of the multiple adjustments with Bonferroni correction to the multiple t-tests after the Omnibus tests, we adjusted the cut-off point of p-value, based on the number and the nature of the Omnibus test in each family of statistical tests. In other words, this cut-off point was further adjusted in the post-hoc (un)paired t-tests under Bonferroni correction based on the number of sequential comparisons with the t-tests. We also applied bootstrapping to almost all speech samples, because of the small size of our multivariate data, to reduce the possibility of false positives and to adjust the point of rejection of a result of the possible asymmetrical distribution of our data. Regardless of its sensitivity to small speech samples, bootstrapping is efficient in small data and it is preferable with behavioral data, like our own (Chatzipantsiou, Dimitriadis, Papadakis & Tsangris, 2018). However, we have to point out that there is a direct consequence of our analysis's small sample which is a diminished power of our analysis.

A correlational analysis of all our linguistic experiments of pronoun production and comprehension was conducted to check if the results in the neuropsychological assessment can predict the linguistic results of our participants. In particular, the neuropsychological variables of semantic fluency, working memory, naming and inhibitory control were correlated with the different ratios in pronoun production (pronoun-to-noun ratio, pronoun rate, interrogative pronouns-to-total pronouns ratio), with the singular and plural number of strong personal pronouns and clitics and their different conditions (short and long) (chapter 5) as well as with reflexives, strong personal pronouns and clitics (chapter 6). The correlational analysis involved Pearson's correlations and a simple linear regression model. For measuring the strength of correlations, Hinkle, Wiersma and Jurs's (2003) rule of thumb was used. More particularly, the following rule of thumb for interpreting the strength of correlations was adopted; a) .90 to 1.00 (−.90 to −1.00) very high positive (negative) correlation, b) .70 to .90 (−.70 to −.90) high positive (negative) correlation, c) .50 to .70 (−.50 to −.70) moderate positive (negative) correlation, d) .30 to .50 (−.30 to −.50) low positive (negative) correlation and e) .00 to .30 (.00 to −.30) negligible correlation. The scores in the neuropsychological tests were normalized because of the difference in the highest score per neuropsychological test.

To sum up, this chapter provided a step by step analysis of the procedure of data collection, the research questions and hypotheses the participants' selection and their

demographic characteristics as well as the neuropsychological protocol used in the study. Furthermore, the results of the neuropsychological assessment were presented. Moreover, the reasons for choosing this particular linguistic protocol that we will refer to in Chapters 4, 5 and 6 were provided. Finally, this chapter described the general methodology of the statistical analysis that we followed in this thesis.

Chapter 4

Connected speech

4.0 Introduction

This chapter investigates pronoun production of connected speech in AD in the context of qualitative and quantitative analyses in created corpora. Connected speech is divided into spontaneous and semi-spontaneous speech. Connected speech involves examples of semi-spontaneous speech extracted from picture-description tasks, including simple and complex pictures ("*The Cookie-Theft picture*", Boston Diagnostic Aphasia Examination, Goodglass et al., 1983), story narrations with the help of a picture book ("*Frog where are you?",* Mayer 1969) or cards with a sequence of pictures ("*The car accident"*, Ska and Duong 2005), narratives and interviews with predefined topics and open-ended questions (e.g. hobbies, daily life, i.e. *Autobiographical Memory Interview* of Kopelman et al. 1989) and/or unstructured interviews with only an introduction of a broad and generic topic such as,"Tell me about your family." or a question like, "What happened on the day that you had a stroke?"

Connected speech is an increasingly used method to extract quantitative and qualitative linguistic features and measures for discriminating between people with a neurodegenerative disease, such as primary progressive aphasia or AD or a psychiatric disease, such as schizophrenia, from healthy individuals. For example, Gross et al. (2010) used narrative speech to investigate the neural and cognitive correlates of discourse impairment in 20 patients with Corticobasal Syndrome, which is a neurodegenerative condition in comparison with 8 healthy individuals. Ash and Grossman (2015) elicited natural speech from participants with variants of Parkinson's Disease, AD, frontotemporal dementia and variants of primary progressive aphasia, from narratives produced from a story based on a children's picture book. Tsermetseli et al. (2016) analysed quantitively connected speech samples of the Cookie-Theft picture -selection task from 26 patients with amyotrophic lateral sclerosis (ALS) and distinguished their syntactic performance from 26 healthy individuals. Karpathiou, Papatriantafyllou and Kambanaros (2018) obtained connected speech samples from three different narrative tasks to compare and finally differentiate the linguistic performance of a bilingual Greek-French non-fluent/agrammatic variant of primary progressive aphasia from healthy

controls. Similarly, in this chapter, we will try to distinguish pronoun production in the spontaneous and semi-spontaneous speech of Greek participants with AD in mild to moderate stages, in comparison to healthy individuals.

The structure of the chapter is as follows: in 4.1 we will present the analysis of spontaneous and semi-spontaneous speech according to previous linguistic studies, whereas in 4.2 we will provide an overview of computational approaches on spontaneous and semi-spontaneous speech and feature extraction. Section 4.3 describes the methodology implemented in the study. Section 4.4 illustrates the results (quantitative and qualitative). Section 4.5 provides a discussion of the results in the context of previous studies on the analysis of spontaneous and semi-spontaneous speech in AD, while in parallel, summarizes the main assumptions and findings of this study. Section 4.6 suggests topics for further research.

4.1 Linguistic studies on the analysis of connected speech in AD

Connected speech (both spontaneous and semi-spontaneous) is a non-invasive, inexpensive, time-saving diagnostic tool to differentiate people with neurodegenerative diseases, such as AD, from non-brain damaged individuals. One measurement of connected speech is pronoun production. In what follows, I will present some studies that used connected speech to investigate different linguistic features with an emphasis on the linguistic variable of pronoun production.

Ripich and Terell (1988) compared the patterns of discourse coherence and cohesion in six participants with senile dementia of the Alzheimer's type to six healthy elderly participants during topic-centred interviews. Among other problems in discourse coherence and cohesion, Ripich and Terell (1988) highlighted that the most frequent error in cohesion were instances of no referents, and instances where referents were absent from the text and not referable from the context, such as in (37).

(37) "*I (Referent) uh always seem to have uh a uh job that was… (Information error-missing element) to me and (Conjunction) in other words if I (Referent) want this (Referent error) done I (Referent) read a lot.*"

(Example extracted from Ripich & Terell, 1988)

In (38) there is an example of speech narration based on the Cookie-Theft picture description task (Goodglass and Kaplan, 1983) produced by a participant with AD in the mild stage. In this speech sample, similarly to Ripich and Terell's findings (1988), there is an apparent misuse of the referent in pronoun production. "*She*" should be used in place of "*they*" to refer correctly to the noun "*my teacher*".

(38) "*You can see her mouth is open and she is talking, and not paying any attention. That's about all I can think of. Or somebody's going, one of the children are about to climb, or something like these one, these ones. My teacher should be here and they'd throw me out [of] the door*."

(Kempler, 1991)

Nicholas et al. (1985) also employed the Cookie-Theft picture from Goodglass and Kaplan (1983) to distinguish between three groups with different condition, namely AD, Wernicke's aphasia and anomic aphasia and healthy individuals based on their discourse and 14 measures of empty speech. One of the measures of empty speech was pronouns without antecedents. Pronouns without antecedents were found as one of the most prevailing measures for the "empty" discourse of patients with AD and Wernicke's aphasia. However, pronouns without antecedents did not correlate with a naming deficit.

Almor et al. (1999) examined pronoun use in spontaneous speech with questions and an autobiographical interview in 11 participants with AD in early and moderate stages. They found that the spontaneous speech of patients with AD contained a higher proportion of pronouns out of the total nominal references compared to the speech of nine healthy individuals matched in age. Working memory deficits rather than semantic impairments, such as word-finding problems, were related to the overuse of pronouns. The overuse of pronouns correlated with the deficiency of the AD group in activating preexisting lexical representations (Salmon et al., 1988) for the referents.

Kavé and Levy (2003a) studied the descriptions of the Cookie-Theft picture from 14 persons with AD and 48 elderly control participants. Researchers performed an error analysis of semantic, morphological and syntactic knowledge measuring (among other things) the proportion of pronoun use out of the total use of nominal forms (pronouns and nouns) based on Rochon, Saffran, Berndt and Schwartz's (2000) quantitative analysis of aphasic sentence production. The error analysis revealed referential errors (uses of the

wrong pronoun or a pronoun without clear reference) and inappropriate use or even lack of the required relative pronoun. The AD group produced a significantly higher proportion of pronouns relative to the sum of nouns and pronouns in comparison to the NC group. According to Kavé and Levy (2003a) this overreliance on pronouns might be related to word retrieval deficits or problems with semantic-conceptual knowledge and its activation due to working memory limitations.

March, Wales and Pattison (2006) examined the use of personal deixis with personal pronouns production as a part of the general phenomenon of deixis by investigating multiple discourse tasks (a Cookie-Theft picture description task, Map task 1 and 2 and a Cartoon Picture task) in 26 participants with dementia of the Alzheimer's type and 26 healthy individuals. They found underuse of personal deixis in people with AD in the Cartoon Picture task that required sequential narration and in the Map task 2 that did not include context.

In a sequential study, March, Pattison and Wales (2009) investigated the role of cognition in spatial and personal deixis regarding the use of pure (first and second person) and impure personal pronouns (third-person) as well as noun production in four different tasks (Cookie-Theft picture -description task, cartoon- picture task, Map Task 1 and Map Task 2) in 26 people with AD and 26 matched elderly individuals. Cognitive abilities were measured with the following tasks: MMSE, Digit Span and Visual Memory Span, Wechsler Memory Scale-Revised (WMS-R, Wechsler, 1987), a 15-item version of standardized Boston Naming Task, Semantic Verbal Fluency Tasks and a Sentence Repetition Test. Findings revealed underuse of personal deixis, but with less impairment than spatial deixis. However, results were not the same across tasks. Significant findings were restricted to the cartoon picture task. Correlational results for personal deixis more particularly, indicated the following: a) an extremely weak correlation of pure personal pronouns with visual working memory and semantic fluency in the more complex Map Task 2 and b) a strong positive correlation of a lower performance in MMSE with less use of third -person personal pronouns in the cartoon-picture task.

Ahmed et al. (2013) explored parts of speech variables, such as lexical content variables of pronoun and noun production, speech rate, number of syntactic parts, such as subjects, in nine patients that progressed from aMCI to mild AD and then to moderate AD, 15 patients with aMCI and 15 healthy individuals. One of the research goals of the study was to examine markers of connected speech that could indicate progression from

aMCI to mild and then to moderate AD. Another research goal was to investigate if AD patients in early stages manifest reduction of lexical content, such as in pronoun and noun production. To this end, researchers elicited connected speech via the application of the Cookie-Theft picture description task from the Boston Diagnostic Aphasia Examination (Goodglass and Kaplan, 1983). In a second research step, Ahmed et al. (2013) had a quantitative linguistic analysis of all the collected speech variables. Ahmed et al. (2013) concluded that semantic, syntactic complexity and lexical content variables, such as pronoun proportion can be perceived as markers of disease progression. More specifically, in lexical content measures, researchers identified a change in lexical content with a higher number of pronouns in moderate AD compared to mild AD, aMCI and healthy individuals.

Drummond et al. (2015) implemented the story-telling narration, "A car accident story" (Ska & Duong, 2005) to 77 Brazilian Portuguese individuals with AD and participants with aMCI. The experimental instruction was to narrate the story with the help of seven sequential pictures provided. The research goal of the study was to elicit quantitative, narrative parameters to distinguish between the narratives' characteristics of people with aMCI, AD, and healthy individuals. Participants exhibited the Repeated Name Penalty phenomenon (RNP) that distinguished them from aMCI and healthy individuals. RNP phenomenon occurs "*when the narrator uses autonomous referents instead of co-reference*" resulting in referential errors and increased reading time, such as in (39) where *the boy* and *the passenger* are presented as independent referents even if there should be co-referents such as in (40).

(39) "The man is driving. At a certain point, she got out of the car. The passenger who was in the backseat threw himself forward; then the boy who was in the backseat released the parking brake."

(40) "The man is driving. At a certain point, she got out of the car. The passenger who was in the backseat threw himself forward; then he released the parking brake."

Drummond et al. (2015)

In other worlds, a healthy individual used *he* to corefer with the passenger, who is the driver whereas a participant with AD used the noun *boy* to corefer with the

passenger. None of the healthy or MCI participants exhibited the RNP phenomenon in contrast to AD individuals who displayed this phenomenon. In parallel, Brazilian people with AD exhibited omissions of the explicit referent, as well as an inadequate and ambiguous use of personal pronouns.

To the best of our knowledge, Kaprinis and Stavrakaki (2007) is the only work in Greek that examines spontaneous speech via a semi-structured interview in AD. More particularly, Kaprinis and Stavrakaki (2007) examined the production of strong personal pronouns and object clitics, among other morphosyntactic structures in 30 people with AD and 10 typical controls (TCs). Participants exhibited a few incorrect answers in object clitics. Kaprinis and Stavrakaki (2007) found a well-preserved pronoun production that had a negative correlation with significant lower performance detected for ADs in the Verbal Fluency Task (VFT) and the Boston Naming Task (BNT). They concluded that, in AD, there is a profound asymmetry between lexical and morphosyntactic competence, which is evident in a retained morphosyntactic ability, that is pronoun production and impaired naming.

4.2 Computational studies on the analysis of connected speech

More recent studies have used computational methods to investigate spontaneous, connected speech produced by narratives or conversations and interviews to find linguistic and acoustic features that can distinguish the speech of individuals with AD, MCI, or other types of dementia from that of healthy adults. In this subsection, we will refer briefly to some representative studies with more emphasis on those that focus on the linguistic features.

Bucks, Singh, Cuerden and Wilcockn (2000) analyzed the structure of spontaneous, conversational speech of eight individuals with a diagnosis of probable dementia of Alzheimer's type (DAT) and of 16 healthy older controls based on eight linguistic and lexical richness measures; rates of different part of speeches such as noun, pronoun, verb, adjective rate, Clause-Like Semantic Unit Rate (all per 100 words), Honore's statistic (R), Brunet's Index (W) and Type-Token Ratio. Bucks et al. (2000) found that these measures can assess spontaneous speech output in AD. More particularly, they found that participants with AD produced significantly lower mean numbers of nouns per 100 words (N-rate), as well as higher mean adjective, verb, and pronoun rates. More specifically, the pronoun rate was higher in patients with AD than in TCs (a mean

of 23.7 pronouns per 100 words in comparison to a mean of 15.8, respectively) and with a tendency towards the use of 'I', but not with a statistical significance in this type of pronoun. Finally, measures revealed that adjective and verb rates were not useful for discriminating patients with AD from healthy individuals; no statistical significance attested to these rates.

Guinn and Habash (2012) conducted a computational analysis of 80 conversational transcripts extracted from the Carolina Conversation Corpus (Pope and Dave 2011). These conversations were collected from 33 participants with AD, most of whom participated in more than one interview. The Switchboard Corpus, a collection of transcribed, spontaneous telephone conversations between 57 healthy individuals was used for the comparative analysis of individuals with AD and healthy controls. Various metrics regarding syntax, semantics, dysfluency, lexical richness and the lexicon and pragmatics were obtained: noun rate, verb rate, pronoun rate, adjective rate, type-token ratio, Brunet's Index, Honore's Statistic, go-ahead utterances[41], repetitions, paraphrases, incomplete words, filler phrases, forward and backward paraphrasing, syllables per minutes. The Part-of-Speech (POS) metrics did not provide statistically significant differences between healthy individuals and people with AD. Regarding the pronoun rate, a slightly higher use of pronouns was detected in AD, but without statistical significance.

Jarrold et al. (2014) extracted acoustic level features (e.g. duration of consonants, vowels, pauses) as well as lexical (linguistic) ones (e.g. frequencies of different types of words, such as pronouns, verbs, adjectives and nouns) from spontaneous speech data in four different types of dementia (nine patients with AD, nine with frontotemporal dementia, 13 with semantic dementia, and eight with progressive non-fluent aphasia). Lexical features were extracted with automatic POS tagger and Pennebaker's Linguistic Inquiry and Word Count (LIWC) software, which detects word frequencies. Regarding pronoun frequency, results highlighted a pronoun overuse, as well as a noun and adjective overuse. Researchers suggested that specific acoustic and lexical features could distinguish the spontaneous speech of the four different types of dementia from healthy individuals. More specifically, the measure of pronoun frequency can distinguish AD participants from healthy individuals based on automatic transcripts.

Khodabakhsh et al. (2015) investigated an extensive set of features based on speech prosody and various linguistic features derived from transcriptions of

[41] Go-ahead utterances are minimal responses in a conversational setting.

spontaneous, unstructured Turkish conversations in informal settings. More particularly, 18 prosodic features (e.g. response time and rate of speech) as well as 20 linguistic ones (e.g. pronoun frequency and pronoun-to-noun ratio) were extracted from 28 patients with AD and 51 age and education-matched control participants. Researchers examined the predictive power (alone or combined) of these features for AD with the use of support vector machines (SVM), nearest neighbour (NN classifiers), naïve Bayesian classifiers and classification trees (CTrees). Results showed that prosodic features performed significantly better than the linguistic features regardless of age, education, and gender of the participants. The accuracy of classifiers was statistically significant in the linguistic features of pronoun frequency and pronoun-to-noun ratio regardless of education level, age, and gender. Turkish participants with AD used pronouns more often than nouns, and they used these pronouns without referring to a specific noun, that is, without having a clear referent. According to Khodabakhsh et al. (2015), these linguistic features of pronoun frequency and pronoun-to-noun ratio can be predictors for AD, but are not better predictors than the prosodic features. In other words, in Khodabakhsh et al.'s (2015) study, the predictive power of the prosodic features was higher than the predictive power of the linguistic ones.

Fraser et al. (2016) applied machine learning methods to study linguistic features in AD, such as semantic substitutions, syntactic complexity, length of noun, verb and adjectival phrases, parts of speech and their frequency, vocabulary richness, information content, repetitiveness, phonological errors, which can be extracted automatically from digital samples (Cookie-Theft picture descriptions) of connected speech. They observed a semantic impairment with increased use of repetitions and pronouns, and reduced use of the lexical variety, as well as a syntactic deficit in the production of auxiliary verbs, gerunds and participles.

In Kavé and Goral's (2016) study, with the use of an automated text analysis tool based on a Hebrew language project (2005), there was also a higher proportion of pronouns out of all other words in conjunction with a lower proportion of nouns in Cookie-Theft picture descriptions samples. Pronoun overuse and noun underuse were attributed to a naming deficit, that is a semantically based deficit.

Kavé and Dassa (2018) examined the influence of dementia severity in performances and contents of some linguistic characteristics in correlation to MMSE scores with the use of the same automatic speech analysis tool that Kavé and Goral used

in their study. Cookie-Theft picture descriptions (Goodglass & Kaplan, 1983) extracted data from 70 Hebrew participants, 35 people with AD and 35 healthy individuals matched to people with AD in age, education, and period of immigration. Researchers analysed ten lexical and grammatical characteristics and information units. The lexical characteristics and grammatical characteristics involved total number of words, percentage of content words in relation to total word numbers, pronoun ratio, hapax type-token ratio, average in word frequencies, percentage of verbs in present tense, as well as the most frequent verbal types, prepositions, and subordination markers in relation to total words number and information units. The information units included actions in the text fragments. There were differences between the two groups in the total number of words produced. More particularly, people with AD produced considerably more words than healthy individuals, but without information content. Furthermore, people with AD exhibited a pronoun overuse compared to nouns and a smaller ratio between hapax legomena and word types with the parallel use of the most frequent words. The aforementioned findings correlated with MMSE performance and a lexical impairment but not with a grammatical one.

In Greek, computational approaches for the extraction of linguistic features in AD are limited and do not focus on spontaneous oral speech. Rentoumi et al. (2017; 2019 in Greek) applied a computational linguistics approach to written samples, obtained from the description of the Cookie-Theft test by 30 native Greek-speaking participants with AD in mild to moderate stages and from 30 age-matched TCs. Specifically, 11 morphosyntactic and lexical features were extracted with the use of an Alzheimer's Detector to measure morphosyntactic complexity and lexical variation. The morphosyntactic measures were the mean length of a sentence and the mean number of noun phrases, whereas the lexical measures consisted of the lexical variation measure, the Bi logarithmic type-token ratio, the noun variation, the adjective variation, the modifier variation, the adverb variation, the corrected verb variation, the verb variation, and the Brunet. The syntactic complexity measures were the mean length of a sentence and the mean number of NPs. The Part of Speech (PoS) tagger and the NP chunker were used for the syntactic analysis of the samples. With the above features extracted, SVM and Naïve Bayes with the SMO algorithm were used to classify the texts to the AD or the NC group. These machine learning methods were used in two sample groups (sample A included 30 people with ADs and 30 TCs and a synthetic sample B which included 100 people with

AD and 100 TCs) and a comparison between them was attempted. The authors concluded that in both samples, both machine learning methods (SVM and Naïve Bayes) outperformed the baseline condition implemented by the ZeroR classifier. In practical terms, the above morphosyntactic and lexical features seem to function as discriminators between Greek-speaking people with AD in comparison to TCs. However, in this study, no measure related to pronoun production was implemented.

Nevertheless, the pronoun-to-noun ratio was extracted as a measure in another cross-linguistic study (Rentoumi et al. 2018). Rentoumi et al. (2018)[42] conducted a cross-linguistic computational analysis of Greek and English (US and UK) spontaneous speech samples extracted from oral descriptions of the Cookie-Theft picture description task. The American English speech samples were obtained from the Dementia Bank, whereas the British English samples were obtained from the Optima database. The Greek data were extracted from individuals with AD that were recruited from daily Alzheimer's Centers. The cross-linguistic analysis revealed, among other things, a statistically significant difference in the pronoun-to-noun ratio in the AD group in comparison to the NC one.

In conclusion, the above literature review indicates that pronoun production is one possible linguistic and highly testable (bio)marker of AD that can be used to distinguish the speech of people with AD from healthy individuals. Pronoun production as an AD biomarker will be examined in the following sections.

4.3. Methodology

4.3.1 Research Goals

The research questions of this study are the following four:

1) Do Greek patients with AD overuse pronouns without clear referents (Kempler 1991; Nicholas et al.1985; Ripich & Terrell, 1988) compared to TCs, as, for instance, Almor et al. (1999) have found in American English or Kavé and Goral (2016) in Hebrew? Thus, do AD participants manifest a higher pronoun-to-total words ratio and pronoun-to-noun-ratio compared to the control group?

2) If there is an overuse of pronouns in the AD group, is there a selective overuse of a specific kind of pronoun?

[42] This work was presented as a poster in an international conference of the Alzheimer's Association in Chicago.

3) Is the use of the different kinds of ratios (i.e., pronoun-to-noun ratio, interrogative pronouns-to-total pronouns ratio) and sequentially, the use of the different kinds of pronouns (e.g., personal pronouns vs interrogative pronouns) (if attested) related to the kind of speech sample (March et al. 2009) that was used by our AD participants compared to our control group?

4) If there is an overuse of pronouns and an overuse of a specific kind of pronoun in the AD group compared to the NC one, does it correlate with performance on executive functions, such as working memory (Almor's ILH, 1999) and inhibitory control or performance on other linguistic performances, such as semantic fluency and naming abilities?

4.3.2 Participants

The participants of this study, their demographics and their neuropsychological assessment were described in detail in Chapter 3.

4.3.3 Materials and Procedure

In this study, spontaneous speech was elicited with the use of the following semi-structured tasks a) a modern version of the Cookie-Theft picture[43]-description task (Berube et al. 2019), b) the use of a story retelling task with the help of five sequential pictures and c) an unstructured personal narrative. In the picture-description task, each participant had to describe everything he/she saw in the picture.

The second task for eliciting semi-structured speech was the story retelling task; during this task, the experimenter told the participants to listen carefully to a story produced from an audio -file on a laptop computer and to reproduce it afterwards with the help of five sequential pictures[44]. Figure 9 presents the five sequential pictures that were used as a guide for the re-narration of the story "Two young people and the ring". The experimenter recorded the participants' story -retelling.

[43]The picture was provided to Katerina Fragkopoulou via e-mail from Shauna Berube with the permission of Argye Hillis. For more details about the picture see Berube, S., Nonnemacher, J., Demsky, C., Glenn, S., Saxena, S., Wright, A., Tippett, D. C., & Hillis, A. E. (2019). Stealing Cookies in the Twenty-First Century: Measures of Spoken Narrative in Healthy Versus Speakers With Aphasia. American journal of speech-language pathology, 28(1S), 321–329. https://doi.org/10.1044/2018_AJSLP-17-0131.

[44] These five sequential pictures are part of the narrative task that is based on a protocol initially designed for aphasia assessment (Kakavoulia et al. 2014).

Figure 9. *Pictorial stimuli for the narration of the fairy-tale "Two young people and the ring."*

The third task involved a structure-free narration. More particularly, the researcher asked participants to narrate a personal moment in their lives. The request-phrase was "*Tell me about a personal moment in your life"*.

The semi-structured and structure-free speech samples were elicited to measure pronoun overuse, and more particularly, to extract the following ratios computationally: a) the proportion of pronouns out of all occurrences of total words, following the analysis of Bucks (2000) and Khodabakhsh et al. (2015), b) the pronoun-to-noun ratio (total pronouns/total nouns, following Khodabakhsh et al. (2015) and c) the proportion of one kind of pronoun out of total pronouns, partially following Kavé and Levy's (2003a) analysis.

The computational analysis involved the following steps a) transcription of all the recordings, b) deletion of misleading utterances, mishearings, overlappings, metalinguistic comments, such as pauses, hesitations, paraphasias, c) cross-checking of the transcriptions with a second transcriptor, d) preparation of the transcriptions for the morphological parsing (RAW text UTF-8 format), e) morphological parsing and PoS tagging of each narrative and type of participant (healthy, AD), f) spreadsheet classification of annotated data according to the group (NC, AD) and the type of narrative in order to examine the distribution of different kinds of pronouns in correlation to the different kinds of PoS, such as nouns. All tokens were tagged using PoS and were lemmatized. Hesitations, misleadings, unfinished words, parentheses, and punctuation marks were excluded, and errors in PoS tagging were corrected.

For the statistical analysis, we divided our data into groups of statistical tests to control and minimize type 1 errors. A hierarchical, statistical procedure was applied. This procedure was not based on the nature of our data, which are not hierarchical in nature, but on the basis of the series of the applied statistical tests. More precisely, we firstly applied omnibus tests to check statistical significance in multiple comparisons of our data either within one independent group or between independent groups. If the omnibus tests resulted in, at least one statistically significant result, then we applied post-hoc t-tests with Bonferroni correction to find out which exact comparison had a statistical significance in the means of our ratios. In cases where the James test had insignificant results, no further statistical tests were applied.

Regarding the nature of our statistical tests more particularly, two main types of tests were used; omnibus tests and t-tests. The omnibus tests included; a) One-Sample Hottelings T^2 test (a contrast matrix methodology for within-group analysis) and b) James test (1954) (between-groups analysis). Our t-tests were either independent for two samples or paired for one-sample. Because of the multiple adjustments, with Bonferroni correction, to the multiple t-tests after the omnibus tests, we set the cut-off either to $p \leq 0.1$[45] or $p \leq 0.0111$ based on the number and the nature of the omnibus test in each family. The cut-off of the p-value was set to $p \leq 0.1$ due to the multiple adjustments that needed to be implemented in the post-hoc tests. In other words, this cut-off was further adjusted in the post-hoc (un)paired t-tests, under Bonferroni correction, based on the number of sequential comparisons with the post-hoc tests to enhance the power. We also applied bootstrapping[46] to almost all speech samples.

We also conducted a correlational analysis to check if the performances in the neuropsychological assessments could predict the results in the computational analysis and, more particularly, the outcomes of the ratios. For example, we investigated if pronoun overuse could be related to a working memory impairment. The correlational analysis involved Pearson's correlations and a simple linear regression model. As for measuring the strength of correlations, we used Hinkle et al.'s (2003) rule of thumb. We

[45] According to Cramer and Howitt (2004: 151) in Figuereido et al. (2013), "*the 0.05 probability level was historically an arbitrary choice but has been acceptable as a reasonable choice in most circumstances. If there is a reason to vary this level, it is acceptable to do so. So in circumstances where there might be very serious adverse consequences if the wrong decision were made about the hypothesis, then the significance level could be made more stringent at, say, 1%*." See also, Greenland et al. (2016).

[46] For more details in the chosen statistical tests, see Chapter 3.

considered the ones that fulfilled the criteria of rule of thumb and the ones that have reached statistical significance to be strong correlations.

4.4 Results

The quantitative results and the statistical analysis will be presented in section 4.4.1. In 4.4.2. a qualitative analysis of the results regarding pronoun production will be provided. Particular focus is placed on the referential index in the AD group in comparison to the NC one distributed over the different kinds of elicitation tasks (Modern Cookie-Theft, personal narrative, story narration). Last but not least, we will present the correlational analysis based on the results of the computational analysis (PoS tagger) and the results of the neuropsychological protocol in order to answer the fourth research question.

4.4.1 Quantitative analysis

Khodabakhsh et al. (2015), among others, state that the frequency and ratio of syntactic categories, such as pronouns and adverbs, are markers of AD. Hence, in the following paragraphs, we will attempt to distinguish between the Greek AD and NC speech samples, based on pronoun frequencies and ratios. We will present the metrics of frequency of PoS tags for pronouns, that is, the pronoun rate (total pronouns to total words, see Bucks et al. 2000; Khodabakhsh et al. 2015; Kavé & Goral 2016), the pronoun-to noun ratio (total pronouns to total nouns, see Khodabakhsh et al. 2015; Fraser et al. 2016), and a version of Kavé and Levy's (2003a) metric for examining the ratio of one kind of pronouns-to-total pronouns in the transcriptions of the modern version of the Cookie-theft picture-description, the story retell and the personal narrative. Results are presented below in tables 4-1 to 4-9. In particular, the structure of the results' presentation will be as following: A) firstly, in table 4-1, the results of the POS tagger, thus the raw data, as we have mentioned above, between groups and based on the kind of speech sample, thus modern Cookie-Theft, story narration and personal narrative, will be presented. B) secondly, we will show the statistically significant results between ratios in table 4-2 regardless of the speech sample, but based on the ratio's kind (e.g. pronoun-to-noun ratio, interrogative-to-total pronouns ratio) by providing a between-groups analysis.C) thirdly, in table 4-3, the statistically significant results between groups for each type of speech sample and ratio will be presented.

D) afterwards, the statistical results of the paired comparisons of the different speech samples will be presented between groups in tables 4-4 and within groups, in table 4-5 for the AD group and in table 4-6 for the NC group, respectively.

E) then, in table 4-7, a between ratios analysis for both groups and the three different kinds of speech samples based on the different kinds of pronouns will be exhibited.

F) in table 4-8, we will present the correlational analysis of the statistically significant results of the ratios regardless of the speech sample, and finally,

G) in table 4-9, we will exhibit the correlational analysis of a specific ratio that was statistically different between groups and in a specific speech sample.

All diagrams and tables were created based on the frequency of PoS tags about pronouns ($pronoun\ rate = total\ pronouns/total\ words$), the pronoun-to-noun ratio and one type of pronoun-to-total-pronouns ratio. In appendix VII, examples of the different kinds of pronouns —that were analyzed and measured in the corpora— are included. The categorization to the different kinds of pronouns was illustrated based on traditional grammars and on Prokopis Prokopidis's tagset (http://nlp.ilsp.gr/nlp/tagset_examples/tagset_en/).

Kinds of speech samples		**Modern Cookie-Theft**		**Story Narration**		**Personal Narratives**	
Groups		**AD**	**NC**	**AD**	**NC**	**AD**	**NC**
Metrics[47]	Pronoun rate (Pronouns/ Total words)	0.15	0.10	0.140	0.142	0.144	0.147
	Pronoun-to-noun ratio	1.15	0.53	1.34	0.94	1.43	1.10
	Possessive Pronouns/ Total pronouns ratio	0.06	0.10	0.09	0.13	0.22	0.28
	Indefinite Pronouns/ Total pronouns ratio	0.20	0.16	0.10	0.03	0.07	0.09
	Interrogative Pronouns/ Total pronouns ratio	0.17	0.08	0.15	0.02	0.12	0.04
	Personal Pronouns/ Total pronouns ratio	0.16	0.22	0.32	0.47	0.35	0.27
	Relative Pronouns/ Total pronouns ratio	0.13	0.17	0.08	0.13	0.10	0.13
	Relative Indefinite Pronouns/	0.01	0.02	0.013	0.008	0.009	0.014

[47] In table 4.1, metrics denote the means of ratios.

	Total pronouns ratio						
	Demonstrative Pronouns/Total pronouns ratio	0.24	0.23	0.22	0.18	0.10	0.15

Table 4-1. *Results of the PoS tagger between groups and kinds of speech samples.*

Group	**AD**	**NC**	**p**[48]	**CI**
Pronoun-to-noun ratio	1.31	0.86	< .001	[0.15, 1.02]
Interrogative Pronouns/Total pronouns ratio	0.15	0.04	< .001	[0.04, 0.16]
Total ratios	0.27	0.22	.09	(JT)

Table 4-2. *Means of specific and total ratios and statistically significant results regardless of the speech sample but based on the kind of ratio.*

As we can see from Table 4-2, we found statistically significant differences between the two groups in the pronoun-to-noun ratio and the interrogative pronouns-to-total pronouns ratio regardless of the kind of speech sample.

Types of speech samples	**Modern Cookie-Theft**		**Story Narration**		**Personal Narratives**	
Metrics	**p**[49]	**CI**	**p**	**CI**	**p**	**CI**
Pronoun rate (Pronouns/ Total words)	< .001	[0.01,0.07]	.858	[-0.03, 0.031]	.78	[-0.03, 0.033]
Interrogative Pronouns/ Total pronouns ratio	.001	[0.007, 0.20]	< .001	[0.04, 0.24]	001	[0.008,0.17]

Table 4-3. *(In)significant results for each type of speech sample and ratio between groups*

Regarding the different kinds of speech samples and the ratios more particularly (see Table 4.3), we observed significant differences between groups in the pronoun rate and the interrogative pronouns-to-total pronouns ratio in the modern Cookie-Theft picture descriptions. In addition, the AD group differed significantly from the NC group in the

[48] In table 4.2, the confidence level is adjusted under Bonferroni correction for the comparison of ratios independently of the kind of speech sample to 98.89% (cut-off for p-value= .011). In the case of the total results in ratios after multiple comparisons in the James test, the cut-off was set to p= .1 due to further adjustments in the independent nine post-hoc tests.

[49] In the table 4.3, the confidence level in each kind of speech text is adjusted under Bonferroni correction to 99.62% (cut-off for p-value= .0038). The confidence intervals are symbolized with CI; ns= non-significant results.

interrogative pronouns-to-total-pronouns ratio in the story narrations as well as in the personal narratives. In other words, in all three kinds of speech samples, the interrogative pronouns-to-total pronouns ratio differed significantly between the two groups.

As we have shown in table 4.3 and as we will see in the following paired comparisons of the different types of speech samples, we found that in AD there is a higher pronoun rate that is related with the kind of speech task. In particular regarding the comparisons between the different kinds of speech samples between the two groups, we found at least one statistically significant comparison in pronoun rate (James test, p=.007) and in personal pronouns-to-total pronouns ratio (James test, p= .008) after multiple comparisons.

More particularly, as we can see in Table 4-4, there are statistically significant differences in the pronoun rates produced in the Cookie Theft-picture descriptions and the story narrations, and the Cookie-Theft picture descriptions and the personal narratives. Furthermore, we found a statistically significant difference in the personal pronouns-to-total-pronouns ratio in the story narrations in comparison to personal narratives for the AD group compared to the NC one.

Comparisons	**Cookie vs Story Narration**		**Story Narration vs Personal Narrative**		**Cookie vs Personal Narrative**	
Groups	**AD vs NC**					
Metrics	**p[50]**	**CI**	**p**	**CI**	**p**	**CI**
Pronoun Rate (Pronouns/Total Words)	p=.007 (JT)					
Pronoun Rate (Pronouns/Total Words)	.002	[0.001, 0.09]	Ns		.003	[0.002, 0.095]
Personal Pronouns/ Total Pronouns Ratio	ns		.001	[-0.44, -0.03]	ns	

Table 4-4. Results of the comparisons of the ratios in the different kinds of speech samples between AD and NC group

[50] In table 4.4, the confidence level of the t-tests is adjusted under Bonferroni correction to 99.62% (cut-off p-value = .0038). For James test, the cut-off for statistical significance is adjusted to p <= .011 and the confidence level is 99.9%; ns= non-significant results.

Regarding the within-group analysis of the AD group, we found at least one statistically significant difference in the multiple comparisons between the different speech samples of the following ratios: a) possessive pronouns-to-total pronouns ratio, b) indefinite pronouns-to-total-pronouns ratio, and c) demonstrative pronouns-to-total-pronouns ratio. More particularly, as we can see in Table 4-5, we found a statistically significant difference in the comparisons of the personal narratives with the modern Cookie-Theft picture descriptions in the possessive pronouns-to-total-pronouns ratio. Possessive pronouns were used less in the modern Cookie-Theft picture than in the personal narratives.

Comparisons	**Cookie vs Story Narration**		**Story Narration vs Personal Narrative**		**Cookie vs Personal Narrative**	
	AD group					
Metrics	**p**[51]	**CI**	**p**	**CI**	**p**	**CI**
Possessive Pronouns/ Total Pronouns Ratio	p=.005, Bonferroni significant (Hottelings T^2)					
Possessive Pronouns/ Total Pronouns Ratio	ns	ns	.005	[-0.23, 0.003]	<.001	[0.08, 0.27]
Indefinite Pronouns/ Total pronouns Ratio	p=.007, Bonferroni significant (Hottelings T^2)					
Indefinite Pronouns/ Total pronouns Ratio	.02	[-0.02, 0.19]	ns	ns	< .001	[-0.21, -0.04]
Demonstrative Pronouns/Total pronouns Ratio	ns	ns	< .001	[0.03, 0.22]	< .001	[-0.24, -0.05]

Table 4-5. Results of the comparisons of the mean ratios among the different speech samples for the AD group.

Furthermore, we observed a statistically significant difference in the comparison of personal narratives with the Cookie-Theft picture descriptions in the indefinite pronouns-to-total-pronouns ratio. Thus, the indefinite-pronouns-to-total pronouns ratio was higher in the Cookie-Theft picture descriptions, as compared to personal narratives. In the demonstratives-to-total-pronouns ratio, we also found statistically significant differences

[51] Regarding the results in table 4.5, the statistical significance was set to p <=.0111 and the CI was set to 99.9% for Hotelings T^2 test. The CI for the paired t-tests was set to 99.6% whereas the cut-off for statistical significance was set to p-value< .003; ns= non-significant results.

in the comparison of the story narrations with the personal narratives and of the modern Cookie-Theft picture descriptions with the personal narratives. This means that a higher demonstrative pronouns-to-total pronouns ratio was found in story narrations in comparison to personal narratives as well as in the Cookie-Theft picture descriptions compared to personal narratives.

Within the NC group and the same comparisons between speech samples, the differences were many more. More specifically, the result of the Omnibus test was significant statistically. This result indicates that there was at least one significant difference in the results within the NC group. As we can see from the results in table 4-6, we found at least one statistically significant difference among the speech samples in the pronoun rate (paired Hottelings T^2 test, p= .008), in the pronoun-to-noun ratio (paired Hottelings T^2 test, p= .0005), in the indefinite-pronouns-to-total-pronouns ratio (paired Hottelings T^2 test, p= .002), in the interrogative-pronouns-to-total-pronouns ratio (paired Hottelings T^2 test, p= .002) and in the personal- pronouns-to-total-pronouns ratio (paired Hottelings T^2 test, p= .001).

Regarding the pronoun rate, as we can see in the raw data of Table 4-6, there were statistically significant differences in the comparison of the modern Cookie-Theft picture descriptions with the story narrations and in the comparison of the personal narratives with the modern Cookie-Theft picture descriptions.

Comparisons	**Cookie vs Story Narration**		**Story Narration vs Personal Narrative**		**Cookie vs Personal Narrative**	
	NC group					
Metrics	**p**	**CI[52]**	**p**	**CI**	**p**	**CI**
Pronoun rate (Pronouns/Total words)	p=.008 Bonferroni significant ((Hottelings T^2)					
Pronoun rate (Pronouns/Total words)	< .001	[-0.06, -0.009]	ns		.001	[0.004, 0.07]
Pronouns/Total nouns	p= .0005 Bonferroni significant (Hottelings T^2)					
Pronouns/Total nouns	< .001	[-0.62, -0.21]	ns		< .001	[0.26, 0.92]

[52] Regarding the results in table 4.6, the CI for the paired t-tests was set to 99.6% whereas the cut-off for statistical significance was set to p-value< .003. In Hotelings T^2 test, the statistical significance was set to p<=.0111 and the CI was set to 99.9%; ns= non-significant results.

Indefinite Pronouns/ Total pronouns ratio	p=.002 Bonferroni significant ((Hottelings T^2)					
Indefinite Pronouns/ Total pronouns ratio	< .001	[0.067, 0.23]	.001	[-0.14, -0.005]	ns	
Interrogative Pronouns/ Total pronouns ratio	p= .002 Bonferroni significant (Hottelings T^2)					
Interrogative Pronouns/ Total pronouns ratio	.003	[6.133e-05, 0.117]	Ns		.001	[-0.10, -0.0016]
Personal Pronouns/ Total pronouns ratio	p = .001 Bonferroni significant (Hottelings T^2)					
Personal Pronouns/ Total pronouns ratio	.003	[-0.36, -0.027]	< .001	[0.073, 0.34]	ns	

Table 4-6. *Results of the comparisons of the mean ratios among the different speech samples for the NC group.*

Regarding the pronoun-to-noun ratio, there were statistically significant differences in the comparison of the modern Cookie-Theft picture descriptions with the story narrations and of the personal narratives with the modern Cookie-Theft picture descriptions. As far as the indefinite-pronouns-to-total pronouns ratio is concerned, we found statistically significant differences in the speech sample produced by the modern Cookie-Theft picture descriptions with the story narrations and in the comparison of the story narrations with the personal narratives. Regarding the interrogative-pronouns-to-total pronouns ratio, we found significant differences in the comparison of the modern Cookie-Theft descriptions with the story narrations and with the personal narratives, respectively. We also observed statistically significant differences in the personal-pronouns-to-total pronouns ratio as far as the comparison of the modern Cookie-Theft picture descriptions with the story narrations is concerned as well as in the comparison of the story narrations with the personal narratives.

As far as the differences between the different kinds of pronouns in the AD group in the specific three types of speech samples, the Omnibus test revealed statistically significant differences. This means, that there is at least one statistically significant result. Therefore, we found statistically significant differences in the modern Cookie-Theft descriptions (paired Hottelings T^2 test, p= .009), in the story narrations (paired Hottelings T^2 test, p= .009) and in the personal narratives (paired Hottelings T^2 test, p= .009). Similarly, we found statistically significant differences in the modern Cookie-Theft picture descriptions (paired Hottelings T^2 test, p= 1.180338e-05), in the story narrations (paired Hottelings T^2 test, p= .003) and the personal narratives (paired Hottelings T^2 test, p = .04) for the NC group. The differences are presented with more detail in Table 4-7, for both groups.

Cookie-Theft-AD[53]	**Possessive pronouns-to-total pronouns ratio**	**Indefinite pronouns-to-total pronouns ratio**	**Interrogative pronouns-to-total pronouns ratio**	**Personal pronouns-to-total pronouns ratio**	**Relative pronouns-to-total pronouns ratio**	**Relative Indefinite pronouns-to-total pronouns ratio**	**Demonstrative pronouns-to-total pronouns ratio**
Possessive pronouns-to-total pronouns-ratio	—	**p<.001 CI [-0.23, -0.04]**	**p<.001 CI [-0.22, -0.01]**	**p<.001 CI [-0.16, -0.03]**	**p=.002 CI [-0.17, -0.003]**	**p<.001 CI [0.016, 0.10]**	**p<.001 CI [-0.24, -0.09]**
Indefinite pronouns pronouns-to-total pronouns ratio	**p<.001 CI [-0.23, -0.04]**	—	p = .49 CI [-0.14, 0.11]	p =.35 CI [-0.08, 0.15]	p=.0013 CI [-0.008, 0.17]	**p< .001 CI [0.12, 0.27]**	p = .35 CI [-0.16, 0.06]
Interrogative pronouns-to-total pronouns ratio	**p< .001 CI [0.22, -0.01]**	p = .49 CI [-0.14, 0.11]	—	p = .81 CI [-0.12, 0.15]	p = .33 CI [-0.06, 0.15]	**p<.001 CI [0.10, 0.27)**	p= .05 CI [-0.16, 0.02]
Personal pronouns-to-total pronouns ratio	**p<.001 CI [-0.16, -0.03]**	p=.35 CI [-0.08, 0.15]	p= .81 CI [-0.12, 0.15]	—	p= .60 CI [-0.10, 0.13]	**p< .001 CI [0.08, 0.24]**	p= .08, CI [-0.20,0.05]
Relative pronouns-to-total pronouns ratio	**p= .003 CI [-0.16, -0.004]**	p= .0013 CI [-0.008, 0.17]	p = .31 CI [-0.06, 0.15]	p= .60 CI [-0.10, 0.13]	—	**p< .001 CI [0.05, 0.20]**	p= .01 CI [-0.20, 0.01]
Relative indefinite pronouns-to-total pronouns ratio	**p< .001 CI [0.016, 0.10]**	**p< .001 CI. [0.012, 0.27)**	**p< .001 CI [0.10, 0.27)**	**p< .001 CI [0.08, 0.24]**	**p< .001 CI [0.05, 0.20]**	—	**p< .001 CI [-0.31, -0.17]**

[53] The confidence level was adjusted under Bonferroni correction to 99.5%. The statistically significant results are presented in bold.

Demonstrative Pronouns-to-total-pronouns ratio	**p< .001, CI [-0.24, -0.09]**	p = .34 CI [-0.16, 0.06]	p = .05 CI [-0.16, 0.02]	p= .08, CI [-0.20,0.05]	p = .01 CI [-0.20, 0.009]	**p< .001 CI [-0.31, -0.17]**	—
Cookie-Theft- NC	**Possessive pronouns-to-total pronouns ratio**	**Indefinite pronouns-to-total pronouns ratio**	**Interrogative pronouns-to-total pronouns ratio**	**Personal pronouns-to-total pronouns ratio**	**Relative pronouns-to-total pronouns ratio**	**Relative Indefinite pronouns-to-total pronouns ratio**	**Demonstrative pronouns-to-total pronouns ratio**
Possessive pronouns-to-total pronouns ratio	—	p= .15, CI [-0.17, 0.06]	p = .55 CI [-0.07, 0.15]	**p= .001, CI [-0.30, -0.008]**	p=. 08, CI [-0.17, 0.05]	**p< .001, CI [0.036, 0.18]**	p= .017, CI [-0.24, 0.03]
Indefinite pronouns pronouns-to-total pronouns ratio	p= .15, CI [-0.17, 0.06]	—	p= .007, CI [-0.004,0.2]	p= .22, CI [-0.26, 0.07]	p = .78, CI [-0.14, 0.09]	**p< .001, CI [0.02, 0.23]**	p= .08, CI [-0.17, 0.04]
Interrogative pronouns-to-total pronouns ratio	p = .55 CI [-0.07, 0.15]	p= .007, CI [-0.002,0.2]	—	**p< .001, CI [-0.28, -0.05]**	p= .018, CI [-0.22, 0.02]	p= .09, CI [-0.05, 0.12]	**p< .001, CI [-0.24, -0.04]**
Personal pronouns-to-total pronouns ratio	p = .001, CI [-0.30, -0.01]	p= .22, CI [-0.26, 0.07]	**p< .001, CI [-0.28, -0.05]**	—	p= .26, CI [-0.06, 0.3]	**p< .001, CI [0.08, 0.35]**	p = .99, CI [-0.15, 0.23]
Relative pronouns-to-total pronouns ratio	p= .08, CI [-0.17, 0.05]	p = .78, CI [-0.14, 0.09]	p= .018, CI [-0.22, 0.02]	p= .26, CI [-0.06, 0.3]	—	**p < .001, CI [0.021, 0.25]**	p= .27, CI [-0.17, 0.09]
Relative indefinite pronouns-to-total pronouns ratio	**p< .001, CI [0.036, 0.18]**	**p< .001, CI [0.02, 0.23]**	p= .09, CI [-0.05, 0.12]	**p< .001, CI [0.08, 0.35]**	**p < .0011, CI [0.021, 0.25]**	—	**p< .001, CI [-0.30, -0.12]**
Demonstrative pronouns-to-total pronouns ratio	p= .017, CI [-0.24, 0.02]	p= .08, CI [-0.17,0.04]	**p< .001, CI [-0.24, -0.04]**	p = .99, CI [-0.15, 0.21]	p= .27, CI [-0.17, 0.09]	**p< .001, CI [-0.30, -0.11]**	—
Story narration-AD	**Possessive pronouns-to-total pronouns ratio**	**Indefinite pronouns-to-total pronouns ratio**	**Interrogative pronouns-to-total pronouns**	**Personal pronouns-to-total pronouns**	**Relative pronouns-to-total pronouns ratio**	**Relative Indefinite pronouns-to-total pronouns**	**Demonstrative pronouns-to-total pronouns ratio**
Possessive pronouns-to-total pronouns ratio	—	p= .77, CI [-0.10, 0.13]	p= .24, CI [-0.19, 0.06]	**p< .001, CI [-0.40, -0.04]**	p= .83, CI [-0.06, 0.10]	**p< .001, CI [0.03, 0.21]**	p= .007, CI [-0.27, 0.009]
Indefinite pronouns pronouns-to-total pronouns ratio	p= .77, CI [-0.10, 0.12]	—	p= .29, CI [-0.15, 0.07]	**p< .001, CI [-0.41, -0.03]**	p= .58, CI [-0.07, 0.14]	**p < .001,CI [0.040, 0.21]**	p= .007, CI [-0.27, 0.007]

Interrogative pronouns-to-total pronouns ratio	p = .24, CI [-0.19, 0.06]	p = .29, CI [-0.15, 0.07]	—	**p= .0024, CI [-0.37, -0.013]**	p= .20, CI [-0.07, 0.19]	**p< .001, CI [0.055, 0.25]**	p= .13, CI [-0.20, 0.06]
Personal pronouns-to-total pronouns ratio	**p< .001, CI [-0.40, -0.04]**	**p< .001, CI [-0.41, -0.03]**	**p= .0024, CI [-0.37, -0.013]**	—	**p< .001, CI [0.10, 0.42]**	**p<.001, CI [0.18, 0.47]**	p= .16, CI [-0.10, 0.28]
Relative pronouns-to-total pronouns ratio	p = .83, CI [-0.06, 0.10]	p = .59, CI [-0.07, 0.14]	p= .20, CI [-0.07, 0.19]	**p< .001, CI [0.10, 0.42]**	—	**p< .001, CI [0.023, 0.15]**	**p< .001 CI [-0.29, -0.03]**
Relative indefinite pronouns-to-total pronouns ratio	**p< .001, CI [0.03, 0.21]**	**p < .001, CI [0.040, 0.21]**	**p< .001, CI [0.055, 0.24]**	**p< .001, CI [0.18, 0.47]**	**p< .001, CI [0.023, 0.15]**	—	**p< .001, CI [-0.35, -0.13]**
Demonstrative pronouns-to-total pronouns ratio	p= .007, CI [-0.27, 0.009]	p= .007, CI [-0.27, 0.004]	p= .13, CI [-0.20, 0.06]	p= .16, CI [-0.10, 0.28]	**p< .001 CI [-0.29, -0.03]**	**p<0.001, CI [-0.35, -0.13]**	—

Story narration-NC	**Possessive pronouns-to-total pronouns ratio**	**Indefinite pronouns-to-total pronouns ratio**	**Interrogative pronouns-to-total pronouns**	**Personal pronouns-to-total pronouns**	**Relative pronouns-to-total pronouns ratio**	**Relative Indefinite pronouns-to-total pronouns**	**Demonstrative pronouns-to-total pronouns ratio**
Possessive pronouns-to-total pronouns ratio	—	**p< .001, CI [0.06, 0.16]**	**p< .001, CI [0.07, 0.16]**	**p< .001, CI [-0.45, -0.23]**	p= .85, CI [-0.06, 0.08]	**p< .001, CI [0.07, 0.17]**	p= .015, CI [-0.10, 0.009]
Indefinite pronouns pronouns-to-total pronouns ratio	**p< .001, CI [0.06, 0.15]**	—	p = .18, CI [-0.009, 0.02]	**p< .001, CI [-0.53, -0.36]**	**p< .001, CI [-0.15, -0.05]**	p< .006, CI [-0.0005, 0.5]	**p< .001, CI [-0.21, -0.10]**
Interrogative pronouns-to-total pronouns ratio	**p< .001, CI [0.07, 0.16]**	p = .18, CI [-0.009, 0.02]	—	**p< .001, CI [-0.54, -0.36]**	**p< .001, CI [-0.15, -0.06]**	p= .12, CI [-0.009, 0.04]	**p< .001, CI [-0.22,-0.12]**
Personal pronouns-to-total pronouns ratio	**p< .001, CI [-0.45, -0.23]**	**p< .001, CI [-0.53, -0.36]**	**p< .001, CI [-0.53, -0.36]**	—	**p< .001, CI [0.24, 0.44]**	**p< .001, CI [0.39, 0.55]**	**p< .001, CI [0.17, 0.40]**
Relative pronouns-to-total pronouns ratio	p = .85, CI [-0.06, 0.08]	**p< .001, CI [-0.15, -0.05]**	**p< .001, CI [-0.15, -0.06]**	**p< .001, CI [0.24, 0.44]**	—	**p< .001, CI [0.08, 0.16]**	p= .002, CI [-0.12, -0.0009]
Relative indefinite pronouns-to-total pronouns ratio	**p< .001, CI [0.07, 0.17]**	p< .006, CI [-0.0005, 0.5]	p= .12, CI [-0.01, 0.04]	**p< .001, CI [0.39, 0.55]**	**p< .001, CI [0.08, 0.16]**	—	**p< .001, CI [-0.23, -0.12]**
Demonstrative pronouns-to-total pronouns ratio	p= 0.015, CI [-0.10, 0.009]	**p<0.001, CI [-0.21, -0.10]**	**p<0.001, CI [-0.22,-0.12]**	**p<0.001, CI [0.17, 0.40]**	p=0.002 CI [-0.12, -0.0009]	**p<0.001, CI [-0.23, -0.12]**	—

Personal narratives-AD	Possessive pronouns-to-total pronouns ratio	Indefinite pronouns -to-total pronouns ratio	Interrogative pronouns -to-total	Personal pronouns -to-total	Relative pronouns -to-total pronouns ratio	Relative Indefinite pronouns-to-total	Demonstrative pronouns -to-total pronouns ratio
Possessive pronouns-to-total pronouns ratio	—	**p< .001, CI [0.07, 0.27]**	p= .07, CI [-0.06, 0.23]	p= .02, CI [-0.30, 0.03]	**p=.003, CI [-0.004, 0.22]**	**p< .001, CI [0.13, 0.30]**	**p< .001, CI [0.02, 0.26]**
Indefinite pronouns pronouns-to-total pronouns ratio	**p< .001, CI [0.07, 0.27]**	—	p= .12, CI [-0.16, 0.02]	**p< .001, CI [-0.40, -0.15]**	p= .15, CI [-0.10, 0.02]	**p< .001, CI [0.02, 0.11]**	p= .32, CI [-0.10, 0.04]
Interrogative pronouns-to-total pronouns ratio	p= .07, CI [-0.06, 0.23]	p= .12, CI [-0.16, 0.02]	—	p = .001, CI [-0.34, -0.05]	p= .47, CI [-0.03, 0.10]	**p<.001, CI [0.04, 0.21]**	p= .63, CI [-0.08, 0.14]
Personal pronouns-to-total pronouns ratio	p= .02, CI [-0.30, 0.03]	**p< .001, CI [-0.40, -0.15]**	p= .001, CI [-0.34, -0.05]	—	**p< .001, CI [0.10, 0.38]**	**p< .001, CI [0.24, 0.45]**	**p< .001, CI [0.14, 0.38]**
Relative pronouns-to-total pronouns ratio	**p= .003, CI [-0.004, 0.221]**	p= .15, CI [-0.10, 0.02]	p= .47, CI [-0.03, 0.10]	**p< .001, CI [0.10, 0.38]**	—	**p< .001 CI [0.05, 0.15]**	p= .9, C [-0.07,0.07]
Relative indefinite pronouns-to-total pronouns ratio	**p< .001, CI [0.13, 0.30]**	**p< .001, CI [0.02, 0.11]**	**p< .001, CI [0.04, 0.21]**	**p< .001, CI [0.24, 0.45]**	**p< .001 CI [0.05, 0.15]**	—	**p< .001, CI [-0.15, -0.03]**
Demonstrative pronouns-to-total pronouns ratio	**p< .001, CI [0.02, 0.26]**	p= .32, CI [-0.10, 0.04]	p= .63, CI [-0.08, 0.14]	**p< .001, CI [0.14, 0.38]**	p=. 9, CI [-0.07,0.07]	**p< .001, CI [-0.15, -0.03]**	—

Personal narratives-NC	Possessive pronouns-to-total pronouns ratio	Indefinite pronouns -to-total pronouns ratio	Interrogative pronouns -to-total	Personal pronouns -to-total	Relative pronouns -to-total pronouns ratio	Relative Indefinite pronouns-to-total	Demonstrative pronouns -to-total pronouns ratio
Possessive pronouns-to-total pronouns ratio	—	**p< .001, CI [0.08, 0.39]**	**p< .001, CI [0.15,0.42]**	p= .75, CI [-0.11, 0.26]	**p < .001, CI [0.053, 0.37]**	**p< .001 CI [0.20, 0.44]**	**p< .001, CI [0.03, 0.30]**
Indefinite pronouns pronouns-to-total pronouns ratio	**p< .001, CI [0.08, 0.39]**	—	p= .03, CI [-0.012, 0.13]	**p< .001, CI [-0.3, -0.06]**	p= .22, CI [-0.14, 0.05]	**p= .004, CI [0.0006, 0.15]**	p= .018 CI [0.18, 0.010]
Interrogative pronouns-to-total pronouns ratio	**p< .001, CI [0.15,0.42]**	p= .03, CI [-0.012, 0.13]	—	**p< .001 CI [-0.31, -0.12]**	**p= .001, CI [-0.16, -0.01]**	p= .15 CI [-0.02, 0.07]	**p< .001 CI [-0.22, -0.059]**
Personal pronouns-to-total pronouns ratio	p= .75, CI [-0.11, 0.28]	**p< .001, CI [-0.3, 0.06]**	**p< .001 CI[-0.31, -0.12]**	—	p= .005 CI [-0.003, 0.26]	**p< .001 CI [0.15, 0.34]**	p= .07 CI [-0.06, 0.23]

Relative pronouns-to-total pronouns ratio	**p < .001, CI [0.05, 0.37]**	p= .22, CI [-0.14, 0.05]	**p= .001, CI [-0.16, -0.01]**	p= .005. CI [-0.003, 0.26]	—	**p< .001 CI [0.03, 0.19]**	p= .35 CI [-0.08,0.06]
Relative indefinite pronouns-to-total pronouns ratio	**p< .001 CI [0.20, 0.46]**	**p= .004, CI [0.0006, 0.15]**	p= .15 CI [-0.02, 0.07]	**p< .001 CI [0.15, 0.34]**	**p< .001 CI [0.03, 0.19]**	—	**p< .001, CI [-0.23, -0.07]**
Demonstrative pronouns-to-total pronouns ratio	**p< .001, CI [(0.03, 0.30]**	p= .018, CI [-0.18, 0.010]	**p< .001 CI [-0.22, -0.059]**	p= .07 CI [-0.06, 0.23]	p= .35 CI [-0.08,0.06]	**p< .001, CI [-0.23, -0.07]**	—

Table 4-7. Between ratios analysis for both groups and the three different speech samples based on the kinds of pronouns

From the above findings in Table 4-7, we can conclude that there were statistically significant differences in the relative indefinite-pronouns-to-total-pronouns ratio compared to all the other kinds of pronouns ratios distributed over the different kinds of speech samples for the AD group. Participants with AD did not use relative indefinite pronouns as frequently as the rest of the various types of pronouns across the different tasks. In addition, and more particularly in the Cookie-Theft picture descriptions, we found significantly less use of possessive pronouns in comparison to the other kinds of pronouns for the AD group that we did not attest in the NC group. In the story narrations, we found higher use of personal pronouns only in the NC group. In the personal narratives, we did not find any specific choice of a particular kind of pronoun.

In Table 4-8, we present the results of the correlation analyses between the two statistically significant ratios (pronoun-to-noun and interrogative pronoun to total pronouns) found in the AD group compared to the NC one, with the four groups/tests of neuropsychological tests (working memory tests, semantic fluency tests, naming tasks and inhibitory control task).

	WORKING MEMORY				**INHIBITORY CONTROL**			
	AD			NC	AD			NC
	r[54]	F	p	r F p	r	F	p	r F p
Pronoun-to noun ratio	-.26	1.3	.2	.12 .27 .6	.14	.37	.5	.18 .59 .4
Interrogative pronouns-to-total-pronouns ratio	-.05	.04	.8	-.16 .5 .5	-.07	.08	.7	-.20 .7 .4
	SEMANTIC FLUENCY				**NAMING**			
	AD			NC	AD			NC
	r	F	p	r F p	r	F	p	r F p
Pronoun-to noun ratio	-.39	3.08	.09	.21 .79 .38	**-.67**	14.3	**.001**	-.24 1.08 .3
Interrogative pronouns-to-total pronouns ratio	-.23	.96	.33	-.41 3.6 .07	-.40	3.3	.08	**-.53** 6.9 **.01**

[54] Df= (1,17) in all cases.

Table 4-8. *Results of Pearson's correlations and simple linear regressions for ratios and neuropsychological protocol between groups.*

As we can see, there is an almost high negative correlation between naming performance and pronoun-to-noun ratio in the AD group, as well as a low negative correlation between interrogative-to-total-pronoun ratio and naming performance in the NC group.

Regarding the correlations between the high pronoun rate and executive functions in the modern Cookie-theft, as we can observe from the results in Table 4-9, the pronoun rate is negatively related to naming only for the NC group. All other correlations were not statistically significant or strong and high enough to be considered statistically significant.

.	**WORKING MEMORY**				**SEMANTIC FLUENCY**			
	AD			NC	AD			NC
	r	F	p	r F p	r	F	p	r F p
Pronoun rate	-.001	.005	.9	-.38 2.8 .10	.12	.27	.6	.007 .0008 .97
	NAMING				**INHIBITORY CONTROL**			
	AD			NC	AD			NC
	r	F	p	r F p	r	F	p	r F p
Pronoun rate	-.33	2.16	.15	**-.54** 7.16 .01	.36	2.6	.12	-.16 0.46 .50

Table 4-9. *Correlations between the pronoun rate and cognitive functions in the Modern Cookie-Theft speech production*

4.4.2. Qualitative analysis

This subsection analyses the qualitative characteristics of pronoun production with an emphasis on null of reference pronouns, extracted from the aforementioned transcriptions of spontaneous and semi-spontaneous speech samples of the 19 Greek participants with AD in comparison to the 19 TCs. For the qualitative characteristics, we will use Duong et al.'s (2005) referential index. This index is presented and analyzed qualitatively, because of the absence of a computational tool constructed for such an analysis in Greek corpora. Duong et al.'s (2005) referential index[55] is a measure of pronoun use that refers to the ratio of the number of pronouns with a specified referent to the total number of pronouns used as it is depicted below in (41).

[55] An alternative measure for the pronoun-antecedent/referent relationship is the ratio of the proportion of pronouns to total referents (Chapman, Ulatowska et al. 1995) but we chose Duong et al.'s (2005) referential index due to matters regarding updating.

(41) $$referential\ index = \frac{referent}{total\ number\ of\ pronouns\ used}$$

We observed the most cases of bare of reference pronouns in the picture descriptions of the modern version of Cookie-Theft, some in story narrations and a few in personal narratives.

More specifically, we noticed the following instances of bare of reference pronouns in Cookie-Theft picture descriptions. In (42), we can observe that the pronoun *αυτός* 'he' does not have a clear, previously mentioned antecedent. There is a possibility that the pronoun *αυτός* refers to the contrastive pronoun *ο άλλος*[56] 'the other', but the pronoun *ο άλλος* does not have a clear referent, as previously mentioned. The referent whose description was anticipated was that of the parental figure of the father washing the dishes, as it is depicted in the modern version of the Cookie-Theft picture.

(42) (…) *Λοιπόν εεε το βασικό τους όπλ μεριμν η βασική τους μέριμνα είναι ηηη* (small pause) *φροντίδα του εαυτού τους ο ένας τηλεφωνάει* (small pause) ***ο άλλος*** *(small pause) θαυμάζει τη γυναίκα του που κάνει τη δουλειά* (small pause) *που γλύτωσε το κούρεμα* (small pause) *λοιπόν πάμε τι θες να σου πω να σου περιγράψω και τα παιδιαααά προσπαθούν να διασκεδάσουν τον εαυτό τους με τιςςς με τααααα ιιι τρώγοντας τα βρίσκοντας που είναι τα γλυκά και τρώγοντάς τα εεε τι θα γίνει όταν θα γυρίσει μέσα η γυναίκα και θα του πει να σφουγγαρίσει καιιιι και και θα της πει* ***αυτός*** *αυτή είναι δικιά σου δουλειά δεν είναι δικιά μου λοιπόν.*

Furthermore, we also detected Drummond et al.'s (2015) RNP phenomenon in (42). More precisely, we noticed that the AD participant refers to the same person as if he is two different people with the use of two different parts of speech, the numerical *ο ένας*, 'the one', and the contrastive pronoun *ο άλλος*, 'the other'.

Similarly, in (43) we observe the same RNP phenomenon where, the mother is presented as two different people, first as a mother and then as another woman, a lady.

[56] According to Roussou (personal communication), the pronoun *άλλος* is not an indefinite pronoun but a contrastive one. According to Spyropoulos (personal communication), the pronoun *άλλος* is a quantifier.

(43) (…) *Εδώ είναι ο μπαμπάς και η* ***μαμά****, ο οποίος ο ένας σκουπίζει τα πιάτα του αχα να τα βάλει ναι τα παίρνει από το πλυντήριο; ή τα βάζει στο πλυντήριο ;* (…) *μια γατούλα* ***μια κυρία*** *με το τηλέφωνό της*

In (44) we have another case of null of referent pronoun.

(44) (…) *Δεν θυμάμαι καθόλου να πάει προς τα πάνω. (small pause) Δηλαδή να να πάει* ***αυτά*** *είναι που δεν μπορώ να πω πως είναι πώς μου ήρθε τώρα ένα χρόνο* (*vowel lengthening of o, small pause*) *δεν μπορώ να πω* (small pause) *ενώ πάντα ήμουν μπλα μπλα μπλα μπλα μπλαμπλα μπλα μπλά τώρα (vowel lengthening of α)*

It is unclear which lexical identity the pronoun *αυτά* refers to. In (45), we notice instances of bare of referent pronouns, as well as misuse of referents.

(45) *Δύο μικρά παιδάκια το ένα πάνω σε μια καρέκλα σε (επιμήκυνση του ε) ένα σκαπό ε και δείχνει στο κοριτσάκι κάτω* ***τής*** *δείχνει τι είναι αυτό το που κρατάει και το κοριτσάκι γελάει το ένα της χέρι το ένα δείχνει κείνο και το άλλο γελ- στο στόμα της και γελάει και απέναντι είναι ένας νεαρός (μικρή παύση) πολύ ωραίος ε λεπτός και κρατάει ένα πιάτο είναι αυτό; πιάτο το οποίο έχει κι ένα* ***αυτό*** *που το (επιμήκυνση του ο) πλένει το πιάτο έτσι ; λοιπόν* ***αυτό*** *είναι η εικόνα το βασικό…ποιο άλλο θέλεις;*

In (45), the pronoun *της* is used in the wrong gender. We would anticipate the use of neutral gender *το* to refer to the noun *κοριτσάκι* 'little girl'. Instead, the AD participant uses the clitic pronoun *της* to refer to the antecedent in neutral gender. It seems that the AD participant uses semantic gender and not grammatical one. Similarly, the pronoun *αυτό* in the extract *"λοιπόν* ***αυτό*** *είναι η εικόνα το βασικό…ποιο άλλο θέλεις;"* is not marked with the correct female gender to refer to the noun *η εικόνα* 'picture'. In addition, we observed cases of null of reference pronouns, such as in the fragment "(…) *πιάτο το οποίο έχει κι ένα* ***αυτό*** *που το πλένει το πιάτο έτσι;* (…)", where the pronoun *αυτό* does not refer to a sponge but is bare of reference.

In (46), there is another instance of a bare of reference pronoun.

(46) (…) *Κι εδώ είναι εδώ ένας (hesitation-pause) κύριος ο οποίος έχει το τριβίο (μικρή παύση) και τρίβει το (vowel lengthening of o) πρέπει να ναι (vowel lengthening of ae)* ***αυτό*** *(vowel lengthening of o) δεν είναι ένα λάστιχο (pause)* (…)

The personal pronoun *αυτό* does not refer to a previously mentioned noun, in our case, the sponge for dishwashing.

In (47) we noticed two more instances of bare of reference contrastive pronouns.

(47) (…) *κι* ***η άλλη*** *από κάτω κοιτάει μη πέσουνε (….) και* ***ο άλλος*** *έχει ένα (small vowel lengthening of -a) δίσκο και τονε σκουπίζει…αυτό είναι;* (…)

The use of the contrastive pronouns *η άλλη* και *ο άλλος* have not been defined previously from the narrator as the male character of the young boy *ο νεαρός άντρας* and the female character of the girl *η κοπέλα.* If these characters were described at the beginning of the narration as *η κοπέλα* who tries to catch some cookies and *ο νεαρός άντρας* who tries to give her one, then the use of *η άλλη* και *ο άλλος* would be interpreted referentially. However, this is not case, thus, we have to assume that these pronouns are bare of reference and out of context.

Similarly, there are instances of bare of reference deictic pronouns in the male and female gender, like with *αυτός* and *αυτή* in (48),

(48) *εδώ* ***αυτός*** *(small pause) έβγαλε το καπέλο του (small pause) και βλέπει την κοπέλα που πάει και (lengthening of i)... και εδώ* ***αυτή*** *καθαρίζει τον κήπο (pause)*

and the neutral, plural gender ***αυτά*** in (49).

(49) (…) *έχει μείνει ένας σκύλος και τρώει…τα κούκις και* ***αυτά*** *δίπλα είναι ένας κύριος*

Most of the cases with bare of reference pronouns are deictic pronouns. Their use is facilitated by the nature of the task (picture description).

In story narrations, we found a) cases of null of reference pronouns such as in (50) where *αυτός* does not refer to a previously mentioned lexical identity, such as a prince.

(50) *Ε **αυτός** εδώ είναι…*

We also found one case of wrong gender use in a clitic pronoun (51).

(51) (...) *συνάντησε μιααα κοπέλα που του γυάλισε (μικρή παύση) λοιπόοον και σκέφτηκε ότι* (…) *λοιπόν πήγε στοοον, ο άλλος **τον** θυμότανε να πούμε.*

The clitic pronoun *τον* does not agree in gender with its female referent *μια κοπέλα* 'the girl'.

As in Cookie-Theft picture descriptions, we also detected a case of RNP phenomenon in an example of story narration. As we can observe in (52) the AD participant uses two distinct nouns (*το παιδάκι* 'the child', *το βασιλόπουλο* 'the prince') to refer to the same person, the prince.

(52) *Και βασικά **το παιδάκι** έπεσε το **βασιλόπουλο** στον ύπνο έπεσε στον ύπνο στενοχωρέθηκε είχε τα φάρμακά του* (…)

From this short qualitative analysis, we can conclude that pronoun overuse and unbound pronouns, in parallel with the RNP phenomenon, create problems in the discourse of Greek-speaking participants with AD. All this abnormal pronoun use and their use of discourse as a pragmatic tool for communication with others is problematic.

4.5. Discussion

In this section, we will discuss and try to analyze our findings based on our basic research questions and hypotheses. In this point, we have to highlight that all the research questions and hypotheses are interrelated with one another and thus, the one complements the other. We will see this interconnection during our analysis. But let's see our basic research questions and analyze them one by one.

Hence, in the first research question related to pronoun production in AD, we wanted to examine **if Greek-speaking participants with AD overuse pronouns without clear referents.** Both the qualitative and quantitative analyses confirmed this pattern of pronoun overuse in Greek-speaking AD and our initial hypothesis (see 1 in table 4-10). This pronoun overuse confirmed our general initial hypothesis about pronoun production deficits in the AD group as compared to the NC one who manifests an intact pronoun production (see hypothesis 1 in table 4-10).

PhD thesis's hypotheses	Results
1. Pronoun production deficits in AD vs NC groups; pronoun overuse, thus higher pronoun rate & pronoun-to-noun ratio	✓
2. Selective use of specific kinds of pronouns ~ [57] speech samples' kind in AD	✓
3. Selective use of specific kinds of pronouns in AD vs NC groups	✓
4. Selective use of specific pronoun ratios ~ executive functions/linguistic performances in AD	✓

Table 4-10. *Part of PhD thesis' hypotheses compared to PhD's results.*

In particular, there was a clear tendency for Greek-speaking ADs to use more pronouns than other parts of speech. More specifically, the finding regarding pronoun overuse that have been observed by Ahmed et al. (2013), Khodabaksh et al. (2015), Kavé and Goral (2016) and Kavé and Dassa (2018) was confirmed in the speech samples of our participants with AD. However, this higher pronoun rate attested in our findings appeared to be dependent on the kind of speech sample. Thus, our initial hypothesis –see 2 in table 4.10– was confirmed. In particular, similarly to Ahmed et al. (2013) and Kavé and Goral's¬ findings (2016), a higher pronoun rate was found in the semi-spontaneous kind of speech that is in the modern Cookie-Theft picture descriptions for our AD group. The

[57] This symbol (~) is used to denote correlation.

higher pronoun rate was also found in the comparisons of the modern Cookie-Theft picture descriptions with the two other kinds of speech samples, the personal narratives and the story narrations. In addition, the qualitative results revealed a use of pronouns with null referents that was based on the nature of the task. In contrast, regarding spontaneous speech more specifically, our results in personal narratives did not confirm the results of Bucks et al. (2000), Jarrold et al. (2014) and Khodabaksh et al.'s (2015). More specifically, a higher pronoun rate in the AD than in the NC group was not confirmed in our personal narratives. Therefore, it seems that there is a pronoun overuse in Greek AD that is tightly bound to the nature and the kind of the task.

Similarly and as a continuation from the first research question our second research question was the following; "**Are there any differences in the use of the different ratios that refer to pronoun production among the different kinds of speech samples as March et al. (2009) have found in their study for the AD group?**" Our findings confirmed partially March et al.'s results and our initial hypothesis (see 2 in table 4-10). March et al. (2006; 2009) highlighted the role of the type and the properties of the task in personal pronoun production. They highlighted the significant underuse of personal pronouns in speech samples produced from the Cartoon picture task, which required a sequential narration and the map, which did not provide a shared context to the participants. Similarly, in our data, the role of the task and its complexity in the produced speech samples and pronoun production was also crucial. We found different results in the pronoun rate and the ratios that referred to the different kinds of pronouns, but we did not confirm March et al.'s (2006; 2009) finding for personal pronoun underuse. Thus, we found an interconnection of specific kinds of pronoun ratios with specific kinds of speech samples, but not with personal pronouns, in particular.

Based on the findings in our data, it seems that our participants with AD chose pronouns based on their intended use in the particular context in comparison to our healthy individuals who did not (see hypotheses 2, 3 in table 4.10). Thus, our hypotheses 2 and 3 from table 4-10, have been confirmed. More specifically, the possessive-pronouns-to-total pronouns ratio and the indefinite-pronouns-to-total pronouns ratio were not the same in the comparison between personal narratives and Cookie-Theft picture descriptions. Similarly, the demonstrative-pronouns-to-total-pronouns ratio differed in both personal narratives with the Cookie-Theft picture descriptions and story narrations' comparisons. People with AD preferred to use more possessive pronouns in the

spontaneous speech of personal narratives, which included autobiographical elements, and that is more complex in processing terms. It was evident from the comparisons of the story narrations with the personal narratives that our participants favored the use of demonstrative pronouns, such as *εκείνος*, in the story narrations. Thus, the narrators chose demonstrative pronouns to refer to the particular characters of the story "The two young people and the ring". Similarly, the kind of speech sample of the modern version of the Cookie-Theft picture description facilitated the use of the indefinite pronouns, such as *κάποιος* as long as each participant in this task had to describe a number of characters who were acting/doing something in a kitchen scene.

PhD thesis's hypotheses	**Results**
1. Pronoun production deficits in AD vs NC groups; pronoun overuse, thus higher pronoun rate & pronoun-to-noun ratio	✓
2. Selective use of specific kinds of pronouns ~[58] speech samples' kind in AD	✓
3. Selective use of specific kinds of pronouns in AD vs NC groups	✓
4. Selective use of specific pronoun ratios ~ executive functions/linguistic performances in AD	✓

Table 4-10. *Part of PhD thesis' hypotheses compared to PhD's results[59].*

Another interesting finding was the statistically significant difference in the ratio of interrogative-pronouns-to-total-pronouns between groups, across the different kinds of speech samples and regardless of the kind of speech samples. The prevalence of this ratio independently from the kind of speech samples is against March et al.'s (2006; 2009) finding of an association of the kind of speech sample based on a specific elicitation task with a specific kind of pronoun production. Therefore, our initial hypothesis for an interdependence between a use of specific kinds of pronouns and in particular, specific kinds of pronouns' ratios with specific kinds of speech samples has not been confirmed

[58] This symbol (~) is used to denote correlation.
[59] The table is repeated here for matters of facilitation in reading.

based on the interrogative pronouns-to-total pronouns ratio (see hypothesis 2 in table 4-10). This prevalence of this kind of pronoun ratio is related to its scope of use and not the kind of speech sample. In other words, it seems that when our participants with AD had to ask questions, they preferred to use interrogative pronouns. Based on their purpose of use, that is to form questions, our participants with AD chose interrogative pronouns, because the semantics of this kind of pronouns prevailed the kind of speech sample's context. In other words, in our AD participants, the semantics of the interrogative pronouns probably influenced more their use than the context and the discourse of the kind of speech sample in which interrogative pronouns were used.

Moreover, similarly to the higher interrogative-to-total pronouns ratio in AD irrespectively of the kind of speech sample, our participants with AD also chose more pronouns compared to nouns and therefore, they manifested a higher pronoun-to-noun ratio –compared to the NC group– in all the kinds of speech samples. Therefore, a part of our initial hypothesis (see 1 in table 4-10) has also been confirmed. This higher pronoun-to-noun ratio for the AD group in contrast to the NC group, that was confirmed in our speech samples, is in accordance with Khodabaksh et al. (2015), Fraser et al. (2016), Kavé and Dassa (2018) and Rentoumi et al.'s (2018) results but regardless of the kind of speech sample.

Regarding our third research question "**If there is an overuse of pronouns, is there a selective overuse of a specific kind of pronouns compared to the other kinds of pronouns in AD?"** the comparisons between the ratios of the different types of pronouns revealed mostly underuses of specific kinds of pronouns with one exception; an overuse of interrogative pronouns in AD. As we have already discussed, our AD participants overused interrogative-to-total pronouns ratio independently of the kind of speech sample (see two paragraphs above). Thus, our initial hypothesis about a selective overuse of a specific kind of pronouns, was confirmed (see hypothesis 3 in table 4-10). In particular, the findings revealed a significantly lower ratio of relative indefinite-pronouns-to-total-pronouns ratio as compared to all the other ratios of the different types of pronouns for the AD group, but also for the NC one. It seems that the use of this specific ratio is not facilitated by the context of one of the three kinds of speech samples in neither the AD group nor the NC one.

Two other findings are important: 1) the underuse of possessive pronouns instead of all the other kinds of pronouns in the modern Cookie-Theft picture descriptions for the

AD group, and 2) the prevalence of personal pronouns in the story narrations for the NC group. Again, our initial hypothesis about an interdependence between specific kinds of pronouns with specific speech samples has been confirmed (see 2 in table 4-10). The selection of personal pronouns by the NC group is logical due to the nature of the task. In the story narrations lots of different figures participate. For the description of their characters and actions, the use of either personal pronouns or nouns is needed. To avoid repetitions of the same nouns, healthy participants opted for more personal pronouns to achieve cohesion, coherence and a story-telling that unfolds smoothly. The AD's group choice of an underuse of possessive pronouns to describe the modern Cookie-Theft picture is an interesting finding that is probably related to the task's characteristics. In other words, for participants with AD, there is no need to use possessive pronouns to describe the figures that participate in the scene of the Cookie-Theft picture. In addition, it seems that participants with AD cannot relate themselves to others. Thus, they cannot correctly use possessive pronouns, but instead they underuse them. On the one hand, there is no need to use them, and on the other hand, they cannot distinguish themselves to the figures that are involved in the scene (the boy, the girl, the father). To put it differently, it seems that our participants with AD cannot distinguish between the objects that they possess and the figures that have or they have not a relation with these objects. Therefore, it is possible that they do not prefer to use possessive pronouns in a subconscious way. In contrast, the normal use of possessive pronouns can be attested in the control group, where the possessive pronoun 'theirs' is not underused and can attribute the notion of possession to the figures in the kitchen scene. Hence, I speculate that the lexical semantics of the possessive pronouns are intact in our healthy individuals in comparison to our AD participants, that are impaired.

The fourth research question of our study is/was about pronoun production tasks, that is, **whether there is an overuse of pronouns and an overuse of specific kinds of pronouns in AD –compared to the NC group– and whether this overuse is related to the participants' performance on executive functions, such as working memory (Almor's ILH, 1999), and inhibitory control, and linguistic performances, such as naming abilities and semantic fluency**. In the following paragraphs, I will discuss this research question by commenting on each executive function, separately and in comparison, to previous studies.

First of all and in general, our initial hypothesis about a correlation between pronoun production measures and specific use of pronoun ratios with executive functions/linguistic performances was confirmed (see hypothesis 4 in table 4-10).

PhD thesis's hypotheses	Results
1. Pronoun production deficits in AD vs NC groups; pronoun overuse, thus higher pronoun rate & pronoun-to-noun ratio	✓
2. Selective use of specific kinds of pronouns ~[60] speech samples' kind in AD	✓
3. Selective use of specific kinds of pronouns in AD vs NC groups	✓
4. Selective use of specific pronoun ratios ~ executive functions/linguistic performances in AD	✓

Table 4-10. Part of PhD thesis' hypotheses compared to PhD's results[61].

In particular, the findings pinpointed the role of naming in pronoun overuse and in a higher pronoun-to-noun ratio in AD. As we will see in the following paragraphs, the correlations revealed a naming deficit in the pronoun misuse and not a working memory problem or an inhibitory control impairment. No correlations were detected with inhibitory control, so I will not comment further on the role of inhibitory control in pronoun production in this chapter. Regarding the role of working memory in pronoun use in particular, my results contradict Nicholas et al.'s (1985) argument and Almor' s ILH and findings. More specifically, the absence of important correlations between working memory tasks, the higher pronoun-to-noun ratio, regardless of the kind of speech sample, and a higher pronoun rate in the modern Cookie-theft for the AD group indicate that Almor et al.'s (1999) argument about working memory impairment and pronoun use does not stand for our AD group. In particular, Almor et al. (1999) claimed that the percentage of pronouns –out of total nominal references– was not correlated with the scores in the Peabody Picture Vocabulary Test (PPVT) and picture naming, but with working memory impairment and ILH's confirmation. In addition, and in contrast to our

[60] This symbol (~) is used to denote correlation.
[61] The table is repeated here for matters of facilitation in reading.

findings, Nicholas, Obler, Albert and Estabrooks (1985) did not find any statistically significant correlation between anomia and the overuse of pronouns, that is, the use of pronouns without antecedents. Hence, according to Nicholas et al. (1985), the naming deficit and a Semantic Memory Impairment Hypothesis does not explain incoherent discourse and the overuse of pronouns, but this overuse of pronouns and empty speech correlated more broadly with a referential problem.

In contrast to Nicholas et al. and Almor et al.'s findings and assumptions, the presence of an almost high negative correlation between the pronoun-to-noun ratio and the performance in naming tasks in our findings highlights the role of a naming deficit present in AD that is related to the amount of pronoun and noun production, respectively. My findings confirmed the Semantic Memory Impairment Hypothesis, that Almor et al. (1999) described as a competitive hypothesis to his ILH and Working Memory Impairment Hypothesis, but their findings finally rejected it. Moreover, our findings are in line with Fraser et al. (2016) and Kavé and Goral (2016). Fraser et al. (2016) correlated the higher pronoun-to-noun ratio with a semantic (naming) impairment in AD[62]. Kavé and Goral (2016) found a negative correlation between naming and the percentage of pronouns, as well as a positive correlation in nouns out of total words with semantic fluency and naming performance in AD. In my findings, I captured a significant correlation between pronoun-to-noun ratio and naming for our AD group, and more specifically, a poor performance in naming tasks correlated with a higher pronoun-to-noun ratio for the AD group. In the context of a semantic interpretation, better performance on naming related to a lower pronoun-to-noun ratio and pronoun rate for our NC group compared to the AD one. Furthermore, in Kavé and Goral's findings (2016), there were no correlations between semantic fluency performance and pronoun use. Similarly, in my findings, I did not find significant correlations between the pronoun-to-noun ratio and semantic fluency and pronoun rate and semantic fluency in the modern Cookie-Theft picture descriptions for our AD group.

Furthermore, in my study, the absence of a correlation between the pronoun-to-noun ratio with the working memory tasks is against Kavé and Levy's (2003a) findings. Kavé and Levy (2003a) found higher use of pronouns per nominal expression due to word

[62] Fraser et al. (2016) also attributed the higher pronoun-to-noun ratio to a syntactic impairment not just to a semantic one.

retrieval deficits and problems in maintaining semantic representations in working memory, because of working memory limitations. My findings did not confirm this correlation. Besides this, the higher percentages of pronouns out of total words, and especially those of pronouns out of nouns revealed a naming deficit.

In addition, a branch of our fourth research question was if specific kinds of pronouns and respectively, pronouns' ratios (e.g., personal pronouns-to-total pronouns ratio) were related to specific executive functions and linguistic performances in AD compared to the NC one. My results indicated a higher interrogative-to-total pronouns ratio in the AD group compared to the NC one. However, based on my correlational analysis, this higher interrogative-to-total-pronouns ratio in the AD group was not correlated with any executive function or linguistic performance[63].

In sum, my linguistic results from spontaneous and semi-spontaneous speech confirmed the findings of the most previous studies about pronoun overuse with a null reference in participants with AD, but only in specific speech samples. Specifically, I found a higher pronoun rate for our AD participants only in semi-spontaneous speech samples and not in spontaneous speech, as Almor et al. (1999) had observed in their American English participants with AD. Almor et al. (1999) have found a higher proportion of pronouns out of the total nominal references in spontaneous speech with questions and an autobiographical interview. Furthermore, March et al.'s (2009) finding of the role of the task complexity was confirmed in my data, as I observed different ratios among the different speech samples (demonstrative pronouns in story narrations, possessive pronouns in personal narratives and indefinite pronouns in picture-descriptions). Thus, within the AD group, the higher ratios in indefinite-, demonstrative- and possessive-to-total pronouns ratios were justified based on the kind and nature of speech samples. In addition, a higher pronoun-to-noun ratio was attested in our Greek AD speech samples compared to the NC ones which was related to lower performance in the naming tests. However, this higher pronoun-to-noun ratio for the AD group was not related to a specific kind of speech sample but was confirmed across the different kinds of speech samples. As far as the NC group is concerned, a lower interrogative-to-total-

[63] A correlational analysis conducted between the different executive functions and linguistic performances with the different kinds of pronouns will clear up the findings of the different kinds of ratios within the AD group, but also as compared to the NC group (see table 4-7 and the between-ratios analysis for both groups).

pronouns ratio -compared to the AD group- across speech samples was correlated negatively with naming.

Moreover, when I compared the different kinds of pronouns with one another, and in particular the different "*one kind of pronoun-to-total pronouns"* ratios, no clear pattern was observed in the comparisons (see table 4-7 for an analysis), with the exceptions of a) the significantly lower relative indefinite-pronouns-to-nouns ratio across speech samples and b) the underuse of possessive pronouns in the modern Cookie-Theft picture descriptions for the AD group.

Finally and based on our findings, it is safe to conclude that measures of pronoun production, in connected speech, such as pronoun rate, pronoun-to-noun ratio, and one kind of pronoun-to-total-pronouns ratio can offer us valuable insights into the linguistic and cognitive profile of AD patients, that can be possibly used as biomarkers for the early diagnosis of AD.

4.6 Interim summary

In this chapter, I investigated pronoun production in semi-structured speech, as well as in the spontaneous speech of Greek-speaking people with AD. I replicated previous findings that Greek-speaking participants with AD also overuse pronouns instead of nouns or words in total. This pronoun overuse creates pragmatic deficits with a characteristic incoherence in the discourse of people with AD. Furthermore, the higher pronoun-to-noun ratio in AD compared to the control groups, was correlated with naming problems. The higher pronoun rate was also observed to be task-oriented. Specifically, the higher pronoun rate in AD individuals significantly differed from the pronoun rate of healthy individuals in the modern Cookie-Theft picture descriptions. Other significant results included the preference for indefinite, demonstrative and possessive-to-total pronouns ratios in the AD group based on the type and the nature of speech samples. The use of specific kinds of pronouns ratios showed us that pronoun overuse is not attested generally, but in correlation to specific kinds of pronouns, specific discourse genres (e.g., picture descriptions, story narrations, personal narratives) and the nature of the task (spontaneous vs semi-spontaneous speech samples). However, we had also counterexamples. Thus, we found pronoun ratios that were not correlated to specific discourse genres, spontaneous or semi-spontaneous speech samples and executive functions. In particular, there was

attested a higher interrogative-to-total pronouns ratio across speech samples in the AD group in comparison to the NC. However, this higher interrogative-to-total-pronouns ratio was not correlated with any executive function or linguistic performance in the AD group. Finally, no clear pattern was observed in the analysis of the different kinds of pronouns, thus the one-kind of pronoun-to-total pronouns ratios' analysis within the AD group. Exceptions to this rule were a) the significantly lower relative indefinite pronouns-to-nouns ratio across speech samples and b) the underuse of possessive pronouns in the modern Cookie-Theft picture descriptions for the AD group.

4.7 Further research

In this chapter, I suggested some linguistic measures to examine pronoun production in AD. In this chapter, I did only specific correlations with pronoun ratios and excluded other correlations. For example, statistically significant differences in the different kinds of pronouns, for instance the use of demonstrative pronouns-to-total pronouns ratio in the story narrations in correlation to the use of specific executive functions could give us further insights regarding the problems in pronoun production in AD. One could suggest that the significant differences between the kinds of pronouns in both groups are attributed to the properties of each task and not to the impaired or not cognitive functions of the participants. However, to reach a firmer conclusion, we should make correlations between the different kinds of pronoun ratios and all the tests and groups of the neuropsychological assessment.

Chapter 5

Comprehension of number agreement in pronoun-antecedent dependencies in AD

5.0 Introduction

Number agreement in pronoun-antecedent dependencies is one type of agreement relationship. In Greek, each pronoun must agree in number and gender with its antecedent (Philippaki-Warburton & Spyropoulos, 1999; Cheila-Markopoulou, 2003 in Greek). For instance, in (43) the pronoun *αυτός* has the same features of masculine gender and singular number as its antecedent *τον Κωστάκη*.

(43) Η Μαρία διαβάζει [τον Κωστάκη]$_i$. Αυτός$_i$ είναι πολύ μικρός για να διαβάζει μόνος του.
'Mary helps little Costas to study. He is too little to study by himself.'

(44) *Η Μαρία διαβάζει [τον Κωστάκη]$_x$. Αυτές$_i$ είναι πολύ μικροί για να διαβάζουν μόνοι τους.
Mary helps little Costas to study. He is too little to study by himself.

In (44) the number and gender features of the pronoun *αυτές* do not agree with the features of the antecedent *τον Κωστάκη*, because the antecedent is in the singular number and masculine gender, whereas the pronoun is in plural number and feminine gender.

However, Spyropoulos (personal communication) believes that there is no number agreement but number assignment in cases of strong pronouns, whereas in the case of weak pronouns, there is a kind of agreement that is coreference, which includes feature sharing and is applied under the mechanism of binding. In this PhD thesis, I follow Almor's terminology that is 'number agreement' in pronouns and their antecedents.

The central research goal of this chapter will be to examine the number and partially[64] the gender agreement of pronoun-antecedent dependencies in Greek-speaking people with AD. Greek, due to its rich morphology and distinction of personal pronouns to strong and clitics, is an ideal testbed for number and gender agreement. The research goals of this chapter will be to 1) investigate how Greek-speaking people with AD comprehend number –and gender– agreement in clitic and strong personal pronoun contexts, 2) to examine the role of intervening sentence between a pronoun and an antecedent for the establishment of number and gender agreement in the pronoun-antecedent dependencies, and 3) to assess the role of working memory, naming abilities, semantic fluency and inhibitory control on the comprehension of pronoun-antecedent dependencies.

The structure of this chapter will be as follows. Section 5.1 provides an overview of some representative studies on number agreement in pronoun-antecedent dependencies in AD. In Section 5.2, we describe the methodology used, namely the materials and procedure. Section 5.3 presents the linguistic results, and section 5.4 the correlational results. Section 5.5 includes the discussion and section 5.6 the main conclusions.

5.1. Number and gender agreement in pronoun-antecedent dependencies in AD

In this section, I will make an overview on studies related to number and gender agreement in pronoun-antecedent dependencies in AD in order to use these studies in the interpretation of my findings. According to some of the following studies number and gender agreement have been found problematic in AD. Therefore, in this PhD thesis we will compare our findings to the previous research studies to check if in our sample, a violation of number and gender agreement is also detected. Then, we will try to interpret these findings based on the linguistic performances of naming and semantic fluency, but also based on the cognitive functions of inhibitory control and working memory in AD.

Kempler et al. (1998a, 1998b) and Nebes et al. (1986) –in Almor et al. (1999)– analysed the sensitivity of patients with AD to number and gender violations agreement using cross-modal naming paradigms. They found that people with AD can detect number

[64] Gender agreement will be tested indirectly through the examination of number agreement, because in Greek, both gender and number are marked in the inflection of the pronoun. In other words, gender, number and case are phi-features that are morphologically transparent and marked in the inflectional morphemes of the pronouns under investigation, for instance $\text{AYTON}_{\text{AC./SING/MASC}}$. In the case of AYTON, the morpheme -ON is a portmanteau morpheme, because it combines more than one morphosyntactic feature within its morpheme (Ralli, 2015).

and gender violations like healthy individuals, among other violations of argument structure and pragmatic plausibility.

Almor et al. (1999) examined whether American-English-speaking participants with AD have difficulties in the comprehension of pronoun number agreement[65] and whether such difficulties can be attributed to a working memory rather than a lexical semantic impairment. For the purposes of this investigation, two cross-modal naming paradigm tasks were administered to 10 people with AD and 10 age-matched typical controls (TCs).

The first cross-modal naming paradigm was employed to test whether people with AD can maintain in memory the necessary information for processing pronouns during on-line sentence comprehension. Twenty auditory paragraphs with two pronouns (appropriate and inappropriate discourse continuations) were presented as visual targets to the participants. Half of the trials included an appropriate coreferential continuation pronoun, and the other half had an inappropriate coreferential continuation pronoun, such as in (45).

(45) The children loved the silly clown at the party. The show was very funny.
During the performance, the clown threw candy to_____
(Appropriate THEM/inappropriate HIM).

Participants had to choose and name one of the two pronoun continuations. Naming latencies for the two visual targets indicated that people with AD were less sensitive compared to TCs to the appropriateness of the pronoun continuation. This finding was claimed to provide evidence that people with AD have difficulties in maintaining in memory active representations during on-line sentence processing. Furthermore, a correlation was observed between the participants' ability to maintain active representations of information and their performance on a month ordering task but not on a picture-naming task or their MMSE score, indicating a working memory problem rather than a lexical semantic impairment.

The second cross-modal naming paradigm tested how the choice of a pronoun versus a full NP affects the abilities of people with AD to comprehend discourse, in the

[65] I have to pinpoint here that in Almor's English speaking participants with AD and healthy individuals, gender assignment includes number agreement to complete the pronoun-antecedent dependency.

context of the Informational Load Hypothesis (ILH) (Almor, 1999). According to this hypothesis, if working memory is impaired, expressions, such as full NPs, which are more informative, thus better in reactivating representations in working memory, could facilitate comprehension despite the fact they are more costly to process. Thus, speakers with AD are expected to perform better in contexts with full NPs compared to contexts with pronouns if their underlying impairment is a working memory one. A full NP and a pronoun condition were included in this experiment, as illustrated in (46).

(46) Full NP condition

The housewife watched the clumsy plumber working under the sink.
The housewife showed the plumber where the leak was.
The housewife could not believe that the plumber was so CLUMSY.

Pronoun condition

The housewife watched the clumsy plumber working under the sink.
She showed him where the leak was.
She could not believe that he was so CLUMSY.

Participants had to name as fast as they could the visual target in capital letters, that is the adjective "CLUMSY". Naming latencies showed that speakers with AD were slower to name the adjective in the pronoun condition than in the full NP condition, whereas TCs named the adjective faster in the pronoun condition than in the full NP condition. In other words, researchers found that full NPs facilitated more than pronouns people with AD to activate the semantic representation of each target-antecedent. Therefore, pronoun comprehension was found impaired and was correlated with performance on the month ordering task, but not with performance on picture naming or MMSE score in the AD group. Overall, Almor et al. (1999) concluded that the ability of speakers with AD to comprehend pronoun number agreement is significantly compromised and that their difficulties in referential processing are not centered in their lexical semantics impairment but in their working memory function.

In a subsequent study, Almor, MacDonald, Kempler, Andersen and Tyler (2001) examined ten American-English speaking people with mild to moderate AD and ten healthy age-matched controls in pronoun-antecedent number agreement using a cross-modal naming paradigm. Stimuli consisted of 20 auditory discourse fragments, which

were followed by a visual target pronoun (in capital letters). In half of the trials, the pronoun constituted an appropriate grammatical co-referential continuation to the discourse fragment, and in the other half, it did not. Two conditions were included, short and long, to test whether length effects are associated with working memory performance. The short condition consisted of an initial sentence and a final fragment (47), whereas the long one included an intermediate sentence as well, in which neither entity from the initial sentence was mentioned (48).

(47) Short condition:

The children loved the silly clown at the party. During the performance, the clown threw candy to HIM/THEM.

(48) Long condition:

The children loved the silly clown at the party. The show was very funny. During the performance, the clown threw candy to HIM/THEM.

Participants had to name the visual targets as fast as they could. Naming latencies indicated that the AD group was impaired in comprehending number agreement regardless of the presence or not of an intervening sentence; performance was the same for long and short conditions in both groups. Hence, there was not any influence attested of the intervening material (and the sentence length) nor of the dementia severity. Almor et al. (2001) concluded that people with AD are impaired in their processing of pronoun-antecedent discourse dependencies, as they were unable to distinguish number-appropriate and number-inappropriate pronouns regardless of the presence or not of the intervening material between the pronoun and the antecedent. In addition, performance on the processing of pronoun-antecedent discourse dependencies was correlated with performance on ordering tasks but not on MMSE scores, indicating that working memory impairments compromise on-line discourse processing. Finally, Almor et al. (2001) suggested that discourse focus and sequence of constituents' presence played a role in linguistic comprehension of the pronoun-antecedent dependencies. More precisely, the target-pronouns as visual stimuli appeared at the same position at the end of the sentence in both long and short conditions and most likely this position did not facilitate comprehension.

Küçüksakarya (2017) investigated the comprehension of reflexives, and reciprocal pronouns with a sentence-picture matching test (SPM), and the processing of singular or plural number agreement in third-person personal pronouns with a cross-modal naming task in 20 Turkish-speaking people with AD and 22 TCs matched in years of education, gender and age. The study was implemented in the context of the Syntactic Deficit Hypothesis (Grober & Bang, 1995), the Working Memory Deficit Hypothesis (Waters, Caplan & Rochon, 1995) and Almor's (1999) ILH. According to the Syntactic Deficit Hypothesis, there is an inherent syntactic deficit that correlates with the knowledge of different closed-class words such as pronouns and the establishment of co-reference and can be attested in the production and comprehension of sentences (Berndt & Caramazza, 1980). According to the Working Memory Deficit Hypothesis, people with AD do not exhibit a linguistic problem, but they have a problem in keeping active the representation of a syntactic component to comprehend propositions. According to Almor's ILH, problems of reference are attested due to difficulties of syntax-discourse interpretation in correlation to working memory dysfunction.

The results of the SPM task revealed that individuals with AD performed similarly to NC individuals in the comprehension of simple and complex sentences with reciprocals and reflexives, such as in (49) and (50).

(49) a. Simple sentence with a reflexive pronoun:

Kızlar kendilerine bakıyorlar.

"Girls are looking at themselves".

b. Complex sentence with a reflexive pronoun:

Öğretmen, kızların kendilerine bakmalarını istiyor.

"Teacher asks girls to look at themselves."

(50) c. Simple sentence with a reciprocal pronoun:

Ahmet ve Ayşe birbirlerini çiziyorlar.

"Ahmet and Ayşe are drawing each other."

d. Complex sentence with a reciprocal pronoun:

Öğretmen, Ahmet ve Ayşe'nin birbirlerinin resimlerini çizmelerini istiyor.

"Teacher asks Ahmet and Ayşe to draw each other."

More particularly, individuals with AD as well as the NC individuals had higher scores in both simple and complex sentences with reflexives in comparison to simple and complex sentences with reciprocals. The difference in comprehension between reflexives and reciprocals was attributed to the vague semantic content and the double meaning of reciprocals (in contrast to the fixed semantic content of reflexives) in correlation to a working memory impairment that did not facilitate people with AD to keep active the double meaning on their working memories. Sentence comprehension for Turkish AD participants did not seem to be impaired, and Grober and Bang's (1995) Syntactic Deficit Hypothesis was not confirmed. Moreover, in the cross-modal naming task, participants had to choose and name as fast as they could the third person personal pronoun in singular or plural form as a suitable continuation in the sentence. There were two conditions, a long and a short one. The stimuli were based on Almor et al.'s (2001) experimental design. An example of stimuli is provided in (51).

(51) a. Long condition:

Futbolcular şanslı çocuğu kendi derbi maçına götürdü. (Stadyum tamamen doluydu). Devre arasında çocuk ONA/ONLARA el salladı.

'Footballers took the lucky kid to their derby match. (The stadium was completely full.) Between the circuit, the boy waved HIM /THEM.'

b. Short condition:

Futbolcular şanslı çocuğu kendi derbi maçına götürdü. Devre arasında çocuk ONA/ONLARA el salladı.

'Footballers took the lucky kid to their derby match. Between the circuit, the boy waved HIM /THEM.'

The results of the cross-modal naming task showed that the mean sentences' length did not interfere with the processing of the singular or plural third person personal pronouns in neither number, because there were no statistically significant differences between the two conditions (long, short) in the AD and the NC groups. Moreover, Waters, Rochon & Caplan's (1995) Working Memory Deficit Hypothesis was confirmed in this study regardless of the sentence length.

In sum, previous studies have shown that people with AD appear to have a pronoun comprehension deficit in third person strong personal pronouns (Almor et al.,

1999, 2001) and in reciprocals (Küçüksakarya, 2017). Furthermore, all studies suggest that the pronoun comprehension deficit is related to working memory impairments and not to a syntactic deficit per se or a lexical-semantic impairment.

5.2 Methodology

5.2.1 Materials and Procedure

Based on Almor et al. (2001), we created an off-line cross-modal comprehension task το investigate a) number agreement and b) the role of the intervening sentence in understanding the pronoun-antecedent dependencies of strong personal pronouns and clitics. The cross-modal comprehension task involved 16 conditions (see Table 5-1). Each condition included a short and a long version, and in each version, there were seven experimental sentences, in total 56 experimental sentences, 28 for the short version and 28 for the long version. Also, to reassure that the participants understood the task's procedure, we had four warm-up items.

Conditions	**Abbreviations**
Strong masculine singular (short)	str., masc., sg., sh.
Strong masculine singular (long)	str., masc., sg., lng.
Clitic masculine singular (short)	cl., masc., sg., sh.
Clitic masculine singular (long)	cl., masc., sg., lng.
Strong masculine plural (short)	str, masc, pl., sh.
Strong masculine plural (long)	str., masc., pl., lng.
Clitic masculine plural (short)	cl., masc., pl., sh.
Clitic masculine plural (long)	cl., masc., pl., lng.
Strong feminine singular (short)	str, fem. sg., sh.
Strong feminine singular (long)	str., fem., sg., lng.
Strong feminine plural (short)	str., fem., pl., sh.
Strong feminine plural (long)	str., fem., pl., lng.
Clitic feminine singular (short)	cl., fem., sg., sh.
Clitic feminine singular (long)	cl., fem., sg., lng.
Clitic feminine plural (short)	cl., fem., pl., sh.
Clitic feminine plural (long)	cl., fem., pl., lng.

Table 5-1. Conditions of the pronoun comprehension task

Each condition included a short (67) and a long (68) version. The short version involved two sentences. The first sentence included two NPs, one in subject and one in object position, and a verb. Each NP referred to two animate entities (e.g. *ο δάσκαλος* 'teacher' and *οι μαθητές* 'students'), one of which was the antecedent of the target pronoun in the second sentence. The second sentence included the target pronoun, i.e. the strong pronoun *AYTON* 'him' in (52), and two other options, i.e. the strong pronoun *AYTOYΣ* with non-target number agreement and the clitic pronoun *TON* with target number agreement.

(52) a) Ο δάσκαλος μίλησε στους μαθητές για την ποίηση.
"The teacher talked to the students about poetry."
b) Οι μαθητές διάβασαν σε ΑΥΤΟΥΣ/ΤΟΝ/**ΑΥΤΟΝ**
The-NOM students-NOM read to THEM-3PL.-ACC/HIM-WEAK-3SG.-ACC./THEM-3SG.
το ποίημα.
the poem-ACC.
"Students read the poem to HIM."

The long version consisted of three different sentences. The first sentence again included two NPs, one in subject and one in object position, and a verb. Each NP referred to two animate entities (e.g. *ο μπαμπάς* 'father' and *ο γιός* 'son'), one of which was the antecedent of the pronoun that was in the third sentence. The second sentence (in brackets) was the middle sentence in which there was extra descriptive information and was constructed to examine the role of the intervening sentence in understanding number (and gender) agreement in pronoun-antecedent dependencies. The third sentence included the target pronoun, i.e. the strong pronoun *AYTON* 'him' in (53), and two other options, i.e. the strong pronoun *AYTON* with non-target number agreement and the clitic pronoun *TON* with target number agreement.

(53) a) Ο μπαμπάς πήγε τους γιους του στον αγώνα.
'Dad took his sons to the match.'
b) (Το γήπεδο γέμισε κόσμο.)
'Stadium was filled by people.'

c) Στο τέλος του αγώνα, οι γιοι χάρισαν σε
At the end of the match, the-NOM son-s-NOM-PL gave TO
ΑΥΤΟΝ/ *ΑΥΤΟΥΣ /ΤΟΝ* ένα δώρο.
HIM-3SG-ACC./THEM-3PL-ACC./HIM-3SG-CL-ACC. a gift
'At the end of the match, the sons gave a gift to HIM/THEM/HIM (clitic form).'

Words and syllable number were measured in each version of the eight conditions, via an on-line tool (Num Tool) based on Greek written corpora (http://speech.ilsp.gr/iplr/NumTool.aspx). Furthermore, subject NP, object NP and verb frequencies were calculated for the first and last sentences with the use of the on-line database of the *Basque Center on Cognition, Brain and Language* (http://www.bcbl.eu/bcbl-corporativa/wp-content/uploads/2013/01/SUBTLEXGR_CD.txt).

T-tests were implemented to be sure that word, syllable number and subject, verb, object frequencies did not differ for both short and long conditions and each kind of sentence separately. In cases where statistically significant differences were detected, replications and word changes were implemented. Lastly, all the stimuli were pseudorandomized to 28 stimuli in the short condition and 28 other stimuli in the long condition.

The stimuli were presented to the participants auditorily and visually by a computer screen via PowerPoint presentation.

Each slide of the PowerPoint included a stimulus either from the long or from the short condition, as well as an audio file that corresponded to each stimulus presented to the slide. We provide an example of a stimulus from the PowerPoint in figure 10.

Figure 10. Example of a stimulus of the Pronoun Comprehension Task

Participants provided their answers orally. There was no time limit. For more details about the stimuli of the whole task, see the Appendix V.

5.3 Results of the Pronoun Comprehension Task

Firstly, figure 5-2 presents the total descriptive results for number agreement in third person strong personal pronouns and clitics in the AD and NC groups. We found statistically[66] significant differences between the two groups (unpaired t-test, $p < .001$, CI [0.23]) regardless of the kind of pronoun (strong personal/clitic), the condition (short/long) and the number feature (singular/plural). As it is evident in figure 11, the performance of the AD group in number agreement is lower than the performance of the NC group.

[66] As presented below, for each test, the corresponded adjusted confidence interval is reported. For each family, the p-value cut-off was 0.03. During the performance of multiple statistical tests (as post-hoc tests) Bonferroni correction was applied to minimize the type 1 error risk. There was also an application of bootstrapping, because of the size of the sample.

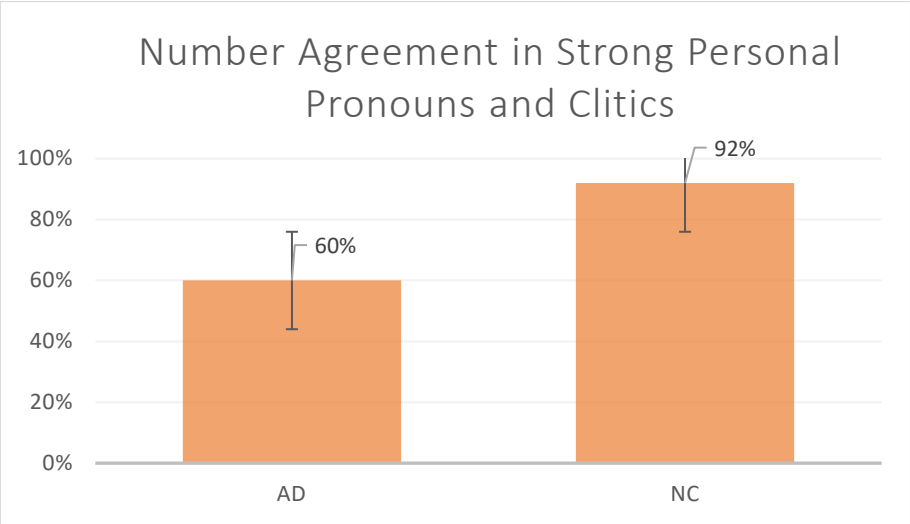

Figure 11. Total results of number agreement for both kinds of pronouns (AD vs NC groups)

The individual analyses depicted in figures 12 and 13 for AD and healthy individuals respectively, also, revealed a worse performance in the PCT in general for our AD individuals. More particularly, the performance of the majority (n=14) of AD individuals ranged from 0.42 to 0.66 (42%-66%) whereas the majority (n=16) of healthy individuals scored from 0.91 to 1.00 (91%~100%). Two AD speakers varied individually with answers close to perfect (0.84 = 84% and 0.99 = 99%). Similarly, two TCs manifested individual variation with high performances (0.79= 79%, 0.80= 80%). In addition, one more NC showed an individual moderate performance of 0.58 (58%).

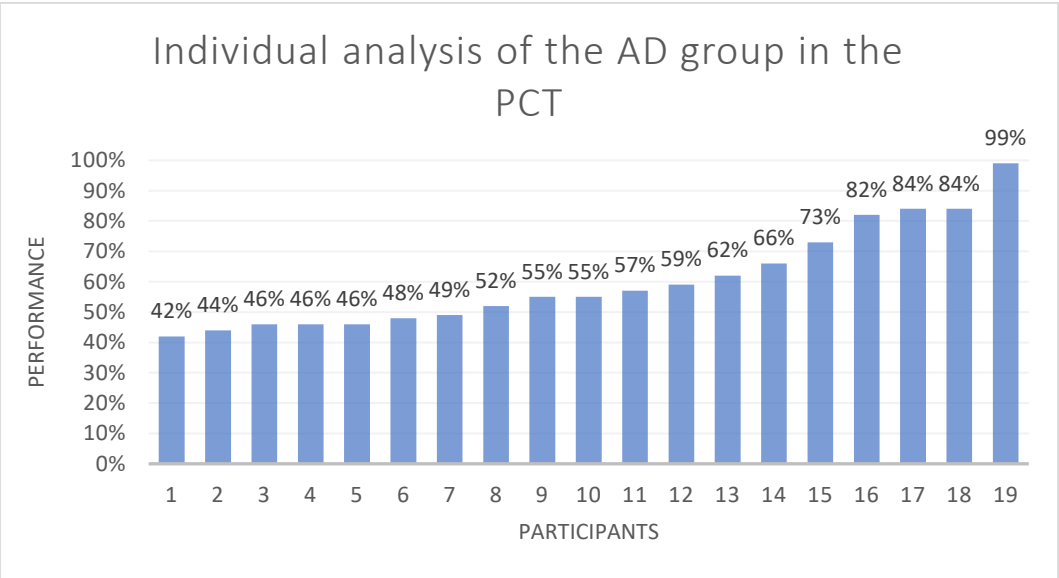

Figure 12. Performance of the individuals with AD in the Pronoun Comprehension Task

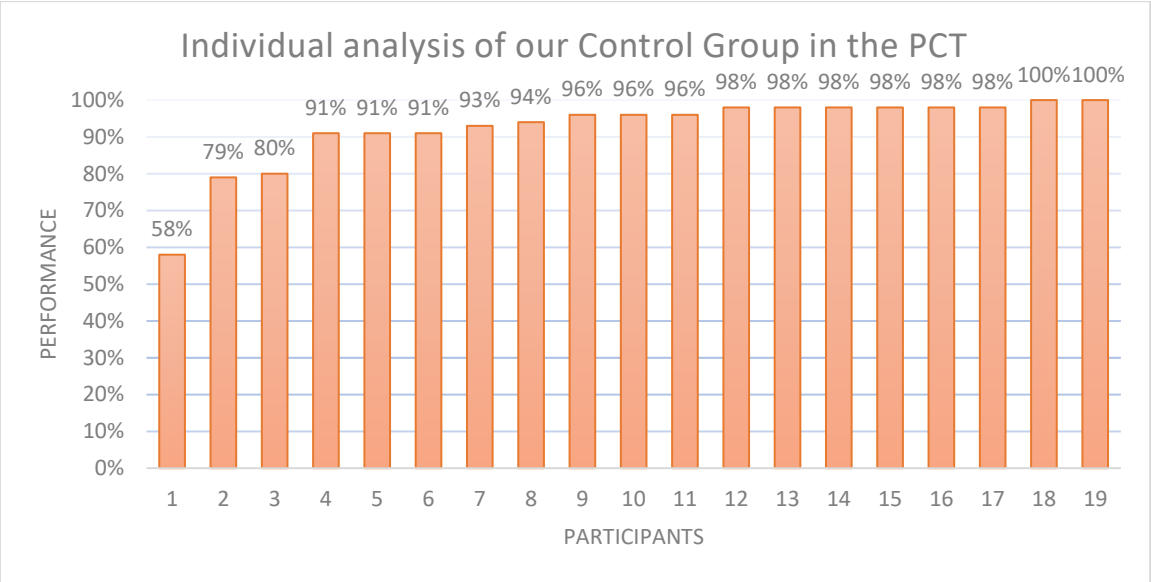

Figure 13. Performance of the healthy individuals in the Pronoun Comprehension Task

Regarding the performance in number agreement comprehension and multiple comparisons in strong personal pronouns and clitics between groups, there was at least one statistically significant difference in the AD group in comparison to the NC one (James test, p= .0001). More specifically, the performance of the AD group in clitics was significantly lower —under Bonferroni correction— than the one of the NC group (unpaired t-test, p< .001, CI [0.18, 0.45]). As it is evident in figure 14, the AD group performed 56% correctly in clitics in comparison to 90% for the NC group.

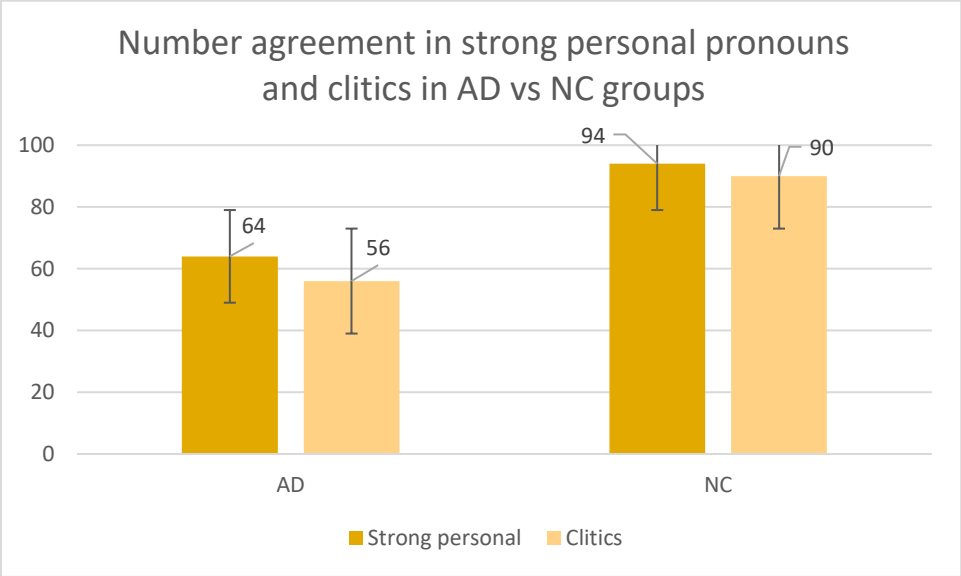

Figure 14. Number agreement in correlation to pronouns' type in AD vs NC groups

Similarly, the comprehension of number agreement in strong personal pronouns in the AD group was significantly lower than the NC one using Bonferroni correction (unpaired t-test, p<.001, CI [0.18, 0.40]). As we can observe in figure 5-5, the AD group performed 64% correctly in strong personal pronouns in comparison to 94% for the NC group.

Regarding the within-group analyses, we did not find statistically significant differences between strong personal pronouns and clitics within the AD group. (paired t-test, p = .05, CI [-0.011, 0.16]). In addition, we did not find significant differences between clitics and strong personal pronouns within the NC group (paired t-test, p = .08, CI [-0.006, 0.12]).

Regarding the individual analysis of people with AD and TCs in both strong personal pronouns and clitics, both analyses in clitics and strong personal pronouns in the AD individuals –as compared to healthy ones (fig. 15,16)– confirmed the lower performances in clitics and strong personal pronouns for our AD participants. As we will see in the following individual analyses of clitics and strong personal pronouns about our AD participants, there were instances of variation within the AD individuals with really low performances for both clitics and strong personal pronouns. More specifically, and as we can observe, in figure 15 not even one person with AD comprehended 100% correctly all the cases of number agreement in strong personal pronoun contexts in contrast to seven healthy individuals performing at ceiling (figure 16). Most of the AD individuals (n=12) scored <0.7 (70%), similarly to the percentage's mean of the AD group, whereas the majority of healthy individuals (n=13) scored > 0.93 (93 %). Despite this fact, there were also some AD individuals who each one of them performed under <0.58 with different scores. Similarly, there were also some other AD individuals who each of them scored differently with scores above >0.58. In contrast, within the NC group, only one individual differed from the bulk of the group's performances having the lowest performance (0.78=78%) of the group. In general, the performance of the AD participants –including the unique performances– in strong personal pronouns ranged from 0.32

(32%) to 0.97 (97%), whereas the performance of healthy individuals ranged from 0.78 (78%) to 1.00 (100%).

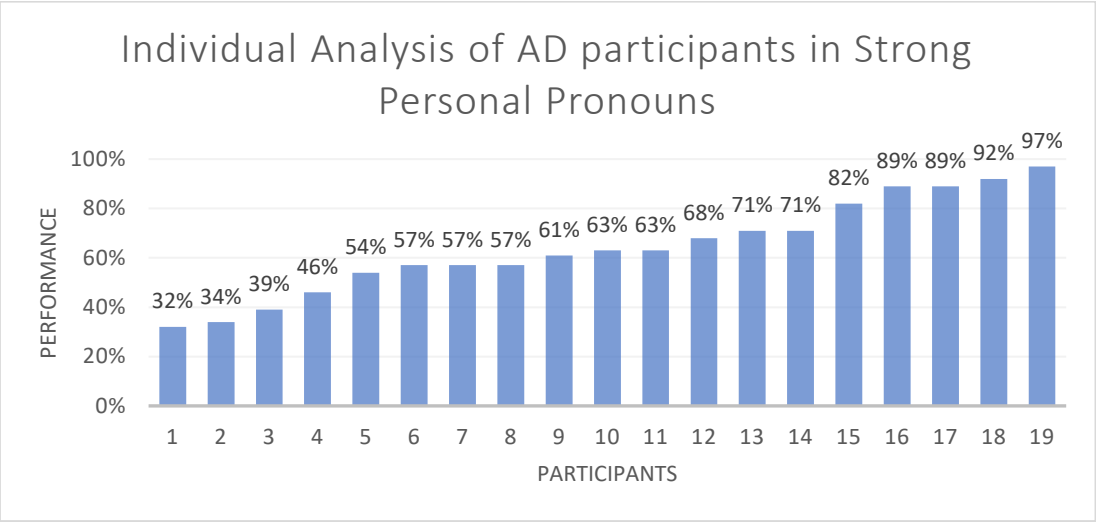

Figure 15. Performance of the AD individuals in strong personal pronouns in the Pronoun Comprehension Task (PCT)

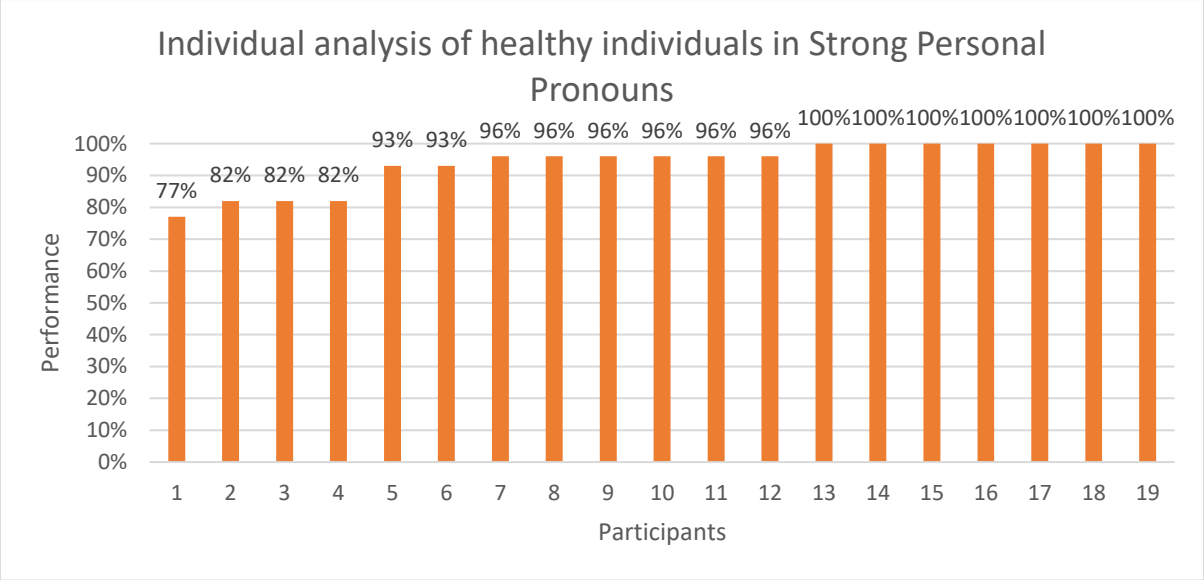

Figure 16. Performance of the healthy individuals in strong personal pronouns in the Pronoun Comprehension Task (PCT)

Regarding the same comparison in clitic contexts only one individual with AD performed at ceiling (figure 17) in comparison to five healthy individuals (figure 18) that had high performances in these contexts. Most of the participants with AD scored <0.8 (80%), whereas most of the healthy participants performed >0.89 (89%). In addition, there were a lot of different performances within the AD participants with scores lower than < 0.48 (48%) and between 0.55 (55%) to 0.79 (79%). Within the NC group, three TCs performed differently with two high scores (0.74 (74%), 0.82 (82%)) and a low one (0.36 (36%)) respectively. All in all, the performances of AD participants in clitic number

agreement comprehension ranged from 0.28 (28%) to 1.0 (100%) whereas among healthy individuals the range was from 0.36 (36%) to 1.0 (100%).

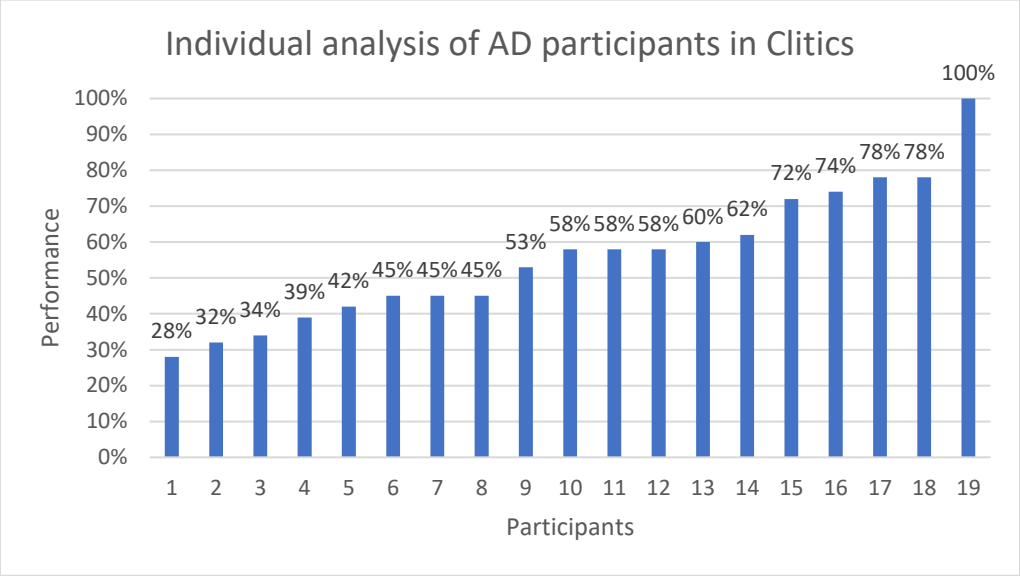

Figure 17. Number agreement comprehension in clitics for Greek AD participants

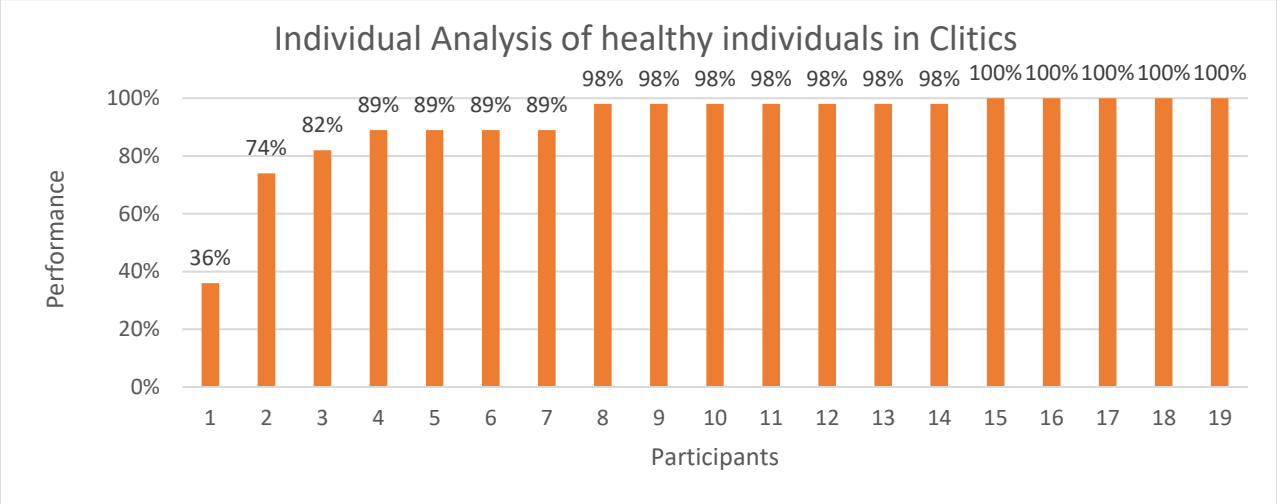

Figure 18. Number agreement comprehension in clitics for Greek TCs

Regarding more specific, multiple comparisons of singular versus plural number across groups, there was attested at least one statistically significant difference between the two numbers (James test, $p = .0002$). More specifically, as it is depicted in figure 19, the AD group performed significantly lower than the NC one in the singular number agreement (unpaired t-test, $p < .001$, CI [0.22, 0.48]).

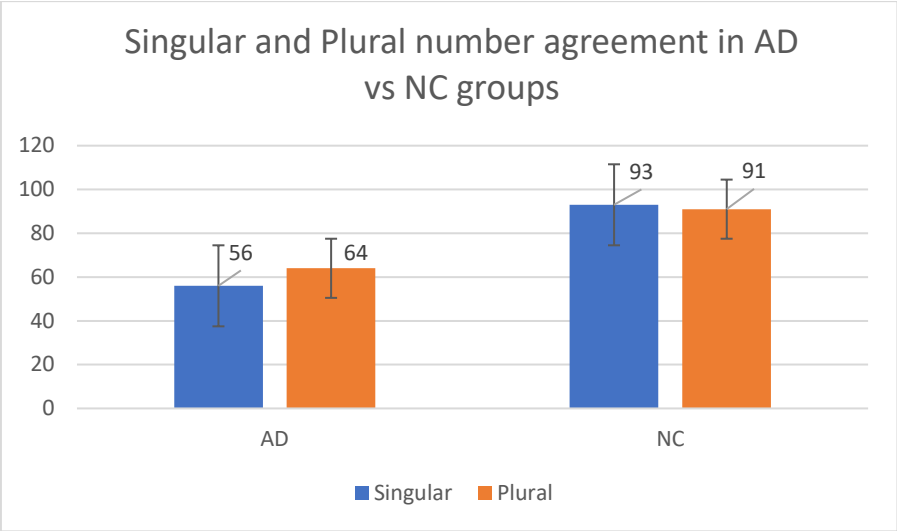

Figure 19. Singular and Plural Number Agreement in strong personal pronouns and clitics in AD vs NC groups

Similarly, the AD group was significantly lower than the NC one in plural number agreement (unpaired t-test, $p < .001$, CI [0.15, 0.36]).

Within the AD group, there were significant differences under Bonferroni correction in the singular vs plural comparison with better performance in the plural than the singular number (paired t-test, $p = .02$, CI [-0.16, -0.005]). Within the NC group, there was no statistically significant difference between the two numbers (paired t-test, p=.18, CI [-0.011, 0.037].

As far as the individual analysis of the performances in singular number is concerned, we can see in figure 20, that the significantly lower performance in the singular number in the AD group –as compared to the NC one– is being confirmed and potentiated by the individual analysis. As we can see in figure 20, many AD participants performed really low (<50%) as compared to the majority (n=10) of healthy individuals (figure 21) who performed at ceiling. In addition, as we can observe in figure 20, there is a quite rich individual variation in the Greek AD speakers with performances from quite low (0.28= 28%) to moderate (0.42= 42%, 0.58= 58%, 0.63= 63%), to high (0.79=79%, 0.82=82%) and almost at ceiling (0.98=98%) for one AD individual. Regarding the performances of the TCs, as we can see in figure 21, there is not a similar individual variation like in the AD speakers. The lowest performance was of one healthy individual who scored 0.61 (= 61%). Another healthy individual scored close to excellent (0.89 = 89%), while the majority of TCs (n=10) scored at ceiling (1.0=100%).

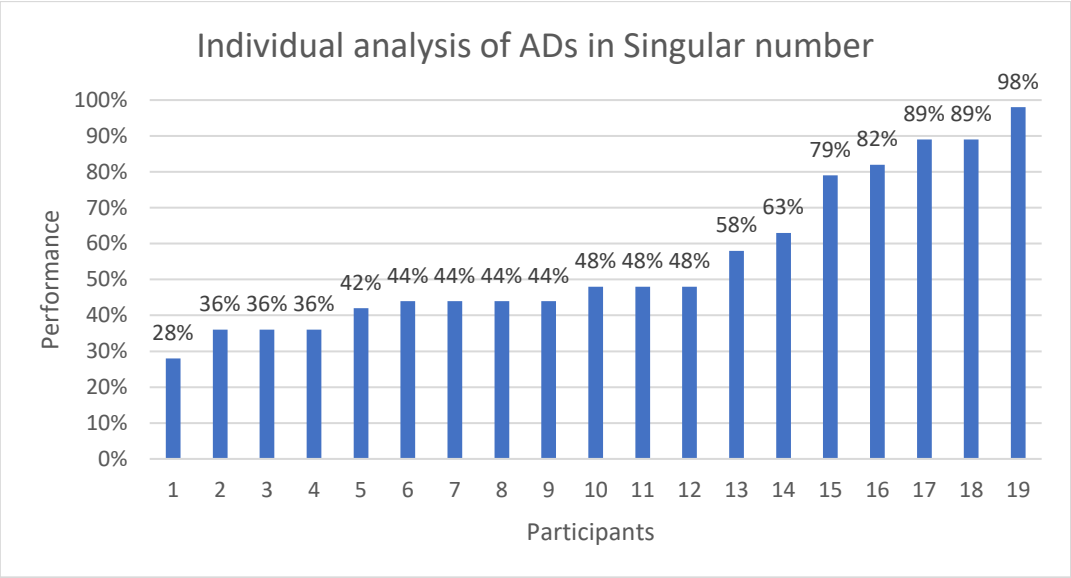

Figure 20. Individual analysis of ADs in the singular number

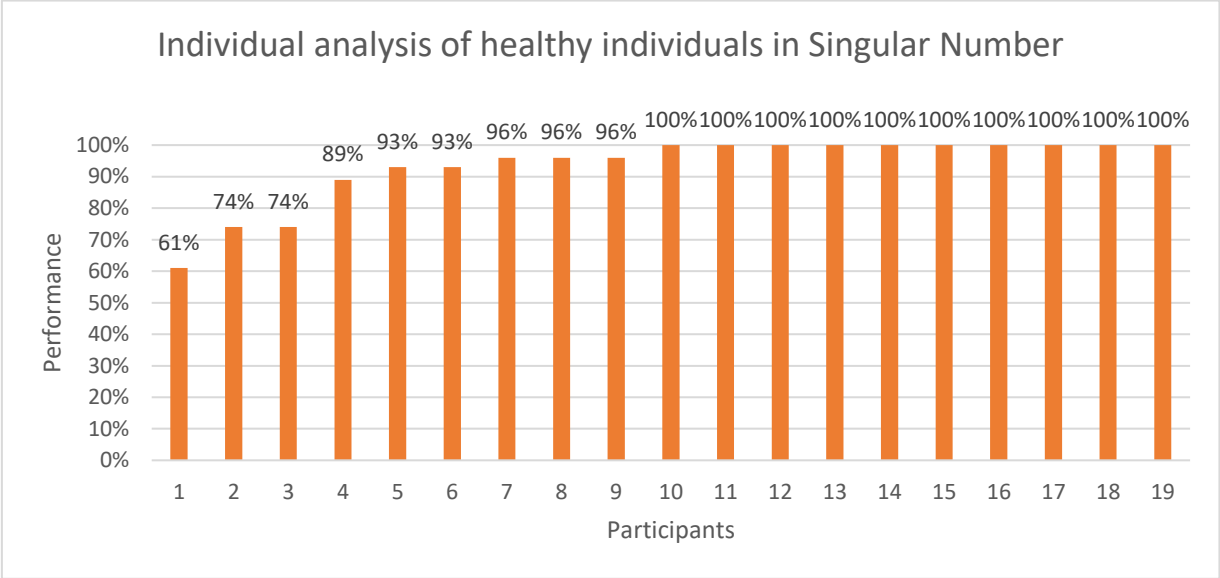

Figure 21. Individual analysis of TCs in the singular number

Regarding the individual analysis of the performances in the plural number, similarly to the individual analysis of the singular number, this analysis confirmed the lower performance in the plural number in the AD individuals compared to the healthy ones. As it is evident in figure 22, there is much individual variation with each participant with AD performing differently; from low (0.32=32%) to ceiling ones (1.0=100%). As far as TCs are concerned, we found little individual variation (figure 23) with high performances in two healthy participants (0.82 = 82%, 0.86 = 86%) and one moderate one (0.57 = 57%). Most of the healthy individuals (n=8) scored 0.96 (=96%). In general,

the performances of healthy individuals ranged from 0.57 (= 57%) to 1.0 (= 100%).

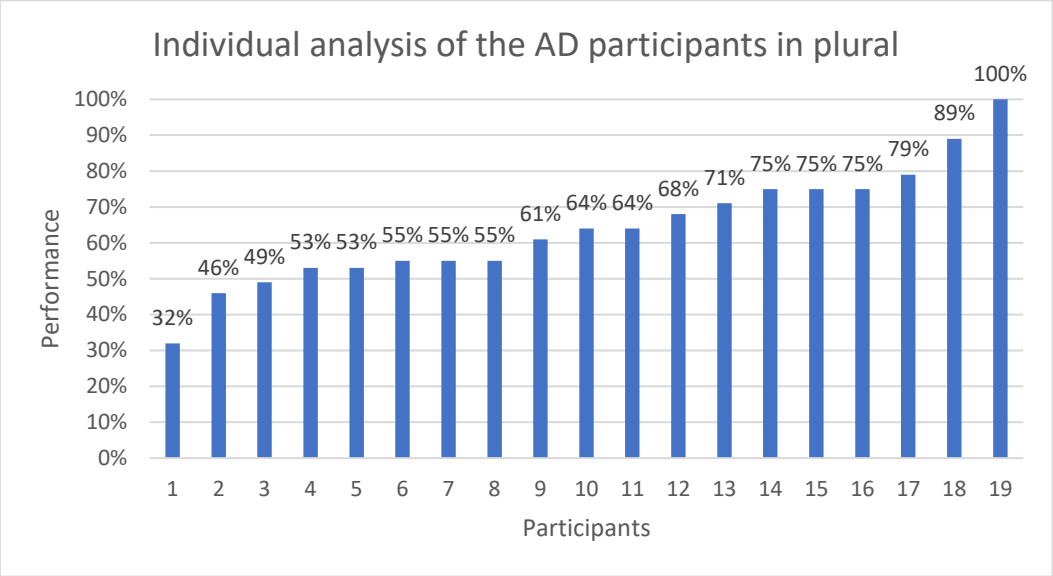

Figure 22. Individual analysis of AD speakers in the plural number

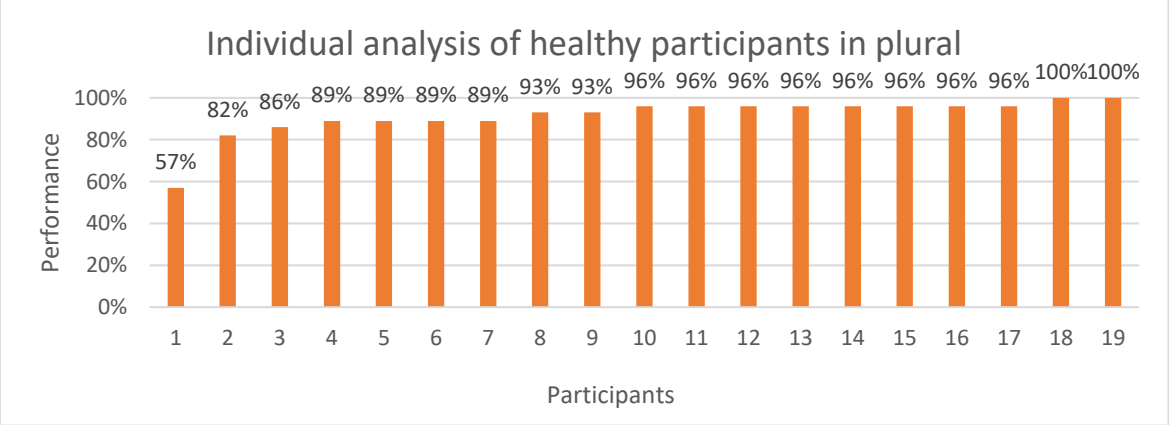

Figure 23. Individual analysis of TCs in the plural number

Regarding the multiple comparisons of short and long conditions across groups, there was at least one statistically significant difference (James test, p= 0.0006). More specifically, as we can see in figure 24, the AD group scored lower than the NC group in the short condition (64% vs 91%), (unpaired t-test, p < .001, CI [0.16, 0.37]) and in the long one (56% vs 91%) with statistical significance under Bonferroni correction (unpaired t-test, p< .001, CI [0.22, 0.46]). We also found statistically significant differences (unpaired t-test, p = .006, CI [-0.17, -0.01]) in the comparison of the two conditions as a whole between the two groups (short-long in AD vs short-long in NC group).

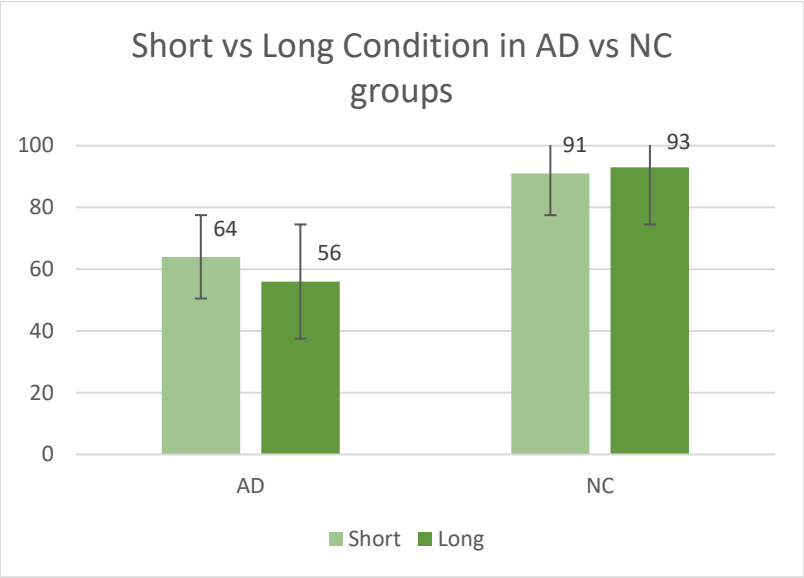

Figure 24. Percentages of correct responses in short and long conditions in AD vs NC groups

As far as the within-group analysis is concerned, the AD group performed significantly better under Bonferroni correction (paired t-test., p = .02, CI [0.004, 0.15]) in the short condition than in the long one (64% vs 56%). Within the NC group, there were no significant differences between the short and the long ones (paired t-test, p= .16, CI [-0.04,0.005].

Regarding the individual analysis of the short condition, as we can observe in figure 25, there is much one-off variation in the AD individuals with quite low scores (0.39 = 39%, 0.42=42%), to moderate (0.54 = 54%, 0.61 = 61%, 0.65 = 65%), and high scores (0.68 = 68%, 0.72 = 72%, 0.74 = 74%, 0.82 = 82%, 0.85=85%, 0.96 = 96%). We did not find the same individual variation among the TCs (figure 26) with only 5 individuals differing from the majority of TCs with moderate (0.58 = 58%) to high scores (0.78 = 78%, 0.82= 82%, 0.86 = 86%, 0.89 = 89%) respectively. In general terms, the performance of AD individuals ranged from 0.39 (=39%) to 0.96 (=96%) scores, whereas the performance of healthy individuals ranged from 0.57 (=57%) to 1.0 (=100%) scores.

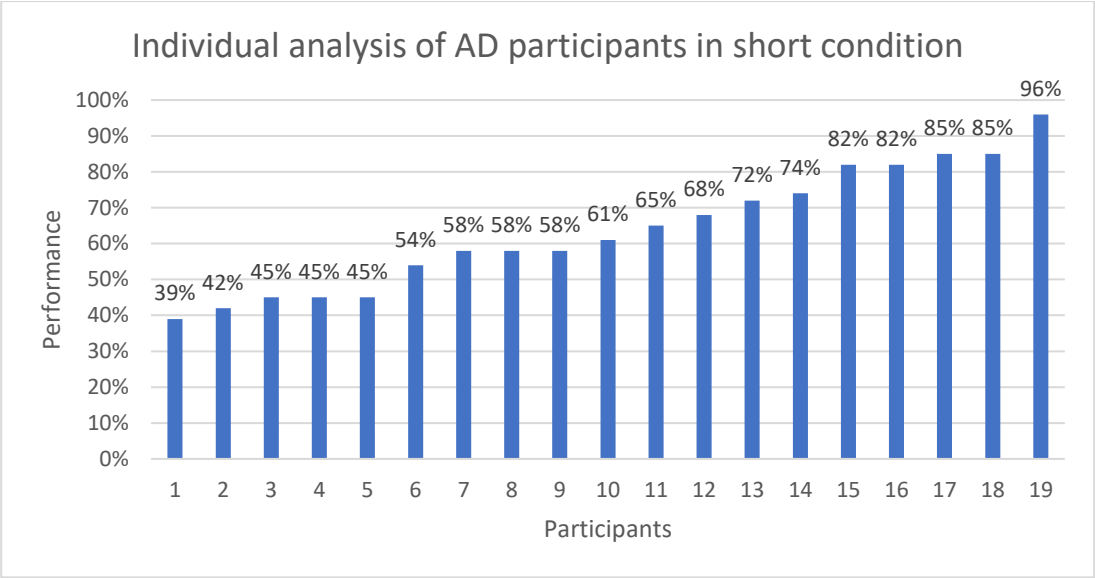

Figure 25. Individual analysis of AD participants in the short condition

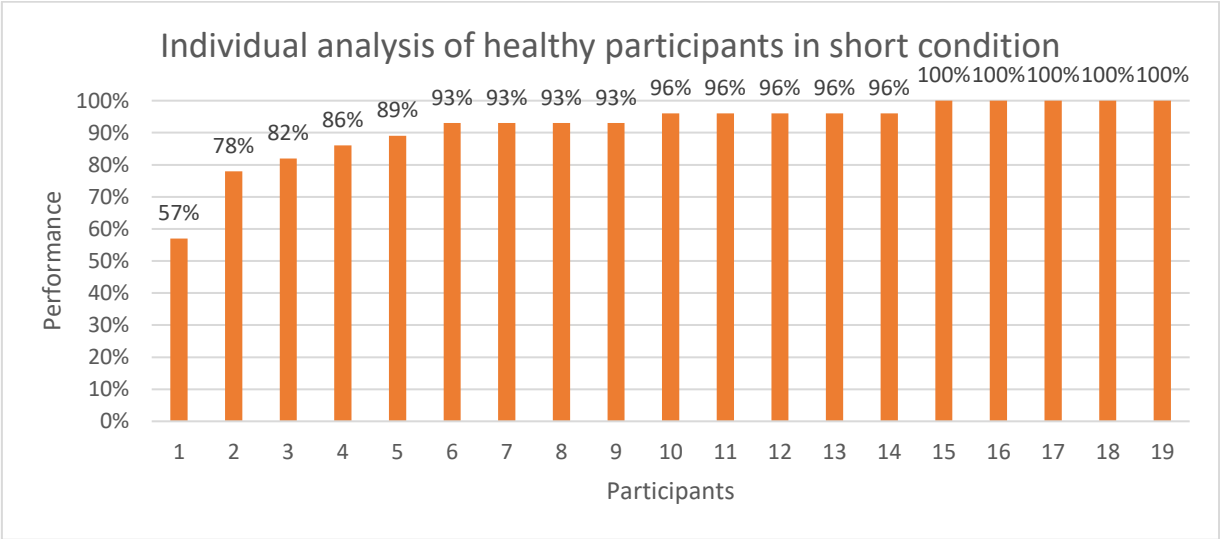

Figure 26. Individual analysis of TCs in the short condition

Regarding the individual analysis of the performances in the long condition, there were different scores for each one participant from the AD group. One AD participant (figure 27) performed low (0.35= 35%), another one scored high (0.74= 74%, 0.92=92%), and a third one scored excellent (1.0 = 100%). In contrast, only two TCs manifested unique scores (figure 28) with a moderate to high performance (0.61 = 61%) and one quite high one (0.93 = 93%). In general, the scores of AD individuals, including the unique scores, ranged from 0.35 (=35%) to 1.0 (=100%) whereas the scores of healthy individuals ranged from 0.61 (=61%) to 1.0 (=100%).

From both individual analyses in short and long conditions, as it is evident from the graphs, the worse performance of the AD group in the long condition compared to the short one, was pinpointed also in the lower individual scores in the long condition.

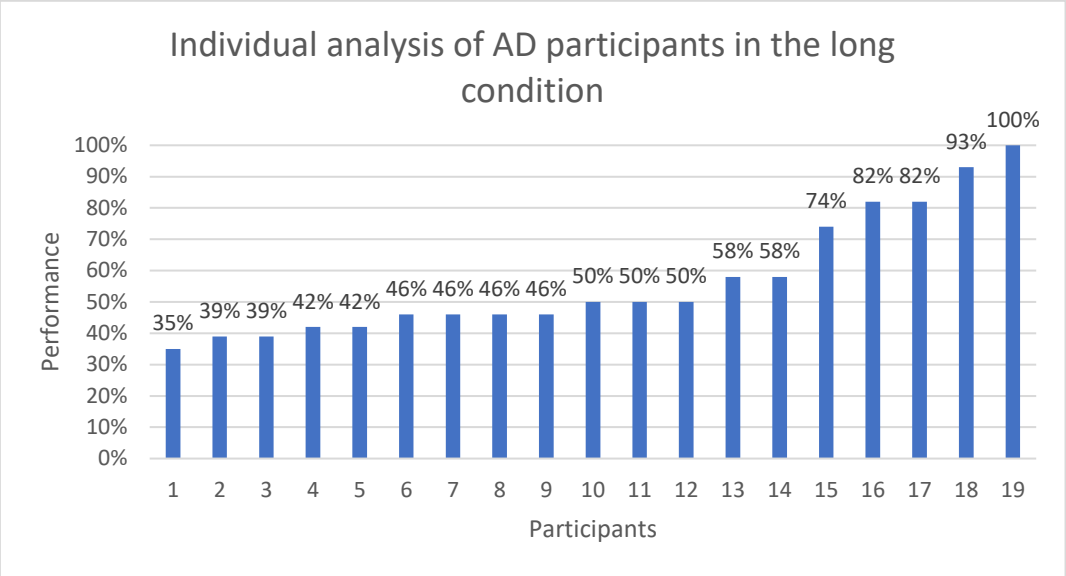

Figure 27. Individual analysis of AD speakers in the long condition

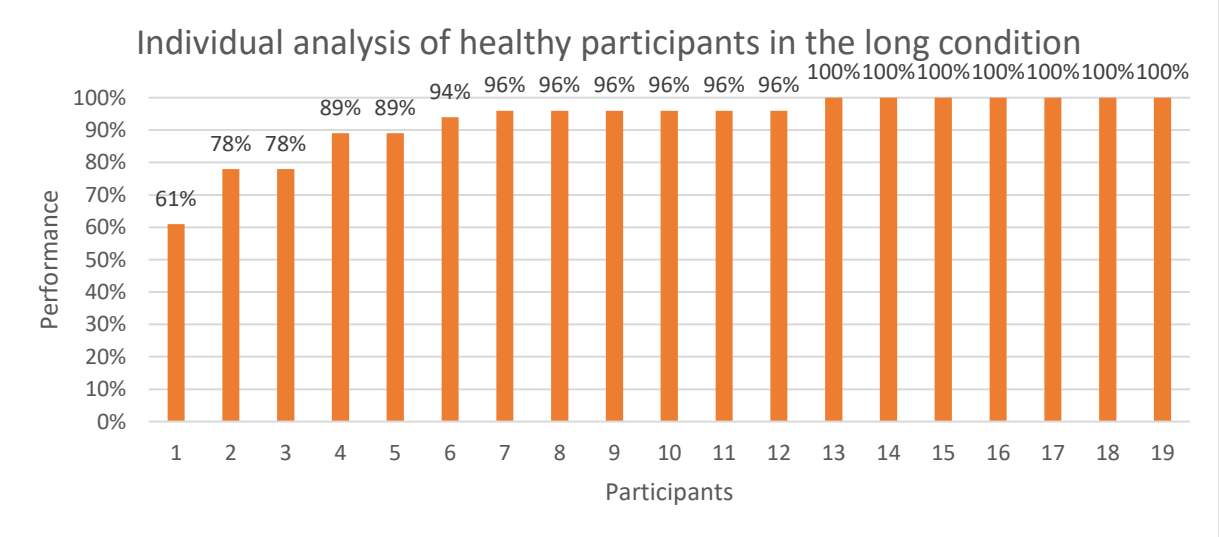

Figure 28. Individual analysis of TCs in the long condition

As far as gender is concerned, both groups exhibited at least one significant difference in multiple comparisons in gender (James test, p=.0004). More particularly, as we can see in figure 29, the AD group scored significantly lower than the NC one in the masculine gender (unpaired t-test., p<.001, CI [0.19, 0.40]) as well as in the feminine one (unpaired t-test, p=.001, CI [0.19, 0.42]). However, non-significant differences were attested in the

comparison of masculine vs feminine gender as a whole (unpaired t-test, p = .34, CI [-0.08, 0.02]) between the two groups.

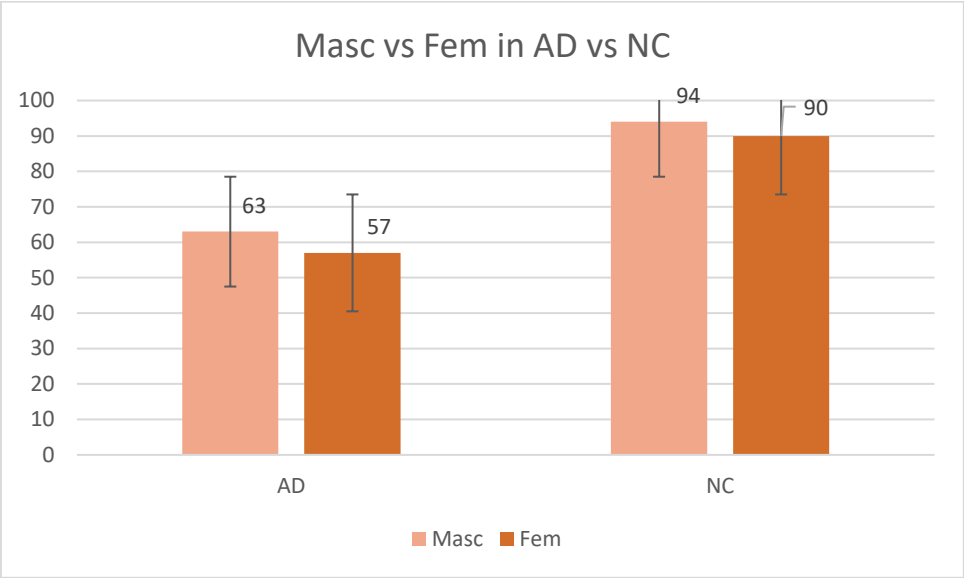

Figure 29. Percentages of correct answers in masculine vs feminine gender in AD vs NC groups

As far as the within-group analysis is concerned, the AD group performed significantly better under Bonferroni correction (paired t-test., p <.001, CI [0.02, 0.11]) in the masculine gender (63% vs 57%) than in the feminine one. Similarly, the NC group performed significantly better in the masculine gender in comparison to the feminine one (paired t-test, p<.001, CI [0.01, 0.07]).

Even though the performances of the AD group were lower in both masculine and feminine gender, a fact that was also attested –as we will see– in the individual analyses and the unified low pattern of performance (42%) for both genders, there was also attested an individual variation in both genders. In particular, the AD's individual performances in masculine gender ranged from scores of 0.43 (43%) to 0.96 (96%). Furthermore, as we can see in figure 30, an AD speaker scored moderately to low (0.46=46%), another one performed moderately (0.62=62%), another one performed moderate to high (0.68=68%) and a last one close to ceiling (0.96= 96%). On the other hand, only two TCs (figure 31) showed individual performances with close to perfect scores (0.86=86%, 0.89=89%) and another one with a moderate to low performance (0.64=64%). In total, the individual performances of TCs ranged from 0.64 (64%) to 1.0 (100%).

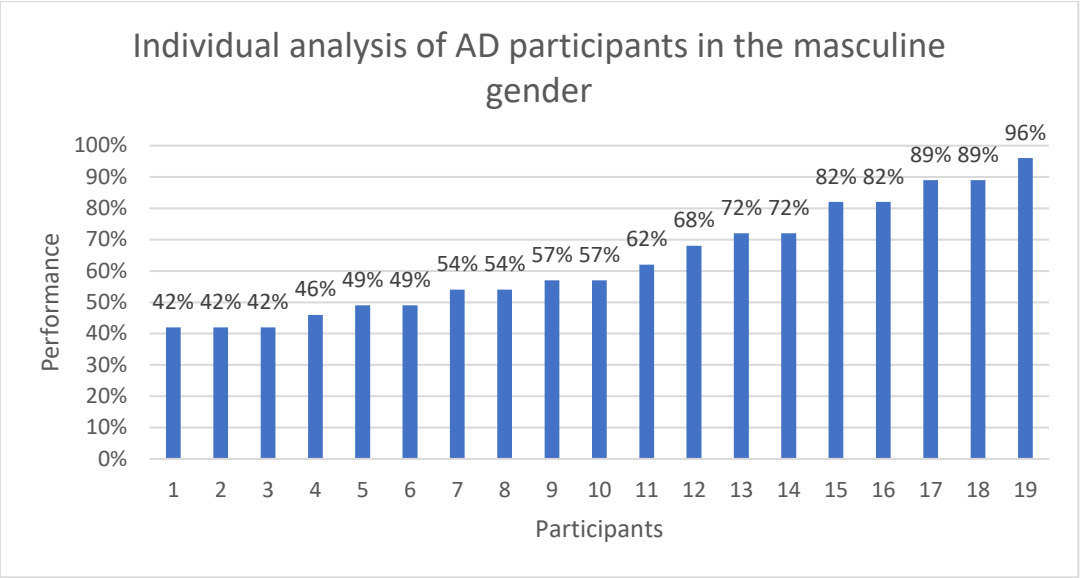

Figure 30. Individual analysis of the performances of AD participants in the masculine gender

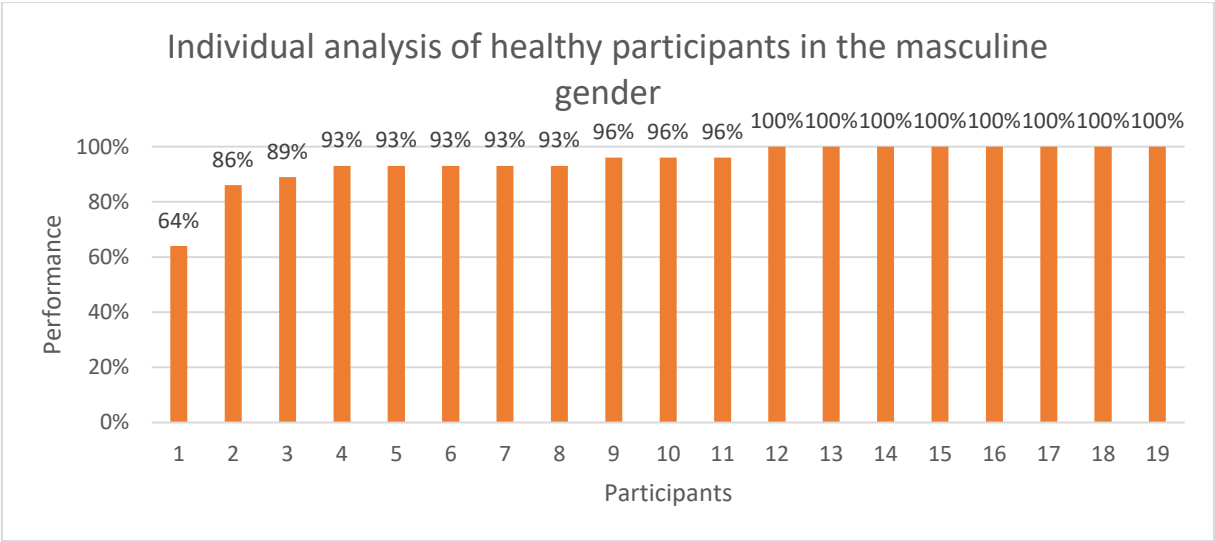

Figure 31. Individual analysis of the performances of TC participants in the masculine gender

Similarly, the individual analyses of the performances of ADs and TCs in feminine gender (figure 32) revealed a range of scores for AD individuals from quite low (0.39=39%) to moderate (0.54=54%, 0.57=57%, 0.61=61%) to high (0.83=83%) and to ceiling ones (1.00=100%). A similar wide range in unique scores was observed in TCs (figure 33) with scores from 0.54 (=54%) to quite high (0.68=68%, 0.75=75%, 0.85=85%, 0.95=95%). The general range of TCs including the unique performances and the performances that were the same for more than one participant was from 0.54 (=54%) to 1.0 (=100%).

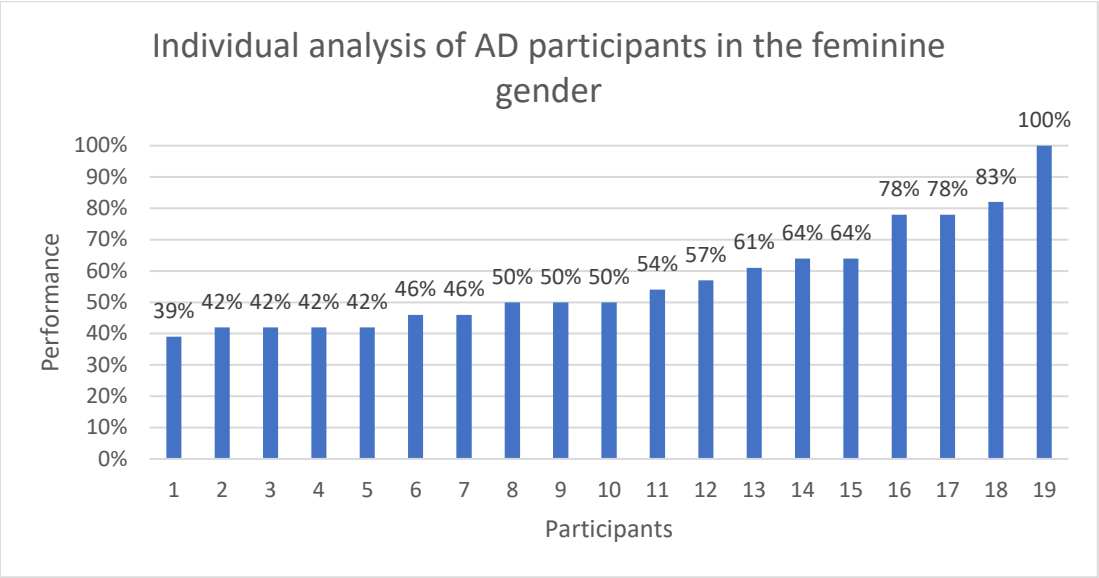

Figure 32. Individual analysis of the performances of AD participants in the feminine gender

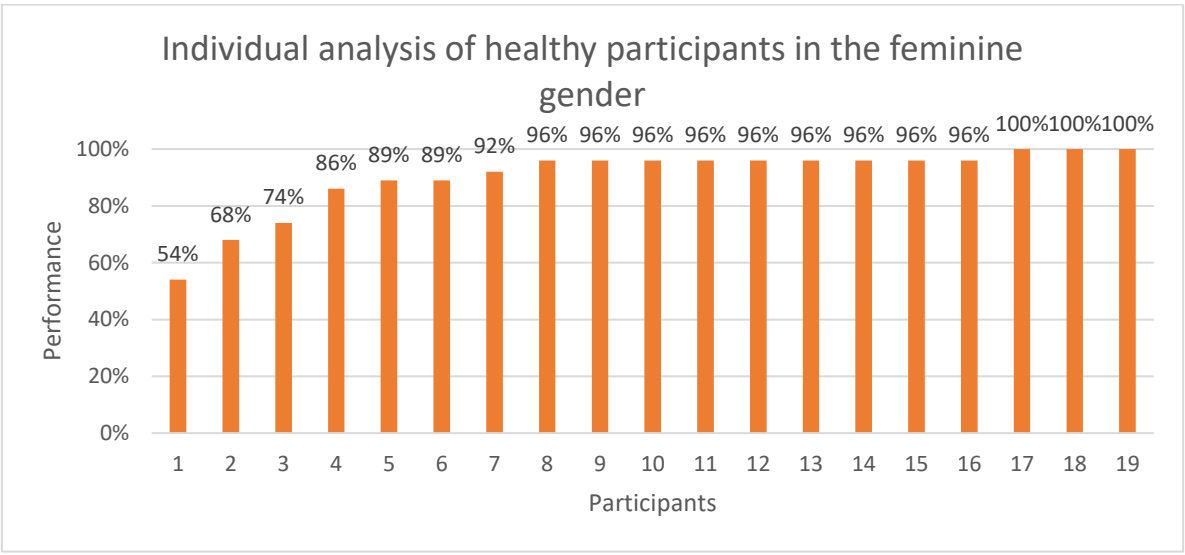

Figure 33. Individual analysis of TCs in the feminine gender

Finally, in multiple comparisons of singular and plural number no significant gender differences across groups were found, whether in the short or in the long condition (Hotelling's T^2 test, $p = .16$).

5.4 Correlational Results

In this section, the correlational analysis between the neuropsychological tests (working-memory tests, semantic fluency tasks, naming tests, the Stroop test) and the results of the PCT will be presented. The main research goal is to examine if the scores in the various neuropsychological tests can function as predictors for the scores in the PCT. We will study all the executive functions and linguistic performances in the PCT. This

examination is global, because I hypothesize that not only one executive function or not only one linguistic performance plays a role in the correct pronoun-antecedent number agreement comprehension, but a bulk of executive functions and linguistic performances. Each executive function and each linguistic performance has a different operation, thus the executive function of working memory works for the reference resolution in the distant pronoun-antecedents or the semantic fluency ability operates for the semantic characteristics of the number feature (thus the notions of singular and plural in pronouns' number). In parallel, each executive function and each linguistic ability cooperates with each other. To this end, I am going to examine the correlations of each executive function and each linguistic performance, one by one with the performances of both groups and individuals on the PCT.

5.4.1 Working-memory and PCT

The aim of this subsection is to examine if working memory interferes with the performance in the PCT in both AD and NC groups. The research hypothesis is that working memory plays a role in the comprehension of pronoun number agreement, especially for the long condition of the PCT. Having the hypotheses formulated in Chapter 3 and a part of them repeated here in table 5-2 –for matters of clarity and facilitation– we will examine our correlational results in table 5-3, based on our initial hypotheses.

PhD thesis's hypotheses
1. Pronoun Number agreement deficit in the long condition ~ inhibitory control dysfunction in AD
2. Pronoun Number agreement deficit in the long condition ~ working memory impairment in AD
3. Pronoun Number agreement deficit irrespectively of conditions ~ semantic fluency & naming impairments in AD

Table 5-2. A part of PhD's hypotheses related to the pronoun comprehension task

Working memory						
	AD			NC		
	r	F	p	r	F	p
Overall performance in PCT	**.70**	17.12	.0006	.36	2.6	.11
Short condition	**.65**	12.98	.002	.36	2.51	.12
Long condition	**.63**	11.19	.003	.35	2.48	.13
Singular number	**.63**	11.32	.003	.34	2.24	.15
Plural number	**.64**	12.2	.002	.38	2.8	.10

Table 5-3. Correlations between working memory tests and Pronoun Comprehension Task (PCT)

From the results in Table 5-3, it is evident that there is a high positive linear correlation between the poor performance in the PCT and the poor performance in working-memory scores for the AD group.

For the NC group, there is a low positive correlation that is not statistically significant. From the correlational results, it is evident that working memory has a crucial role in pronoun comprehension in the AD group. Thus, it is a probability that the lower performance of the AD group –compared to the NC one– in number agreement in both kinds of pronouns is tightly correlated with working memory function.

Furthermore, the critical role of working memory also correlates with both the short and long condition and not only with the long one. As the correlational analysis revealed, there are moderate positive correlations for both short and long conditions for the AD group. In contrast, we found low positive, insignificant correlations between working memory and the results of both conditions in the PCT for our NC group. In addition, we also found moderate-to-high positive correlations for both singular and plural number features for the AD group. In contrast, in the NC group, we found low positive and moderate positive correlations that were not statistically significant in singular and plural number with working memory performance, respectively.

In sum, the correlational analysis did not confirm the initial hypothesis of this subsection, about a specific correlation between working memory and long condition (see hypothesis 2 in table 5-4), because both long and short conditions correlated tightly to the working memory performance in the AD group.

PhD thesis's hypotheses	Study's results
1.. Pronoun Number agreement deficit in the long condition ~ inhibitory control dysfunction in AD	X 1. No correlations with any condition
2. Pronoun Number agreement deficit in the long condition ~ working memory impairment in AD	X 2. Correlations with **both** long and short conditions
3.Pronoun Number agreement deficit irrespectively of condition~ naming & semantic fluency impairments	X 3. Correlation with only the naming impairment of our AD group

Table 5-4. A part of PhD's hypotheses vs study's results

5.4.2. Semantic memory and PCT

In this subsection, we will try to answer the following research question: **"**How does a problem in the linguistic performances of semantic fluency and naming affect number agreement comprehension in strong personal pronouns and clitics for people with AD?" Our research hypothesis is that people with AD will not understand the semantic characteristics of the number feature. Hence, the lower the scores in the groups of the semantic fluency and the naming tasks, the lower the performance in the pronoun comprehension task will be (see hypothesis 3 in table 5-4). We have not done more specific predictions regarding specific kinds of numbers or conditions.

Naming					
	AD			NC	
	r	F	p	r	F	p
Overall performance in PCT	**.57**	8.47	.009	**.51**	6.29	.02
Short condition	.45	4.54	.04	**.50**	5.8	.02
Long condition	**.57**	8.5	.009	**.50**	5.83	.02
Singular number	**.58**	8.9	.008	**.50**	5.8	.02
Plural number	.43	3.9	.06	**.50**	5.8	.02
Semantic Fluency						
	AD			NC		
	r	F	p	r	F	p
Overall performance in PCT	.42	3.84	.06	**.52**	6.59	.01
Short condition	**.44**	4.31	.05	**.50**	5.82	.02
Long condition	.33	2.18	.15	**.52**	6.48	.02
Singular number	**.47**	4.98	.03	**.47**	4.83	.04
Plural number	.26	1.33	.26	**.56**	8.009	.01

Table 5-5. *Correlations between naming tasks and semantic fluency tests with the performance in the Pronoun Comprehension Task.*

As we can see from the results in Table 5-5, there is a low positive but insignificant correlation between semantic fluency tests and overall performance in PCT for the AD group. In contrast, for the NC group, there is a moderate positive correlation that is statistically significant. In addition, the correlation between the naming tests and the overall performance in the PCT is moderate positive and significant for both groups. Based on these results, our initial hypothesis (see hypothesis 3 in table 5-4), about correlations between the linguistic performances of semantic fluency and naming and the comprehension of pronoun number agreement, was confirmed partially, thus, only for the case of the naming performance. Therefore, it seems that a) naming has a crucial role for pronoun number agreement comprehension for both groups and b) semantic fluency contributes to the number agreement comprehension just for the NC group.

PhD thesis's hypotheses	**Study's results**
1.. Pronoun Number agreement deficit in the long condition ~ inhibitory control dysfunction in AD	X 1. No correlations with any condition/number

2. Pronoun Number agreement deficit in the long condition ~ working memory impairment in AD	X 2. Correlations with **both** long and short conditions
3..Pronoun Number agreement deficit irrespectively of condition~ naming & semantic fluency impairments	X 3. Correlation only with the naming impairment of our AD group

Table 5-4. A part of PhD's hypotheses vs study's results

Regarding more specific correlations between the two number values (singular, plural) and semantic fluency, we detected a low positive and significant linear correlation between singular number and semantic fluency performance for the AD group and a low positive and significant correlation for the NC group. Furthermore, we found a negligible, insignificant positive correlation between plural number and semantic fluency performance for the AD group and a significant moderate positive correlation for the NC one. As far as the two kinds of conditions and semantic fluency tests are concerned, we found a significant low positive linear correlation in the short condition and semantic fluency performance for the AD group and a significant moderate positive linear correlation for the NC group. In the correlations of the semantic fluency tests with the long condition, we found an insignificant, almost negligible correlation in the AD group and a moderate positive one for the NC group.

Regarding the correlations between naming abilities and the two conditions in the PCT, we found a moderate positive and significant correlation between naming abilities and the long condition, but a low positive and insignificant in the short condition for the AD group. In the NC group, we found a low positive and significant correlation between the short condition and in naming abilities and a moderate positive between the long condition and naming abilities.

In sum, from the above correlations, we can conclude that the naming abilities and not the semantic fluency performances were tightly correlated with the total performance in the PCT for the AD group. Thus, our initial hypothesis was partially confirmed (see hypothesis 3 in table 5-4). However, we have to be cautious with this finding and conclusion, because the naming performance has also been correlated with the PCT for our NC group. In particular, as we have seen in table 5-5, both naming abilities and

semantic fluency scores correlated with the overall performance in the PCT for our NC group. Regarding the more specific correlations in respect of the number feature and condition, as we have shown in table 5-5, the semantic fluency ability does not seem to play a role in the long condition and plural number for our AD group. However, it seems that both singular number and long condition are much more correlated with naming performance for the AD group, but also for the NC group.

5.4.3 Inhibitory control and PCT

In this subsection, we will examine if there is any correlation between inhibitory control and PCT. In Table 5-6, we can observe that there is a negative insignificant, weak linear correlation between the scores in the Stroop test and the scores in the PCT for the AD group.

Inhibitory Control (Stroop test)					
	AD			NC	
	r	F	p	r	F	p
Overall performance in PCT	-.09	0.15	.70	.15	.41	.52
Short condition	-.16	0.47	.49	.10	.20	.65
Long condition	-.01	0.004	.94	.19	0.65	.42
Singular number	-.02	0.01	.9	.12	0.29	.59
Plural number	-.16	0.44	.51	.17	0.5	.47

Table 5-6. *Correlations between the Stroop test performance and the PCT*

Regarding the same correlation in the NC group, in Table 5-6, we can see that there is also a negligible positive correlation. In other words, there is an absence of a significant relationship between the performance in the Stroop test and the performance in the PCT for the NC group. Across groups, there is a confirmation of this absence of significant correlations in other more specific correlations of singular and plural number as well as in the short and long condition with the Stroop test performance. Our findings did not confirm our initial hypothesis (table 5-4) which is repeated here again for matters of facilitation. In particular, our findings did not confirm our initial hypothesis that our AD participants would have a number agreement deficit in the long condition due to an inhibitory control dysfunction (see hypothesis 1 in table 5-4). Instead, our findings did not indicate any correlations with both short and long conditions for our AD group.

PhD thesis's hypotheses	Study's results
1. Pronoun Number agreement deficit in the long condition ~ **inhibitory control dysfunction** in AD	X 1. No correlations with any condition/number
2. Pronoun Number agreement deficit in the long condition ~ working memory impairment in AD	X 2. Correlations with **both** long and short conditions
3.Pronoun Number agreement deficit irrespectively of condition~ **naming** & **semantic fluency** impairments	X 3. Correlation only with the **naming** impairment of our AD group

Table 5-4. *A part of PhD's hypotheses vs study's results*

In particular, regarding the correlation of the Stroop test with the long condition for both groups, as you can see in table 5-6, a negative weak, insignificant correlation for the AD group, and a moderate positive, insignificant one for the NC one were attested. Similarly, we found insignificant and weak negative correlations in short condition, too. Similarly, negative, insignificant correlations were attested in both singular and plural numbers for our AD group.

In total, the correlational results of inhibitory control with the features of number (singular and plural) and conditions (short and long) with PCT, revealed that inhibitory control in AD does not play any role in the comprehension of pronoun number agreement.

All in all, from the above correlational analysis we can sum up with the following conclusions regarding the relationship between the performance on the PCT and the performance on the executive functions tasks and the rest linguistic ones in the AD group: a) Working memory performance relates to the impaired comprehension of number agreement in pronouns regardless of the number feature or condition of the PCT. Correlations were moderately positive in all conditions and numbers for the AD group; b) Performance in the group of naming tests is more important than the performance in semantic fluency tests for pronouns number agreement comprehension c) Inhibitory control performance does not relate to the comprehension of number agreement in

pronouns. Moreover, inhibitory control does not correlate to specific numerical values (singular, plural), or conditions (short, plural) in either of the two groups.

5.5 Discussion

5.5.1 Discussion of the linguistic results

The statistical analysis of the results in the offline PCT revealed for the AD group: 1) a general deficit in number agreement in pronoun-antecedent dependencies regardless of the pronoun type, 2) a worse performance in singular number compared to the plural one, 3) more incorrect answers in the long condition with the intermediate sentence and 4) better performance in masculine gender in comparison to the feminine one.

The first result of a general problem in number agreement in pronoun-antecedent dependencies for both clitics and strong personal pronouns did not confirm Kempler et al.'s (1998a, b) finding of a sensitivity in number agreement violations, but justified Almor et al.'s findings (1999a, 2001) of impaired processing of number agreement in third person strong personal pronouns.

The same performance in both strong personal pronouns and clitics can be explained as a violation of Cardinaletti and Starke's Minimality Condition. Therefore, our participants with AD did not choose the least costly choice, that is the clitic in the Greek syntactic-discoursal environments for pronoun number agreement comprehension. In contrast, they chose equally both clitics and strong personal pronouns conditions. By choosing both clitics and strong personal pronouns, there is a probability that our Greek participants with AD did not just violate the Minimality Condition, but they, also, violated the general Principle of Economy that characterizes the human language. A logical explanation about the Minimality Condition violation would be that our participants did not have access to the different linguistic characteristics of strong personal pronouns and clitics due to a general working memory impairment. As we have seen in the correlational results in 5.4, participants with AD could not retrieve the morphosyntactic, semantic and pragmatic/discoursal characteristics of clitics and strong personal pronouns due to a working memory impairment. As we have shown in our results, the overall performance in the PCT as well as for each kind of pronoun separately was related to the performance in working memory. Due to a smaller working memory capacity and a working memory impairment that was correlated tighter –than the linguistic performances (naming, semantic fluency, see 5.4.2) of our AD participants– with the linguistic characteristics of

strong personal pronouns and clitics, our AD participants could not hold on their memories all the different linguistic characteristics of clitics and strong personal pronouns. Therefore, an absent statistically significant difference in number agreement between strong personal pronouns and clitics was detected in our findings. Hence, our participants with AD violated a discoursal/pragmatic condition (Minimality Condition) that interferes with the morphosyntactic comprehension of number agreement and their inherent linguistic features due to a general working memory impairment.

In general, strong personal pronouns differ from clitics in morphological, syntactic, semantic and phonological characteristics. In particular, Greek people with AD did not understand the following inherent, categorical properties of strong personal pronouns and clitics that were distributed over the different linguistic levels related to pronoun comprehension. More specifically, Greek people with AD did not take into consideration the first syntactic difference of strong personal pronouns and clitics, which is their different syntactic position. Clitics are necessarily placed before the verb in comparison to the more flexible and free in distribution strong personal pronouns who take different positions in the syntax and discourse, before and after the verb, similarly to full NPs. Furthermore, the different phonological characteristics of clitics with no stress and one syllable in contrast to strong personal pronouns with stress and two syllables did not play a discriminating role and did not facilitate people with AD in choosing the right number for completing the correct pronoun-antecedent dependency. Finally, the presence of the semantic characteristic of [+human] in strong personal pronouns in contrast to [+-human] in clitics (Varlokosta & Dullart, 2001; Varlokosta, 2002a) did not function as a discriminating factor in number agreement comprehension. Hence, our Greek participants with AD performed equally bad in strong personal pronouns and clitics number agreement comprehension compared to the NC group. In sum, our Greek participants with AD have chosen singular and plural number for completing the pronoun-antecedent agreement irrespective of the different categorical features of strong personal pronouns and clitics. Therefore, they manifested bad performances in both kinds of personal pronouns due to an underlying working memory impairment.

As for the second finding our Greek people with AD had worse comprehension of the singular number, which is a finding that is contra to Küçüksakarya's findings (2017) about no difference between singular and plural number agreement. In our case, Greek people with AD had worse performance in the singular

number –compared to the plural– during comprehension of pronoun number agreement, because they had most likely lost the prototypical lemmas, thus the unmarked pronoun types, the lemmas in the lexicon regarding each pronoun-antecedent dependencies. In contrast, they could retrieve the plural number for each pronoun and its antecedent, and they could form the grammatical/morphological rule of merging the suitable stem with the necessary inflectional suffix only for the plural number. This finding confirmed Baauw et al.'s (2003) finding in Spanish agrammatics and their problem in the retrieval of the morphosyntactic feature of number (that is related to a working memory impairment). In addition, regarding the between-group analysis, the statistical analysis about number features was also against Küçüksakarya's finding of no statistical difference in singular and plural pronoun processing for both groups. In our case, the AD group was significantly worse –than the NC one– in both singular and plural number. From the results, we can conclude that the phi-feature of number in pronouns created comprehension problems in AD during pronoun number agreement comprehension.

The third finding of the statistical results was the worst performance in the long condition for Greek people with AD. This finding indicates that people with AD have a problem in comprehending each pronoun-antecedent dependency when the pronoun is far from its antecedent, as in the long condition. This finding is against Almor et al. (2001) and Küçüksakarya's (2017) results that found no effect of sentence length in comprehending the pronoun-antecedent dependencies in the AD group but also in the NC one. However, our Greek data confirmed Garrold and Sanford's (1982) claim that the establishment of coreference between pronouns and their antecedents is more difficult, when the distance between the two increases. In the same vein, according to the Informational Load Hypothesis (ILH, Almor, 1999) in AD, prior knowledge about the referent is interrupted when extra information is intervening leading to an overall decline in the comprehension of pronouns (Almor & Nair, 2007) with slower and less correct pronouns choices (Küçüksakarya, 2017: 37). Our data from Greek AD confirmed both Almor and Nair's (2007) and Küçüksakarya's (2017, p.37) observations about an overall decline in the comprehension of pronouns and slower and less correct pronoun choices.

Regarding the between-group analysis, the statistical analysis about number features was against Küçüksakarya's finding of no statistical difference in singular and plural pronoun processing for both groups. In our case, the AD group was significantly worse than the NC one in both singular and plural number.

The fourth finding of the statistical analysis referred to gender comprehension in Greek people with AD in comparison to TCs. The statistical analysis revealed significant differences in multiple comparisons in gender. More particularly, we detected significant differences in masculine gender between AD and NC groups and in feminine gender between AD and NC with better scores in the NC group. Regarding the within-group analysis of masculine vs feminine gender, the AD group performed significantly better in the comprehension of masculine gender in number agreement in comparison to the feminine one. Similar results were detected in the NC group, too. What helped people with AD to understand better pronoun number agreement in cases with masculine gender is open to further research. However, there is a possibility that the unmarked, prototypical, widely established gender in Greek facilitated the comprehension of number agreement in strong personal pronouns and clitics.

In sum, Greek people with AD confirmed Almor et al.'s (1999; 2001) findings for a general pronoun number agreement deficit regardless of the different categorical features of the two kinds of pronouns but depending on the kind of the condition, the unmarked pronoun type and the gender value. As we have already analyzed, the statistical analysis revealed more problems in long condition, singular number and masculine gender.

5.5.2 Discussion of the correlational results

The results of the correlational analysis confirmed Almor et al.'s working memory impairment (1999, 2001) and ILH in AD; there was a significant difference in correlations between the two groups. In other words, the scores in the group of working memory task functioned as predictors of the poor performance in the PCT for the AD group, but this prediction did not apply to the NC group. There seems that a problem in working memory and more precisely, a smaller working capacity in correlation to slower processing in the brains of people with AD created an information overload during the processing of number agreement in pronoun-antecedent dependencies. Our participants with AD with the attested working memory problem (smaller working memory capacity) in correlation to their slower information processing created an information overload during the processing of number agreement in pronoun-antecedent dependencies. Therefore, the smaller working memory capacity with a parallel information overload in our Greek-

speaking participants with AD had as a consequence, that our participants could not choose and attribute the correct number feature in either clitics or pronouns in both conditions (short and long). Hence, our participants with AD did not choose the right pronoun with the correct number feature in contrast to the NC group who had a much better performance (almost at ceiling) in the PCT. This finding is in line with Almor et al.'s findings (2001) in third person strong personal pronouns in American English. However, sentence length did not play the same role as the number value in comprehending strong personal pronouns and clitics in correlation to working memory capacity. In other words, the sentence length or to put it differently, the distance between pronouns and their antecedents, did not interfere with working memory results. The independent role of sentence length was proved by the presence of moderate positive correlations for both conditions for the AD group in contrast to low positive and insignificant for the NC group in both conditions.

Regarding the role of semantic fluency in choosing the right pronoun with the correct number feature during the PCT, there were low positive correlations especially in the singular number and the short condition in the AD group. In contrast, naming abilities were tightly correlated (with moderate correlations) to the worst performances in the long condition and singular number. Our results confirmed Almor et al.'s (1999) semantic impairment hypothesis but not his main claim against semantic memory impairment in his AD participants. Furthermore, our results did not duplicate Almor et al.'s (1999) finding of an absence of correlations between semantic memory (naming) with pronoun comprehension and reference processing, in general. Besides, in our experiment, we found correlations between pronoun number agreement and both naming tests and semantic fluency tasks.

Regarding the role of the inhibitory control in the PCT in the AD group, we did not observe any significant correlation between the impaired controlled inhibition and the low performance in the PCT. Therefore, according to the correlational results, the impaired inhibitory control could not predict the impaired comprehension of pronoun's number feature and number agreement in the PCT in the AD group. Based on the statistical results and correlational analysis, a more logical explanation would be that people with AD did not comprehend the number feature in clitics and strong personal pronouns not because an intervening material (a secondary sentence in long condition) and its information were not abolished but due to problems in other cognitive functions,

thus a general working memory impairment, and linguistic performances, such as a semantic dysfluency and a naming deficit related to the semantic features of conditions and numbers. Similarly, in the NC group, we did not find a significant correlation between the inhibitory control and the comprehension of the number feature in the PCT. Across groups, inhibitory control did not play a role in understanding the number feature in clitics and with personal pronouns and in completing the pronoun-antecedent dependencies.

In sum, from both the linguistic and correlational analysis we can conclude that different cognitive functions contribute to the correct -or not- comprehension of pronoun number agreement in AD. Not only one cognitive function, but a bulk of different cognitive functions conduce to the correct completion of the pronoun-antecedent dependencies during the pronoun number agreement comprehension. Therefore, an impairment in pronoun number agreement is not a mere syntactic impairment according to the Syntactic Deficit Hypothesis nor a solely working memory impairment. In contrast, problems in pronoun number agreement are related to both linguistic, thus naming and cognitive functions, thus working memory.

5.6 Summary and Conclusions

The aim of this chapter was to investigate how 19 Greek people with AD in comparison to 19 TCs, comprehended number and sequentially, gender agreement in strong personal pronouns and clitics in object position via the use of an off-line pronoun comprehension task. The PCT involved two congruent and incongruent number agreements (singular and plural) in two kinds of pronouns (strong personal and clitics). The research questions of the task were the following: a) how AD influences number and gender comprehension in strong personal pronouns and clitics and b) how a middle sentence might influence the comprehension of number agreement in these pronoun-antecedent dependencies in Greek people with AD. A third research question was how executive functions and other linguistic abilties might correlate with the performance in the PCT. Results revealed a general comprehension deficit in number agreement with the worst performance in singular versus plural number and in long versus short condition that is against Almor et al.'s (1999; 2001) and Küçüksakarya's (2017) findings. Besides this, the AD performance did not differ depending on the pronoun type.

However, we found a strict correlation between working memory function with number agreement for Greek people with AD but not with the presence of intervening material following Küçüksakarya's (2017) finding of discourse length's independence in third person personal pronoun processing in Turkish. Moreover, Almor et al.'s (1999) finding for an absence of correlation between a semantic memory impairment and pronoun comprehension was not confirmed in our Greek AD sample. On the contrary, we found specific moderate correlations between naming abilities and pronoun comprehension of number agreement. Inhibitory control was not related to comprehension of number and gender agreement in strong personal pronouns and clitics in both groups and specific correlations of number features and conditions.

Chapter 6

The breakdown of binding relations in AD

In this chapter, we aim to investigate whether there is a breakdown of binding relations in people with Alzheimer's Disease. To this end, we study the comprehension of object reflexive pronouns, object strong personal pronouns and object clitics in Greek-speaking individuals with AD and a group of TCs (see Chapter 3 for the demographics and main neuropsychological characteristics of the two groups). A picture-selection task was implemented to examine a) if individuals with AD face difficulties compared to TCs in the interpretation of reflexive and personal (strong and clitic) pronouns, b) if there is a preference in the AD group for the control condition with full NPs in comparison to the three types of pronouns, thus, confirming Almor et al.'s findings (1999) for strong personal pronouns in American English and Almor's (1999) Informational Load Hypothesis (ILH), and c) the extent to which pronoun comprehension deficits correlate with cognitive deficits, such as a working memory impairment.

6.0 Introduction

The topic of comprehension of the binding relations of pronouns has been examined by various (psycho)linguists worldwide in different populations (e.g., in children, healthy adults, people with aphasia) and within the context of different theoretical approaches (e.g. Chomsky's Theory of Government and Binding, 1981; Reuland's Primitives of Binding, 2001). However, although there are a number of research studies on violations of binding relations in aphasia (e.g. Edwards & Varlokosta, 2007; Grodzinsky et al., 1993; Ruigendijk, Vasić & Avrutin, 2006), there is a lack of studies that examine the breakdown of the binding relations of pronouns in AD either from a strict syntactic perspective or from a broader perspective that stretches over the different levels of linguistic analysis and performance on executive functions.

The structure of this chapter is as follows: Section 6.1 provides an overview of previous studies on binding in typical populations. Section 6.2 reviews previous studies on binding in aphasia, while section 6.3 describes the methodology of the current study. Section 6.4 provides the results, which are discussed in Section 6.5 in light of previous

research on the breakdown of binding relations in various populations. Section 6.6 summarizes the basic conclusions of the current study.

6.1 Experimental study on the binding relations of pronouns in healthy adults

Sanoudaki and Varlokosta's (2012) study was the first study in which researchers examined the interpretation of pronominals (clitics and strong personal pronouns) and reflexives pronouns (with one antecedent, i.e. *O vasilias agapai ton eafto tu*, or two possible antecedents, i.e. *O vasilias dipla ston mago pleni ton eafto tu*) in Greek-speaking adults. In some experiments of this study, the participants were both children and adults. In this chapter, we will refer only to the adult-related results and experiments. Therefore, Sanoudaki and Varlokosta (2012) report an experiment in which 10 Greek-speaking healthy adults were assessed on their interpretation of strong personal pronouns, clitics and reflexives (with one antecedent, like O vasilias agapai ton eafto tu), with the use of a Truth Value Judgment task (hence TVJ) along the lines of Varlokosta (2000; 2001). The authors report also a second experiment which they applied a different methodology to assess the interpretation of these pronouns. In particular, they examined 18 Greek-speaking adults with a picture-selection task. From the results of both experiments, Sanoudaki and Varlokosta (2012) concluded that there was a strong task effect in Greek-speaking adults regarding their interpretation of strong personal pronouns. Specifically, the researchers found lower performance in strong personal pronouns compared to other kinds of pronouns in the picture-selection task and a performance on strong personal pronouns was higher (~90%) in the TVJ task in comparison to the picture-selection task (~62%). Sanoudaki and Varlokosta (2012) interpreted the findings based on the claim that participants tended to use the less available interpretation, thus strong personal pronouns choice. The strong personal pronouns choice was the less available interpretation because it was not the felicitous choice of interpreting the findings. This is a paradox that Sanoudaki and Varlokosta interpreted as a violation of Cardinaletti and Starke's Minimality Condition in correlation to the tasks' nature. Therefore, in the TVJ task, adults chose the strong personal pronoun interpretation instead of the clitic one and thus, violated the Minimality Condition, but in parallel, they obeyed Principle B without interpreting strong personal pronouns as reflexives. However, in the Picture Selection Task, the participants interpreted strong personal pronouns as reflexives. However, there

were instances where participants had corrected themselves by obeying the Minimality Condition, with choices like *afton ton idio*.

Similarly to Sanoudaki and Varlokosta's study (2012), Sanoudaki and Varlokosta (2014b) detected a task effect in strong personal pronoun interpretation. In particular, the 10 Greek-speaking adults examined, assigned an anaphoric reading to strong personal pronouns in the picture-selection task, whereas in the TVJ task they gave a deictic interpretation to strong personal pronouns. Significant differences were also detected between strong personal pronouns and full NPs and in clitics versus strong personal pronouns.

6.2 Experimental studies on the binding relations of pronouns in aphasia

Pronoun reference has attracted much attention in aphasia research. Studies in aphasia have examined the comprehension of strong personal pronouns, object clitics, and reflexives with various off-line and on-line tasks. As long as there are no studies on binding relations in AD, we will refer to some experimental studies conducted in aphasia. Knowledge of the syntactic principles that govern anaphora is crucial for sentence comprehension. Experimental research in Broca's aphasia has shown that the establishment of co-referential dependencies is more costly for agrammatic speakers compared to variable binding, because the former requires processing of information from different levels of representation. This cross-level linguistic processing of co-referential dependencies has been analyzed on the one hand, within the context of the Economy Hierarchy, normally postulated for referential analysis in typical populations.but applied to participants with aphasia, as well.

Regarding the application of the Economy Hierarchy in aphasia more specifically, Ruigendijk, Vasic and Avrutin (2006) suggested that Reuland's Economy Hierarchy (2001) may not apply in agrammatic speakers. As a result, the interpretation and processing of referential elements (such as pronouns) in agrammatic speakers might be different. In other words, syntactic dependencies are costlier in agrammatic speakers (Ruijendijk et al., 2006) compared to healthy individuals, and thus, they allow for either a bound (semantic) variable dependency or a discourse one (coreference) in cases with pronouns in ECM clauses. ECM is defined in linguistics as the phenomenon in which the subject of an embedded infinitival verb seems to appear in a superordinate clause. If it is a pronoun, is unexpectedly marked with object case morphology (*him* not *he*, *her* not *she*,

etc.). An example of ECM clause is the following *they want us to be respectful*. With this definition of ECM and the example of an ECM clause in mind, Ruigendijk, Vasic and Avrutin (2006) concluded that agrammatic speakers might not have the inhibitory control to reject non-syntactic (discourse) dependencies, such as the ones in the ECM clauses, that are costlier for healthy populations, but economical for impaired ones.

Grodzinsky et al. (1993) examined the comprehension of strong personal pronouns and reflexives in six English-speaking participants with Broca's aphasia and four with Wernicke's aphasia. The conditions were the following: a) personal pronouns with a referential antecedent, like *Is Mama Bear touching her?*, b) personal pronouns with a quantificational antecedent, like *Is every bear touching her?*, c) reflexives without a referential antecedent, like *Is Mama Bear touching herself* and d) reflexives with a quantificational antecedent, like *Is every bear touching herself?* The task that was used was a yes/no judgment task based on a sequence of pictures and parallel auditory stimuli (sentences that were corresponding to the above conditions). In half of the cases the pictures were matched to the conditions/sentences, and in the other half they were not. Chance level performance was found for Broca's aphasics only in the ungrammatical (mismatch between picture and sentence) condition (*Is Mama Bear$_i$ touching her$_{*i}$?*), where the personal pronoun had a local referent. Wernicke's aphasics performed at chance in all conditions, grammatical and ungrammatical, and thus, differed a lot from Broca's aphasics. Grodzinsky et al. (1993) argued that all speakers with aphasia had a processing deficit in applying Rule I due to their limited working memory capacity. In other words, Grodzinsky et al. (1993) claimed that speakers with aphasia could not hold the bound and coreferential reading for establishing the correct pronoun-antecedent relation. Therefore, they manifested a poor performance by answering at random about the correct antecedent.

However, Varlokosta and Edwards (2003) did not replicate the results reported in Grodzinsky et al.'s study (1993). They tested three agrammatic English-speaking participants and found above chance level performance in the referential pronoun condition, but lower performance in conditions that involved reflexives, particularly those with a quantificational antecedent. They interpreted this poor performance as a problem in forming A-dependencies.

In Edwards, Varlokosta and Payne's study (2003) on 10 non-fluent aphasics with agrammatism, results showed poor performance on the comprehension of reflexives and

strong pronouns. Participants with aphasia failed in linking positions via co-indexation. More errors were observed in sentences containing reflexives than in the ones with strong pronouns. Performance fell for both sentences with reflexives and strong pronouns when there was a quantificational antecedent as a result (again) of an inability to link positions via co-indexation. Performance in sentences with pronouns and referential antecedents indicated that agrammatics with non-fluent aphasia failed to process Pragmatic Rule I (Grodzinsky et al., 1993; Edwards & Varlokosta, 2007). In other words, Edwards, Varlokosta and Payne (2003) suggested that the interpretation of pronouns and reflexives is associated with two independent deficits; on the one hand, a failure in the establishment of syntactic dependencies (binding) and on the other hand, a deficit in processing the Pragmatic Rule 1 that regulates co-indexation.

Edwards and Varlokosta (2007) found a global impairment in 10 English speaking agrammatic subjects with Broca's aphasia that affected both pronouns and reflexives in simple transitive sentences, specifically, one that concerns co-reference relations and formation of A-dependencies. The global impairment that was detected, affected both pronouns and reflexives with referential and quantificational antecedents. However, performance in the condition that involved reflexives with quantificational antecedents was lower (below chance) than performance in the other conditions. This lower performance in reflexives with quantificational antecedents was related to the bound variable interpretation that is needed in these pronoun-antecedent dependencies. The problems in pronouns and reflexives with referential antecedents were related to problems in coreference and the formation of A-dependencies that consists of syntactic movement, respectively.

The role of syntactic movement in the interpretation of pronoun-antecedent dependencies was also described and analyzed in Choy and Thompson's (2010) study. In particular, Choy and Thompson (2010) advocated that referential problems are focused on a deficit in lexical integration and more precisely, to impaired integration of information at the end of a sentence. Deficits in lexical integration result to problems in binding structures, among other syntactic structures, that necessitate syntactic movement.

As far as aphasia and binding problems are concerned, Choy and Thompson (2010) examined pronoun and reflexive comprehension in eight individuals with Broca's aphasia and eight healthy individuals, all of whom were native English-speaking participants. Their tasks included a) an eye-tracking task, while participants were listening to stories

(60 sets of stories made up of 40 experimental stimuli and 20 fillers) and b) an offline comprehension task with a question probe corresponding to a pronoun or a reflexive condition. Choy and Thompson (2010) found that individuals with Broca's aphasia were able to process the correct antecedent of reflexives and pronouns automatically. Moreover, they noticed that the syntactic processing of binding in aphasics was not delayed compared to typical controls (TCs). However, the offline comprehension of both pronouns and reflexives was significantly impaired compared to the control participants. Finally, they suggested that Broca's aphasics had a lexical integration problem that interpreted their sentence comprehension failure. According to Choy and Thompson (2010), impaired lexical integration is defined as *"a deficit in integrating the already accessed lexical item into a higher-level representation of the whole sentence or utterance*." Thus, the lexical integration problem is a processing problem. In Choy and Thompson's findings, there was an increased number of fixations at the sentence offset, during the eye-tracking task, which indicated this precise lexical integration problem.

Binding relations have also been examined in Greek aphasia. In particular, Nerantzini (2013) have analyzed binding relations of clitics and reflexives in simple structures among other structures. Nerantzini (2013) investigated these binding relations in seven Greek patients with Broca's aphasia and seven Greek healthy individuals. She found no difficulties in simple structures. Regarding clitics in particular, Nerantzini (2013) argued that Greek-speaking participants with aphasia do not have problems with the grammatical knowledge of Principle B. According to Nerantzini (2013), Greek aphasics have not lost the morphosyntactic features of clitics and checking of their features, as long as their performance in simple clauses with clitics was really high. Nerantzini (2013) supported that Greek agrammatics do not have problems in the establishment of chain formations on the discoursal level, as long as their performance in simple structures with clitics was intact. The intact performance in clitics in simple contexts indicated that Greek agrammatics could understand the referential features of clitics related to a discoursal association, like the one with clitics in simple structures. The higher processing cost of establishing a chain formation, on the discoursal level, did not create a comprehension problem in simple clauses with clitics for Greek aphasics. Similarly, in Grillo's Relativized Minimality Theory (e.g. a paper of 2009), the pronominal processing is more demanding than the reflexive one. Greek aphasics once more seem to disobey this theory by performing higher in environments with clitics than in the one with reflexives.

All in all, studies in aphasia have revealed a processing failure and a problem in A-chain formations. In Grodzinsky et al. 's study (1993), aphasics had a problem in executing the Pragmatic Rule 1, which was also found in Edwards, Varlokosta and Payne's study (2003). In addition, in Ruigendijk, Vasic and Avrutin's study (2006), in Edwards and Varlokosta's study (2007) and in Nerantzini's study (2013), aphasics violated Reuland's Primitives of Binding and Economy Hierarchy with equally high-costing dependencies. Nerantzini (2013) found also processing failures of clitics interpretation in syntactically more complex structures. However, there is always and the other side of the coin. Therefore, in Varlokosta and Edwards's study (2003) and in Edwards and Varlokosta's study (2007), researchers interpreted the comprehension problems in various pronouns as a problem in forming A-dependencies, that is, a mere syntactic deficit.

6.3. The study

6.3.1 Materials and Procedure

In this study, we adapted a picture selection task, designed within Cost Action A33 'Crosslinguistically Robust Stages of Children's Linguistic Performance' (2006-2010) and originally adapted for Greek by Sanoudaki and Varlokosta (2014a). The task was further adapted for the needs of the present study. It included four conditions: a) strong pronoun condition, b) clitic condition, c) reflexive condition, and d) control condition without pronouns (full NP condition). Table 6-1 provides an example for each experimental condition.

a. Clitic Condition	*Εδο vlepume enan elefada ki enan adra. O elefadas* ***ton*** *vrehi.* 'Here we see an elephant and a man. The elephant wets him.
b. Reflexive Condition	*Εδο vlepume enan elefada ki enan adra. O elefadas vrexei* ***ton eauto tou.*** 'Here we see an elephant and a man. The elephant wets himself.'
c. Strong Pronoun Condition	*Εδο vlepume enan elefada ki enan adra. O elefadas vrexei* ***afton.*** 'Here we see an elephant and a man. The elephant wets him.'
d. Full NP (control condition)	*Εδο vlepume enan elefada ki enan adra. O elefadas vrehi* ***ton adra****.* "Here we see an elephant and a man. The elephants wets him."

Table 6-1. Examples for each experimental condition

The stimuli comprised 36 sentences, nine per condition. Participants saw two color picture stimuli (Figure 34) while hearing one sentence stimulus (55) and were asked to decide which picture corresponds to the sentence they heard. One of the two pictures showed a character performing a reflexive action (e.g., someone washing himself), while the other picture showed the same character performing the same action on somebody else. Each sentence stimulus was preceded by an introductory sentence that presented the two characters, who were either human or animal characters. The gender of the two nouns that were used to refer to the two characters always matched (masculine or feminine). Half of the sentence stimuli contained masculine characters and half feminine.

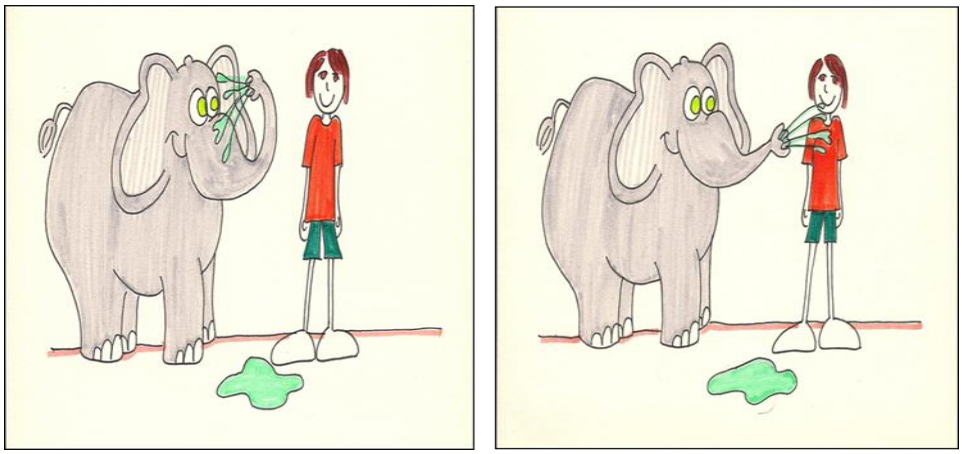

Figure 34. Example of a pictorial stimulus of the picture-selection task

(55) “Εδο vlepume enan elefada ki enan adra.
O elefadas ton vrehi (CL).”
‘Here we see an elephant and a man.
The elephant wets him.’

Two warm-up trials were included at the beginning of the task to ensure that the participants were familiarized with the task.

6.3.2 Study’s Research Hypotheses

In this section, I will briefly refer to the research hypotheses of the study, originally formulated in Chapter 3.

The two main hypotheses of the study are the following:

1.Our participants with AD will have pronoun comprehension problems –compared to our healthy participants–, thus problems in reflexives, strong personal pronouns and clitic comprehension

2. Our participants with AD will have problems in reflexives, strong personal pronouns and clitics that will be related to problems in executive functions (inhibitory control, working memory) and other linguistic performances (naming, semantic fluency).

A third secondary hypothesis of the study is the following:

3. Our participants with AD will prefer full NPs instead of the three kinds of pronouns by confirming Almor's ILH.

Schematically, the basic hypothesis of this study with its subhypotheses would be the following in table 6-2.

1st Main Hypothesis	Pronoun comprehension problems; Reflexive/strong personal/clitic comprehension deficit in AD vs NC group
2nd Main Hypothesis	Reflexive/strong personal/clitic comprehension deficit ~ executive functions and linguistic performances
1st sub hypothesis	Reflexive/strong personal/clitic comprehension deficit ~ naming problem
2nd sub hypothesis	Reflexive/strong personal/clitic comprehension deficit ~ inhibitory control problem
3rd sub hypothesis	Reflexive/strong personal/clitic comprehension deficit ~ working memory impairment
4th sub hypothesis	Reflexive/strong personal/clitic comprehension deficit~ semantic dysfluency
3rd secondary hypothesis	Full NPs' preference ~ ILH's confirmation in AD

Table 6-2. *A part of the PhD's hypotheses referring to the picture-selections task and its correlations.*

6.4 Results

6.4.1 Linguistic Results

Figure 35 presents the percentages of correct answers of the two groups of participants on pronouns as well as their performance on the control condition with full NPs.

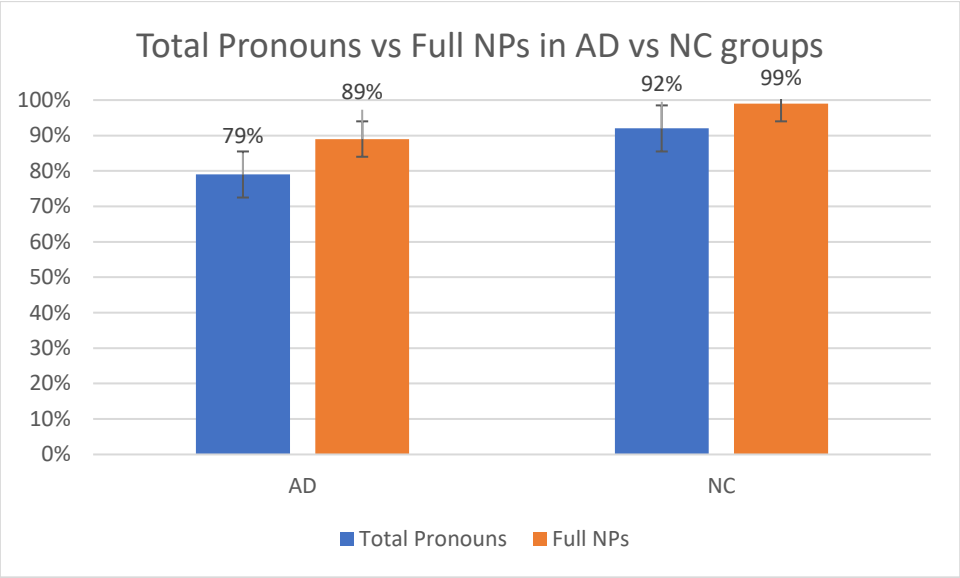

Figure 35. *Percentages of correct answers in pronouns and the full NP condition in the picture-selection task*

The AD group performed significantly[67] lower than the NC group on pronouns (unpaired t-test, unpaired t-test, p=.001, 97% CI [-0.19, -0.05], SE (0.03)) as well as on the full NP condition (unpaired t-test, p = .001, 97% CI [-0.16, -0.03], SE (0.02)). Moreover, the AD group performed significantly worse on pronouns in total –compared to the full NP condition (paired t-test, p< .001, 97% CI [-0.13, -0.06], SE (0.01)) and so did the NC group (paired t-test, p< .001, 97% CI [-0.13, -0.04], SE (0.01)).

Figure 36 illustrates the more specific comparisons between the AD and the NC group per pronoun condition and per full NPs condition.

[67] As presented below, for each test, we reported the corresponded adjusted confidence interval. For each family, we set the p-value cut-off to 0.03.

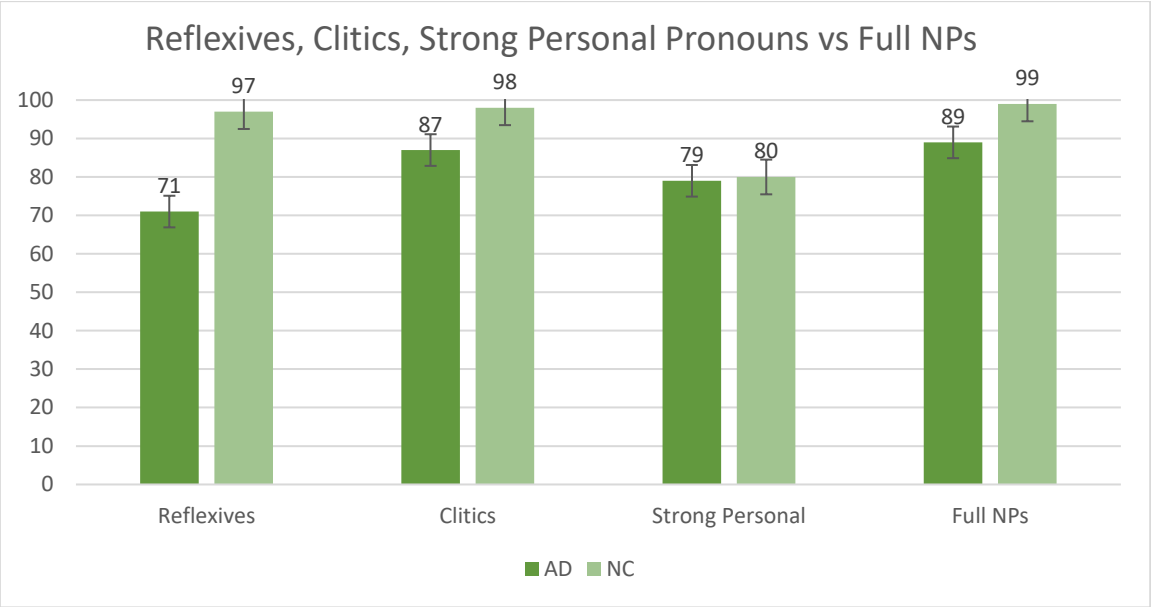

Figure 36. *Percentages of correct answers in the three kinds of pronouns in AD vs NC groups in comparison to full NPs*

The AD group performed significantly lower than the NC group on reflexives (unpaired t-test, p < .001, 97% CI [-0.37, -0.15], SE(0.05)) and clitics (unpaired t-test, p <.001, 99% CI [-0.21, -0.04], SE(0.03)) but not on strong personal pronouns (unpaired t-test., p =.8, 99% CI [-0.15, 0.16], SE(0.06)). Within the AD group, performance was significantly higher on clitics than on reflexives (Figure 37) (paired t-test, p<.001, 99% CI [0.05, 0.30], SE(0.04))) but, there were no significant differences under Bonferroni correction between clitics and strong personal pronouns (paired t-test, p = .02, 99% CI [-0.01, 0.20], SE(0.04)) or between reflexives and strong personal pronouns (paired t-test, p = .23, 99% CI [-0.08], SE(0.06)).

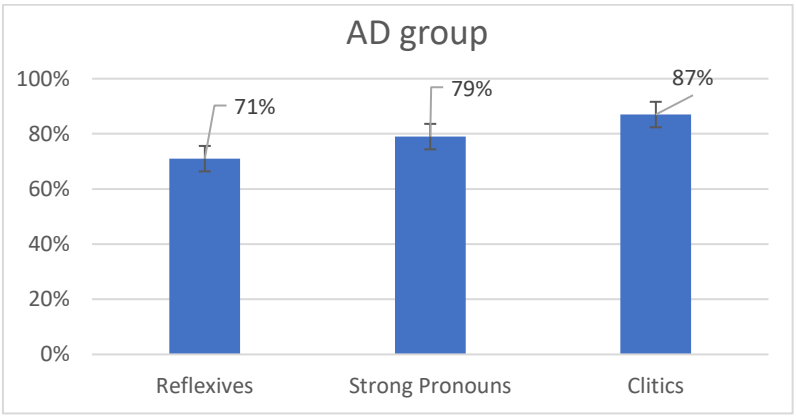

Figure 37. *Percentages of correct answers in the three kinds of pronouns for the AD group*

Furthermore, the AD group performed significantly worse on reflexives compared to full NPs (paired t-test, p< .001, CI [-0.32, -0.11], SE(0.03) under Bonferroni

correction and on strong personal pronouns vs full NPs under Bonferroni correction (paired t-test, p=.03, CI [-0.22, 0.01], SE(0.03)) but no significant differences were observed between clitics and full NPs (paired t-test, p = .39, CI [-0.08, 0.04], SE(0.02)). The NC group performed marginally better in the full NPs condition compared to the reflexive (paired t-test, p= .001, CI [-0.08, -0.00], SE(0.01))) and clitic condition (paired t-test, p = .008, CI [-0.03, 0], SE(0.005)) but significantly better in the full NPs condition compared to the strong pronoun condition (paired t-test, p<.001, CI [-0.36, -0.09] SE(0.04)). Moreover, the NC group's performance (Figure 38) in the strong personal pronoun condition was significantly worse than the performance in the reflexive condition (paired t-test, p <.001, 99% CI [0.08], SE (0.04), 1-β =) as well as in the clitic condition (paired t-test, p < .001, 99% CI [0.081], SE(0.04), 1-β = 1). No statistically significant differences were detected in the comparison of clitics with reflexives (paired t-test, p = .15, CI [-0.011], SE (0.01), 1-β = 1).

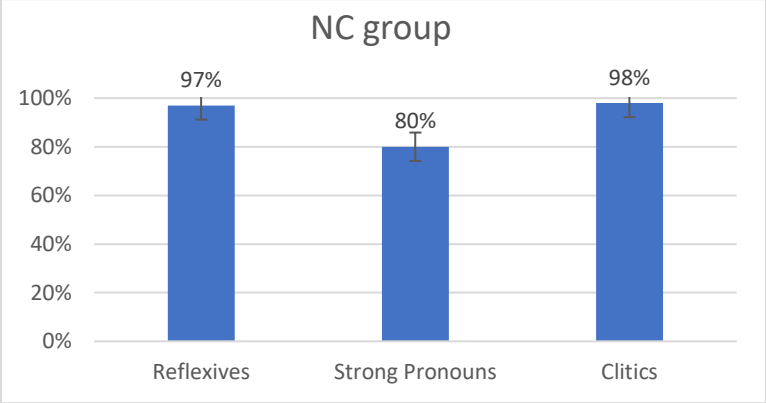

Figure 38. *Percentages of correct answers of the NC group in the three kinds of pronouns*

Regarding the individual analysis of our AD and healthy participants, the individual analysis confirmed the results of the between- and the within-group analyses. More specifically, regarding the outcomes of the within-group analysis in Greek people with AD, the following results were also confirmed in the individual analysis a) a pronoun comprehension deficit in AD, b) an absence of an NP preference instead of the total pronouns but only for reflexives and strong personal pronouns in particular, and c) statistically significant differences in clitics in comparison to reflexives. We will comment selectively into some of the analyses with the help of the figures.

From figure 39 to figure 44, we will refer to the individual analysis on the performances of reflexive and clitic comprehension in the participants with AD in

comparison to the healthy participants. The individual analysis reveals once again the selective deficit in the reflexives for our participants with AD. Moreover, it highlights the fact that the NC group outperformed the AD group in both the reflexive and clitic conditions.

More specifically, as we can see in the reflexive condition, there were really low performances. The lowest performance was reported to 0.32 (32%) for two AD individuals. In contrast, the lowest performance for the NC individuals in the same condition was 0.78 (78%). There was also attested an individual variation in AD with scores from 0.32 (32%) to 1.00 (100%). In particular, one AD participant had a score of 0.55 (55%) and differed from the other AD individuals, whereas in the same condition one NC participant had a unique score of 0.78 (78%). In addition, the performance in the reflexive condition was high (1.0 > 100%) only for four individuals with AD (figure 39) in contrast to 15 TCs (figure 40) with an excellent performance in the same condition.

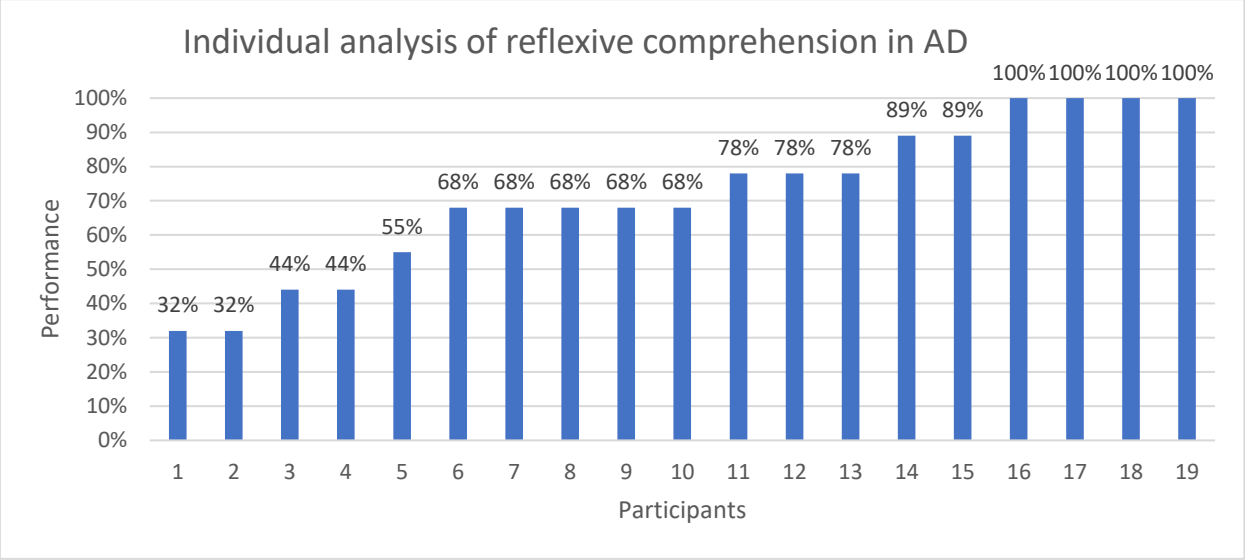

Figure 39. *Performance of AD individuals in reflexives*

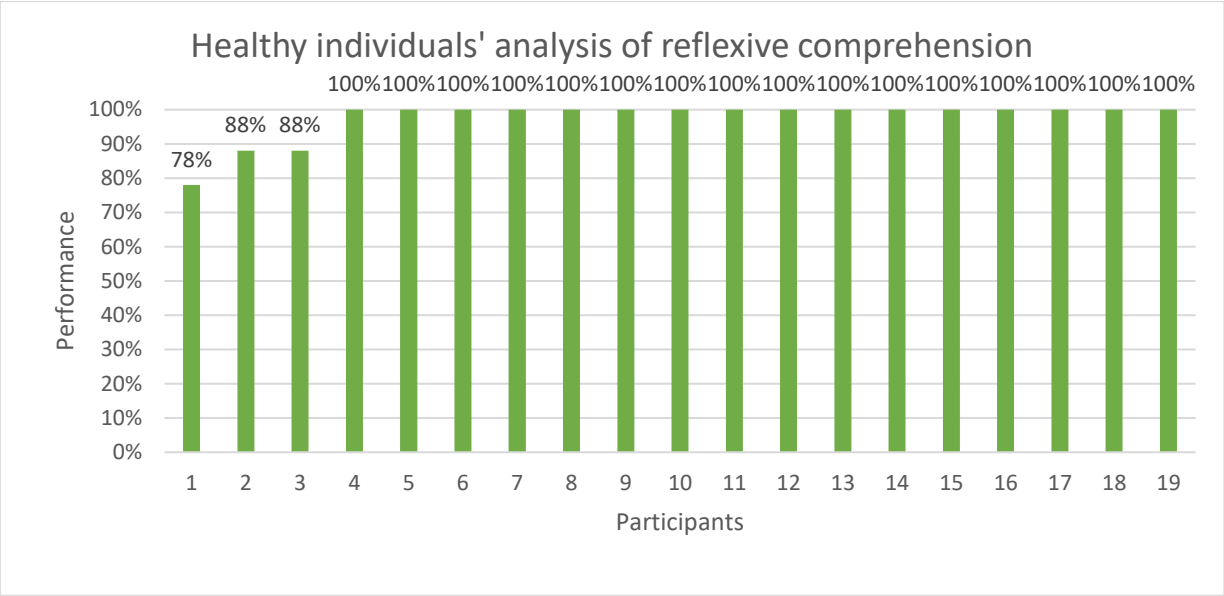

Figure 40. *Performance of TCs in reflexives*

In the clitic condition, nine individuals with AD scored at ceiling in comparison to 17 TCs who scored 100% correctly (Figure 41 and Figure 42 respectively). The lowest score in the individual analysis of the AD participants was 0.55 (55%), –a score that was individually unique– whereas the lowest score in the NC group was 0.88 (88%).

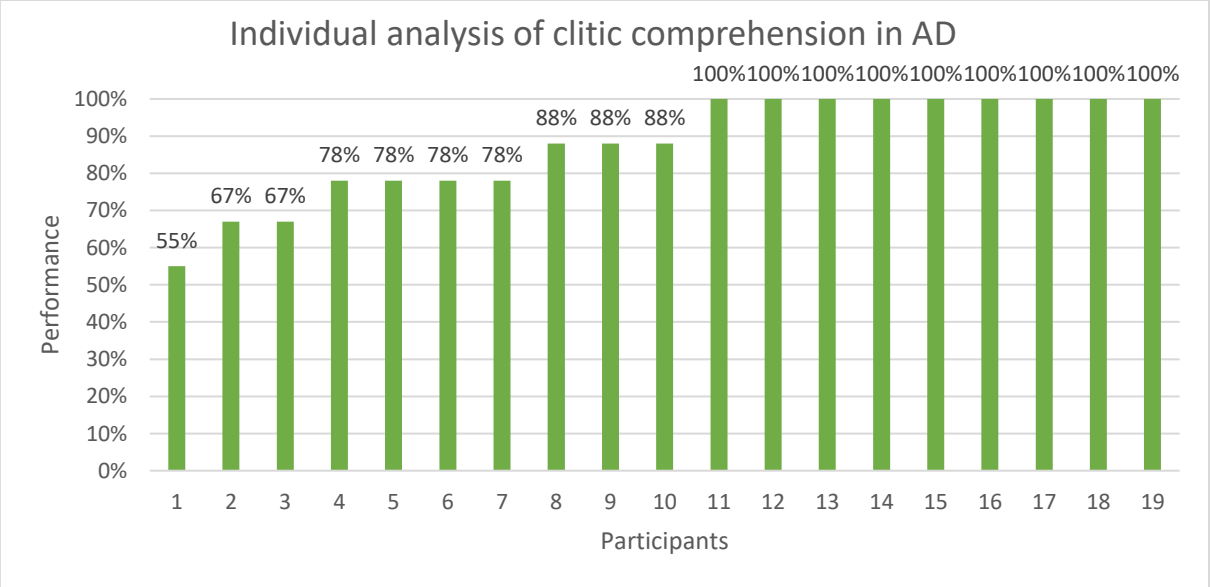

Figure 41. *Performance of AD individuals in clitics*

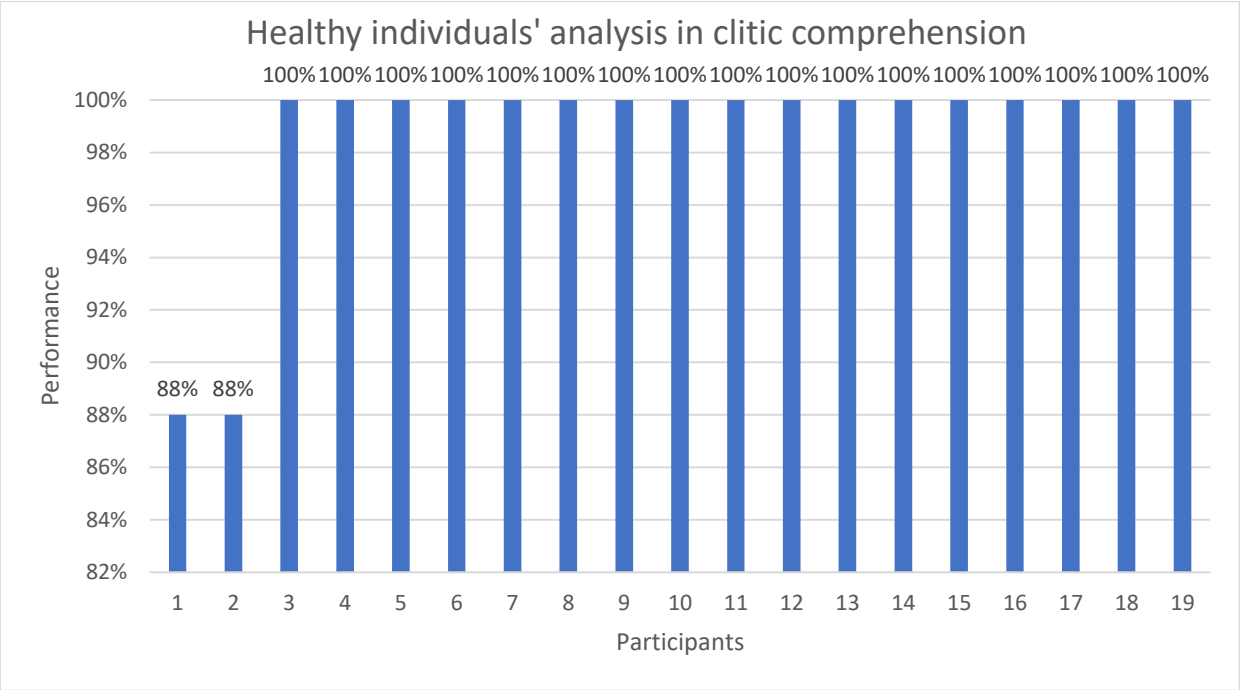

Figure 42. *Performance of TCs in clitics*

As far as the individual analysis of the total results for the AD and NC participants is concerned, as we can see in figure 43, most people with AD (13 participants) scored ≤ 0.78 (lower than 78%) with six of them scoring the same score (78%). Only two AD participants answered 100% correctly to all the conditions. The lowest performance was 0.55 (55%) whereas for NC individuals the lowest performance was 0.67 (67%). As we can see in figure 44 three AD individuals scored 0.55 (55%), 0.70 (70%), 0.85 (85%) and 0.92 (92%) respectively. The performance of the AD individuals ranges from 0.55 (55%) to 1.0 (100%) with the majority of AD individuals with scores around 0.7~0.8 (70%-80%). In contrast, the performance of NC individuals ranges from 0.67 (67%) to 1.0 (100%) with really high performances (>0.9).

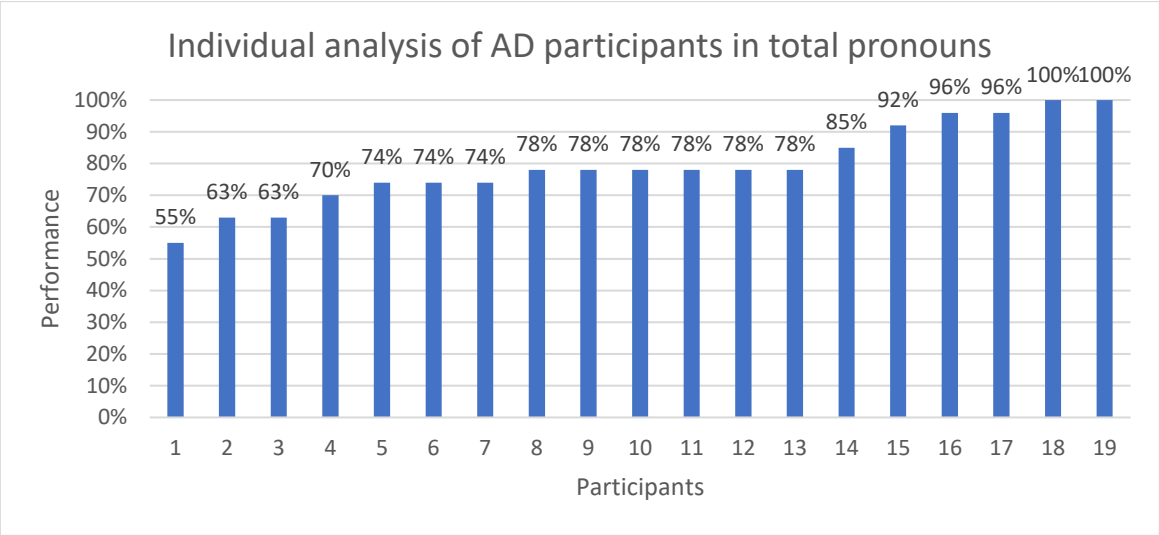

Figure 43. *Total Pronouns' Scores of Greek individuals with AD*

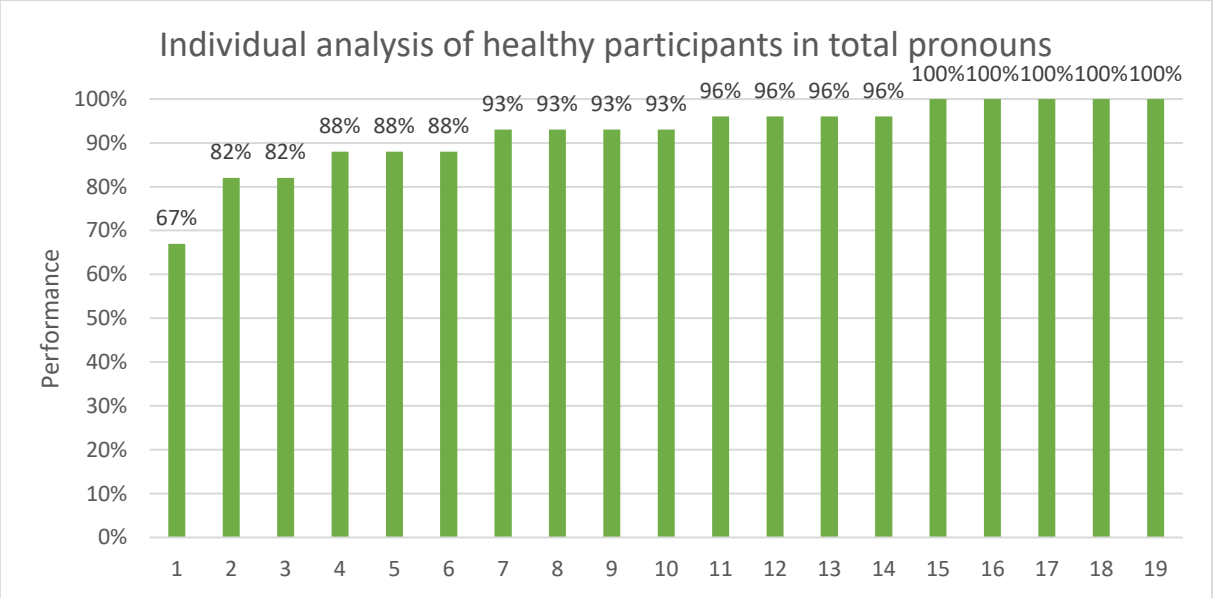

Figure 44. *Total Pronouns' Scores in Greek TCs*

From the presentation of the individual analysis of Greek TCs in figure 44, we can see that 5/19 TCs scored 100% correctly to all conditions with pronouns, but eight more scored really close to perfect performance (>90%). Only one individual scored <0.70 (67%).

6.4.2 Correlational results

In the current subsection, we will present the results of a correlational analysis between the accuracy scores in the picture selection task and the scores in four different groups of

neuropsychological tests from the neuropsychological assessment: a) working-memory tests, b) semantic fluency tasks, c) naming tests and d) an inhibitory control task.

As can be seen in Table 6-3, for the AD group, there is a high positive correlation between performance on reflexives and performance on working memory, a moderate positive correlation between performance on semantic fluency and performance on strong personal pronouns and clitics, and a moderate to high positive correlation between performance on clitics and naming abilities. For the NC group, a high positive correlation was found between performance on the strong personal pronouns and performance on working memory and on the Stroop test, and a moderate to high positive correlation was observed between performance on strong personal pronouns and naming functions and between performance on reflexives and performance on the Stroop test.

	Working Memory				**Stroop Test**			
	AD			**NC**	**AD**			**NC**
Correlations	r	F	p	r F p	r	F	p	r F p
Reflexives	**.50**	5.86	02	.40 3.37 .08	-0.13	0.31	.57	**.56** 8.08 .01
Strong Personal Pronouns	.28	1.47	.24	**.61** 10.35 .005	.14	0.36	.55	**.72** 18.52 .0004
Clitics	.38	2.93	.10	-.005 0.0005 .98	.01	0.004	.94	.17 0.53 .47
	Naming				**Semantic Fluency**			
	AD			**NC**	**AD**			**NC**
Correlations	r	F	p	r F p	r	F	p	r F p
Reflexives	.33	2.20	.15	.15 0.44 .51	.35	2.5	.13	.08 0.12 .72
Strong Personal Pronouns	.30	1.73	.20	**.54** 7.36 .001	**.50**	5.84	.02	.33 2.20 .15
Clitics	**.57**	8.5	.009	.09 0.15 .69	**.52**	6.59	.01	.28 1.48 .23

Table 6-3. *Correlations between performance in the three different conditions with the performance in the different groups of neuropsychological tests*

In sum, the above correlational analysis revealed the following: (a) Low performance in working memory can predict partially the low performance in reflexives for the AD group. On the other hand, performance on semantic fluency could not predict performance in reflexives but predicted performance in strong personal pronouns and clitics for the AD group. A strong correlation of semantic dysfluency with impaired comprehension of pronoun-antecedent dependencies for the AD group was found only for strong personal pronouns and clitics. (b) Inhibitory control does not play any role for the accomplishment of pronoun-antecedent dependencies for the AD group. (c) Finally,

the significant correlation between clitics and the poor naming performance for the AD group might explain the wrong answers in clitics.

6.5 Discussion

The results of the picture-selection task showed a general impairment in pronoun comprehension in the AD group compared to the NC one. In addition, the performance was worse in reflexives and clitics in the AD group compared to the NC one. However, no significant differences were attested in strong personal pronouns between groups. The comprehension deficit was not limited to pronouns but was extended to the full NPs in the between-groups analysis. Regarding the within group analysis of the AD group, specific significant differences between reflexives and clitics were also found in the same task. The performance was better in reflexives than in clitics for the AD group, but they were no other significant differences in the other kinds of pronoun comparisons. However, significant differences were attested in the comparisons of reflexives and strong personal pronouns with the full NPs, respectively. I will analyze all the findings more thoroughly in the following paragraphs and I will try to interpret them based on linguistic and cognitive approaches. I will start with the between group analysis and then, move on to the within-group analysis of the AD group.

First of all, our initial hypothesis and Almor et al.'s findings (1999; 2001) regarding a general pronoun comprehension deficit in AD have been confirmed (see 1st main hypothesis in table 6-4). However, this general pronoun comprehension deficit has not been generalized in all the kinds of pronouns (strong personal, reflexives and clitics) and has not been correlated to all the executive functions and linguistic performances as I will see in the discussion of the correlational results. But for now, I will refer to the more specific kinds of pronouns.

	Hypotheses	Results	Interpretations
1st Main Hypothesis	Pronoun comprehension problems; Reflexive/strong personal/clitic comprehension deficit in AD vs NC group	✓ Problems in reflexives, strong personal pronouns and clitics • No differences in strong personal pronoun comprehension but **still** problems for both groups	1. Difficulty with reflexives = a) Difficulties with Anagnostopoulou & Everaert's analysis's application (1999) b) Violation of Reuland's Economy Hierarchy 2. Difficulty with clitics = a) Problems with Chomsky's Principle B b) Pragmatic Rule 1's application c) Avrutin's D-linking's violation **3. No differences in** strong personal pronoun comprehension between groups= a) Pragmatic Rule 1's violation b) Minimality Condition's violation for both groups
2nd Main Hypothesis	Reflexive/strong personal/clitic comprehension deficit ~ executive functions and linguistic performances	✓	
1st sub hypothesis	Reflexive/strong personal/clitic comprehension deficit ~ naming	✓ for clitics only	
2nd sub hypothesis	Reflexive/strong personal/clitic comprehension deficit ~ inhibitory control	X No correlations	
3rd sub hypothesis	Reflexive/strong personal/clitic comprehension deficit ~ working memory impairment	✓ for reflexives only	
4th sub hypothesis	Reflexive/strong personal/clitic comprehension deficit~ semantic dysfluency	✓ For strong personal & clitics	
3rd secondary hypothesis	Full NPs' preference ~ ILH's confirmation in AD	✓	

Table 6-4. A part of study's hypotheses vis a vis the results of the picture-selection task and their interpretations

In particular, the AD group showed a lower performance in reflexive comprehension compared to the NC group. The lower performance of the AD participants

in reflexives compared to the NC ones is in line with the impaired reflexive comprehension in the studies of Varlokosta and Edwards (2003), Edwards, Varlokosta and Payne (2003) and Edwards and Varlokosta (2007) in aphasics, but contra Choy and Thompson's results (2010), also, in aphasics.

A possible explanation for this difficulty with reflexives could be that our participants with AD have difficulties in comprehending the traditional Principle A, that was postulated for English, but it can also be applied in Greek with different parts of the referential expression being coindexed (Iatridou, 1988 and Anagnostopoulou and Everaert, 1999). More specifically, it seems that in contrast to our healthy adults who can coindex the clitic *tu/tis* of the reflexive expression *ton eafto tu/tis* with each of their own NPs, e.g., *O Yannis*, our participants with AD could not proceed to this coindexation through Chomsky's syntactic binding or covert 'incorporation' of the head *eafto* in LF together with the verb according to Anagnostopoulou and Everaert's analysis (1999). A logical interpretation could be that our participants with AD probably have a semantic and morphosyntactic deficit that is related to the phi-features of both the clitic within the referential expression, and the NP related to the binding relation. In other words, they could not attribute the bound variable reading of the antecedent with its reflexive, possibly, because they could not have access to the phi-features of gender, case and number of each NP and pronoun due to working memory problems as we will see in the discussion of the correlational analysis below. However, if we consider Anagnostopoulou and Everaert's analysis (1999) about reflexives and Principle A in Greek, we can take our analysis one step further. Therefore, in the context of Anagnostopoulou and Everaert's analysis, we can argue that it is a probability that our participants with AD could not attribute the [+SELF, +R] features to their predicates via the head 'eafto' that functions as a reflexivizer. In other words, in Greek AD, the head 'eafto' cannot be covertly incorporated to LF in order to reflexivize, on the one hand, the verb and, on the other hand, the antecedent due to problems in argument structure and not because of problems in chain formation. In other words, it seems that our participants with AD did not recognize the reflexivity in the predicate, thus the verb within the reflexive condition. This recognition did not take place, probably because our participants with AD could not use reflexive expressions as means for expressing reflexivity in their predicates due to processing problems as we will discuss in the following correlational analysis. Hence, in our participants with AD, it seems that there were no problems in chain formations

between reflexive pronouns and the verbs of the tested reflexive conditions. In contrast, the [+SELF] feature could not be attributed to reflexive pronouns to form a reflexivity relation syntactically and verbs do not have a [+R] feature to form reflexivity on the semantic level, because of processing problems during head LF incorporation. In total, the difficulties in reflexives alone are attributed to problems in assigning the necessary semantic features: [+R, +SELF] from the reflexivizers to the predicates.

Regarding our second finding of the lower performance in clitics in the AD group compared to the NC one, a possible interpretation could be the use of coreference in cases where it should not be used. In particular, it is a probability that our participants with AD manifested a lower performance in clitic comprehension compared to the NC group, because they violated Chomsky's Principle B and the bound variable reading in clitics in the context of the Pragmatic Rule 1[68] application. Therefore, our participants with AD chose an intrasentential coreference, because Principle B was possibly violated and the syntactic reading was not applied in clitics. Following Avrutin's (2000) pragmatic approach on clitics, our participants with AD seem to violate both Avrutin's notions of D-linking and local binding in clitic comprehension. Therefore, our participants with AD possibly did not operate a local binding to clitics. Hence, our participants with AD did not bind clitics in syntax and by this way, they violated Principle B. The absence of local binding in clitics had as a consequence an absent assignment of the feature of [+human] to clitics and the interpretation at LF (Delfitto and Corver, 1993). The absence of the assignment of the feature of [+human] to clitics had as a consequence a comprehension problem in clitics. However, the correlational analysis regarding clitics and executive functions (e.g., working memory) points to a different direction than to a merely linguistic interpretation (see page 204) as I will analyze in the "discussion of the correlational analysis".

In addition, in our findings we did not find statistically significant differences in the performances on strong personal pronouns between groups. This finding is against the findings of Grodzinsky et al. (1993) and Edwards, Varlokosta and Payne (2003) who have found a processing deficit in applying Pragmatic Rule 1 in strong personal pronouns in individuals with aphasia. In line with Sanoudaki and Varlokosta's findings (2014b), our participants with AD as well as our healthy individuals had to choose between two

[68] In parallel, I have to mention at this point that this higher performance of AD participants in clitics compared to reflexives is against the violation of Pragmatic Rule 1 in Greek typical populations (Varlokosta, 2000).

different strategies in interpreting strong personal pronouns; a) a coreferential reading and b) a deictic one. A coreferential reading respects the Principle B, whereas a deictic interpretation obeys the Minimality Condition. Based on the insignificant differences in strong personal pronouns between groups, as well as between clitics and strong personal pronouns in AD, a possible interpretation would be that our participants with AD chose firstly, to violate the discourse-oriented, coreferential reading of Pragmatic Rule 1 and the deictic reading of the Minimality Condition and secondly, to respect the Principle B during pronoun comprehension.

All these problems are possibly related to problems in following Chomsky's Principles and Reuland's Reflexivity Conditions with parallel processing problems and processing alterations in processing costs, thus violations of the Economy Hierarchy in AD.

In addition, within the AD group, our participants exhibited a lower performance in reflexives compared to clitics. In contrast, healthy individuals did not have a statistically significant difference in the same comparison. A possible interpretation of the better performance in clitics compared to reflexives could be the evident syntactic and discoursal deficits in AD and the intermixing of the levels of linguistic analysis without distinguishing between them. In particular, it seems that our participants with AD violated both a syntactic principle (Chomsky's Principle A) and Reuland's Economy Hierarchy. Therefore, our participants with AD had difficulties in comprehending Principle A that is related to the syntactic binding, based on Chomsky's framework. In particular, our participants with AD misunderstood Principle A, because by attributing a clitic interpretation on reflexives they did not comprehend that reflexives have to be free inside their local domain. This explanation is corroborated by the significant differences between clitics and reflexives with better performance in clitics and worse in reflexives in AD. A possible interpretation of this significant difference in clitics compared to reflexives also could be the Economy Hierarchy violation, which has already been found to be violated in people with aphasia (Ruigendijk, Vasic and Avrutin (2006), Edwards and Varlokosta 2007; Nerantzini 2013). Therefore, our participants with AD did not prefer the syntactic binding with reflexives that is the least costly choice, according to the Economy Hierarchy, but they preferred the discoursal coreference with clitics that has a higher processing cost. The better performance in clitics justifies their discoursal choice

in contrast to the syntactic binding with reflexives, where their performance was significantly worse compared to clitics.

Regarding the comparison between clitics and strong personal pronouns in Greek participants with AD, we did not find statistically significant differences between these two kinds of pronouns. In contrast, within our NC group, we found statistically significant differences in the same comparison. Similarly, Sanoudaki and Varlokosta (2014b) found significant differences in clitic comprehension in comparison to strong personal one in their adults' participants.

We can conclude to the following possible interpretation; on the one hand, our participants with AD violated Cardinaletti and Starke's Minimality Condition (1999) and on the other hand, our Greek-speaking healthy participants obeyed it. Thus, our participants with AD did not choose the least costly pronoun, that is, clitics. However, our Greek healthy individuals opted the least costly choice, that is, clitics, and in this way, they respected the Minimality Condition. Our findings regarding NC participants are against the findings of Sanoudaki and Varlokosta (2012), who found that their Greek-speaking healthy individuals interpreted strong personal pronouns as reflexives and not as clitics. In this way, Sanoudaki and Varlokosta's Greek-speaking healthy individuals disobeyed the Minimality Condition. In our case, they did not.

Moreover, the performance of our participants with AD in strong personal pronouns did not differ significantly from reflexives, because they did not comprehend the infelicitous choice of strong personal pronouns. This finding pinpoints to the role of the methodology used and more specifically, the role of the stimuli's creation. The insignificant difference between reflexives and strong personal pronouns in our AD group is against the findings of Edwards and Varlokosta (2007) in Broca's aphasics. Edwards and Varlokosta (2007) found comprehension problems in both reflexives and strong personal pronouns with statistically significant differences in these two kinds of pronouns.

6.5.1 Discussion of the correlational analysis

In this section, I will discuss the role of working memory, inhibitory control, naming and semantic fluency as possible factors in affecting the performance in the picture-selection task. Based on our initial hypotheses, linguistic deficits in pronoun comprehension are

not related only with linguistic factors, but, also, with cognitive ones, we will discuss each cognitive factor, separately to interpret our findings. Therefore, a first possible factor for the pronoun comprehension deficit in AD could be a working memory impairment. Based on our correlational analysis, our findings confirmed Almor et al. (1999; 2001) and Küçüksakarya's findings (2017). More particularly, there was a pronoun comprehension deficit that was related to problems in working memory in the case of reflexives and not in the case of clitics. More precisely, Almor's less costly choice and ILH were confirmed for the following reasons: Greek people with AD had their best performance in clitics in comparison to NC group, because clitics were "the lightest choice" in processing terms. Clitics as "the lightest choice" did not create a problem in their small working memory capacity with information overloading. Therefore, we did not find statistically significant correlations between clitic comprehension and working memory performance. The insignificant role of working memory in clitic comprehension was highlighted by the insignificant differences in clitic vs full NPs comprehension, too. In particular, there was no full NPs preference for the case of clitics in the AD group. Most likely, clitics were less demanding in processing terms, because of their inherent categorical features that I will analyze below (Varlokosta et al. 2016). On a phonological level, clitics are monosyllabic and unstressed, whereas strong personal pronouns have two syllables and stress in contrast to reflexives that are complex phrases with three different heads making two syllables in total and two points of stresses (a primary and secondary one on the head noun *eaftos*). Hence, clitics were less demanding, on a phonological basis, than strong personal pronouns and reflexives. From the perspective of syntactic order, clitics are obligatorily placed before the verb (proclisis) and in this way, they did not overload the working memory of people with AD with keeping their working memory active with extra information about the subject and the verb of the sentences. In contrast to clitics, our Greek-speaking participants with AD made more mistakes in reflexives, because these pronouns were possibly "heavier" in processing terms with a) their [+R, +SELF] characteristics and the participation of their head 'eafto' to the LF incorporation, b) their syntactic position after the verb and at the end of the sentence and c) their inner complex morphosyntactic structure of a determiner, a full NP and a possessive pronoun. Strong personal pronouns were in the middle of the processing continuum for people with AD, because they did not manifest a bound variable, nor an inner complex morphosyntactic and phonological structure. Therefore, based on our correlational results between strong

personal pronouns, reflexives and clitics with the working memory function, our initial subhypothesis about a correlation between working memory impairment and reflexives, strong personal and clitic comprehension performances was confirmed only for the case of reflexives (see table 6.5).

		Results
Main Hypothesis	Reflexive/strong personal/clitic comprehension deficit ~ executive functions and linguistic performances	✓
1st subhypothesis	Reflexive/strong personal/clitic comprehension deficit ~ naming problem	✓ for clitics only
2nd subhypothesis	Reflexive/strong personal/clitic comprehension deficit ~ inhibitory control problem	X **No** correlations
3rd subhypothesis	Reflexive/strong personal/clitic comprehension deficit ~ working memory impairment	✓ for reflexives only
4th subhypothesis	Reflexive/strong personal/clitic comprehension deficit~ semantic dysfluency	✓ for strong personal & clitics

Table 6-5. A part of study's hypotheses vis a vis the results of the picture-selection task

A second possible factor for the pronoun comprehension deficit in AD could be the low performance in semantic fluency tasks. In particular, based on our findings semantic fluency is a factor that affected linguistic performance in the picture-selection task. In other words, semantic fluency is essential for the comprehension of strong personal pronouns and clitics in the AD group. The performance in semantic fluency can be used as a predictor for the performance of the AD group in these two kinds of pronouns. Hence, our initial subhypothesis about a correlation between semantic fluency and the three kinds of pronouns' comprehension in AD was partially confirmed in the case of strong personal pronouns and clitics (see table 6-5). In addition, the argument of semantic impairment in AD and its correlation with the choice of the right pronoun-antecedent dependency was

confirmed for this sample of Greek individuals with AD contrary to Almor et al.'s (1999) finding of an absent semantic impairment correlation in his AD individuals. Therefore, a linguistic impairment in phi-features checking together with this semantic impairment creates the pronoun comprehension problems in our AD participants.

A third possible factor of the pronoun comprehension deficits in the picture-selection task from our AD group could be the naming impairment attested in AD. Our initial 1st subhypothesis for correlations between naming impairment and the various kinds of pronouns in AD seems to be confirmed partially. More specifically, a naming deficit in AD seems to play a role in imperfect clitic comprehension, but still significantly higher performance compared to the lower one in reflexives. In other words, the moderate to almost high positive correlation between naming performance and clitics that we have found in the AD group contributes to the high but not perfect clitic comprehension. In particular, it seems that our participants with AD cannot name clitics, because they cannot understand their phi-features and their semantics in order to retrieve them during the naming and sequentially, they cannot name their phi-features.

A fourth possible factor of the pronoun comprehension deficits in the picture-selection task could be an inhibitory control impairment. Our results did not confirm our initial subhypothesis about a correlation between the inhibitory control deficit and the pronoun comprehension problems (see table 6-5, 1st subhypothesis). In contrast, our results revealed no correlations between the function of inhibitory control in the AD group and the choice of the suitable pronoun-antecedent dependency. However, there were positive correlations in the NC group between reflexives and strong personal pronouns with the Stroop test performance. This finding most likely implies that the mechanism of inhibitory control works better in the NC group than in the AD group, whereas in the AD group, this controlled mechanism is either not functioning in AD or it is severely impaired as Amieva et al. (2002) and Bondi et al. (2002), among other researchers, have argued.

In other words, the NC group could suppress the unnecessary information, in our case the wrong pronoun, and can complete the correct pronoun-antecedent dependency by choosing the right picture during the picture-selection task. On the other hand, the AD group could not abolish the wrong pronoun choice probably due to either an absence of the mechanism of inhibitory control or due to damage in its use, which perhaps explains the lack of correlation between the different pronoun-antecedent dependencies and the performance in the Stroop test. On this point, we have to highlight that the lack of a linear

correlation in the AD group does not mean that inhibitory control does not play a role or another type of correlation does not exist for the comprehension of pronoun-antecedent dependencies. Hence, the worst performance in reflexives in comparison to the best performance in clitics from our Greek-speaking participants with AD is also explained by a problem in expelling the wrong pronoun that correlates with the false antecedent as NP.

All in all, from the above results and by paraphrasing Reuland's conclusion (2003), it is more than evident that to understand anaphoric relations such as the above, language-internal factors, such as syntactic binding and head LF incorporation, chain formations for phi-features, pragmatic and discoursal rules (e.g. Minimality Condition), along with cognitive factors, such as working memory problems and processing alterations must be included in the research. Different theories from different linguistic subsystems (semantics/discourse vs syntax) are needed, and we must consider them as a source of evidence to search language breakdown at all levels of linguistic analysis. The correlational findings with executive functions indicate that different cognitive functions play a role to the different performances in the different kinds of pronouns. Hence, it is not so straightforward and easy to pinpoint one separate cognitive factor that worsens the AD performance in the comprehension of the various kinds of pronouns, but we should consider many cognitive factors and the general cognitive profile of the AD participants.

6.6 Conclusions

In this chapter, we investigated the comprehension of reflexives, strong personal pronouns and object clitics in Greek-speaking people with Alzheimer's Disease. More particularly, we administered a picture-selection task to 19 Greek-speaking people with AD and 19 Typical Controls (TCs) to examine a) if there are any difficulties in AD in comprehending reflexives and personal (strong and clitics) pronouns and b) if there is a preference in AD for the control condition with full NPs in comparison to the three kinds of pronouns, thus, confirming Almor et al.'s findings (1999) for strong personal pronouns in American English and Informational Load Hypothesis (ILH) and c) whether pronoun comprehension deficits correlate with cognitive problems, such as working memory problems, naming difficulties, semantic dysfluency or inhibitory control dysfunction.

Results confirmed Almor et al.'s (1999) findings about a general pronoun comprehension deficit in AD. In addition, the performance of our AD participants in reflexives was worse compared to clitics' performance. The performance of our AD

participants in clitics did not differ significantly from the performance in strong personal pronouns. It seems that our participants with AD chose to interpret strong personal pronouns pronominally by obeying Principle B. In contrast, it might be a possibility that our participants with AD did not choose to interpret strong personal pronouns deictically and attribute a coreferential reading to strong personal pronouns. Therefore, they probably violated the Minimality Condition and Pragmatic Rule 1. Furthermore, there were no significant differences between reflexives and strong personal pronouns. The above results were interpreted based on difficulties on the comprehension of the syntactic binding with the application of the Principle A in reflexives and sequential problems in argument structures in the context of Reflexivity Theory and Anagnostopoulou and Everaert's analysis as well as based on coreferential problems in strong personal pronouns, and violations of the Economy Hierarchy. However, not only language-internal but also language-external factors played a role in our findings about a general comprehension deficit in various kinds of pronouns and preference in nouns instead of reflexives between groups. A language-external factor was working memory, which seems to be also compromised in our Greek AD sample with ILH's confirmation. Hence, the pronoun comprehension deficit in AD is not linguistic per se, but it has, also, cognitive aspects.

Chapter 7
Summary and basic conclusions

In this chapter, we will summarize the main findings of this PhD thesis and we will point out directions for further research. In more detail, in Section 7.1, we will present contrastively the findings in pronoun production (corpora) and pronoun comprehension (the picture-selection task; and the pronoun comprehension task) with a summary of the highlights of our research in our AD study population. In Section 7.2, we will see how our findings from production and comprehension might be related to various cognitive functions and linguistic measures. We will try to find similarities and differences between the linguistic and cognitive results across the different linguistic tasks and the different cognitive tasks. By analyzing these similarities and differences in our research, we will try to answer the question: "What is the underlying cause of pronoun production and comprehension deficits in our Greek-speaking participants with AD?" Is it linguistic per se or is it related to impairments in other cognitive functions, too? Finally, in Section 7.3, we will explore possibilities for further research based on the current findings.

7.1 An overview of the findings of the linguistic tasks

In this PhD thesis, we examined how 19 Greek-speaking individuals with AD produce and comprehend various kinds of pronouns in comparison to 19 healthy individuals matched in age and years of education. To examine pronoun production and comprehension we used: a) spontaneous speech (personal narratives), b) semi-spontaneous speech (story narrations and picture-descriptions), c) a picture-selection task and d) a cross-modal pronoun comprehension task.

In the pronoun production, we found a higher pronoun rate in our AD group that was related to the type of speech sample (the modern Cookie-Theft picture-descriptions). This pronoun overuse confirmed similar findings of Ahmed et al. (2013) and Kavé and Goral (2016). The higher pronoun rate was also supported by the qualitative analysis through the use of pronouns with null referents. The higher pronoun rate confirmed the previous cross-linguistic findings for pronoun overuse in AD. Furthermore, we found a higher pronoun-to-noun ratio and interrogative-to-total pronouns ratio for our AD group

across speech samples. The higher pronoun-to-noun ratio is in accordance with the findings of Khodabaksh et al. (2015), Fraser et al. (2016), Kavé and Dassa (2018) and Rentoumi et al. (2018). Moreover, a correlation between specific types of speech samples and pronoun type was attested within the AD group. More precisely, the AD group showed a preference for demonstrative pronouns in story narrations, for possessive pronouns in personal narratives and for indefinite pronouns in the Cookie-Theft picture descriptions. In the Cookie-Theft picture descriptions, a significant underuse of possessive pronouns was also observed. Across speech samples, there were significant differences in the interrogative-to-total pronouns ratio with higher use in the AD group in comparison to the NC one and in the relative-indefinite pronouns with lower use in the AD group compared to the NC one. Different kinds of pronouns were related with different discourse samples with the exception of the interrogative-to-total pronouns ratio. The prevalence of the interrogative-to-total pronouns ratio independently from the kind of speech samples is against March et al.'s finding (2006; 2009) of an association between a particular kind of speech sample and the pronoun type.

The qualitative analysis of pronoun production with the application of Duong's referential index also revealed unbounded pronouns with the majority of bare of reference pronouns attested in the picture descriptions of the modern version of the Cookie-Theft test, some in story narrations and a few in personal narratives. Unbounded pronouns were mostly deictic pronouns possibly due to the nature of the task (picture-descriptions). Mainly in the Cookie-Theft picture descriptions, but also in the story narrations we found the RNP phenomenon that was confirmed by our Greek-speaking participants with AD, too. During this phenomenon, the participants with AD used two distinct nouns to refer to the same entity. In addition, we found some few cases with a wrong use of gender in clitic pronouns. Together, the RNP phenomenon, the unbound pronouns and the wrong use of clitic pronouns created an incoherent discourse in our AD participants.

Problems in pronoun comprehension were also attested. More particularly, a pronoun comprehension deficit was revealed in the results of the pronoun comprehension task. In this task, we found a problem in number agreement pronoun comprehension regardless of the pronoun's category but based on the sentence length and number feature (singular or plural) for the AD group. Worse performances were detected in the long condition and singular number for the AD group. In addition, in the picture-selection task, we found that the AD group performed significantly better in clitics than in reflexives,

whereas there were no differences between clitics and strong personal pronouns and between reflexives and strong personal pronouns. The significant difference between reflexives and clitics was related to difficulties in comprehending Principle A, as well as to a violation of Reuland's Economy Hierarchy. It seems that our participants with AD had a difficulty with the obligatory syntactic binding of reflexive pronouns with their antecedents within their minimal domain. It is a possibility that they comprehended reflexives by using the mechanism of coreference that is intended for clitic comprehension. As a consequence, they misunderstood their meanings. In addition, an alteration in processing costs was found in AD. Therefore, performance in reflexive comprehension that was the least costly choice, based on the Economy Hierarchy, was the worst for our participants with AD, whereas clitic comprehension with its discoursal, coreferential reading, was close to at ceiling and it was the one that costed more in processing terms. Moreover, the insignificant difference between clitics and strong personal pronouns was related to a possible violation of the Cardinaletti and Starke's Minimality Condition. The insignificant difference between strong personal pronouns and reflexives in the AD group was related to the infelicitous choice of the stimuli, thus the strong personal pronouns in the task. This finding highlights the role of the methodology for the produced results and their interpretations.

Between groups, there were significant differences in both reflexives and clitics but not in strong personal pronouns. It seems that our participants with AD had difficulties in comprehending Principle A, that were related with the anaphoric, bound variable reading of reflexives. In addition, the significantly lower performance in reflexives was related to problems in head incorporation of 'eaftos' to LF and attribution of the [+SELF, + R] semantic features to the predicates. The lower performance in clitics in the Greek AD group compared to the NC one was related to the misuse of coreference in cases where Principle B was normally obeyed by healthy participants to exclude the coreferential reading. However, due to possible problems in obeying Principle B and the bound variable reading, coreference between clitics and their antecedents was applied by our participants with AD. As we have seen, the Pragmatic Rule 1 was applied in the lower performance in clitics in the AD group as compared to the NC one, as long as our participants with AD chose an intrasentential coreference for their clitics and their antecedents. The non-significant difference in strong personal pronouns between groups, but still the strong personal pronoun impairment in both groups can be explained along

the lines of Sanoudaki and Varlokosta (2014b). In particular, both the AD and the NC group, similarly to Sanoudaki and Varlokosta's children and adult groups, had to choose between violating Principle B with an anaphoric reading of strong personal pronouns and violating the pragmatic Minimality Condition with attributing a deictic interpretation to strong personal pronouns. Therefore, from the insignificant differences in strong personal pronouns between the AD and NC groups, we can conclude that both groups possibly chose to violate the Minimality Condition and by this way to tolerate this pragmatic misuse.

Finally, the results of pronoun production and comprehension respectively did not point out an asymmetry between pronoun production and comprehension patterns in AD. For instance, we did not find an intact pronoun production mechanism and a damaged pronoun comprehension. Our Greek-speaking participants with AD were impaired in both pronoun production and comprehension. Performance on pronoun production and pronoun comprehension correlated with the general cognitive and linguistic profile of our AD participants, for instance with their naming abilities. We will discuss the correlational results in the next subsection.

7.2 General conclusions about all the correlations

In this section, we will compare all the correlations based on the cognitive functions and aspects of linguistic performances for each task and we will discuss about this analysis. Regarding the correlations overall, we concluded that pronoun production in AD is related to the well-known naming deficit that is one of the main symptoms of AD. In the comprehension of reflexives, clitics and strong personal pronouns, it seems that naming but also working memory and semantic fluency play a role depending on the kind of pronoun. In the number agreement comprehension of personal pronouns (strong and weak), firstly a working memory impairment is related to the poor performances in number agreement. Naming and semantic fluency performances play a secondary role in the pronoun number agreement comprehension. Hence, I suggest that not only one cognitive function contributes to the worse performance in pronoun comprehension but a bulk of cognitive functions and linguistic performances that differ depending on the task, its condition and the linguistic feature (e.g., the number feature).

7.2.1 Correlations based on the cognitive function in pronoun production and comprehension.

A main finding of the correlational analysis was that, in all tasks, a significant correlation was attested between naming performance and the linguistic tasks in the AD group. Indicative of the high correlations between naming problems in AD is the high negative correlation of the pronoun-to-noun ratio with naming performance within the corpora. No significant correlations were found between pronoun production and comprehension and the AD performance in the Stroop test. Regarding working memory, we found no correlations with pronoun overuse (i.e. with the pronoun-to-noun ratio and pronoun rate as well as with the interrogative-to-total pronouns ratio). These findings do not support Almor's working memory hypothesis and ILH. An interesting finding is the moderate positive correlation between reflexive comprehension in the picture-selection task. On the basis of this finding, we can conclude that the selective deficit in reflexive comprehension is tightly correlated to working memory function. Striking findings were also attested in the pronoun comprehension task, in which in all cases we found moderate to almost high correlations between working memory performance with all the conditions and numbers. The fact that these correlations were higher than the corresponding correlations with naming performance indicate that the low performances in the pronoun comprehension task are probably due to a working memory impairment more than a naming deficit. Similarly, the low performance in reflexives in the picture-selection task is related to working memory dysfunctions. In contrast, performance on clitics correlated with naming problems. The reason why reflexives are closely related to working memory performance whereas clitics are correlated to naming performance needs further investigation.

Similarly, we found a moderate positive correlation between performance on semantic fluency and performance on both clitics and strong personal pronouns in the picture-selection task. Regarding naming performance with all the pronoun linguistic tasks respectively, we can conclude that the correlations between semantic fluency performance and all the pronoun linguistic tasks were lower than the correlations of the naming performance in all cases with pronouns. One exception to this rule is the higher correlation of the semantic fluency performance and strong personal pronoun comprehension as compared to the corresponding correlation of naming performance and strong personal pronoun comprehension. Furthermore, no correlation was found between the plural number and the semantic fluency performance in the pronoun comprehension

task. This is an interesting finding, because we would expect that semantic fluency performance would be correlated with pronoun comprehension in the same way that naming performance was correlated to pronoun comprehension, given that both semantic fluency and naming are related to semantic memory.

In sum, from both the linguistic and correlational findings of this PhD thesis, we can conclude that Almor's Working Memory Impairment Hypothesis and ILH were not confirmed in the pronoun production of our Greek-speaking participants with AD. In contrast, a naming impairment that correlated with the higher pronoun-to-noun ratio found in the corpora of our AD participants confirmed the Semantic Memory Impairment Hypothesis that was referred in the studies of Almor et al. (1999), Fraser et al. (2016) and Kavè and Goral (2016). Similarly, correlations between the semantic fluency performance and pronoun production in our Greek AD group, also, confirmed the Semantic Memory Impairment Hypothesis. Therefore, the problem in pronoun production in AD does not appear to be syntactic per se, –thus a problem in forming chains between pronouns and their antecedents– but it appears to be a problem related to cognitive functions relative to the semantic memory performance. In contrast, pronoun comprehension deficits attested in our Greek AD group confirmed Almor's ILH and Working Memory Impairment Hypothesis about pronoun comprehension.

In particular, the results of this PhD thesis highlighted that on the one hand, the breakdown of binding relations in Greek AD and more specifically, the worse performance in reflexives was related to a working memory impairment in Greek AD (see table 7-1).

Higher pronoun-to-noun ratio in AD~ Naming Impairment
No correlation between pronoun overuse & working memory impairment; No confirmation of Almor's Working Memory Impairment & ILH in pronoun overuse
Higher pronoun rate in AD~ discouse genre (Cookie-Theft picture description task)
Breakdown of binding relations; worse performance in reflexives~ Almor's Working Memory Impairment and ILH's confirmation
Strong personal pronoun and clitic comprehension deficits~ Semantic Memory Impairment Hypothesis's confirmation; naming & semantic fluency problems, respectively
Problems in pronoun number agreement (irrespectively of conditions) ~ Almor's Working Memory Impairment & ILH's confirmation

Table 7-1. *Summary-table of the PhD's thesis main findings*

Therefore, Caplan and Waters's (1999) suggestion about pronoun comprehension as a post-interpretive process was confirmed by our correlational results in reflexives and personal pronoun comprehension. More specifically, we found a strong use of working memory in the process of reflexive comprehension that was impaired in AD. However, this working memory impairment hypothesis was confirmed only for reflexive comprehension and not for the personal pronouns examined. In contrast, naming abilities and semantic fluency performance were correlated to strong personal and clitic comprehension. Therefore, based on our findings for each different kind of pronoun, a different cognitive function was involved in their comprehension. Moreover, Almor's ILH and Working Memory Impairment Hypothesis were related with problems in number agreement in all conditions (singular, plural, long and short).

Lastly, the contribution of this PhD thesis consists firstly on the unfolding of both pronoun production and pronoun comprehension problems in Greek-speaking participants with AD. This finding is really important, because it confirms the fact that both pronoun production and pronoun comprehension problems are not language-specific, but a pattern that has been attested among different languages, e.g., American English, Catalan, Greek, among other languages. In addition, this PhD thesis confirmed Almor's ILH and Working Memory Impairment Hypothesis in the case of reflexive comprehension and pronoun number agreement, but not in the case of pronoun overuse (pronoun rate results). The correlation of impaired reflexive comprehension and impaired pronoun number agreement with a working memory problem is noteworthy, because from these findings it has been revealed that the underlying deficit in impaired reflexives and pronoun number agreement comprehension is the smaller working memory capacity of our AD participants. Therefore, it seems that the proper function of working memory is a prerequisite for understanding reflexive pronouns and for pronoun number agreement comprehension. The finding of the vital role of working memory in reflexives and pronoun number agreement comprehension matters greatly for the participants with AD and their caregivers, because by this way a therapeutic protocol –that is centred to amplifying the working memory functionality in AD– can be created. Moreover, another important contribution of this PhD thesis is that not only working memory, but a bulk of executive and linguistic functions and performances have contributed to the impaired pronoun production and comprehension in AD. Thus, the Semantic Memory Impairment

Hypothesis has been confirmed in the impaired comprehension of the binding relations of clitics and strong personal pronouns and a specific naming impairment has been attested in the case of pronoun-to-noun ratio. The decisive role of naming and semantic fluency is also crucial, because —similarly to a working memory protocol— a similar, neuropsychological, psycholinguistic and neurolinguistic protocol, targeted to AD participants can also be formulated to help participants with AD to enhance their naming and semantic fluency skills and secondarily, caregivers to help them on the process. In addition, the association of the higher pronoun rate in Greek AD with a specific discourse genre (picture-descriptions) is also an important contribution to psycholinguistic research in AD. This association is vital because, it highlights that the use of specific pronouns is not a random selection, but to the contrary, is highly correlated to the discourse and the communicative intention of each AD participant.

The innovation of this PhD study consists on a) the examination of a relatively well-studied topic, that is the binding relations but on an understudied population, that is the Greek-speaking participants with AD and on b) the application of a mixed methodology with the use of both computational linguistics in spontaneous and semi-spontaneous speech and behavioral experiments (a picture selection task, a pronoun comprehension task). In other words, this PhD thesis has contributed to the Greek psycholinguistic, neurolinguistic and computational linguistic research with an examination of a pathological population that has not been examined before adequately, and especially with computational means.

7.3 Limitations of the study and future research

In this subsection, we will discuss some of the limitations of the current investigation and directions for future research. Firstly, a limitation of the pronoun production study is the absence of a correlational analysis between a specific discourse genre (e.g., personal narratives), the use (overuse and underuse) of specific pronoun types (e.g.. possessive pronouns) and the different executive functions. Therefore, a researcher could examine, in the future, the different kinds of pronouns or to put it more precisely, the different one-kind of pronouns-to-total pronouns ratios within one discourse genre (e.g., personal narratives) and in relation to the different kinds of executive functions. However, the correlational analysis could not be limited to one discourse genre only. Therefore, an interesting topic for further research could be the investigation of the role of the different

pronoun types in different discourse genres and vice versa. Hence, the examination of the different kinds of pronouns would not be limited to one kind of discourse genre, but it would expand to different discourse genres, too (e.g.. possessive pronouns-to-total pronouns ratio in personal narratives vs personal pronouns-to-total pronouns ratio in picture descriptions). In the context of a forthcoming correlational analysis, a possible limitation of the study is the absence of one-to-one correlations between each neuropsychological test with each linguistic performance. To this end, a future research could be illustrated with a correlational analysis between each test that we grouped in a group of working memory tests with each linguistic task (e.g., a correlation between the digit ordering task and the pronoun comprehension task or a correlation between the semantic fluency test with animals and the picture-selection task). The separation of the groups of neuropsychological tests implemented in our study could be useful, because it has been argued that each of the neuropsychological tests especially the ones grouped under the group of working memory tasks is associated with a different cognitive function. By examining separately each cognitive function, measured by these different cognitive tasks, possible correlations could be extracted and interesting directions on the interpretations of our participants with AD's linguistic performances could be based also on these further correlations.

A second limitation of the current study is the exclusion of the written speech from the investigation of AD's speech output. Hence, another part of pronoun production and comprehension that could be examined is the modality of the written Cookie-Theft picture descriptions (modern version) in comparison to the modality of oral speech samples, thus personal narratives. Therefore, future directions for the study of AD's written speech could be open and be compared to the oral speech of this population.

A third limitation of the study is the size of the sample which is relatively small. Therefore, the power of the statistical analysis is sequentially small. Hence, an addition in this research would be the enhancement of the sample's size that would have a sequential additive power in the statistical analysis and consequently in the results. In its current state, this study is not easily replicable but if we enhance its size the replication reliability will also be enhanced.

Another limitation of this PhD study is the use of offline linguistic tasks and speech samples that were being transcribed to study pronoun use. Besides this offline methodology, it would be interesting to study pronoun production and comprehension in

Greek-speaking participants with AD with various online experiments (e.g., eye-tracking, lexical decision tasks). The implementation of the various online experiments could be a future step in understanding how people with AD process pronouns and their various phi-features, such as the phi-feature of case or the different pronoun types in real time. Moreover, with the use of online experiments, we, as researchers can study how people with AD use various executive functions, such as their working memory in real time in order to resolve and assign reference to pronouns. In particular, by using online experimental methodology, we, as researchers, can examine the way people with AD attribute specific morphosyntactic or semantic features to pronouns with the help of their cognitive functions and their linguistic profiles. For example, the online processing of pronoun number agreement in Greek AD could be examined with online tasks in order to see how working memory contributes to the reference resolution in cases of both pronoun production and comprehension by holding the necessary linguistic information of pronouns and their antecedents.

A fifth limitation of this thesis is the absence of the neuroimaging techniques' s application in pronoun use in AD. Thus, a possible direction for future research could be the use of neuroimaging techniques, such as the use of MEG and fMRI experiments to assess the neural correlates of both pronoun production and comprehension. By the use of an fMRI experiment, a researcher could possibly assess the neural mechanisms that are related to pronoun reference. Thus, neuroimaging techniques, such as the fMRI could possibly be a useful tool in order to unfold the brain regions that are being activated during pronoun reference resolution.

All in all, pronoun production and comprehension could be a useful linguistic biomarker for detecting AD based on the results of this PhD research in Greek participants with AD. Hence, the importance of this PhD thesis and of similar studies –that are related to pronoun reference– lays not only on the strict academic context but also on the work outside academia. In other words, this PhD thesis could be useful for dementia's clinics and AD's rehabilitation centers, but also for campaigns and initiatives for raising awareness of linguistic problems in AD. As a part of clinical assessments and outside of the academic context of psycho-/neurolinguistic research, pronoun use could be an extremely helpful linguistic device that could aid the clinical praxis of dementia's and AD's diagnosis, detection and prevention and as such should be considered. To this end, pronoun use could be included in the screening tests of AD's neuropsychological,

psycholinguistic and neurolinguistic assessments. Together with naming and semantic fluency tasks, a pronoun use protocol could be used in Alzheimer's Centers and Dementia's Schools. This pronoun use protocol could be divided to pronoun production and pronoun comprehension sessions of tasks with both oral and written speech assignments and assessments. This pronoun use protocol could be used not only by clinicians (clinical psychologists, doctors, psycho-/neurolinguists, speech pathologists) but also by caregivers of people with AD in order to help people in prodromal stages of AD or people with AD to keep the necessary knowledge of pronoun use.

As a closing remark of this PhD thesis, we, as researchers, should be aware of these biomarkers, like pronoun use and in general, consider language and its linguistic abnormalities to unfold the neuronal connections and the psycholinguistic/neurolinguistic processes of the healthy or damaged human brain.

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APPENDICES

Appendix I (Corpus)- Transcriptions of the oral picture descriptions of the modern version of the Cookie-Theft

A. AD group

1.

Σ(υμμετέχων)[69]: *(γέλια) Λοιπόν εεε το βασικό τους όπλ μεριμν η βασική τους μέριμνα είναι ηηη (μικρή παύση) φροντίδα του εαυτού τους ο ένας τηλεφωνάει (μικρή παύση)* ***ο άλλος*** *(μικρή παύση) θαυμάζει τη γυναίκα του που κάνει τη δουλειά (μικρή παύση) που γλύτωσε το κούρεμα (μικρή παύση) λοιπόν πάμε τι θες να σου πω να σου περιγράψω και τα παιδιαααά προσπαθούν να διασκεδάσουν τον* ***εαυτό*** *τους με τιςςς με τααααα ιιι τρώγοντας τα βρίσκοντας που είναι τα γλυκά και τρώγοντάς τα*

Ε(ρευνήτρια): *Ωραία αυτά.*

Σ: *Τα γλυκά. Λοιπόν.*

Ε: *Πείτε κι άλλα.*

Σ: *εεε τι θα γίνει όταν θα γυρίσει μέσα η γυναίκα και θα του πει να σφουγγαρίσει καιιιι και και θα της πει* ***αυτός*** *αυτή είναι δικιά σου δουλειά δεν είναι δικιά μου λοιπόν*

Ε: *(γέλια)*

Σ: *και θα γίνει το έλα να δεις (γέλια) λοιπόν. Το σκυλί και έχουμε ένα σκυλί εδώ πουυυυυ τρώει τα αποφάγια τωωωωωων φυσιολογικά φυσιολογικό σκυλί προφανώς τρώει τα μπροστ τα αποφάγια των παιδιών να ούμε λοιπόν που είναι τααααα μπισκότα πουυυυ που ρίχνει κάτω*

Ε: *Ναι.*

Σ: *Εεεε μια γάτα η γάτα εκεί την έχει στήσει περιμένοντας ότι θα βρει χαζά πουλιά για να τα φάει να ούμε (μικρή παύση) ντάξει;*

Ε: *Μχμ*

Σ: *Λοιπόν και δεν αποκλείεται γιατί το ένα το βλέπω ήδη προσγειωμένο και περιμένει*

Ε: *(γέλια).*

Σ: *Εκτός αν η γάτα έχει κουνηθεί πιο μπροστά και* ***αυταααά*** *(μικρή παύση) και την πήραν είδηση και είναι στοοοο στην* ***αυτό*** *δεν πρόλαβε να ξεκινήσει ακόμα ενώ τ'άλλα ξεκινήσανε λοιπόν εεεεε (παύση) τώρα εδώωω (μικρή παύση) δεν μας έ- εδώ μας έχει ένα έτσι μας*

[69]With the label "*Συμμετέχων*" is named the participant (male, female) whereas with the label "Ερευνήτρια" is named the researcher. With the label "*Φροντίστρια*" is named the caregiver.

μπλέκει γιατίιι αυτή κόβοντας το χορτάρι (μικρή παύση) εδώ στο χορτάρι που κόβει που έχει που βρίσκεται αυτή τη στιγμή η μηχανή έχει βάλει κάτι σααα λουλούδια που δεν ξέρω τι θέλει να μας δείξει κόβει τα λουλούδια κόβει τοοο έχει μαλώσει με τον άνδρα της και αντί να τα βγάλει (μικρή παύση) στον άντρα της τα βγάζει στα λουλούδια

Ε: *(γέλια).*

Σ: *δεν ξέρω (αλληλοεπικάλυψη: δεν είναι κατανοητό τι λέει- παραφασία) Λοιπόν άλλο. (γέλια) Τι* ***άλλο*** *θέλεις να σου πω;*

Ε: *Όχι, εντάξει. Τα πατε.*

Σ: *εντάξει ;*

(...)

❖

2.

Σ(υμμετέχων): *Παιδάκια βλέπω πετρα βάνω αρο Άλλο ανεβαίνει άλλο κατεβαίνει. Το σκυλάκι από κάτω εεε*

Ε(ρευνήτρια): *Ναι*

Σ: *Τίποτα άλλο…τι να πω*

Ε: *Ό,τι βλέπετε.*

Σ: *Ό,τι βλέπω (παύση)*

Ε: *Τι βλέπετε;*

Σ: *Εδώ;*

Ε: *Ναι*

Σ: *Ένα νεαρό και* ***αυτός*** *κάτι κρατάει εκεί πέρα (μικρή παύση) τι είναι* ***αυτό*** *δεν ξέρω. Τύμπανο; Δεν ξέρω.*

Ε: *Στο αριστερό του χέρι;*

Σ: *Σοκολάτα; Τρώει;*

Ε: *Οκ. Και απ'οδώ απ'έξω;*

Σ: *Εδώ το κοριτσάκι πάει για ψώνια. Όχι. Κουρεύει το γκαζόν.*

Ε: *Μχμμ μχμμ*

Σ: *Πιστεύω.*

Ε: *Ναι.*

Σ: *Και εδώ και εδώ είναι μία (επιμήκυνση του α) ή γάτα ή κατσούλα δεν ξέρω πως τη λένε (ηχοι διάφοροι άσχετοι) κουρεύει (επιμήκυνση του ει) το γκαζόν το κοριτσάκι (παύση)*

Ε: *Και τι άλλο βλέπετε;*

Σ: *Άλλο τι ναι **αυτά.** Ξέρω γω τι είναι **αυτά**; Διάφορα. (μικρή παύση) Δεν μπορώ να βλέπω δεν μπορώ να ξέρω τι διάολο πως τα λένε **αυτά;***

Ε*: Εντάξει. Δεν πειράζει.*

Σ: *Είναι διάφορες. Ε (επιμήκυνση του ε) Κλειδώνουμε τις πόρτες. Κλειδαριές είναι τι να σου πω.*

Ε*: Ωραία. Αυτά;*

Σ: *Ναι.*

Ε: *Ωραία. Εντάξει.*

○

3.

Ε(ρευνήτρια)*: Πάμε;*

Σ(υμμετέχων)*: **Αυτό**ς εδώ πέρα είναι ένα αγοράκι με τα με τα κούκις και ένα κοριτσάκι (γέλια) το (επιμήκυνση του ο) το αγοράκι είναι ολίγον τι (γέλια) ε καλά το χουνε τα αγόρια εντάξει το προσέχει το κοριτσάκι (γέλια)*

Ε: *Ναι. Ωραία.*

Σ: *Εδώ είναι τώρα ένας λεβέντης καιιι ο άντρας της είναι τώρα δεν ξέρουμε ας πούμε και (επιμήκυνση του αι) μα **αυτό**ς **αυτό**ς τώρα τι κάθεται εδώ η κοπέλα (γέλια) φτιάχνει τοοοο το (γέλια) το κα το καζόν και ετούτος εδώ τι κάνει δεν ξέρω (γέλια)*

Ε: *Για δείτε καλά τι κάνει; τι κρατάει στο χέρι του;*

Σ: *Ααα μήπως; Μήπως έχει καμία μπάλα ε;*

Ε: *Ωραία.*

Σ: *Ναι.*

Ε: *Και από εδώ;*

Σ: *Από εδώ; (παύση) Εεεεε δεν ξέρω αυτά (παύση) δεν ξέρω τι είναι.*

Ε: *Ωραία. Δεν πειράζει. Είναι κάτι άλλο;*

Σ: *Ένα ένα σκυλάκι, ένα κοριτσάκι ένα αγοράκι και μια η (επιμήκυνση του η) κυρία εδώ που κάνει το καζόν. (παύση) Ο κύριος εδώ καλά εντάξει ναι; **Τούτο** εδώ δεν μπορώ να καταλάβω. (παύση)*

Ε: *Εντάξει. Αυτά;*

Σ: *Ναι.*

Ε: *Ωραία.*

❖

4.

Σ: *εδώ είναι δύο παιδάκια ένα κοριτσάκι ένα αγοράκι που παίζουνε (παύση)*

Ε: *Ναι.*

Σ: *το αγοράκι είναι πάνω σε ένα σκαμνί και ένα σκυλάκι εδώ κάτω*

Ε: *Μχμ*

Σ: *που χει*

Ε: *μχμ*

Σ: *το παιδάκι ανέβηκε πάνω εκεί*

Ε: *Μχμ*

Σ: *και εδώ (παραφασία) δίπλα*

Ε: *μχμ μχ*

Σ: *εδώ είναι ένας άντρας ψηλά μία γυναίκα με ένα μηχάνημα που κόβει το χορτάρι*

Ε: *Μχμ*

Σ: *και εδώ **αυτά** τι είναι; Εδώ τι είναι; (παύση) Τι θέλεις; Θέλεις τίποτα άλλο;*

Ε: *Μια χαρά. Αυτά. Ωραία.*

❖

5.

Σ(υμμετέχων)*: Λοιπόν μία κυρία έχει το τηλέφωνο στο αυτί και αντί νααααα κουρέψει το γκαζόν (γέλια) κουρεύει και τα λουλούδια (παύση) τώρα ο κύριος τι κάνει (επιμήκυνση του ι) σκουπίζει (επιμήκυνση του ει) (παύση) καπέλο είναι **αυτό** ή πιάτο; (παύση)*

Ε(ρευνήτρια)*: Σαν τι σας φαίνεται; (παύση)*

Σ: *Σαν πιάτο*

Ε: *Ωραία.*

Σ: *Σκουπίζει το πιάτο;*

Ε: *Ναι (επιμήκυνση του αι)*

Σ: *Ναι. Ο μικρούλης πάει να πάρει (επιμήκυνση του ι) τα γλυκά από το ντουλάπι και η μικρούλα κάτω πάει να του γυρίσει το σκαμπό να πέσει να γκρεμοτσακιστεί ο κακομοίρης (γέλια) (παύση).*

Ε: *Ναι.*

Σ: *Μμ και το σκυλάκι τρώει **αυτά** που πέφτουν απ'το κουτί απάνω (μικρή παύση)*

Ε: *μχμμ*

Σ: *και ο νεροχύτης φούσκωσε (παύση) απ' τα νερά και τρέχουν οι σαπουνάδες και τα νερά κάτω τίποτα άλλο δεν βλέπω.*

❖

6.

Σ(υμμετέχων)*: Δύο παιδιά ε (επιμήκυνση του ε) (παύση) τακτοποιούν (παύση) τακτοποιούν ε (επιμήκυνση του ε) (παύση)*

Ε(ρευνήτρια)*: Ναι ναι*

Σ: *Εεεε τακτοποιούν (μικρή παύση) πως να το πούμε τώρα δύο (επιμήκυνση του ο) δύο (επιμήκυνση του ο) απ' ό,τι βλέπω εδώ πέρα (μικρή παύση) ένα του ενός και ένα του τ' άλλου μαζί και οι δύο (μικρή παύση) ε (επιμήκυνση του ε) διευθύνουν ε (επιμήκυνση του ε) (παύση) πώς να το πούμε τώρα **αυτά** τα έπιπλα (παύση)*

Ε: *Ναι*

Σ: ***Αυτα** ναα **αυτά** εδώ να πούμε είναι **αυτό** εδώ και **αυτό** εδώ πέρα (παύση)*

Ε: *Ωραία*

Σ: *είναι ένα είναι τα δύο (επιμήκυνση του ο) τα μικρά παιδιά και δύο μεγάλοι να το πούμε δύο μεγάλοι ε (επιμήκυνση του ε) (παύση) δύο μεγάλοι άνθρωποι και δύο μεγάλοι άνθρωποι (παύση)*

Ε: *Ναι*

Σ: ***Αυτό** το (επιμήκυνση του ο) μέρος το δεύτερο (παύση) το ομορ το ομορφαίνουν τοο*

Ε: *Μη μου το ζωγραφίσετε μόνο προσέξτε, Ναι*

Σ: *Το (επιμήκυνση του ο) ομορφαίνουν το κατευθύνουν ε (επιμήκυνση του ε) πως να το πούμε τώρα (παύση) **αυτοί** εδώ πέρα ας πούμε οι άνθρωποι είναι μεγάλοι **αυτοί** τώρα τα μικρά ό,τι ήτανε ό,τι είπαμε αλλά **αυτοί** οι δύο μεγάλοι ε (επιμήκυνση του ε) φτιάχνουνε (παύση) ωραίες μορφές από (παύση) φτιάχνουν ωραίες μορφές*

Ε: *Μχμμμ (παύση) Ναιιι (παύση)*

Σ: *Τι άλλο να γράψεις; Και **αυτό** και άλλη μία από δω πέρα ας πούμε (παύση) ομορφαίνουν το κτίριο (παύση)*

Ε: *Ωραία*

Σ: *Οι μεν **αυτοί** εδώ και (επιμήκυνση του αι) τα μικράκια (παύση) ας πούμε*

Ε: *Ναι*

Σ: ***Τίποτα άλλο τι** να γράψεις. (παύση) Μην σας κουράζω κιόλας περισσότερο*

Ε: *Δεν με κουράζετε. Εσείς μην κουράζεστε.*

Σ: *Όχι όχι εγώ (επιμήκυνση του ω) δεν έχω (επιμήκυνση του ω) να να κουραστώ.*

Ε: *Αυτά λοιπόν; Αυτά; Είναι κάτι άλλο στην εικόνα;*

Σ: ***Άλλο τώρα**;; (γέλια) μη βάλουμε και το σκύλο, ντάξει (γέλια) .*

Ε: *Γιατί να μην το βάλουμε και το σκύλο;*

Σ: *Ε πάει; Ταιριάζει κι* ***αυτός;***

Ε: *Ταιριάζει.*

Σ: *Ωραία ε τότε να το βάλουμε και* ***αυτόν****. Και ένας σκύλ- ο σκύλος να περιφέρεται. (παύση) Εδώ μέσα ας πούμε. (μικρή παύση) Έτσι δείχνει. Και ένας σκύλος να περιφέρεται να πούμε. (παύση)* ***αυτό*** *είναι.*

❖

7.

Ε(ρευνήτρια)*: Για πείτε μου (παύση)*

Σ(υμμετέχων)*: Το σκυλάκι το σκαμπό το κοριτσάκι (επιμήκυνση του ι)* **(***μικρή παύση) το αγοράκι (μικρή παύση) πάνω στο σκαμπό και προσπαθεί να πιάσει τα κούκις από ένα ντουλάπι (παύση) ό,τι έχει κινητικότητα λέω δεν λέω τα άλλα τα καθιστά*

Ε: *Όλα.*

Σ: *Τα ντουλάπια.*

Ε: *Θα ήθελα όλα.*

Σ: *Όλα; Και το σκαμνί;; και το σκυλί;*

Ε: *Όλα. Όλα.*

Σ: *Και το ένα δύο τρία τριάμισι ντουλάπια που φαίνονται ;*

Ε: *Όλα.*

Σ: *και από πάνω έχει ένα, δύο, τρία (παύση) ε (επιμήκυνση του ε) έχει κι ένα ντουλαπάκι ανοιγ-μένο (μικρή επιμήκυνση του ο) και ένα (επιμήκυνση του α) σκεπασμένο το γκρίζο σκεπάζει (παύση)* ***ετούτο*** *(μικρή παύση) αν το 'χει ολοκληρώσει το 'χει κάτω (μικρή παύση) α τώρα θέλετε κι εδώ (γέλια) (μικρή παύση) τώρα ο νεαρός τι κάνει δεν γνωρίζω (παύση) ε (επιμήκυνση του ε)* ***αυτά*** *(επιμήκυνση του α) δεν πιστεύω να είναι τρένο πρέπει να ναι σπίτι αφού είναι (μικρή παύση) στον κήπο τη γατούλα (παύση)* ***αυτό*** *πρέπει να είναι παράθυρο (παύση)* ***αυτό*** *εγώ τώρα σαν σπίτι δεν το βλέπω (μικρή παύση) το βλέπω περισσότερο σαν τρενάκι (γέλια) εδώ ένα πουλάκι (μικρή παύση) η κυρία με το καροτσάκι της (παύση) ε (επιμήκυνση του ε) δεν είναι καθαρή η εικόνα* ***αυτό*** *μπορείς να το πεις και καπέλο (παύση) και (επιμήκυνση του αι) (μικρή παύση) καπέλο θα το έλεγα λουλουδάκια (μικρή παύση) αυτοί σωλήνες σωλήνες (παύση) ε (επιμήκυνση του ε) εδώ καγκελάκια (μικρή παύση)* ***αυτό*** *δεν ξέρω τι είναι (μικρή παύση) εκτός αν βγαίνει κάποιος αφρός από δω μέσα (μικρή παύση) ο κύριος μπράβο νοικοκύρης είναι (μικρή παύση) καθαρίζει εδώ*

*κανά πιάτο καμιά πιατέλα μμμμ (παύση) τον κύριο βλέπω τίποτα **άλλο** δεν βλέπω και την κυρία από εδώ (παύση)*

Ε: *Μπράβο.*

Σ: *Ορίστε;*

Ε: *Αυτά; Τελειώσατε;*

Σ: *Ε ναι τώρα τι **άλλο** να περιγράψω (επιμήκυνση του ω) τα χρώματα (επιμήκυνση του α) και **αυτά** εδώ τα ντουλάπια αν είναι και δεν φαίνεται αν είναι και ντουλάπια (μικρή παύση) ζωγραφισμένα (μικρή παύση) και **αυτά** (επιμήκυνση του α) πάλι έχουν ένα συννεφώδες χρωματισμό (επιμήκυνση του ο) συννεφώδη όχι συννεφώδες συννεφώδη χρωματισμό (επιμήκυνση του ο) θα μπορούσε κανείς να τα πει ότι ήτανε (επιμήκυνση του ε) και νερό που (επιμύκυνση του ου) (παύση) φουσκώνει ξέρω 'γω και τραβάει προς τα κάτω (παύση) πάντως δεν είναι καθαρ- δεν είναι πολύ καθαρή η εικόνα τι παρουσιάζει (μικρή παύση) με τη φαντασία σου μπορείς να πεις (μικρή παύση) μπορείς να πεις για καπέλο μπορείς να **το** πεις για (επιμήκυνση του α) κάλυμμα (επιμήκυνση του α) πορτατίφ δεν είναι ακριβώς **κάτι** που σύρει (παύση)*

Ε: *Μάλιστα. Κάτι άλλο;*

Σ: *Ε τη γατούλα, (ξεροβήχει) τα πουλάκια εδώ, τι **άλλο**; (μικρή παύση) Το σκυλάκι (μικρή παύση) που τρέχει να φάει **κάτι** (μικρή παύση) το νεαρό που θέλει να φάει τα κούκις (μικρή παύση) και το κοριτσάκι που λέει δώσε μου και μένα.*

Ε: *Ωραία.*

❖

8.

(γέλια)

Ε: *Για σας ακούω*

Σ: *Λοιπόν, το αγοράκι άνοιξε την (επιμήκυνση του η) τη το την πόρτα ας πούμε*

Ε: *Μχμμ*

Σ: *και βάζει τα κούκις (μικρή παύση)*

Ε: *Μχμμ*

Σ: *μετά το άλλο κοριτσάκι (παύση) ε (επιμήκυνση του ε) το ένα κοριτσάκι (μικρή παύση) είναι πολύ όμορφο (γέλια) και σηκώνει το (επιμήκυνση του ο) χέρι του (μικρή παύση) **αυτόν** τον είπα; (μικρή παύση) Μέχρι να πέσεις κάτω (επιμήκυνση του ω)*

Ε: *Ναι ε (επιβεβαίωσης ε-επιμήκυνση του ε)*

Σ: *προσπάθησε να **το** (επιμήκυνση του ο) να **το** βάλεις προς τα πάνω*

Ε: *Ναι*

Σ: *Κάπως*

Ε: *Ναι*

Σ: ***Αυτό*** *το είπαμε;*

Ε: *Όχι δεν το είπαμε. Για πείτε μου.*

Σ: *Καρεκλάκι*

Ε: *Ναι.*

Σ: *Ο σκύλος ε;*

Ε: *Μχμμ μχμ πολύ ωραία.*

Σ: *ε (επιμήκυνση του ε) ένα αγόρι που πλένει τα πιάτα (παύση)*

Ε: *Ωραία*

Σ: *Ε (επιμήκυνση του ε) Μετά έχει από κάτω για να βάζουνε διάφορα (επιμήκυνση του α) αυτά (επιμήκυνση του α) το νερό (μικρή παύση) και η κοπέλα που κάνει το (επιμήκυνση του ο) στον κήπο (επιμήκυνση του ο) το πράσινο (παύση)*

Ε: *Κάτι άλλο είναι;*

Σ: *Όχι, ε ποιο να είναι άλλο. (μικρή παύση) Το γατί; (παύση)* ***Αυτό;***

Ε: *Τι κάνει το γατί; (μικρή παύση)*

Σ: *Το γατί κοιμάται. (γέλια) ε (επιμήκυνση του ε με ερώτηση επιβεβαίωσης) Εδώ έχει (επιμήκυνση του ει) εμ για να δω λιγάκι.*

Ε: *Ναι*

Σ: *Δεν θυμάμαι καθόλου να πάει προς τα πάνω. (μικρή παύση) Δηλαδή να να πάει*

Ε: *Μχμμ*

Σ: ***αυτά*** *είναι που δεν μπορώ να πω*

Ε: *Μχμ*

Σ: *πως είναι πώς μου ήρθε τώρα ένα χρόνο (επιμήκυνση του ο, μικρή παύση) δεν μπορώ να πω (μικρή παύση) ενώ πάντα ήμουν μπλα μπλα μπλα μπλα μπλαμπλα μπλα μπλά τώρα (επιμήκυνση του α)*

Ε: *Ναι*

❖

9.

Ε: *Ναι*

Σ: *Δύο μικρά παιδάκια το ένα πάνω σε μια καρέκλα σε (επιμήκυνση του ε) ένα σκαπό*

Ε: *Μχμ*

Σ: *ε και δείχνει στο κοριτσάκι κάτω **τής** δείχνει τι είναι **αυτό** το που κρατάει*

Ε: *Μχμ*

Σ: *και το κοριτσάκι γελάει το ένα της χέρι το ένα δείχνει κείνο και το άλλο γελ- στο στόμα της και γελάει*

Ε: *Μχμ*

Σ: *και απέναντι είναι ένας νεαρός (μικρή παύση) πολύ ωραίος ε λεπτός και κρατάει ένα πιάτο είναι **αυτό**; πιάτο το οποίο έχει κι ένα **αυτό** που το (επιμήκυνση του ο) πλένει το πιάτο έτσι ; λοιπόν **αυτό** είναι η εικόνα το βασικό ποιο άλλο θέλεις;*

❖

10.

Σ(υμμετέχων)*: Ναι*

Ε(ρευνήτρια)*: Ναι ναι*

Σ: *Άνθρωπος εδώ η κυρία με το καροτσάκι (παύση)*

Ε: *Ναι (μικρή παύση)*

Σ: *Ωραίο είναι.*

Ε: *Τι άλλο λέ- τι άλλο ε (επιμήκυνση του ε) δείχνει;*

Σ: *Δεν έχει άλλο.*

Ε: *Δείτε καλά. Δείτε καλά. Δείτε καλά.*

Σ: *Ναι*

*Φ(ροντίστρια): **Τι τη** ρώτησες;*

Ε: *Τι έχει στην εικόνα;*

(Φροντίστρια): Α! Τι βλέπεις μαμά;

Σ: ***Τι** βλέπω;*

Φ: Ναι

Σ: *Βλέπω τον άνθρωπο εδώ που κρατάει **αυτό**. Την κυρία που κρατάει το καροτσάκι,*

Φ: Ναιι

Σ: *το γατάκι πουυ πηδάει τα άλλα γατάκια τα παιδιά που παίζουνε*

Φ: Ναι

Σ: *τις δυνάμεις (σημασιολογική-φωνολογική παραφασία;) στο καρεκλάκι και το σκυλάκι που τρώει το (επιμήκυνση του ο) ψωμάκι*

Ε: *Ωραία ωραία*

(…)

❖

11.

Ε: *(...πείτε μου).*

Σ: ***Αυτός*** *ο χώρος πιστεύω ότι είναι μέσα σε μία κουζίνα*

Ε: *Μχμ μχμ*

Σ: *(παύση) έτσι;*

Ε: *Μχμ μχμ*

Σ: *και (επιμήκυνση του αι) είναι ο πατέρας (μικρή παύση) η μητέρα (μικρή παύση) τα παιδιά που θέλουνε να φάνε το αυγό* ***τους***

Ε: *Μχμ*

Σ: *ε (επιμήκυνση του ε) τα cookies (μικρή παύση)* ***αυτά*** *δεν ξέρω* ***τι*** *είναι (παύση)* ***αυτό*** *(παύση) γάτες δηλαδή μέσα στον κήπο υπάρχει οι γάτες οι πεταλούδες τα σπουργίτια (παύση)*

Ε: *Μχμ μχμ*

Σ: ***άλλο****; (παύση)* ***αυτά*** *βλέπω και (επιμήκυνση του αι) τη κουζίνα και το (επιμήκυνση του ο) πλυντήριο ας πούμε*

Ε: *Μχμ*

Σ: *δεν μπορώ να είμαι δεν μπορώ*

❖

12.

Σ: *Εδώ είναι μία (δισταγμός) κοπέλα η οποία (μικρή παύση) έχει στο στόμα της σφυρίχτρα είναι ; (μικρή παύση) ε (επιμήκυνση του ε) μπανάνα είναι; (μικρή παύση) Δεν μπορώ να το ξεχωρίσω (μικρή παύση)*

Ε: *Μχμμ*

Σ: *ο σκύλος πάλι (μικρή παύση) είναι (επιμήκυνση του τελικού -αι) καλός (μικρή παύση) το παλικάρι εδώ τι (δισταγμός) κου- κουκιές (συλλαβιστά) κουκιές είναι* ***αυτές*** *δεν ξέρω τι είναι* ***αυτό****;*

Ε: *Μχμμ*

Σ: *Κι εδώ είναι εδώ ένας (δισταγμός-παύση) κύριος ο οποίος έχει το τριβίο (μικρή παύση) και τρίβει το (επιμήκυνση του ο) πρέπει να ναι (επιμήκυνση του αι)* ***αυτό*** *(επιμήκυνση του -ο) δεν είναι ένα λάστιχο (παύση)*

Ε: *Μχμμ*

Σ: *πρέπει να είναι (μικρή επιμήκυνση του -αι) στ- (μικρή παύση) στέρεο εδώ είναι μία γάτα με τα (επιμήκυνση του -α) κυνηγάει τα (επιμήκυνση του -α, παύση) τα πουλιά (παύση) κι εδώ είναι η (επμήκυνση του -η) κυρία που (επιμήκυνση του -ου) σκάβει με το (επιμήκυνση του -ο) μηχανάκι που έχει*

Ε: *Μχμμ*

Σ: *και έχει και στο (επιμήκυνση του -ο) αυτί της το (επιμήκυνση του ο) το κινητό (παύση) τι **άλλο** (ψιθυριστά) τι **άλλο** τώρα δεν βλέπω τίποτα **άλλο** εδώ έχει παράθυρα (μικρή παύση) και τα πουλιά **αυτά** τα οποία τα (επιμήκυνση του α) προσέχει η γάτα (επιμήκυνση του α) να τα πιάσει.*

Ε: *Ωραία.*

Σ: *Τι άλλο;*

❖

13.

Ε(ρευνήτρια)*: Ναι. Για πείτε μου (παύση)*

Σ(υμμετέχων)*: Πιάνει κάτι πράγματα με (μικρή επιμήκυνση του -ε) να τα κατεβάσει κάτω*

Ε: *Μχμμ*

Σ: *και η **άλλη** από κάτω κοιτάει μην πέσουνε για δεν είναι έτσι;*

Ε: *Μχμμ*

Σ: ***Αυτό;;;***

Ε: *Μχμμ*

Σ: *και η **άλλη** με το καρότσι τι (μικρή επιμήκυνση του -ι) θες δηλαδή; Α είναι (μικρή επιμήκυνση του -αι) **αυτώνει** τον κήπο (μικρή παύση) κουρέβει τον κήπο και ο **άλλος** (μικρή παύση) έχει ένα (μικρή επιμήκυνση του -α) δίσκο και τονε σκουπίζει **αυτό** είναι;*

Ε: *μχμμ μχμμ*

Σ: *ναι. Από κάτω **τι** έχει όμως; (μικρή παύση) από κάτω είναι νερά είναι **αυτά**; τι είναι; δεν μπορώ να το καταλάβω **αυτό** το πράγμα τώρα (παύση) παιχνίδι είναι **αυτό;** Παιχνίδι;*

Ε: *Μχμμ*

Σ: *Παιχνίδι και το πετάει μες στο νερό ;;*

Ε: *Μχμμ μμχμμ*

Σ: *Και το νερό τι κάνει να πάνε μέσα στις καμπύλες*

Ε: *Μχμμ*

Σ: ***αυτό** είναι όλο;*

Ε: *Μχμμμ*

Σ: *ε τι άλλο μπορώ να δω; και η άλλη (μικρή επιμήκυνση του -η) ε (μικρη επιμήκυνση του -ε) κουρέβει τον κήπο ο άλλος σκουπίζει το πιάτο τι είναι* ***αυτό*** *το (μικρή επιμήκυνση του -ο) στρογγυλό*

Ε: *Μχμμ*

Σ: *Τι* ***άλλο*** *έχουμε;*

Ε: *δεν ξέρω εσείς πείτε μου το σπίτι τα (μικρή επιμήκυνση του -α) τα (μικρή επιμήκυνση του -α) νερά που τρέχουνε εδώ πέρα; ποια να πω ας πούμε* ***το άλλο*** *τι θες να πω;* ***ο άλλος*** *πάει να βάλει κάτι πάνω και* ***η άλλη*** *από κάτω κοιτάει μη πέσει κάτω (μικρή επιμήκυνση του -ω)*

Ε: *Ωραία.*

Σ: *τι άλλο;*

Ε: *Τίποτα άλλο;*

Σ: *Ναι τι να δούμε ας πούμε είπαμε ο (μικρή επιμήκυνση του -ο)* ***η άλλη*** *(μικρή επιμήκυνση του -η) ε (μικρή επιμήκυνση του -ε) κουρέβει τον κήπο έτσι δεν είναι ;*

Ε: *Ωραία. Ωραία*

Σ: ***ο άλλος*** *έχει και σκουπίζει ένα πιάτο πιατέλα τι είναι;* ***Άλλο.***

Ε: *Ωραία.*

Σ: *Δεν έχουμε* ***τίποτα άλλο.***

Ε: *Εντάξει. Τέλεια.*

❖

14.

Σ(υμμετέχων)*: Το (επιμήκυνση του ο) αγοράκι ανέβηκε στο σκαμνάκι για να πάρει από μέσα το (μικρή παύση) κούκες τι είναι* ***αυτό*** *κου- κούκες τι είναι το κούκες τι είναι; (μικρή παύση) τι σημαίνει το κούκες; (μικρή παύση) κουφέτα; καιι (μικρή παύση) το κοριτσάκι (μικρή παύση) απλώνει το χέρι του για να πάρει μπισκότο πήρε ένα μπισκότο το χει στο στόμα εδώ* ***αυτός*** *(μικρή παύση) έβγαλε το καπέλο του (μικρή παύση) και βλέπει την κοπέλα που πάει και (επιμήκυνση του αι) καθαρίζει τον κήπο (παύση)*

Ε(ρευνήτρια)*: έχετε κάτι* ***άλλο*** *να προσθέσετε; (παύση)*

Σ: *ε (επιμήκυνση του ε) έχει κάτι (επιμήκυνση του ι) (μικρή παύση) πουλάκια που πετάνε (επιμήκυνση του ε) (μικρή παύση) μια γατούλα που κοιτάζει αν αρπάξει κανένα (μικρή παύση) το σκυλάκι που κατέβαζε τα μπι (επιμήκυνση του ι) τις κούκες (μικρή παύση) και πέσανε κάτω τρώει το σκυλάκι ταααα τις κούκες και το παιδάκι (μικρή παύση) στο σκαμνάκι (μικρή παύση) γλυστράει το σκαμνάκι και κοντεύει να πέσει (παύση)*

Ε: *Αυτά; (μικρή παύση)*

Σ: *Και εδώ είναι το (επιμήκυνση του ο)* ***αυτό*** *το εεε (επιμήκυνση του ε) μμεεεε που πλένουνε τα πιάτα και* ***αυτά*** *και (επιμήκυνση του αι) πλένουνε τα πιάτα* ***αυτός*** *κρατάει το ένα το πιάτο με ένα σφουγγάρι και το σκουπίζει καλά καλά αλλά εντωμεταξύ χύνονται κάτω οι σαπουνάδες (μικρή παύση) και εδώ (μικρή παύση)* ***αυτή*** *(μικρή παύση) καθαρίζει τον κήπο αλλά (μικρή παύση) καταλάθος ήρθε στα λουλούδια και κόβει τα λουλούδια από το (επιμήκυνση του ο) απ' τον κήπο (μικρή παύση) και η γάτα (μικρή παύση) παρακολουθεί τα πουλάκια κοιτάζει να αρπάξει κανένα (παύση) εδώ ξεχύλισε (επιμήκυνση του ε) η βρύση (μικρή παύση) σαπουνάδες πάνε κάτω (μικρή παύση) τα πιάτα χοροπηδάνε με τις σαπουνάδες (μικρή παύση) και εδώ το παιδάκι όπου να είναι θα πέσει. Γύρισε το σκαμνί (μικρή παύση) το σκυλάκι πάλι βρήκε ευκαιρία και τρώει τα μπισκοτάκια (μικρή παύση) και το κοριτσάκι εδώ (μικρή παύση) περιμένει να κατεβάσει και* ***τ'άλλα*** *τις κούκες να φάει (μικρή παύση)* ***άλλο*** *τίποτα δεν βλέπω να χει.*

❖

15.

Σ(υμμετέχων)*: (γελάει) Πιτσιρίκια*

Ε(ρευνήτρια)*: Ναι.*

Σ: *Μμ (παυση) Μμ (παύση) δηλαδή τι θέλετε να σας πω απ'****αυτά****;*

Ε: *Όλα αυτά που βλέπετε.*

Σ: *Πόσο φαίνεται ποιο ωραίο; Ποιο (επιμήκυνση του ο)* ***αυτό****; Μου αρέσουν τα πιτσιρίκια εδώ και τα τα παιδιά τρελαίνομαι γιατί βέβαια έχω τα δικά μας αλλά (επιμήκυνση του α) τρελαίνομαι με τα (επιμήκυνση του α) έχουν γίνει μόνο του (καθαρίζει το λαιμό της). Ωραίο, πάρα πολύ ωραίο είναι (γέλια) Τα ζουζούνια εδώ πέρα. Μμ*

Ε: *Τι συμβαίνει εδώ πέρα. Πες τε μου.*

Σ: *Μου αρέσουν τα παιδιά. Όσο και να (επιμήκυνση του α)* ***αυτόσω*** *τα παιδιά δεν μπορώ μωρό να ναι (επιμήκυνση του αι)* ***αυτό*** *να ναι δεν με ενδιαφέρει θα πάω να το (γέλια) να το χαϊδέψω. Ό,τι και να ναι. Αρκεί να ναι μωρό. Ούτε τα αρσενικά ούτε τα θηλυκά. Δεν με ενδιαφε- δεν (επιμήκυνση του ε) κάνω διακρίσεις.*

Ε: *Μμ μχμ*

Σ: ***Τι άλλο*** *θέλετε;*

Ε: *Τι άλλο βλέπετε να γίνεται στην εικόνα;*

Σ: *Νοικοκυρά και εκεί έχει και το παιδάκι εδώ*

Ε: *μχμ*

Σ: *το αγόρι με τη γατούλα του με τα...ο σύζυγος πρέπει να είναι* ***αυτός*** *ε;*

Ε: *Μχμ μχμ*

Σ: *ναι. Τελοσπάντων.* ***Αυτά.***

Ε: *Ωραία.*

❖

16.

Ε(ρευνήτρια)*: Ωραία. Για πείτε μου. Σας ακούω.*

Σ(υμμετέχων)*: Δυο (δισταγμός) παιδάκια, ένα κοριτσάκι, ένα αγοράκι, έχουνε ένα σκαμπό έχουν ανέβει επάνω στο σκαμπό και έχουν ανοίξει την τα (επιμήκυνση του α) έχουν ανοίξει τα φύλλα της (επιμήκυνση του η) κουζίνας και ψάχνουνε κατεβάζουνε κούκερ (μικρή παύση) σοκολατάκια (μικρή παύση) κάτω είναι πεσμένο (μικρή παύση) ε έχει μείνει ένας σκύλος και τρώει (μικρή παύση-δισταγμός) τα κούκις και* ***αυτά*** *δίπλα είναι ένας κύριος έχει ένα σφουγγάρι το πλένει, καθαρίζει τα πιάτα και είναι όρθιος και (επιμήκυνση του αι) δουλεύει υ (επιμήκυνση του υ) υπάρχει ένα δύο τρία πουλάκια και μία γάτα η οποία κυνηγά κυνηγά τα πουλάκια (μικρή παύση) υπάρχει μια κυρία που κη (επιμήκυνση του η) που τηλεφωνεί και πηγαίνει για (παραφασία-ακαταλαβίστικο) στο γκαζόν για να (μικρή παύση) κουρέψει τα (επιμήκυνση του α) λουλούδια της (μικρή παύση) η κυρία μετά στα στη στο νεροχύτη υπάρχουν τα πιάτα τα πιάτα υποτίθεται ότι έχουνε εκεί πέρα και κάνει αφρό και ο αφρός έχει βγει απ'έξω και βρέχει το δάπεδο (παύση)*

Ε: *Μχμ μχμ*

Σ: *Το ε (επιμήκυνση του ε) πάνω μέρος του σπιτιού είναι μπλε (επιμήκυνση του ε) το* ***άλλο*** *είναι κίτρινο με τρία μπλε παράθυρα το* ***άλλο*** *είναι κίτρινο με δύο παράθυ- με τρία παράθυρα (παύση) τα (επιμήκυνση του α) και τα (επιμήκυνση του α) τα φύλλα του (επιμήκυνση του ου) της κουζίνας κάτω είναι (επιμήκυνση του αι) κλειστά*

Ε: *Μχμ μχμ*

Σ: *και των μικρών παιδιών και τους και τους (επιμήκυνση του ου) γονείς που χουν την κουζίνα είναι κλειστά*

Ε: *Πολύ ωραία.*

Σ:*το δάπεδο* ***αυτό*** *είναι λιγάκι γκρίζο*

Ε: *Μχμ μχμ ωραία. Είναι κάτι άλλο το οποίο βλέπετε;*

Σ: *Η κουρτίνα; Ή τα λουλούδια τόσα πολλά λουλούδια που είναι ; Πώς θα τα θα τοποθετήσω και* ***αυτά****; έχει στην κουζίνα έχει μία κουρτινόξυλη κουρτίνα και τραβάει και στο σαλόνι σαλόνι και από το παράθυρο έχει κρεμάσει ε (επιμήκυνση του ε) κρεμάσει*

(επιμήκυνση του ει) την (επιμήκυνση του η) κουρτίνα και ανοίγει και κλείνει το παράθυρο για να κάνει τις δουλειές της ή να κάνει τις εξωτερικές δουλειές

Ε: *Μχμ.*

Σ:***Αυτά.***

Ε: *Ωραία, πολύ ωραία. Τώρα (παύση)*

❖

17.

Ε(ρευνήτρια)*: Πείτε μου ακούω τι γίνεται;*

Σ(υμμετέχων)*: τι να (επιμήκυνση του α) το παιδί η κόρη το (επιμήκυνση του ο) το σκυλί (παύση)* ***αυτός*** *εδώ δεν μπορώ να ξέρω* ***τι τι*** *κάνει η (επιμήκυνση του η) η γυναίκα (επιμήκυνση του α) που (επιμήκυνση του ου) που ναι ξέρω* ***τι*** *είναι είναι η* ***αυτή*** *η εδώ που πηγαίνει η κυ- κυρία*

Ε: *Μχμ μχμ*

Σ: *η γάτα*

*Φ(ροντίστρια): **αυτός τι** κρατάει στο χέρι του κάτι κρατάει*

Σ: *δεν ξέρω*

Ε: *τι άλλο γίνεται;*

Σ: *πουλάκια*

Ε: *Μχμ*

Σ: *δεν ξέρω για **αυτόν** (μικρή παύση) η η κυρία πάει (ήχος κλήσης) δεν μπορώ δεν μπορώ*

Ε: *άλλο κομμάτι της εικόνας είναι κάτι άλλο που βλέπετε; (παύση)*

Σ: *Ναι **αυτός** δεν ξέρω τι είναι (δεν είναι ξεκάθαρο μπορεί να λέει και γίνεται) πάντως.*

Ε: (...)

❖

18.

Ε: *Όχι όχι όχι καλέ*

Σ: *Λοιπόν εδώ έχει ένα παιδάκι*

Ε: *Ναι.*

Σ: *όπου προσπαθεί ή να κατεβάσει ή να ανεβάσει ένα σκεύος*

Ε: *Μχμ μχμ*

Σ: *Να το κατεβάσει δεν είναι;*

Ε: *Πολύ σωστά.*

Σ: *Μπράβο. Και είναι μάλλον η αδελφούλα του αυτή που τον βοηθάει*

Ε: *Ναι.*

Σ: *και μετά είναι το σκυλάκι του το όμορφο ε; τέλειο (επιμήκυνση του ο)*

Ε: *Ωραία, πολύ ωραία.*

Σ: *Εδώ είναι ο μπαμπάς και η μαμά, ο οποίος ο ένας σκουπίζει τα πιάτα του αχα να τα βάλει ναι τα παίρνει από το πλυντήριο; ή τα βάζει στο πλυντήριο ;*

Ε: *Μμμ για πείτε μου εσείς εγώ δεν μπορώ να ομολογήσω (γέλια)*

Σ: *εγώ τώρα βλέπω και νερά εδώ πέρα δεν ξέρω και εγώ τι να πω δεν ξε- βλέπω νερά που τρέχουνε νομίζω ή όχι;*

Ε: *Σωστά το βλέπετε.*

Σ: *Ωραία. Τώρα μάλλον πλένονται τα πιάτα*

Ε: *Μχμ*

Σ: *με πλυντήριο ανοιχτό φαίνεται (γέλια)*

Ε: *(γέλια)*

Σ: *Λοιπόν αυτός τα σκουπίζει (παύση) εδώ είναι τρία ομορφότερα ομορφότατα πουλάκια μια γατούλα **μια κυρία** με το τηλεφωνό της μη τυχόν και χάσει (μικρή παύση) και εδώ με τη σκούπα της α όχι εδώ είναι στον κήπο της και φτιάχνει τα λουλούδια της τα κουρέβει τα ποτίζει τι τα κάνει δεν ξέρω μάλλον τα κουρεύει (παύση) **άλλο** τι να σου πω.*

Ε: *ό,τι άλλο (επιμήκυνση του ο) βλέπετε.*

Σ: *Ε ντουλάπια ωραία. Το σκυλάκι που τρώει τα (επιμήκυνση του α) **αυτό** πήγε να του κατεβάσει φαγητό το καημένο για το σκυλάκι και του πέσαν τα μισά κάτω (γέλια) δεν έχω αγάπη μου τίποτα άλλο να σου πω*

Ε: *Οκ.*

Σ: *παράθυρα ωραία, ντουλάπια πανέμορφα (παύση) τελοσπάντων και πανέμορφα δεν είναι αλλά λέμε τώρα.*

Ε: *(γέλια)*

❖

19.

Σ: *Βλέπω το παιδάκι που ανεβαίνει στο σκαμπό*

Ε: *Μχμ*

Σ: *για να πιάσει (επιμήκυνση του ει) δεν βλέπω καλά το (επιμήκυνση του ο) δεν έφερα τα γυαλιά μου να πιάσει (επιμήκυνση του ει) ένα (επιμήκυνση του α) (παύση) πως το λένε που βάζουμε πως τα λέμε **αυτά** (μικρή παύση) **αυτά** εδώ*

Ε: *ε σα- σαν τι σας μοιάζουνε ;*

Σ: *που έχει μέσα γάλα κάτι τέτοιο*

Ε: *Μχμ μχμ*

Σ: *τελοσπάντων δεν θυμάμαι πως το λένε τώρα ανέβηκε επάνω στο (επιμήκυνση του ο) σκαμπό να το πιάσει και είναι έτοιμο να πέσει κιόλα το σκυλάκι*

Ε: *Μχμ*

Σ: *το κοριτσάκι… δεν έφερα τα γυαλιά μου.*

Ε: *Τα χετε μήπως μέσα;*

Σ: *Ναι, ναι. Να τα φέρω.*

Ε: *Ένα λεπτάκι. (πάει να τα φέρει)*

Σ: *Τι είπαμε να δω;*

Ε: *Τι γίνεται εδώ στην εικόνα να μου πείτε.*

Σ: *Το κοριτσάκι εεε κάτι βάζει στο στόμα του κουλούρι δεν ξέρω τι είναι και πολεμάει θέλει να πάρει και άλλα και πολεμάει το παιδάκι ανέβηκε στο σκαμπό*

Ε: *Μχμ*

Σ: *να πιάσει το (επιμήκυνση του ο) κουάκερ λέει κού κουκες και κοντεύει να πέσει (παύση) και το σκυλάκι επειδή πως πέσανε* ***αυτά*** *τα ε ας πούμε κουλουράκια πάει να φάει και το (επιμήκυνση του ο) σκυλάκι εδώ (επιμήκυνση του ω) ο κύριος* ***αυτός*** *πλένει το πιάτο*

Ε: *Μχμ*

Σ: *η κυρία εδώ (βήχει)*

Ε: *Χριστός.*

Σ: *η κυρία εδώ (μικρή παύση) οργώνει*

Ε: *Μχμ*

Σ: *Κόβει το (επιμήκυνση του ο) (βήχει) το γρασίδι μάλλον*

Ε: *Μχμ*

Σ: *η γάτα παίζει με τα πουλάκια*

Ε: *Μχμ*

Σ: *και εδώ τα πιάτα πλένουμε πώς το λένε*

Ε: *Μχμ*

Σ: *(βήχει)*

Ε: *Χριστός. Θέλετε λίγο νεράκι;*

Σ: *Να πάω να πιω λίγο. (πάει να πιει νερό)*

Ε: *Ναι, ναι.*

Σ: *Βρήκα και φιλενάδες έξω.*

Ε: *Α ωραία.*

Σ: *Γνωστές από τσα απ'άλλες φορές.*

Ε: *Για πείτε μου.*

Σ: *Τι να πω τώρα;*

Ε: *Τι άλλο βλέπετε; Μου 'πατε για την κυρία.*

Σ: *τη γάτα και τα πουλάκια. Τον νεαρό που πλένει τα πιάτα (μικρή παύσηη) και τρέχει το νερό η σαπουνάδα κάτω.*

Ε: *Μχμ*

Σ: *Το σκυλί που (επιμήκυνση του ου) τρώει τα κουλουράκια*

Ε: *Μχμ*

Σ: *το παιδί που τα (επιμήκυνση του α) βου- τα παίρνει από πάνω και (επιμήκυνση του αι) περιμένει και το κοριτσάκι παίρνει και κοντεύει να πέσει*

Ε: *Μχμ.*

Σ: ***αυτά*** *δεν ξέρω κάτι άλλο. Τα ντουλάπια.*

Ε: *Ωρ(αία).*

❖

B. NC group

1.

Σ(υμμετέχων)*: Είμαστε στην κουζίνα ενός σπιτιού (μικρή παύση) που ο μπαμπάς πλένει τα πιάτα και πίσω από την πλάτη του δύο παιδιά κλέβουν τα (επιμήκυνση του α) μπισκότα τα* cookies *ο ένας είναι σκαρφαλωμένος σε ένα σκαμνάκι και το κοριτσάκι ήδη τρώει ένα (επιμήκυνση του α) έχουν πέσει μερικά στο πάτωμα όπως κλέβει το (επιμήκυνση του ο) κουτί με τα μπισκότα (μικρή παύση) και ο σκύλος έχει (επιμήκυνση του ει) κι* ***αυτός*** *πάρει ένα και τρώει (επιμήκυνση του ει) ο μικρός είναι σκαρφαλωμένος στο κουτί για να μπορέσει να φτάσει το κουυυ το κουτί με τα μπισκότα τα* cookies *φαίνεται έξω από το παράθυρο η μαμά να (επιμήκυνση του α) εε κόβει το γκαζόν και η γάτα να παίζει και να κυνηγάει τρία πουλάκια (μικρή παύση) φαίνεται δηλαδή ότι το σπίτι τους έχει και κήπο μέσα απ'τις κουρτίνες τις ανοιγμένες κουρτίνες φαίνεται η μητέρα να κάνει (μικρή παύση) να (επιμήκυνση του α) κόβει το γκαζόν να έχει και κάποια λουλουδάκια τελοσπάντων κόβ- κόβει το χορτάρι και (επιμήκυνση του αι) αυτά ε (επιμήκυνση του ε) και μιλάει και στο κινητό (επιμήκυνση του ο) τίποτα άλλο; Και φαίνεται και πίσω από το φράχτη το διπλανό σπίτι ας πούμε δύο σπίτια δίπλα εεε*

Ε(ρευνήτρια)*: Χμμ ωραία*

Σ: *Αυτά. Τρέχει το νερό από το νεροχύτη και έχει τρέξει έξω από το νεροχύτη. Τώρα δε δεν ξέρω γιατί δεν το έχει προσέξει ο μπαμπάς ότι τρέχει (μικρή παύση) το νερό; (παύση) Αυτά. Δεν βλέπω τίποτα άλλο.*

Ε: *Ωραία.*

❖

2.

Σ(υμμετέχων)*: Ότι ο άνδρ- Με πόσες λέξεις;*

Ε(ρευνήτρια)*: Όσες θέλετε.*

Σ: *Ο άνδρας κάνει τις δουλειές (μικρή παύση) της γυναίκας (μικρή παύση) η γυναίκα κάνει τις δουλειές του άνδρα (μικρή παύση) και **αυτό** έχει σπουδάσει (μικρή παύση) και το αγόρι (μικρή παύση) και **αυτό** έχει διδαχ- διδάσκεται και το αγόρι και το κορίτσι (παύση) να προχωρήσω κι άλλο;*

Ε: *Ναι*

Σ: *Ο άνδρας κάνει ζημιές πλένοντας πιάτα γιατί δεν ξέρει να κάνει καλά τη δουλειά και η γυναίκα κάνει ζημιές στον κήπο γιατί κλαδεύει τα άνθη (μικρή παύση) τα άνθη τα θέλαμε το γκαζόν έπρεπε να κλαδέψει όχι τα άνθη (παύση) τι τι γράφει εδώ; (μικρή παύση) Λιχουδιές; (μικρή παύση) δεν βλέπω με αυτά τα γυαλιά*

Ε: *ε (επιμήκυνση του ε) κούκις*

Σ: *Αα χαχα ναι ναι*

Ε: *Σωστά*

Σ: *Ε (επιμήκυνση του ε) δεν έπρεπε να τρώνε τόσα δεν έχει πατήσει καλά στο σκαμνί και πέφτει το παιδί (μικρή παύση) ο σκύλος δεν πρέπει να τρώει τα γλυκά (επιμήκυνση του α) (μικρή παύση) γιατί θα πάθει ζάχαρο (μικρή παύση) και η μαμά δεν πρέπει να μιλάει στο κινητό (επιμήκυνση του ο) με το ένα χέρι γιατί μπορεί να πάθει ατύχημα (παύση)*

Ε: *Μχμμ ωραία. Ναι ναι*

Σ: *Να προχωρήσω;*

Ε: *Αμέ. Ναι. Ναι.*

Σ: *Εεε Έχουνε αρμονία στα χρώματα το σπίτι είναι καθαρό (επιμήκυνση του ο-παύση) ε (επιμήκυνση του ε) τα στα παιδιά είναι λίγο large οι γονείς (παύση) σε ωραία γειτονιά γενικά η ζωή τους είναι αρκετά καλή σαν οικογένεια μόνο που είναι λίγο (επιμήκυνση του ο) θα τους ήθελα πιο (επιμήκυνση του ο) εεε δεν είναι είναι οι γονείς της Αμερικής δεν είναι*

της Ελλάδας που είναι ο πατέρας (μικρή παύση) η μητέρα και τα παιδιά είναι λίγο (επιμήκυνση του ο) χύμα ό,τι τον ευχαριστεί τον καθένα

Ε:*Μχμμ*

Σ: *δεν υπάρχει αρχηγός στην οικογένεια είναι ελληνοαμερικάνικη οικογένεια*

Ε: *Μχμμ*

Σ: *ή σουηδική δεν ξέρω όχι ελληνική δεν είναι ελληνική οικογένεια που ο άντρας κάθεται στο τραπέζι η γυναίκα του τα φέρνει (μικρή παύση) και διατάζει*

❖

3.

Ε(ρευνήτρια)*: Για πάμε*

Σ(υμμετέχων)*: Εδώ είμαστε (επιμήκυνση του ε) στο χώρο μιας κουζίνας. (μικρή παύση) Έχει ένα μεγάλο παράθυρο το οποίον βλέπει στον κήπο. Εντάξει;*

Ε: *Ωραία.*

Σ: *Τώρα μέσα στη κουζίνα. (μικρή παύση) Είναι (επιμήκυνση του αι) προφανώς ο άντρας γιατί έξω είναι μία κυρία που τηλεφωνεί είναι ο άντρας της κυρίας ο οποίος πλένει τα πιάτα και ο οποίος έχει αφήσει τη βρύση και τρέχει και τα χει κάνει όλα λίμπα (παύση) εεε λοιπόν τώρα τι να σου πω τώρα ο κύριος τι φοράει;*

Ε:*Ναι.*

Σ: *Τι φοράει; Φοράει ένα πουκαμισάκι σχιελ (μικρή παύση) μπλε ζώνη με παπούτσια ασορτί ωραίο παντελονάκι που ταιριάζει κάτω είναι χυμένα νερά στο πάτωμα. (παύση) Αυτά. Και βέβαια δεν κοιτάει προς τα έξω αλλά κοιτάει*

Ε: *Μμ*

Σ: *προς την άλλη δεν κοιτάει από την πλευρά της συζύγου αλλά από την άλλη την πλευρά. Τώρα βλέπουμε τον πάγκο της κουζίνας στον πάγκο της κουζίνας υπάρχουν δύο παιδάκια προφανώς θα είναι ε (επιμήκυνση του ε) η οικογένεια. Το ένα το παιδάκι το οποίο είναι λίγο ατίθασο έχει ανέβει στο σκαμπό (μικρή παύση) έχει ανοίξει το (επιμήκυνση του ο) συρτάρι το (επιμήκυνση του ο) ερμάριο έχει πάρει τα κούκις τα οποία είναι τα (επιμήκυνση του α) πως τα λένε τα μπισκοτάκια δεν τα πολυφτάνει (μικρή παύση) μπαλατζάρει λίγο στο σκαμπό είναι έτοιμο να πέσει πολλά μπισκοτάκια είναι κάτω (επιμήκυνση του ω) και υπάρχει και ο σκύλος ο οποίος το γλύφει το μπισκοτάκι δεν ξέρω αν ο σκύλος τρώει τα μπισκότα τελοσπάντων δεν έχει σημασία λοιπόν το παιδάκι φοράει τα παπουτσάκια του τα γκρι τις καλτσούλες του τις κόκκινες το παντελονάκι του το πράσινο και μία ωραία*

μπλουζίτσα ριγέ ασορτί (επιμήκυνση του ι) κόκκινο με γκρι ε (επιμήκυνση του ε) το κοριτσάκι που το βλέπουμε εδώ (επιμήκυνση του ω) ***αυτό*** *τρώει ένα μπισκοτάκει εντάξει;*

Ε: *Ναι*

Σ: *Εεεε και είναι χαρούμενο γιατί τρώει το μπισκοτάκι*

Ε: *(Γέλια)*

Σ: *Ενώ το άλλο είναι (επιμήκυνση του αι) σε αμηχανία γιατί έχει χάσει την ισορροπία του (μικρή παύση) λοιπόν το κοριτσάκι* ***αυτό*** *φοράει μια φουστίτσα ένα μπλουζάκι ριγέ μάλλον κόκκινο να το πούμε τελοσπάντων περίπου κόκκινο δεν είναι κόκκινο ακριβώς αλλά τι να πω τώρα εεε*

Ε: *Όχι μια χαρά. Ναι.*

Σ: *Ροζέ θα το πω.*

Ε: *Ωραία*

Σ: *Λοιπόν. Μια ωραία μπλουζίτσα ριγέ ροζέ με άσπρο παπουτσάκια το ίδιο ασορτί καλτσούλες (μικρή παύση)* ***αυτό. Αυτό.*** *Μέσα έτσι. Αααα και τοο και στοο αυτό βλέπουμε και το σκύλο ο οποίος βλέπει τα μπισκοτάκια και έχει ορμήξει και το γλύφει το μπισκοτάκι*

Ε: *Ωραία.*

Σ: *Τώρα τα (επιμήκυνση του α) είπαμε τα από κει τα αυτά είναι άρτζι μπούρτζι και λεε τα αυτά και για δες τι έχει βάλει το απορρυπαντικό είπαμε έχει αφτώσει και τρέχουν τα νερά και οι αφροί τώρα στο παράθυρο (μικρή παύση) βλέπουμε την κυρία η οποία έχει μία μηχανή του γκαζόν (μικρή παύση) και έχει και το τηλέφωνο στο (επιμήκυνση του ο) και αντί και αντί να κουρέψει το γκαζόν κουρεύει τα λουλούδια*

Ε: *(γέλια)*

Σ: *Γιατί γελάτε;*

Ε: *Όχι γελάω γιατί είναι η αλήθεια.*

Σ: *Κουρεύει τα λουλούδια. Πέρα βρέχει. Βέβαια (επιμήκυνση του α) φοράει κι αυτή τη φούστα με το* ***αυτό*** *ενώ θα έπρεπε μπορούσε να φορέσει άλλα ρούχα του κήπου (μικρή παύση) μια πορτοκαλί (επιμήκυνση του ι) μπλούζα και μία κόκκινη φούστα το παπουτσάκι της το φλάτ ε (επιμήκυνση του ε) είπαμε πέρα βρέχει κουρεύει συνέχεια τα λουλούδια*

Ε: *(γέλια)*

Σ: *Και βλέπουμε κάτι έχουνε πέσει τώρα σπόροι είναι και λοιπά; Και βλέπουμε τη γάτα τρία πουλάκια που ενδεχομένως να πάνε να φάνε καρπούς και λοιπά (μικρή παύση) και βλέπουμε και τη γάτα (επιμήκυνση του α) που είναι έτοιμη να ορμίσει στο ένα το πουλί να το φάει. Δεν ξέρω μπορεί να κάνω λάθος αλλά (επιμήκυνση του α). Εε μετά εδώ είναι ο*

κήπος είναι τα πως τα λένε το διαχωριστικό και πίσω από τον κήπο είναι (επιμήκυνση του αι) άλλες κατοικίες δύο κατοικίες. ***Αυτό*** *βλέπω. Δεν ξέρω αν σου (επιμήκυνση του ου)…*

❖

4.

(….) Σ(υμμετέχων): *Ναι λοιπόν εδώ έχουμε στην εικόνα μία οικογένεια κάτι που δεν το γραψα (γέλια) βέβαια στο κείμενο (μικρή παύση) έχουμε μία (επιμήκυνση του α) οικογένεια η οποία το αγοράκι ανέβηκε σε ένα σκαμπό για να κατεβάσει τα κούκις να φάει όμως το (επιμήκυνση του ο) σκαμπό γλύστρησε και πέφτοντας το αγοράκι έπεφταν και τα κούκις*

Ε(ρευνήτρια)*: Ναι.*

Σ: *το κοριτσάκι και το σκυλάκι βέβαια χαρήκανε που βλέπανε τα κούκις να πέφτουν και άρχισαν να τα τρώνε και δεν βλέπανε ότι το αγοράκι ήτανε έτοιμο να πέσει και* ***αυτό*** *κάτω. Εδώ (μικρή παύση) ο πα ο μπαμπάς και η μαμά του κοριτσιού εε η μαμά είναι έξω και κουρεύει το γκαζόν και μι μιλάει στο τηλέφωνο η γατούλα κυνηγάει τα πουλάκια βλέπεις; Και εδώ στο νεροχύτη στέκεται ο μπαμπάς ο οποίος πλένει τα πιάτα και όπως έπλενε ένα πιάτο αφαιρέθηκε γιατί κάποια πράγματα σκεφτότανε και έτρεχε η βρύση νερό γέμισε ο νεροχύτης και πέσανε στο πάτωμα τα νερά με τις σαπουνάδες.*

Ε: *Μάλιστα.*

Σ: ***Αυτό***

Ε: *Ωραία (γέλια)*

❖

5.

Σ(υμμετέχων)*: Βλέπω τον μπαμπά που πλένει τα (επιμήκυνση του α) πιάτα με (επιμήκυνση του ε) αδέξιο τρόπο γιατί τρέχουν όλα τα νερά βλέπω κάτω*

Ε(ρευνήτρια)*: Μχμ*

Σ: *ε τα παιδιά τους σκαρφαλώνουν και παίρνουν τα παξιμάδια και γελάνε τα ρίχνουνε κάτω και ο σκύλος τρώει*

Ε: *Μχμ*

Σ: *και η γυναίκα έξω κουρεύει το γρασίδι και μιλάει στο τηλέφωνο και η γάτα που κυνηγάει τα πουλιά (παύση)*

❖

6.

Σ(υμμετέχων)*: Έχουμε μία οικογένεια με (επιμήκυνση του ε) δυο παιδιά (μικρή παύση) ένα αγόρι ένα κορίτσι (μικρή παύση) κι ένα σκύλο (μεγάλη παύση) στα ονόματα κολλάμε και εγώ και ο άντρας μου είμαστε σχεδόν συνομίληκοι ένα χρόνο με περνάει (γελώντας)*

Ε(ρευνήτρια)*: Δεν πειράζει. Για πείτε μου τι άλλο γίνεται.*

Σ: *Εεε οοο (μικρή παύση) το ζευγάρι δουλεύειιι ο άντρας πλένει τα πιάτα στο νεροχύτη (μικρή παύση) και ηη γυ η γυναίκα του κουρεύει το γκαζόν (μικρή παύση) στο κήπο μεγααα (φωνολογική παραφασία) (παύση) δηλαδή όλα να τα περιγράψω; και τη γάτα έξω;*

Ε: *Όλα όλα*

Σ: *αααα (παύση) λοιπόν καλά τότε στο γκαζόν θα πούμε καιιι παίζει μια γατούλα με τα πουλάκια (μικρή παύση) έξω στο γκαζόν (παύση) εε να γράψουμε αυτουνού ότι του πέφτουνε και τα νερά στο πάτωμα (γέλια)*

Ε: *Ναι*

Σ: *(γέλια) εντάξει γράψαμε για τη γατούλααα δεν το ξερα ότι θα τα πω κιι εεέτσι λεπτομερώς (παύση) λοιπόν ο άντρας ρίχνει και τα νερά τού πέφτουνε τα νερά στο πάτωμααα (μικρή παύση) τα παιδιά τους (μικρή παύση) προσπαθούν να πάρουνε μπισκόταααα (μικρή παύση) με ένα σκαμπόοο ε (επιμήκυνση του ε) έτοιμα να πέσουν είναι (γελώντας το έτοιμα να πέσουν είναι και τα μπισκότα και ο μικρός που έχει ανέβει στο σκαμπό) και τα μπισκότα και ο μικρός που έχει ανέβει στο σκαμπό και ο σκύλος τρώει τα μπισκότα κάτω που έχουν πέσει. (παύση) εεε να μην μπω άλλα βαριέμαι τίποτα άλλα δεν λέω αυτά…*

❖

7.

Σ: *Και βάζει τα (μικρή επιμήκυνση του α) μπισκότα ή τις καραμέλες α (επιμήκυνση του α) κρυφά απ'τη μαμά επάνω στον καναπέ, βοηθάει η αδελφή και άλλο σκυλάκι κάτω (μικρή επιμήκυνση του ω- παύση) μάζεψε κάτι (μικρή παύση) ε (μικρή επιμήκυνση του ε) εδώ η κυρία κόβει το (επιμήκυνση του ο) χόρτο αλλά κο- χαλάει και τα (μικρή επιμήκυνση του α) τουλίπες έχει και λουλούδια εδώ πέρα*

Ε: *Μχμ μχμ*

Σ: *και μια γατούλα προσπαθεί να πιάσει ένα πουλάκι (μικρή παύση) ή συνομιλεί (μικρή παύση) εδώ είναι (δισταγμός) μία μπανιέρα με νερό φουσκωμένο και τρέχει (μικρή παύση) εδώ ο κύριος (διστάζει) δεν ξέρω καθρέφτης είναι ; δεν κα- δεν μπόρεσα να δω τελευταία **αυτό** (μικρή παύση) είπαμε εδώ είναι μια μπανιέρα τρέχει νερό γύρισε για (επιμήκυνση του α) και τρέχουνε τα νερά κάτω (μικρή παύση) η κυρία μιλάει στο τηλέφωνο και κόβει τα χόρτα δεν είδε χαλάει και τα λουλούδια η γάτα **αυτός** εδώ ο κύριος τι έχει τώρα το σκουπίζει*

αυτό *όχι ή κοιτάει και το τηλέφωνο δεν ξέρω τι κάνει (μικρή παύση)* ***αυτό*** *το στρογγυλό τι είναι (...) εδώ αυτά τα βλέπω και εδώ μέσα (μικρή παύση) έχει και αυτά τα αντικείμενα βγήκαν πάνω απ'το νερό (μικρή παύση) και πήρε και σκουπίζει εδώ*

Ε: *Μχμ*

Σ: *τι είναι όμως (παύση) time out (παύση)*

Ε: *Εδώ; τι γίνεταιι;*

Σ: *Ω εδώ είναι (μικρή επιμήκυνση του αι-μικρή παύση)* ***αυτό*** *δεν το πα; Τι είναι το; Ένα τρέιλερ είναι; Σπίτι είναι με τα παράθυρά τους;*

Ε: *Μ μχμ*

Σ: *Το σπίτι. (ακαταλαβίστικη έναρξη). Ναι, εδώ είπα. Η αυλή τους (μικρή παύση) αυτές είναι κουρτίνες εδώ*

Ε: *Μχμμ*

Σ: *ε (επιμήκυνση του ε) αυτά βλέπω.*

Ε: *Ωραία.*

❖

8.

Ε: *Για ξεκινήστε τώρα λίγο απ'την αρχή αν μπορείτε. Για πείτε μου.*

Σ: *Εγώ βλέπω (επιμήκυνση του ω) σε αυτήν την εικόνα ότι υπάρχει μία τετραμελή οικογένεια*

Ε: *Μχμμ*

Σ: *στην οποίαν οικογένεια ο πατέρας και η μητέρα έχουν αλλάξει ρόλους (μικρή παύση) και (επιμήκυνση του αι) η μεν μητέρα ο (επιμήκυνση του ο) κόβει το γρασίδι*

Ε: *Μχμμ*

Σ: *και ανεπιτυχώς το κόβει γιατί βλέπω ότι κόβει και τα λουλουδάκια που δεν έπρεπε ο δε πατέρας προσπαθεί να (επιμήκυνση του α) φτιάξει τις εργασίες μες στην κουζίνα σκουπίζοντας ένα πιάτο αλλά συγχρόνως τού έφυγαν τα (επιμήκυνση του α) φαίνεται ότι είναι αδαής σα σ'αυτή τη δουλειά γιατί (επιμήκυνση του ι) δεν έκλεισε τη βρύση η οποία τρέχει νερό και φύγαν οι σαπουνάδες έτσι; οπότε αποτυ- αποτυγχάνει σε* ***αυτό*** *το (επιμήκυνση του ο) σύστημα περισσότερο αφηρημένο τον βλέπω αλλά και η (επιμήκυνση του η) γυναίκα δεν πάει πίσω διότι προσπαθεί να κάνει δύο δουλειές συγχρόνως να μιλήσει στο κινητό να κόψει και τα λουλούδια γι'αυτό και κόβει τα λουλούδια* ***αυτό*** *είναι (επιμήκυνση του αι) μία αδιαφορία που συνήθως την έχουνε οι γυναίκες (μικρή παύση)*

Ε: *(γέλια)*

Σ: *και μέσα στο (επιμήκυνση του ο) σπίτι βλέπω την προσπ- ότι δεν είναι σωστή η επιτήρηση του πατέρα (παύση) λέω ότι είναι πατέρας γιατί το συγκρίνω από τι (επιμήκυνση του ι) από το νεαρό της ηλικίας και του άντρα και της κυρίας (μικρή παύση) δεν μπορεί να είναι ερωμένη (μικρή παύση) τουλάχιστον και τα παιδιά είναι ε (επιμήκυνση του ε) αδιάφορος κι* ***αυτός*** *είναι βυθισμένος στον δικό του κόσμο που δεν πήρε είδηση ότι τα παιδιά ανεβήκαν (μικρή παύση) σε μία (επιμήκυνση του α) σε ένα σκαμπό να πάρουνε γλυκό δεν είναι* ***αυτό****; να πάρουνε κάποια σοκολάτα κάποιο γλύκισμα η δε κοπέλα το κοριτσάκι πήρε (μικρή παύση) το δε αγόρι στην προσπάθειά του δεν πρόσεξε και θα πέσει γιατί (επιμήκυνση του ι) φαίνεται ότι ε (επιμήκυνση του ε) χάνει την ισορροπία του ότι η ισορροπία του είναι ασταθής γιατί βλέπω ότι έχουνε πέσει πολλά από αυτά τα γλυκίσματα (μικρή παύση) τα τρώει και ο σκύλος (μικρή παύση) έχει πάρει (μικρή παύση) και γενικά ε (επιμήκυνση του ε) είναι (επιμήκυνση του αι) που πρέπει να ρθει σε αυτήν την οικογένεια η γυναίκα μέσα στην κουζίνα να ξώθει (μικρή παύση) τον καθαρισμό εδώ να προσέξει και τα παιδιά γιατί μόνον η μάνα είναι που μπορεί να προσέξει σωστά και ο δε* ***αυτός*** *ο άντρας να βγει έξω (μικρή παύση) ούτε τη γάτα έδιωξε η οποία η γάτα κεροφυλαχτεί (μικρή παύση) για να αρπάξει τα πουλάκια (μικρή παύση) ναι* ***αυτό*** *δεν νομίζω ότι έχει κάτι άλλο που μπορώ να δω.*

❖

9.

Σ(υμμετέχων)*: αν υποθέσουμε ότι είναι οικογένεια η μητέρα έξω (παύση) κουρεύει το γκαζόν*

Ε(ρευνήτρια)*: Μχμ*

Σ: *ο άντρας πλένει τα πιάτα*

Ε: *Μχμ*

Σ: *τα οποία έχουν γεμίσει αφρούς και πέφτουν κάτω εκεί τα νερά τα παιδιά σκανταλιάρικα ανεβούν να πιάσουν τα μπισκότα τα κούκις πέφτει κάτω η καρέκλα πέφτουν τα μπισκότα τρώει ο σκύλος*

Ε: *Μχμ*

Σ: *η κοπ- η (επιμήκυνση του η) αδελφή το κοριτσάκι χαίρεται γιατί άρπαξε ένα με το χέρι και το τρώει*

Ε: *Μχμ*

Σ: *τι άλλο να πω εδώ* ***αυτός*** *εδώ πέφτει το σκαμπό κάτω και έχει τρομάξει και ο ίδιος και ο πατέρας αδιάφορος μάλιστα σωστό*

Ε: *(γέλια)*

Σ: *τι άλλο να σας πω*

Ε: *Ωραία.*

Σ: *(παραφασία) ότι τρώει το είπαμε εδώ*

Ε: *Ωραία.*

Σ: *τα μπισκότα τρώει εδώ και εδώ ότι πλημμυρίσανε κι αυτά και η γυναίκα του έχει και το τηλέφωνο γυναίκα είναι τι θα κάνει σιγά που θα ασχοληθεί με το και ότι τίποτα καταστρέφει και τα λουλούδια*

Ε: *(γέλια)*

Σ: *πήγε η μηχανή όπου να ναι (δεν) την προσέχει πάει τα λουλούδια*

Ε: *(γέλια)*

Σ: *και η γάτα απ'εξω κυνηγάει τα πουλάκια.*

Ε: *Ωραία.*

❖

10.

Σ: *(...) βάζει κάτι στο στόμα; Ναι*

Ε: *Μχμμ*

Σ: *Λοιπόν είναι ένα κοριτσάκι (μικρή παύση) που κάτι τρώει (παύση) ο αδέλφος της ε (επιμήκυνση του ε) κάποιο παιδάκι φίλος της έχει ανέβει επάνω στο (επιμήκυνση του ο) σκαμπό για να πιάσει τα μπισκότα από το ντουλάπι το σκαμπό (επιμήκυνση του ο) κοντεύει να πέσει κάτω έχει γείρει (μικρή παύση) ο σκύλος τρώει αυτά που πέφτουνε (γέλια)*

Ε: *Πολύ ωραία. Ναι*

Σ: *Και δίπλα (μικρή παύση) ο μπαμπάς τους (μικρή παύση) σκουπίζει τα πιάτα (μικρή παύση) που έχει πλύνει που πλένει στο νεροχύτη που έχουν χυθεί όοοοολοι οι αφροί απ'έξω (μικρή παύση) ωραίο πλύσιμο κάνει (σχόλιο)*

Ε: *(γέλια)*

Σ: *και η (επιμήκυνση του η) μαμά μιλάει στο τηλέφωνο έξω στον κήπο (μικρή παύση) και κόβει (επιμήκυνση του ει) με τη μηχανή του γκαζόν το γκαζόν (μικρή παύση) η γάτα κυνηγάει τα πουλάκια (παύση) ναι μ'αρέσουνε αυτοί το ζευγάρι ο μπαμπάς να πλένει πιάτα και η άλλη στο τηλέφωνο να κάνει (παραφασία) ωραία, ναι.*

Ε: *(γέλια)*

Σ: *Μια χαρά.*

Ε: *Ωραία. Λοιπόν.*

Σ: *Δεν ξέ- Δεν βλέπω κάτι άλλο. Είναι στη κουζίνα όλοι αυτοί (μικρή παύση) και η μαμά είναι απ'έξω στον κήπο.*

❖

11.

Σ(υμμετέχων)*:λοιπόν η σκηνή είναι στην κουζίνα όπου το περίεργο είναι ότι ο κύριος πλένει τα πιάτα και τη δουλειά του κυρίου την κάνει έξω στον κήπο*

Ε(ρευνήτρια)*: Μ μ*

Σ*:αυτή κόβει το γκαζόν ενώ την ίδια στιγμή το παιδί ανεβάζει και κλέβει κούκις και δίνει στην αδελφούλα του και ο σκύλος τρώει από κάτω ό,τι πέφτει.*

Ε: *Ωραία.*

❖

12.

Ε(ρευνήτρια): *Για πείτε.*

Σ: *Απ' αυτήν την εικόνα;*

Ε: *Όλη.*

Σ: *Όλη η εικόνα. Εδώ* ***αυτός*** *(μικρός δισταγμός) σφουγγαρίζει ένα πιάτο (μικρή παύση) η κυρία κόβει (μικρή επιμήκυνση του ει) χόρτα με το μηχάνημα (μικρή παύση) ο (μικρή επιμήκυνση του ο) νεαρούλης (μικρή παύση) έβαλε το σκαμπό κατεβάζει (μικρή παύση-δισταγμός-μικρή επιμήκυνση του ει) ένα δοχείο που έχει μπάλες μέσα; η κοπελιά (μικρή επιμήκυνση του α) η (επιμήκυνση του η) πιτσιρίκα (μικρή παύση) τώρα τι είναι* ***αυτό*** *μπάλα είναι ; τι είναι που το (μικρή επιμήκυνση του ο) έχει στο στόμα το σκυλάκι το ίδιο πιάνει (παύση)*

Ε: *Πολύ ωραία. Ναι, ναι.*

Σ: *Άλλο; Παράθυρα;*

Ε: *Ναι, ναι.*

Σ: *Είπα! α (επιμήκυνση του α) Α και η εικόνα εδώ;*

Ε: *Μχμ μχμ*

Σ: *Ναι, εδώ φαίνεται να είναι (μικρή επιμήκυνση του αι) τροχόσπιτα; σπίτι; (μικρή παύση) εδώ είναι πλυντήριο (;) πιάτων; πιάτα βλέπω (μικρή παύση) βρύση βλέπω*

Ε: *Μχμ*

Σ: *ντουλάπια εδώ (μικρή παύση) ντουλάπια εδώ ντουλάπια εδώ (μικρή παύση) το δάπεδο βέβαια (παύση) άλλο;*

Ε: *Εσείς θα μου πείτε (γέλια).*

Σ: *Δεν βλέπω. Δεν βλέπω. Κουρτίνες βλέπω. (μικρή παύση)*

Ναι. Δεν βλέπω (μικρή επιμήκυνση του ω) κάτι διαφορετικό

Ε: *ΟΚ.*

❖

13.

Σ(υμμετέχων)*: Ε εδώ ένα (επιμήκυνση του α) αγόρι που έχει ανέβει επάνω στο σκαμπό και έχει ανοίξει το ντουλάπι της κουζίνας αλλά εδώ δεν βλέπω τι πάει να πάρει δεν πάει να πάρει κάτι;*

Ε(ρευνήτρια)*: Κούκις*

Σ: *Α είναι κούκις δεν τα βλέπω και το κοριτσάκι που*

Ε: *Μπισκότο*

Σ: *ζητάει και **αυτό** μπισκότο ο σκύλος από κάτω που κάτι τρώει και **αυτός;***

α του πέσαν τα μπισκότα δείχνει εδώ

Ε: *Μχμ Πολύ ωραία.*

Σ: *Εεε εδώ είναι ο άντρας ο οποίος κρατάει ένα ντέφι όχι ε (επιμήκυνση του ε) ένας ένας άντρας α είναι στο νεροχύτη κοντά (επιμήκυνση του α) και κρατάει το πιάτο τα οποία τα πιάτα τι έγινε έφυγε η σαπουνάδα από εδώ όλη ; απ'το νεροχύτη; και αυτά είναι τα πιάτα η σαπουνάδα ε (επιμήκυνση του ε) η κοπέλα που κρατάει εε δεν τα βλέπω δεν βλέπω εδώ ή στο γκαζόν είναι; και εδώ είναι μάσκα; εδώ (επιμήκυνση του ω) αυτά δεν τα βλέπω τώρα τι είναι ή (επιμήκυνση του η) κρατάει το **αυτό** που μαζεύαν στο γκαζόν τη (επιμήκυνση του η) (μικρη παύση) τη μηχανή του γκαζόν τη μηχανή του γκαζόν*

Ε: *Μχμ Πολύ σωστά.*

Σ: *Τη μηχανή του γκαζόν.*

Ε: *Και αφού είναι σε εξωτερικό χώρο τι είναι αυτά τα δίπλα;*

Σ: *ε ναι δεν βλέπω καθόλου εδώ τώρα **αυτό** μου μοιάζει και σα γάτα εδώ μαζί με την ουρά του*

Ε: *Μπράβο. Πολύ ωραία.*

Σ: *ναι αλλά δεν το βλέπω και (επιμήκυνση του αι) πουλιά;*

Ε: *Μπράβο σας.*

Σ: *Ναι αλλά δεν τα βλέπω.*

Ε: *Αν φορούσατε και τα γυαλιά θα ήταν ακόμα καλύτερα. Ωραία. Τίποτα άλλο;*

Σ: *Εκείνα που έχει εδώ;*

Ε: *Ναι μου είπατε βέβαια.*

Σ: *Η σαπουνάδα που φεύγει αυτή εδώ γιατί έφυγε; Ποιος ξέρει; (γέλια) Πατάει πάνω στις σαπουνάδες εεε εδώ δείχνει ότι είναι ντουλάπια πάλι ; όχι ότι είναι (παύση) εδώ είναι τα ντουλάπια εδώ είναι έξω (επιμήκυνση του ω)* ***αυτό*** *το (επιμήκυνση του ο) αυτοκίνητο πως το λένε το (επιμήκυνση του ο) αποθήκες;*

Ε: *Οκ. Σωστά.*

Σ: *Αποθήκες*

Ε: *Ωραία.*

Σ: *Αποθήκες αλλά τις λένε αλλιώς ε (επιμήκυνση του ε) Κοντέινερ;*

Ε: *Κοντέινερ.*

Σ: *Κοντέινερ.* ***Αυτό****. Και* ***αυτό****;*

Ε: *Μχμ.*

Σ: *Α και* ***αυτό****.*

❖

14.

Ε(ρευνήτρια)*: νωρίτερα προφορικά*

Σ(υμμετέχων)*: Πού; Που να βλέπω;*

Ε: *αυτά εδώ που βλέπετε στην εικόνα που μου τα γράψατε.*

Σ: *α τι βλέπω; α να τα πω προφορικά;*

Ε: *Μχμ*

Σ:*Λοιπόν βλέπω δύο κτίρια το ένα με μικρά παραθυράκια το άλλο με μεγάλα* ***αυτό*** *που έχει μικρά παραθυράκια είναι κίτρινο μεγαλύτερο είναι* ***αυτό*** *που είναι μπλε και μία πλευρά του δείχνει ότι είναι και γκρι μαύρο βαμμένο έτσι (επιμήκυνση του ι) γκρι σκούρο*

Ε: *Μχμ*

Σ: *βλέπω ανοιγμένο το παράθυρο βέβαια είναι ε (επιμήκυνση του ε) διακρίνω τα εεε ένα φράχτη που είναι με ρίγες ε τρία πουλάκια που πετούνε (επιμήκυνση του ε) και η γάτα είναι έτοιμη να τα κατασπαράξει ε τη μαμά η οποία είναι μια ψηλή κυρία ξανθιά να τηλεφωνεί και (επιμήκυνση του αι) να μη προσέχει το μηχάνημα που οδηγεί*

Ε: *Μχμ*

Σ: *γιατί είναι απασχολημένη με το τηλέφωνο αντί να κόβει το (επιμήκυνση του ο) χλωροτάπητα κόβει και τα λουλούδια δηλαδή κι αυτή ζημιά κάνει ενώ θα ήθελε να κάνει δουλειά δεν ξέρω αν* ***αυτό*** *έτσι αποτυπώνεται*

Ε: *πολύ ωραία.*

Σ: *βέβαια τα λουλούδια κόβει*

Ε: *Πολύ σωστά.*

Σ:*κάνει λάθος κι αυτή εμμ ότι φοράει μία κόκκινη και μία πορτοκα- μία κόκκινη φούστα και μία πορτοκαλί μπλούζα είναι κοντομάνικη πρέπει να είναι καλοκαίρι ή μάλλον άνοιξη προς το καλοκαίρι γιατί έχει λουλούδια ακόμη*

Ε: *Μχμ*

Σ:*Εμμ αυτά.*

Ε: *Ωραία. Πολύ ωραία.*

❖

15.

Σ(υμμετέχων): *(είπα να πάρω τα γυαλιά μου αλλά λέω δεν θα τα πάρω γιατί δεν βλέπω) εδώ εδώ βλέπω μία κυρία να κουρεύει το γκαζόν εξωτερικά πλέον του σπιτιού εσωτερικά βλέπω (παύση) μια κυρία μου φαίνεται κυρία δεν είναι ο μπαμπάς όχι είναι κυρία*

Ε(ρευνήτρια): *Μχμ μχμ.*

Σ: *η οποία τακτοποιεί τα πιάτα της στον νιπτήρα της (παύση)*

Σ: *τα δύο παιδάκια (μικρή παύση) έχουνε έχουνε προ- φύγει απ'την προσοχή της και το ένα ανεβαίνει επάνω ψηλά στο ντουλάπι με κίνδυνο να χτυπήσει να πέσει ή ή το σκαμπό έχει γυρίσει να πέσει να χτυπήσει*

Ε: *Μχμ*

Σ: *το κοριτσάκι κάπου ή διαμαρτύρεται ή του λέει φτάστο ή του λέει κατέβα θα πέσεις και το σκυλάκι που κάνει την δικιά του (γέλια) γαβγίζει ας πούμε ότι υπάρχει κάποιος κίνδυνος*

Σ: *Ωραία, οκ.*

❖

16.

Σ(υμμετέχων)*: Θα αρχίσουμε απ'τα αριστερά τώρα μες στην κουζίνα ταααα παιδάκια ανεβήκαν στο σκαμπό επικίνδυνο φυσικά* ***αυτό*** *για να φτάσουν ταααα κούκις να φάνε και (μικρή παύση) το παιδάκι πέφτει το σκυλάκι κάτω γλύφει τα κούκιιις εεε η κουζίνα έχει κίτριναααα (μικρή παύση) ντουλάπια με γκρι (μικρή παύση) πόμολα και γκρί κάτω σοβα- σοβατεπί (μικρή παύση) εεε δεξιά ο μπαμπάς (μικρή παύση) τον χει βάλει αγκαρία καιιι πλένει τααααα πλένει πιάτα η γυναίκα του τα χει κάνει θάλασσα τα χει χύσει κάτω και σκουπίζει τα πιάτα εεε έξω απ'το παράθυρο η μαμααά (μικρή παύση) κόβει το γκαζόν παίρνοντας τηλέφωνο (μικρή παύση) και εδώ μία γάτα κυνηγάει τα πουλ- τα πουλάκια να*

τα φάει εεε επίσης έχει τα σπίτια που απ'έξω είναι (παύση) ένα πα ένα μεγάλοοο μπλε ένα κίτρινο με πράσινα παράθυρα το μπλε είναι με γκρι παράθυρα (μικρή παύση) οοοο κήπος είναι η μάντρα ξύλινη γκρι

Ε(ρευνήτρια)*: Μχμ*

Σ: *το γκαζόν είναι αλλού πράσινο αλλού και έχει και λουλούδια (μικρή παύση) η κουρτίνα είναι ροζ (μικρή παύση) μεεεε κίτρινο καιιι άσπρα λουλουδάκια (άλλαααα φωνολογικές παραφασίες-δεν είναι κατανοητό τι λέει) οοο ο αφρός είναι ροζ σχελ λευκός (μικρή παύση) τα πιάταααα είναι μια κατσαρόλα τρία πιάτα και το πιάτο πλένει (μικρή παύση) το σκουπίζει με τη με τα με μία μπλε πετσέτα (μικρή παύση) τι ρούχα φοράει; εεε φοράει παπούτσια (μικρή παύση) εεε του πουρ του χρ- του πούρου χρώμα πούρου με κίτρινο γραμμή με βεραμάν παντελόνι ζώνηηη εε μπεζ καφέ πουκάμισο μπλε (μικρή παύση) τα μαλ- τα μαλλιά τα χει χτενισμένα και είναι (μικρή παύση) εε έχουνε γκρι ανταύγιες μεεε (γέλια) καστανά. (μικρή παύση)*

Ε: *Ναι.*

Σ: *Τα παιδάκια φοράνε και αυτά το αγοράκι μπλούζα φοράει γκρι μεεεε ροζ εε ροζ πορτο πορτοκαλί και πράσινο παντελονάκι (μικρή παύση), ίδιες κάλτσες πορτοκαλί παπουτσάκια (παύση) γκρι το κοριτσάκι έχει τα μαλλάκια του ξανθά (μικρή παύση) τρώει κι ένα κούκις εεε ροζ μεεε (μικρή παύση) με σπασμένο του πάγου τοοο μπλουζάκι της πάλι ροζ φούστα ροζ παπουτσάκια εεε αυτά*

Ε: *Ωραία.*

Σ: *Τι ξέχασα εδώ; (...) Έχουνε λίγο κίτρινο στη κοιλίτσα τους στο μάγουλο ράμφος εντάξει και ταααα φτερά τους λίγοοο (μικρή παύση) στοοο μπεζ καφε το ένα (μικρή παύση) το άλλο είναι διάφορα εντάξει αυτά.*

❖

17.

Σ(υμμετέχων)*: τα μπισκότα (μικρή παύση) και (επιμήκυνση του αι) του πέφτουνε πέφτει μάλλον πέφτει κι* ***αυτός*** *στο τέλος ο σκύλος τα γλύφει εεε (επιμήκυνση του ε) το κοριτσάκι βρήκε και τρώει ε από αυτά που πέφτουνε μμμ* ***αυτός*** *σκουπίζει τα πιάτα που έπλυνε τα νερά τρέχουν έξω (επιμήκυνση του ω) η κοπέλα σκουπίζει α (επιμήκυνση του α) μάλλον στον κήπο είναι και κάνει τη χλόη*

Ε(ρευνήτρια)*: Μχμ μχμ*

Σ: *και (επιμήκυνση του αι) κάτι πουλάκια κυνηγάει η γάτα*

Ε: *Μχμ*

Σ: *αυτή έχει το ακουστικό στο αυτί της*

Ε: *Μχμ*

Σ: ***αυτός*** *σκουπίζει τα πιάτα ναι δεν ξέρω άλλη*

Ε: *Πολύ ωραία. Πάρα πολύ.*

❖

18.

Σ: *Εδώ βλέπω ένα παιδάκι που 'χει ανέβει στο (μικρή επιμήκυνση του -ο) σκαμπό και φτάνει σ'ένα ντουλάπι απάνω και παίρνει τα (μικρή επιμήκυνση του -α) κούκις τι είναι αυτά*

Ε: *Μχμ*

Σ: *το κοριτσάκι από κάτω κάτι τρώει και του (μικρή επιμήκυνση του -ου) δείχνει (μικρή παύση) και το σκυλάκι που κάτι (δισταγμός) τού χουν βάλει και τρώει και* ***αυτό*** *κάτω (παύση)*

Ε: *Είναι κάτι άλλο;*

Σ: *Λοιπόν. Βέβαια είναι. Εδώ έχει ντουλάπια σπίτι φαίνεται κουζίνα κάτι τέτοιο εδώ είναι ο κύριος* ***αυτός*** *(μικρή παύση) που δεν ξέρω τι είναι αυτά πιάτα είναι ;; δεν είναι πιάτα δεν ξέρω τι είναι αυτά; Έχει χυθεί κάτι εδώ πέρα στο νεροχύτη βρύση είναι νεροχύτης και τέτοια αλλά πιάτα πρέπει να ναι αυτά πιάτα (σημασιολογική παραφασία- ακατανόητο νόημα) πιάτα και από πάνω είναι η κοπέλα με το καροτσάκι με το (επιμήκυνση του -ο) που κουρέβει το γκαζόν όχι το καρότσι μηχανή μιλάει και στο τηλέφωνο (μικρή παύση) κάποια κτίρια εδώ πουλάκια γατούλα που πάει να πιάσει το πουλάκι (μικρή παύση) αυτά βλέπω (μικρή παύση) είναι ένα σπίτι στην ουσία* ***αυτό*** *πρέπει να είναι ο μπαμπάς με με τα παιδιά (μικρή επιμήκυνση του -α με ερώτηση) κάτι (δισταγμός) δεν ξέρω αν το εξηγώ σωστά.*

Ε: *Μια χαρά.*

Σ: *αυτά αυτά βλέπω*

❖

19.

Σ: *Όπως το χα γράψει ή (επιμήκυνση του η) όπως να ναι;*

Ε: *Όπως σας έρχεται.*

Σ: *Α, ντάξει. Η κυρία κουρεύει το χόρτο. Η γάτα κάθεται και τα πουλάκια πετάνε (μικρή παύση) ο άντρας πλένει τα πιάτα και τα σκουπίζει και το νερό η σαπουνάδα πέφτει κάτω τα παιδιά το αγόρι είναι ανεβασμένο στο σκαμπό και τρώει συρπά (ακατανότο) προσπαθεί να*

πιάσει τη σοκολάτα το κορίτσι τρώει (επιμήκυνση του ι) τα κούκις ας το πούμε έτσι και ο σκύλος τρώει τα μπισκότα.

Appendix II (Corpus) – Transcribed Story Narrations from the fairy-tale "The ring"

A. AD group

1.

Ε(ρευνήτρια)*: Για πείτε*

Σ(υμμετέχων)*: Πε περίληψη του έργου ή όλο;*

Ε: *Ναι. Όλο.*

Σ: *(παύση) μια φορά κι έναν καιρό ζούσε σε έναααα παλάτι έναα παλικάρι εεε ο πατέρας του προφανώς ήταν διπλοπαντρεμένος υπήρχε μία μητριά λοιπόοον με μία κόρη και η μητριά προσπαθούσε νααααα (μικρή παύση) παντρε νααα τον κάνει να παντρευτεί τηηην κόρη της*

Ε: *Ωραία.*

Σ: *Λοιπόννν εκεί το βασιλόπουλοοοο σε μιαα κάποια στιγμή που βρισκότανεε στοοο.. το βασιλόπουλο όμως δεν ήθελε (μικρή παύση) καιιι ήταν στεναχωρημένο πήγε να πάρει αέρα (μικρή παύση) και εκεί που πήγαινε νααα που έκανε την βόλτα του και λοιπά συνάντησε μιααα κοπέλα που του γυάλισε (μικρή παύση) λοιπόοον και σκέφτηκε ότι με **αυτήηη** θααα ήθελε νααα (...) εε μεεε θα του έκανε πως το λέν εεε θααα ήθελε να την παντρευτεί και λοιπά (μικρή παύση) εδώ που έχασα κάτι είναι το δαχτυλίδι ποιος έδωσε στον άλλο τα δαχτυλίδι (μικρή παύση) λοιπόοον εεεε (παύση) γιατί κανονικααά ναι λοιπόοον εεε προφανώς όμως απ'την συνέχεια (μικρή παύση) αυτή πρέπει να του δώσει το δαχτυλίδι και νααα του είπε ότι όποτε (επιμήκυνση του ε) θέλει νααα πάει να την βρει να **τηηηης αυτόσει** το παλ το παλικάρι γύρισε στοοοο (παύση) εδώ δεν συμφωνούν οι φωτογραφίες με αυτά που είπες γιατί της έχεις δώσει; (...)*

Σ: *Ναι λοιπόν εεε και **αυτή** όμως στενοχωριόταν από την πλευρά της που τον είχεεεεε (μικρή παύση) χάσειιιι και λοιπάαα οπότεεε πήρε το δαχ αποφάσισε να πάρει το δαχτυλίδι και να πάει να δει μήπως είναιιι καλύτερα έτσι, λοιπόνεεε πήγε στοοον, ο άλλος **τον** θυμότανε να πούμε*

Ε: *Ναι*

Σ: *πήγε στον **αυτόνε** και τελικά παντρευτήκανε.*

Ε: *Μάλιστα.*

❖

2.

Ε: *Τις εικόνες....για πείτε μου*

Σ: *Λέει ότι* ***τον*** *ξυπάτησε (μικρή παύση) πήρε το δαχτυλίδι (παύση) και μετά (μικρή επιμήκυνση του -α) αφού εντόπισε όλα αυτά τα πράγματα (μικρή παύση) ξαναεπέστρεψε κοπέλα (μικρή παύση) και την παντρεύτηκε και περνάνε καλή ζωή*

Φ(ροντίστρια): (γέλια)

Σ: *καλύτερα από εμάς*

Ε: *Αυτά;*

Σ: *Ε (επιμήκυνση του ε)*

Ε: *Αυτά;*

Σ: *Ναι*

Φ: Εν συντομία (γέλια) εν συντομία

❖

3.

Σ(υμμετέχων): Εεε ***αυτός*** *εδώ είναιι*

Φ(ροντίστρια): *Πες παιδί μου μια φορά κι έναν καιρό*

Σ: *Μια φορά κι έναν καιρό ήταν έναααα (παύση) Πώς τα λένε αυτά; (γέλια) (παύση)* ***αυτός*** *είναι οοοο (μικρή παύση) ναι (μικρή παύση) τούτος εδώ είναι ο γιος αυτουνού δεν είναι; όχι ο μπαμπάς του είναι*

Ε: *Ο ίδιος είναι*

Σ: *Ο ίδιος είναι;*

Ε: *Ναι.*

Σ: *Α ο ίδιος (παύση) μα δεν μοιάζουνε ωρε παιδιά (γέλια)*

Φ: *Δεν είναι το πρόβλημά μας* ***αυτό****. Πες το παραμύθι ό,τι θυμάσαι να τελειώνουμε έλα (γέλια)*

Ε: *Τι γίνεται όμως; Να μην κουράζουμε και την κυρία Μ. Για να δούμε. Τι γίνεται;*

Φ: *Πες το παραμύθι βρε ό,τι θυμάσαι* ***αυτό*** *που είπα τι είπα*

Σ: *Ποιο; Τι είπες;*

Φ: *Τι έλεγα;* ***Αυτό*** *στις εικόνες που βλέπαμε.* ***Αυτός*** *ήταν οο το βασιλόπουλο*

Σ: *Το βασιλόπουλο*

Ε: *Ωραία. Τι έκανε* ***αυτό****;*

Φ: *Τι έκανε;*

Σ: *Ναι*

Σ: *Πήρε μια κοπέλα που την αγαπούσε. (παύση) Αυτή είναι η ίδια δεν είναι; Δεν είναι; Και ετούτος εδώ (παύση)*

Ε: *(γέλια)*

Φ: *Ο ίδιος είναι και αρρώστησε.*

Σ: *Ο ίδιος είναι; Αααα για **αυτό** έχει ετούτα εδώ (γέλια)*

Ε: *Εντάξει κύριε.*

❖

4.

Ε: *την εικόνα ναι*

Σ: *(Ξεφυσάει) δεν θυμάμαι τίποτα.*

Ε: *Δεν μπορεί.*

Σ: *Ε;*

Ε: *Δεν μπορεί.*

Σ: *Δεν θυμάμαι πως πως αρχίζει, πώς ξεκινάει*

Ε: *Εδώ είναι η αρχή για να βοηθηθείτε*

Σ: *ε;*

Ε: *η αρχή είναι εδώ*

Σ: *τι να πω τώρα;*

Ε: *Ό,τι θυμόσαστε.*

Σ: *ε;*

Ε: *Ό,τι θυμόσαστε.*

Σ: *Δεν το ξαναβάζεις να το ακούσω;*

Ε: *Δεν γίνεται*

Σ: *Ε;*

Ε: *δεν γίνεται.*

Σ: *Δεν έδωσα τόση σημασία και δεν θυμάμαι τίποτα. (μικρή παύση) Τι να πω;*

Ε: *Τώρα με τη βοήθεια των εικόνων πείτε μου ό,τι μπορείτε. (παύση)*

Σ: *Μία γυναίκα.*

Ε: *Ναι.*

Σ: *Πήγε και βρήκε το βασιλόπουλο.*

Ε: *Ωραία.*

Σ: *Το βασιλόπουλο. (παύση)*

Ε: *Ναι. Σας ακούω.*

Σ: *Και ζούσανε μαζί στην στην εξοχή.*

Ε: *Μχμ*

Σ: *Και εδώ παντρεύτηκαν;*

Ε: *Μχμ*

Σ: *Και εδώ (επιμήκυνση του ω) παντρεύτηκαν;*

Ε: *Μχμ μχμ*

Σ: *Εδώ παντρεύτηκαν.*

Ε: *Μχμ*

Σ: *Εδώ τι είναι **αυτό;***

Ε: *Για δείτε.*

Σ: *Εδώ τι είναι δεν καταλαβαίνω τι είναι.*

Ε: *Αυτά;*

Σ: *Ναι*

Ε: *Ωραία.*

Σ: *τι να πούμε τώρα κάθομαι και ...*

❖

5.

Σ(υμμετέχων)*: Αρρώστησε;;; (παύση) Ο βασιλιάς ναι ο βασιλιάς αρρώστησε (μικρή παύση) είχε μια κακιά μητριάαα;;; (παύση) εεε τι να σου πω τι λέει εδώ*

Ε(ρευνήτρια)*: Δείτε και τις εικόνες να βοηθηθείτε*

Σ: *Λοιπόν. Το βασιλόπουλο είχε (παύση) μία κακιά μητριά;*

Ε: *Ναιιι.*

Σ: *Μετά τι γίνεται.*

Ε: *Ναι τι γίνεται;*

Σ: *Είδε την κοπέλα μια (μικρή παύση) κοπέλα και την ερωτεύτηκε (παύση) αλλά η κακιά μητριά την έδιωξε τι έκανε δεν ξέρω τώρα (παύση) και το παλικάρι αρρώστησε η κοπέλα περίμενε να ξανάρθει να τη συναντήσει αλ-λά δεν τον έβλεπε κι έκλαιγε και της είπε το πουλάκι μην κλαις γιατί ο βασιλιάς (μικρή παύση) σ'αγαπάει (μικρή παύση και μικρή επιμήκυνση του ει) και θα ρθει να σε πάρει και γύρισε και την πήρε έτσι;; καλά το πα;*

Ε: *Ναιιι*

❖

6.

Ε(ρευνήτρια): Ναιιι

Σ(υμμετέχων)*: Η οποία παρουσιάζει (παύση) τα δικά τηςςς (μικρή παύση) σχέδια (παύση)*

Ε: *Ναιιι*

Σ: *Μεε ανθρώπους τους οποίους τους ξεχωρίζει (μικρή παύση) δύο-δύο (μικρή παύση)*

Ε: *Ναιι*

Σ: *Δύο (μικρή παύση) με ένα τρία (παύση) έεενα πάλι (παύση) με δύο ανθρώπους (παύση) τρεις με έναν άνθρωπο (παύση)*

Ε: *Ναιι τι άλλο; (παύση) Τι άλλο γίνεται στο παραμυθάκι;*

Σ: *Εδώ μπαταγε εδώ περνάει μεεε (μικρή παύση) ανθρώπους δύο-τέσσερις ανθρώπους (παύση)*

Ε: *Ναιιι*

Σ: *Μεεε δύο πάλι ανθρώπους (παύση) με έναν άνθρωπο με έναν άνθρωπο κι εδώ*

Ε: *Ναιι*

Σ: *Εδώ με τρία και ένα τέσσερα άνθρωπο (μικρή παύση)*

Ε: *Ναιι*

Σ: *και εδώ πάλιιι (μικρή παύση) δύοο ανθρώπους (παύση)*

Ε: *Και πώς τελειώνει;*

Σ: *Ορίστε;*

Ε: *Και πώς τελειώνει το παραμύθι; (παύση)*

Σ: *Τελειώνειιι (πολύ μικρή παύση) Θέλειιι (μικρή παύση) λίγοο περπάτημα. (παύση)*

Ε: *Αυτά;*

Σ: *Εδώ έχουμε (μικρή παύση) εδώ έχουμε δηλαδή από ένα (μικρή παύση) ένα δύο τρία τέσσερα πέντε πέντε ανθρώπους από 'δώ και δύο από 'κεί εφτά (μικρή παύση) και ένα από εδώ οκτώ (μικρή παύση) και ένα από εδώ εννέα (μικρή παύση), δέκα έντεκα δώδεκα δεκατρία (μικρή παύση), δεκατρείς ανθρώπους τα όποια μας δείχνει εδώ πέρα (παύση) η ένδειξη αυτή (παύση)*

Ε: *Αυτά;;*

Σ: *Ναι, αυτά.*

Ε: *Εντάξει. Ωραία.*

❖

7.

Σ(υμμετέχων)*: Που να θυμηθώ τώρα το παραμύθι (γελόντας το που να θυμηθώ τώρα το παραμύθι) (γέλια) εε το βασιλόπουλο συναντήθηκε με την κοπέλα ερωτεύτηκαν εεε*

*σκέφτηκαν ότι θα παντρευτούνεεε αλλά ξαφνικά εμφανίζονταιιιι (μικρή παύση) οι καλές γριές οι κακές οι μητριές (μικρή παύση) και ξεμυαλίζουνεεεε (μικρή παύση) θα καναν και κανένα μάγιο (γέλια) τίποτα μάγια (μικρή παύση) χώρισε ηηη μάλλον λυπήθηκαν λυπήθηκε χώρισε το ζευγάρι εδώ βλέπω κλάματααααα του κοριτσιού εδώ βλέπωωω δεν ξέρω τώρα αν είναι **αυτό** το αγόρι δεν έχειιι επάνωωωω (παύση) τι νααα (παύση) το στέμμα (παύση)*

Ε: *Ναι*

Σ: *εεε στο τέλος όμως (παύση)*

Ε: *Ναι*

Σ: *Κάπ' τους ήρθαν βολικά τα πράγματααααα (παύση)*

Ε: *Ναι*

Σ: *Και ξανασυναντήθηκαν βλέπω εδώ και αγκαλιαστήκανε (παύση) βάλανε και τοοο (παύση) το κορι- το κοριτσάκι (μικρή παύση) και χαρούμενοι τώρα εδωωώ αυτοί γιατί κλαίνε δεν ξέρω ίσως γιατί απέτυχαν (μικρή παύση) να χωρίσουν το ζευγάρι (παύση).*

❖

8.

Ε: *Για να το πάρουμε απ'την αρχή.*

Σ: *Α Αυτή (επιμήκυνση του η) γιατί έκλαιγε το κορίτσι (γέλια) γιατί έκλαιγε ε (επιμήκυνση του ε-με ερώτηση) (παύση)*

Ε: *για πείτε μου (παύση)*

Σ: *Τώρα άστα αλλά γιατί κλαίει; (παύση) εδώ τι είναι **αυτό**; (παύση)*

Ε: *Τα ρούχα*

Σ: *Α! Τα ρούχα.*

Ε: *Για πάρτε το από την αρχή τι έγινε (μικρή παύση) στην ιστορία; (μικρή παύση) Πάρτε το από εδώ με τη βοήθεια των εικόνων.*

Σ: *(ακαταλαβίστικο) **αυτή** και **αυτή** και **αυτή**;;;*

Ε: *Ξεκινάει έτσι εδώ κυρία.*

Σ: *Ναι, ναι, ναι.*

Ε: *Εδώ. Τι γίνεται από εδώ;*

Σ: *Αυτή (επιμήκυνση του η) και αυτή (επιμήκυνση του η) είναι αλλού γι'αλλού (γέλια) είναι σκληροί άνθρωποι*

Ε: *Ναι, ναι*

Σ: *και **αυτός** ήτανε (μικρή παύση) γιατί γύρισε το κεφάλι του*

Ε: *Ναι. Και μετά τι έγινε;*

Σ: *Μετά (επιμήκυνση του α) τι έγινε; (γέλια)*

Ε: *Τι έγινε; Εδώ τι έγινε;*

Σ: *Α! Για να πάμε εδώ. (παύση)*

Ε: *Μχμμ*

Σ: *Εδώ είναι τα (επιμήκυνση του α) το κορίτσι και το αγόρι ότι (μικρή επιμήκυνση του ι) είναι (επιμήκυνση του αι) καλά, ε (επιβεβαίωσης)*

Ε: *(Φτάρνισμα ερευνήτριας.) Συγγνώμη φταρνίστηκα.*

Σ: *Δεν πειράζει. Εμ (επιμήκυνση του ε και του μ) Ότι είναι όμορφοι και πολύ καλά. Μετά πάμε εδώ;*

Ε: *Εδώ.*

Σ: *Εδώ γιατί έκλαιγε αυτή; Κάτι θα έγινε.*

Ε: *Ακριβώς. Τι έγινε;*

Σ: *Από εδώ (με δισταγμό η αρχή της αντωνυμίας) αυτή η κοπέλα αλλά γιατί έκλαιγε; (παύση) Μήπως από αυτές ήταν κάτι (μικρή επιμήκυνση του ι) να την διώξουνε; Κάποτε;*

Ε: *Κάπως έτσι.*

Σ: *Ε (επιμήκυνση του ε);*

Ε: *Ναι. Και μετά τι έγινε;*

Σ: *Και (επιμήκυνση του αι)* ***αυτός*** *τώρα ποιος ήτανε; Επειδή έκλαιγε* ***αυτός****...το (επιμήκυνση του ο)* ***αυτό****;;; Γιατί το καημένο;*

Ε: *Γιατί; (γέλια)*

Σ: *Ε ;;*

Ε: *Γιατί έκλαιγε;*

Σ: *Έκλαιγε γιατί (επιμήκυνση του ι) δεν την θέλανε. Μάλλον.*

Ε: *ΟΚ.*

❖

9.

Ε: *Πείτε μου (μικρή παύση) πείτε τα μου ξανά εεε*

Σ: *Λοιπόν*

Ε: *Πείτε, συγγνώμη, για πείτε.*

Σ: *το ξέχασα κιόλας πως αρχινίσαμε μωρέ γαμώτο (παύση) εεε ο βασιλιάς εγνώρισε μια κοπέλα*

Ε: *Μχμ*

Σ: *που την αγάπησε*

Ε: *Μχμ*

Σ: *και θέλανε να βεβαιωθούνε να το πει και (επιμήκυνση του αι) στο σόι αυτηνής ας πούμε ότι την έχει αγαπήσει και το είπε ότι την αγάπησα γιατί εκτός ότι είναι όμορφη είναι και πολύ καλή κοπέλα*

Ε: *Μχμ*

Σ: *Και την θέλαν να την παντρευτούν*

Ε: *Μχμ μχμ*

Σ: *και έκανε πρόταση της έκανε πρόταση να την παντρευτεί* ***αυτό*** *είναι*

Ε: *Ωραία.*

❖

10.

Ε(ρευνήτρια)*: Πείτε μου κυρία. Τι γίνεται; Τι ακούσατε;*

Σ: *Τι άκουσα;*

Ε: *Ναι ναι ναι*

Σ: *Ότι το παραμύθι (επιμήκυνση του τελικού ι) ήθελε να το πει και δεν μπόρεγε να το πει και (επιμήκυνση του τελικού -αι) το σκασε και έφυγε (μικρή παύση) δεν θυμάμαι παραπάνω*

Ε: *Με τις εικόνες με την βοήθεια των εικόνων*

Σ: *Η εικόνα εδώ πέρα (επιμήκυνση του τελικού -α) ;*

Ε: *Ναι ναι ναι*

Σ: *είναι ο πρίγκιπας και η πριγκίπισσα και ο πρίγκιπας (μικρή παύση) και εδώ είναι (επιμήκυνση του τελικού -αι) τα δυο παιδιά (μικρή παύση) και ετούτο είναι (επιμήκυνση του τελικού -αι) το τόξο (παύση)*

Ε: *Εδώ ξε- ξεκινάει*

Σ: *Εδώ είναι το τόξο και ο πρίγκιπας και ε (επιμήκυνση του ε)*

Ε: *Ναι ναι*

Σ: *ο (επιμήκυνση του ο) πρίγκιπας και δύο γυναίκες (παύσεις)*

Ε: *Και πως συνεχίζει η ιστορία;*

Σ: *Εδώ είναι ο πρίγκιπας και η (επιμήκυνση του η) γυναίκα (παύση) Εδώ είναι το παιδί (παύση) Εδώ (επιμήκυνση του ω) είναι το κορίτσι (παύση) εδώ (επιμήκυνση του ω) είναι ο πρίγκιπας (μικρή παύση) και η πριγκίπισσα (μικρή επιμήκυνση του τελικού -α) το τόξο και δυο παιδιά (παύση)*

Ε: *Στην ιστορ- Η ιστορία πως τελείωσε;*

Σ: *Ναι (επιμήκυνση του -αι)*

Ε: *Η ιστορία πώς τελείωσε;*

Σ: *Ε; (επιμήκυνση του ε)*

Ε: *Η ιστορία πως τελείωσε;*

Σ: *Η ιστορία;*

Ε: *Ναι*

Σ: *Πώς ε (επιμήκυνση του ε) αρχίνησε;*

Ε: *Πώς τελείωσε;*

Σ: *Τελείωσε καλά.*

Ε: *Εντάξει.*

❖

11.

Σ: *Θα ρω- μας κάνει να;*

Ε: *Εντάξει;*

Σ: *ναι, πώς θα αρχίσω;*

Ε: *Από εδώ.*

Σ: *Από εδώ;*

Ε: *Μχμ*

Σ: *Αχα.* ***Αυτός*** *τι είναι; Ε Είναι κάποιος του παλατιού πρέπει να είναι*

Ε: *Μχμ μχμ*

Σ: *Έτσι;*

Ε: *Πολύ ωραία.*

Σ: *εδώ είναι ο βασιλιάς η βασίλισσα και η κακιά μητριά έτσι πάει;*

Ε: *Πολύ σωστά.*

Σ: *Ναι.*

Ε: *Συνεχίζει εδώ*

Σ: *Εδώ. Α συνεχίζουμε έτσι έτσι;*

Ε: *Μχμ μχμ*

Σ: *Εδώ είναι ο πρίγκιπας η βασιλοπούλα ας πούμε ε; Ναι.*

Ε: *Πολύ ωραία.*

Σ: *Ε και μετά πάμε εδώ έτσι;*

Ε: *Εδώ. Ναι, ναι. Σωστά.*

Σ: *εδώ όμως η πριγκίπισσα κλαίει*

Ε: *Ναι.*

Σ: *κάποιος τη στενοχώρησε*

Ε: *Μχμ*

Σ: ***αυτό*** *τι είναι;*

Ε: *εσάς σαν τι σας φαίνεται;*

Σ: *Σαν να είναι ένα (επιμήκυνση του α) σαν κούνια σαν κάτι.*

Ε: *Μάλιστα. Εντάξει. Δεν έχει πολλή σημασία στην υπόθεση* ***αυτό.***

Ε: *Όχι ντάξει. Προσέξτε μήπως γενικά προσέξτε γενικά μήπως υπάρχει κάτι άλλο που μπορεί να έχει σημασία στην υπόθεση (παύση)*

Σ: *Η πριγκίπισσα είναι εδώ. Έτσι;*

Ε: *Ναι ναι.*

Σ: *Εδώ άφησε κάτι πράγματα.*

Ε: *Ωραία.*

Σ: *Και μετά βρεθήκαμε εδώ στο κρεβάτι.*

Ε: *Μχμ μχμ*

Σ: *Είναι άρρωστος;*

Ε: *Σωστά.*

Σ: *Άρρωστος. (παύση) Από εδώ; Και συνεχίζει και από εδώ;*

Ε: *Μχμ Και πως τελειώνει;*

Σ: *Το ζευγάρι*

Ε: *Μχμ*

Σ: *είναι μαζί και (επιμήκυνση του αι) κάνουνε τη ζωή τους το (επιμήκυνση του ο)*

Ε: *Μχμ πολύ ωραία.*

Σ: *Ναι αλλά υπάρχει όμως και μία (παύση) μήπως είναι καμιά μάγισσα καμιά;*

Ε: *Μπράβο.*

Σ: *Ε* ***αυτό****;*

Ε: *Ωραία.*

Σ: *Έτσι;*

Ε: *Έτσι.*

❖

12.

Ε: *Για πείτε ότι (λάθος έναρξη) με τη βοήθεια και των εικόνων (παύση) ό,τι θυμάστε*

Σ: *Ε (επιμήκυνση του ε) συμπάθησε το βασιλόπουλο (μικρή παύση) ε (επιμήκυνση του ε) παντρεύτηκε την βασιλοπούλα (παύση)*

Ε: *Μχμμ μχμ*

Σ: *και (επιμήκυνση του τελικού -αι) (παύση) και εδώ μετά έμεινε μόνος του (παύση) και εδώ πάλι (επιμήκυνση του ι) η κοπέλα μόνη της (μικρή παύση)*

Ε: *Μχμμ ναι*

Σ: *Ενώ εδώ (μικρή παύση) πιαστήκανε χέρι με χέρι (παύση) οι ίδιοι δεν είναι;*

Ε: *Μχμ ναι ναι*

Σ: *Αυτοί εδώ δεν ξέρω τι είναι (παύση) μήπως είναι οι ίδιοι πάλι; (μικρή παύση) γιατί μοιάζουνε*

Ε: *Ναι*

Σ: ***Τι άλλο; Τι άλλο*** *να πω;*

Ε: *Άμα είναι κάποια άλλη λεπτομέρεια που πιστεύετε κάτι*

Σ: *Γέλια*

Ε: *που μπορεί να βοηθήσει στο (επιμήκυνση του ο) στην αφήγηση*

Σ: *Εδώ είναι έχει σταυρωμένα τα χέρια της. Ο άλλος εδώ (επιμήκυνση του ω) ο κύριος κρατάει το (επιμήκυνση του -ο) το δοξάρι*

Ε: *αχά*

Σ: *Εδώ (παύση) τον έχει πιάσει (μικρή παύση) απ'το χέρι (παύση) τι άλλο να σου πω (παύση) σας τα είπα ό,τι ήτανε να πω. (παύση)*

Ε: *Οκ. Ωραία.*

❖

13.

Σ: *Συμπέρασμα είναι ότι (μικρή επιμήκυνση του -ι) δεν ήθελε η (μικρή επιμήκυνση του η) να παντρευτεί η (μικρή επιμήκυνση του η) η γιαγιά το (μικρή επιμήκυνση του -ο) βασιλόπουλο* ***αυτό*** *νομίζω εγώ*

Ε: *Μχμμ*

Σ: ***αυτό*** *είναι; και τι άλλο μπορώ να πω; (μικρή παύση) ε (μικρή επιμήκυνση του ε) σε τι επάνω;*

Ε: *Δείτε με τη βοήθεια των εικόνων (παύση) τι γίνεται; τι έγινε στην εικον- στην ιστορία;*

Σ: *Την παντρεύτηκε το παιιι (μικρή επιμήκυνση του -αι) το που το βασιλιά την παντρεύτηκε έτσι δεν είναι; Εδώ δείχνει ότι την παντρεύτηκε (μικρή παύση) εδώ (δισταγμός) τι τι να πώ εδώ πέρα τι είναι τώρα εδώ; ο βασιλ-* ***αυτό*** *δεν είναι βασιλιάς ; το (μικρή επιμήκυνση του -ο) μήπως είναι* ***ο άλλος*** *που αγαπούσε ;*

Ε: *Ο βασιλιάς είναι.*

Σ: *Ο βασιλιάς είναι; Α (μικρή επιμήκυνση του -α) Ναι γιατί έχει το στέμμα δεν το χα δει εδώ. ο βασιλιάς (μικρή παύση) και εδώ πάει το πουλί στη βασίλισσα τώρα;*

Ε: *Μχμμ*

Σ: *Και εδώ βγαίνουνε όξω (μικρή επιμήκυνση του -ω) παντρευτήκανε εδώ πέρα (μικρή παύση) και εδώ κάνανε και παιδιά;*

Ε: *Όχι.*

Σ: *Τι είναι; Δεν το βλέπω.*

Ε: *Για δείτε καλά (παύση)*

Σ: *Έχουνε πάει σε χορό; Δεν μπορώ να το καταλάβω.*

Ε: *Εντάξει.*

Σ: *Δεν μπορώ να το καταλάβω. Δηλαδή το ζευγάρι δεν είναι **αυτό** εδώ; (μικρή παύση) Όχι δεν είναι το ζευγάρι; Ετούτο είναι ο βασιλιάς και η βασίλισσα; Λοιπόν. Τι δείχνει εδώ; ότι χαίρονται;*

Ε: *Μπράβο.*

Σ: *Έτσι δεν είναι;*

Ε: *Ναι. Άρα η ιστορία με δυο λόγια τι;;*

Σ: *Τελείωσε.*

Ε: *Τελείωσ-*

Σ: *Παντρευτήκανε και χαίρεται.*

Ε: *Εντάξει.*

Σ: ***Αυτό** δεν είναι;*

Ε: *Αυτό είναι πιστεύετε; Όλο αυτό που ακούσετε αυτό είναι;*

Σ: *Δεν θέλανε την παντρειά οι (μικρή επιμήκυνση του -οι) άλλοι*

Ε: *Ωραία.*

Σ: *και αφού παντρευτήκανε δεν τελείωσε; Δεν μπορώ να το καταλάβω τώρα*

Ε: *Εντάξει. Ωραία.*

Σ: *Τι έχει συμπέρασμα; Δηλαδή (μικρή παύση) δεν θέλανε οι (μικρή επιμήκυνση του -οι) οι πατεράδες και οι βασίλισσες να πούμε να παντρευτεί το (μικρή επιμήκυνση του -ο) ζευγάρι ;*

Ε: *Σωστά.*

Σ: *Τι άλλο;*

Ε: *Όμως τελικά τι έγινε;*

Σ: *Παντρευτήκανε.*

Ε: *Ναι. Αλλά στο ενδιάμεσο μέχρι να παντρευτούνε τι έγινε;*

Σ: *Φασαρία.*

Ε: *Τι φασαρία;*

Σ: *Α (μικρή επιμήκυνση του α) δεν μπορώ να την θυμηθώ. Δεν θέλανε να παντρευτούνε.*

Ε: *Εδώ η εικόνα αυτή σας λέει κάτι; (παύση)*

Σ: *Εδώ δείχνει ότι μιλάνε και (μικρή επιμήκυνση του -αι) (μικρή παύση) τι να (επιμήκυνση του α) τι να πω ότι (δισταγμός) ότι δεν έχουνε παντρευτεί ακόμα; Εδώ δείχ- στάσου εδώ είναι ο βασιλιάς έτσι; εντάξει και εδώ δείχνει ότι (μικρή επιμήκυνση του -ι) παντρευτήκανε ή αρραβωνιαστήκανε; Δεν είναι ; όχι ε; (μικρή επιμήκυνση του ε)*

Ε: *Και εδώ; (μικρή παύση)*

Σ: *εδώ είναι η κοπέλα. (μικρή παύση) Δεν είναι η κοπέλα εδώ;*

Ε: *Θα σας ναι σωστά η κοπέλα είναι. Σας θυμίζει τίποτα από αυτό που ακούσατε αυτή η εικόνα; (παύση)*

Σ: *Πάει κάποιο πουλί (μικρή παύση) τι να της πει το (μικρή επιμήκυνση του ο) τα (μικρή επιμήκυνση του -α) ότι σώνει και καλά εντάξει; πάει το (μικρή επιμήκυνση του -ο) πελαργός τι είναι;*

Ε: *(γέλια)*

Σ: *Όχι ε (μικρή επιμήκυνση του ε) Δεν μπορώ να το καταλάβω.*

❖

14.

Σ: *(παύση) Πώς αρχίζει τώρα. (παύση) Το παλικάρι ήτανε όλο στενοχώρια*

Ε: *(αχα)*

Σ: *διότι σκεφτότανε την (επιμήκυνση του η) κοπέλα (μικρή παύση) την είχε δώσει δαχτυλίδι (μικρή παύση) και εκείνη δεν τον πήρε τηλέφωνο (επιμήκυνση του ο) αλλά συν τω χρόνω (μικρή παύση)* ***αυτός*** *συνήλθε (παύση) και τι ήθε- τι έκανε για ω (επιμήκυνση του ω) δεν δουλεύει το κεφάλι ήρθε η ώρα του ύπνου*

Ε: *(γέλια). Ντάξει.*

❖

15.

Ε: *Όλα αυτά που θέλε- που συγκρατήσατε.*

Σ: *(γέλια) Δεν τα χω συγκρατήσει όλα (μικρή παύση) φοβο- (καθαρίζει το λαιμό της) η βασίλισσα ωχ α θα σκοντάψω ωχ (επιμήκυνση του ω)*

Ε: *μια χαρά θα τα πάτε. (παύση)*

Σ: *Εδώ είναι ο βασιλιάς (παύση) (παραφασία) να την την κοπέλα δεν βλέπω την κοπέλα είναι η κοπέλα είναι εδώ όμως και εδώ πέρα όμως είναι ε τα λέω σωστά; (μικρή παύση) ε*

Σ: *Μχμ μχμ*

Σ: *εδώ πέρα είναι το (επιμήκυνση του ο) το ζευγάρι ας πούμε ο βασιλιάς με την κοπέλα που (επιμήκυνση του ου) αγαπούσε εδώ είναι η κοπέλα μόνη της που (επιμήκυνση του ου) στενοχωρέθηκε που εγίνηκαν αλλιώτικα τα πράγματα απ'ό,τι απ'ό,τι που δεν τα θελε (μικρή παύση) όπως τα ήθελε (καθαρίζει το λαιμό της) και εδώ πέρα είναι (διστάζει μμμ) κάτσε*

Ε: *Ναι, σας ακούω.*

Σ: *Μμμ;;;*

Ε: *Σας ακούω.*

Σ Ναι. (παύση) Γίνεται η αρχή εδώ. (παύση)

Ε: *Μχμ*

Σ: *Μετά θα πάει ο βασιλιάς (παύση) η βασίλισσα που είναι η αρχή; (μικρή παύση) Τώρα δεν μπορώ να συγκεντρωθώ (καθαρίζει το λαιμό της) Εδώ είναι στενοχωρημένος και κλαίει και εδώ είναι ναι ερωτεύθηκε και επίσης (δεν είναι κατανοητό τι λέει)* ***αυτό****; (γέλια)* ***αυτό*** *δεν μπορώ να το πω (γέλια) έι κάτι που δεν μου πάει καλά.*

❖

16.

Σ: *Σε ένα πύργο σε ένα πύργο υπήρχε ένας βασιλιάς μια βα- ένας βασιλιάς και είχε ένα (δισταγμός) αγόρι και (επιμήκυνση του αι) είχε παντρευτεί και είχε πάρει μία κακή μητριά (μικρή παύση) και η μητριά είχε κόρη (μικρή παύση) και (επιμήκυνση του αι) στο πήγε να κάνει μία επίσκεψη το βασιλόπουλο στο σπίτι του (μικρή παύση) του παλατιού του παλατιού που είχε σπίτι του εκεί πέρα και είδε στην κοπέλα την κοπέλα που ήτανε στο δάσος και (επιμήκυνση του αι) της μίλησε κουβεντιάσανε και γνωριστήκανε και είπανε να συναντηθούμε να πηγαίνουνε βόλτες ε (επιμήκυνση του ε) μετά όμως το παιδάκι η κοπέλα εξαφανίστηκε δεν παρουσιάστηκε καθόλου η μητριά δεν δεν την άφησε να βγει έξω απ'το παλάτι τίποτα και βασικά το παιδάκι έπεσε το βασιλόπουλο έπεσε στον ύπνο στενοχωρήθηκε είχε τα φάρμακά του τον άφησαν στο κρεβάτι και δεν ήθελε να σηκωθεί γιατί ήταν πολύ στενοχωρημένο γιατί έχασε την κοπέλα που αγάπησε (παύση) πιο πέρα όμως ήτανε ένα ποτάμι και στο ποτάμι ήταν ήταν η κοπέλα γονατιστή επάνω ήτανε ένα πράσινο δέντρο και απ'το δέντρο έπεφτε ένα κελαηδούσε ένα πουλάκι (παύση) πουλάκι το οποίον όμως μόλις είδε την κοπέλα της λέει και γιατί κλαις λέει* ***αυτό*** *και* ***αυτό*** *μου*

συμβαίνει με έχει αγαπήσει το βασιλόπουλο αλλά τον έχασα και δεν τον βρίσκω τώρα εκεί πέρα λέει μην ανησυχείς το βασιλόπουλο ζει (επιμήκυνση του ει) είναι μια χαρά και σε περιμένει και (επιμήκυνση του αι) η κακή μάγισσα δημιούργησε όλα αυτά και να πας στο παλάτι (μικρή παύση) και να βρεις το (επιμήκυνση του ο) το το αγόρι που αγαπάς και αμέσως λοιπόν η κοπέλα έφυγε και πήγε πάλι στο παλάτι στο παλάτι και στο παλάτι λοιπόν δεν την προσέξαν η (επιμήκυνση του η) μητριά της με την κόρη της δεν την προσέξαν εκεί πέρα και πήγε στο παλάτι λοιπόν μέσα η κοπέλα και αμέσως τον αγκάλιασε τον φίλησε βρεθήκανε αγκαλιαστήκανε και κανονίσανε να παντρευτούνε και έτσι παντρευτήκανε.

Ε: *Ωραία.*

❖

17.

Σ: *ό,τι είναι εδώ;*

Ε: *Μπράβο.*

Σ:*Από από που ξεκινάμε; Από εδώ;*

Ε: *Και συνεχίζετε έτσι εδώ και εδώ*

Σ: *Ναι. Τι τι να πώ;*

Ε: *Το παραμύθι*

Σ: *Ε τώρα εδώ ολόκληρο πράγμα παραμύθι ξέρω γω αλλά ε για για κάνε αρχή εσύ από εδώ*

Ε: *Μια φορά και έναν καιρό*

Σ: *Ναι.*

Ε: *ήταν ποιοί;*

Σ: *Ήταν;*

Ε: *Ήταν ποιοι;*

Σ: *Ήταν;*

Ε: *Ήταν κάποιοι άνθρωποι ποιοι άνθρωποι ήταν στο παραμύθι*

Σ: *Δεν δεν άκουγα κατάλαβα*

Ε: *Κύριε .*

Σ: *Το παλικάρι πως το λένε*

Ε: *Ωραία. Μμχμ πολύ σωστά. Ναι.*

Σ: *και και ήθελε να να παντρευτεί αυτήν και (επιμήκυνση του αι) κι αυτή δεν ήθελε (παύση)*

Ε: *Μχμ. Ωραία. Και εδώ;*

Σ: *Ε ο (επιμήκυνση του ο) πώς τον λένε* ***αυτόνε.*** *Πώς τον λένε;*

Ε: *Ένα λεπτό.*

Σ: *Η κακιά γυναίκα*

Ε: *Πολύ ωραία. Ναι, ναι.*

Σ: *ο ο το παλικάρι αγαπούσε τη τη κοπέλα του*

Ε: *μχμ ναι.*

Σ: *Εδώ εδώ τώρα τι είναι; (παύση) Εδώ είναι λίγο δύσκολο δεν ξέρω τι είναι.*

Ε: *Οκ.*

Σ: *Εδώ το πουλάκι.*

Ε: *Ναι.*

Σ: *(καθαρίζει το λαιμό του) ε η κοπέλα έκλαιγε (παύση)*

Ε: *Μχμ.*

Σ: *και **αυτό** εδώ τι είναι δεν μπορώ δεν ξέρω. (παύση) ένα ένα πουλάκι (παύση) δεν δεν μπορώ να το να το πέσω περισσότερα (παραφασία) να το (επιμήκυνση του ο) δεν ξέρω*

Ε: *Ωραία. Μέχρι..*

❖

18.

Σ: *εδώ είναι ο μπαμπάς η κόρη και η στρίγγλα*

Ε: *(γέλια)*

Σ: *εδώ είναι το παλικάρι δεν ξέρω απ'το (επιμήκυνση του ο) κρεβάτι του ο καημενούλης περιμένει εδώ είναι ο αγαπημένος και η αγαπημένη εδώ σκέφτεται στη πριν ακόμα γίνουν όλα αυτά και εδώ είναι οι γάμοι*

Ε: *ωραία*

Μέρος β'

Ε: *Ναι*

Σ: *Που αγαπούσε μια κοπέλα*

Ε: *Ναι*

Σ: *Και η κακιά η μητριά της δεν τους άφηνε να παντρευτούνε*

Ε: *Μχμ μχμ μχμ*

Σ: *όμως (παύση) όμως για πε- για πες μου και στο ενδιάμεσο*

Ε: *Δεν μπορώ (επιμήκυνση του ω)*

Σ: *Δεν μπορείς. (παύση) Τι μεσολάβησε να (επιμήκυνση του α) Τελοσπάντων το πουλάκι; Μπράβο. Έστελνε μηνύματα; (γέλια)*

Ε: *Ναι.(γέλια)*

Σ: *και (επιμήκυνση του αι)*

Ε: *Ναι.*

Σ: *συναντήθηκαν αγαπημένοι και παντρευτήκανε.*

Ε: *Ωραία. Ε ναι. Να σας πω την λεπτομέρεια;*

Σ: *Α για πες μου αγάπη μου.*

❖

19.

Σ: *Παλικάρι κάτσε λιγάκι (παύση) το μέτρησα*

Ε: *Ναι ναι ναι (παύση)*

Σ: *(αναστενάζει) Εδώ ζόρικα μου 'ρθανε.*

Ε: *Ε σιγά σιγά δείτε και τις εικόνες εδώ.*

Σ: *Ναι (παύση) Ήτανε μια κακιά βασίλισσα που (επιμήκυνση του ου) δεν μπορώ (παύση)*

Ε: *Που τι έκανε; Δείτε και τις εικόνες να (επιμήκυνση του α) βοηθηθείτε. (παύση) Πολύ ωραία μου το (επιμήκυνση του ο) ξεκινήσατε.*

Σ: *Καλά το ξεκίνησα να πούμε. (παύση) Αυτή είναι μια κακιά (επιμήκυνση του α) η κακιά μητριά που λέμε*

Ε: *Μχμ μχ*

Σ: *και υπάρχουνε τόσες καλές γυναίκες που τσάμπα τους έχουνε βγάλει το όνομα (παύση)* ***αυτό*** *είναι το βασιλόπουλο; Είναι το βασιλόπουλο* ***αυτό;***

Ε: *Μχμ ναι ναι πάρτε το (παίρνει τη φωτογραφία στο χέρι για να την δει καλύτερα)*

Σ: *Δεν θυμάμαι τίποτα.*

Ε: *ε (επιμήκυνση του ε) Εδώ;*

Σ: *Σε* ***αυτό;***

Ε: *Ναι.*

Σ: *Εδώ συμπεραίνω απ'το (επιμήκυνση του ο) απ'τη φωτογραφία ό,τι ειδωθήκανε και της έδωσε το δαχτυλίδι και παντρευτήκανε δεν ξέρω ίσως (παύση) εδώ αρρώστησε το παλικάρι; ω (επιμήκυνση του ω) (παύση) και πάει το πουλάκι και της το λέει που έκλαιγε αυτή (παύση) και μετά συναντηθήκανε και ζήσανε αυτοί καλά και εμείς καλύτερα.*

❖

<u>B. NC group</u>

1.

Σ(υμμετέχων)*: Ζούσε ένα παλικάρι ένα βασιλόπουλο εεε εεε με τη μητριά του η οποία ήθελε να τοοον να τον παντρέψει μεεε την άσχημη κακάσχημη ανηψιά της (μικρή παύση) και*

αυτός ήταν μελαγχολικός γιατί δεν ήθελε να παντρευτεί αυτήν την άσχημη ανηψιά της μητριάς του μια μέρα βγήκε έξω μια βόλτα απ΄το στο παλάτι και συνάντησε στο δρόμο μια όμορφη κοπέλα την ερωτεύτηκε (μικρή παύση) καιιι ήθελε να την παντρευτεί η κοπέλα όμως ήθελε να του τού είπε ότι θέλει να τον δοκιμάσει πριν πάρει την απόφασή της και του έδωσε ένα δαχτυλίδι και του είπεεε ότιι (μικρή παύση) να το κρατήσει καιιι όταν τοοο ανθίσει πάλι περάσει ο καιρός και ανθίσουν τα φυτά και ξαναέρθει η άνοιξη (μικρή παύση) ναα της το πάει και ναααα και αν ακόμα την αγαπάει δηλαδή να της πάει το δαχτυλίδι για να παντρευτούνε

Ε: *Μχμμ*

Σ: *Σαν μία δοκιμή. Εεε αυτός γύρισε στο παλάτι αλλάααα στο παλάτι διηγήθηκε όταν διηγήθηκε την ιστορία (μικρή παύση) η μητριά με την κακάσχημη την ανηψιά (μικρή παύση) είπανε σιγά μην τον αφήσουμε να παντρευτεί την άλλη για να παντρευτεί εσένα θα το κλέψουμε το δαχτυλίδι δεν θα βρίσκει το δαχτυλίδι οπότε θα χάσει και τηηη και την κοπέλααα (μικρή παύση) του κλέψανε λοιπόν το δαχτυλίδι (μικρή παύση) αυτός από την απελπισία του που δεν έβρισκε το δαχτυλίδι γιατί την αγάπησε την κοπέλα και ήθελε να βρει το δαχτυλίδι*

Ε: *Μχμμ*

Σ: *και να της το πάει για να την παντρευτεί έπεσε άρρωστος έτοιμος ναα του θανατά να πεθάνει (μικρή παύση) πέρασε ο καιρός αυτός άρρωστος στο κρεβάτι δεν μπορούσε να γίνει καλά (μικρή παύση) το ίδιο όμως έπαθε θλίψη και η κοπέλα (μικρή παύση) που τον περίμενε*

Ε: *Μχμμ*

Σ: *και πέρασε ο καιρός και ήρθε η άνοιξη πήγαινε στο ποτάμι και έπλενε τα ρούχα και έκλαιγε και έκλαιγε μέχρι που την είδε ένα πουλάκι να κλαίει τη ρώτησε τι έχει (μικρή παύση) της είπε τι έχει (μικρή παύση) και της είπε το γιατ- την ιστορία ότιιι οο το βασιλόπουλο την αγαπάει αλλά το και το η κακιά του η μητριά με τηηην κακάσχημη ανηψιάαα επειδή θέλει να τον παντρέψει με την ανηψιάαα του πήρανε το δαχτυλίδι καιιι (μικρή παύση) και όλα αυτά και δεν είναι ότι δεν σ'αγαπάει είναι άρρωστος στο κρεβάτι γιατιιί δεν βρίσκει το δαχτυλίδι για να ρθει να σε βρει να σε παντρευτεί αφού τα άκουσε όλα αυτάααα η κοπελιά (μικρή παύση) δρόμο παίρνει δρόμο αφρήνει πάει στο παλάτι βρίσκει το βασιλόπουλο του λέει την ιστορία (μικρή παύση) ότιιι έμαθε ότι το δαχτυλίδι (μικρή παύση) το είχανε κλέψει η κακιά μητριά με την ανηψιά της (μικρή παύση) οπότε ήτανε τόοοση μεγάλη η ευτυχία του βασιλόπουλου που έγινε αμέσως καλά την παντρεύτηκε (μικρή παύση) και ζήσανε αυτοί καλά και εμείς καλύτερααα έδιωξε και τη μάγι-αυτήν την μητριά*

την κακιά απ'το παλάτι του και έζησε με την αγαπημένη του (μικρή παύση) αυτός καλά και εμείς καλύτερα

❖

2.

Σ(υμμετέχων)*: Μια φορά κι έναν καιρό…(αυτό δεν ηχογραφήθηκε αλλά ελέχθηκε από το υποκείμενο) ένα βασιλόπουλο που ήτανεεε πολύ καλόοοος άνθρωπος εε καιιι είχε όμως μία κακιά μητριάαααα που ήθελε να τον παντρέψει με την πολύ άσχημη ανηψιά της (μικρή παύση) αυτός δεν την ήθελε περπατούσε στο δρόμο και γνώρισε μία πολύ όμορφη κοπέλα (μικρή παύση) αγαπήθηκαν καιιι αυτή ήθελε να τον δοκιμάσει να δει αν αξίζει και του είπε θα σου δώσω το δαχτυλίδι μου και όταν θ'ανθίσουν ταααα εεε οι τριανταφυλλιές πάλιιι θα έρθεις νααααα με βρεις (μικρή παύση) θα σε βάλω σε αυτή τη δοκιμασία εεεεμμμ ηηη κακιά μητριά και η ανηψιά του κλέψαν το βράδυ την ώρα που κοιμήθηκε σιγά που θα τον άφηναν να πάρει την καλή κ την όμορφη εεε καιιι του κλέψαν απ'τοοοο τραπέζι που χε βάλει το δαχτυλίδι αυτός αρρώστησε απ'τη στενοχώρια του η κοπέλα έκλαιγεεε από τη στενοχώρια της γιατί τηηηην ξέχασε οοο το καλό βασιλόπουλο και ένα πουλάκι που την είδε πήρε ανθρώπινη λαλιάαα και της είπε (μικρή παύση)* ***αυτό*** *και* ***αυτό*** *και* ***αυτό*** *είναι η ιστορία και δεν έπαψε να σ'αγαπάει και απ'την στενοχώρια του αρρώστησε πήγαινε να τον βρεις γιαι να παντρευτείτε και πήγε και παντρεύτηκαν και έδιωξε την κακιά μητριά και τηηην κακ-άσχημη ανηψιά (μικρή παύση) ανηψιά της, ανηψιά (αυ)τής.*

❖

3.

Σ(υμμετέχων)*: Εδώ εδώ εδώ και εδώ*

Ε(ρευνήτρια)*: όπου ναι ναι*

Σ: *ένα δύο τρία τέσσερα πέντε*

Ε: *Για πείτε μου.*

Σ: *Ελάτε.*

Ε: *Πείτε μου.*

Σ: *Α. Τοοο Την ιστορία αυτή;*

Υποκείμενο: λοιπόν ένας βασιλιάς και η βασίλισσα θα παντρέψουνε τοοοο γιο τους

Ε: *Ωραία.*

Σ: *αλλά είχαν και μίαααα κακκιά πως τη λένε όχι η βασίλισσα ήτανεεε καοι η βασίλισσα ήταν κακιά και ήθελε να παντρέψει το γιο του η βασίλισσα όμως ήθελε να παντρέψει την*

ανηψιά του με το βασιλόπουλο το βασιλόπουλο μία ωραία πρωία περπατούσε στο δάσος και λοιπά βλέπει μία ωραία κοπέλα την ερωτεύτηκε αμέσως και αυτή για να τον δοκιμάσει του λέει πάρτο δαχτυλίδι και όταν θα ξανανθίσουνε οι πως τις λένε οι τριανταφυλλιές έλα να με βρεις μετά από αυτό όταν ανθίσανε οιιιι τριανταφυλλιές πάει η κοπέλα στο τόπο αυτό αλλά αυτός δεν τινε αυτός δεν είχε πάει γιατί δεν είχε πάει; Γιατί η κακιά ηηηη βασίλισσα του είχανε κλέψει το δαχτυλίδι κι αυτός δεν είχε δαχτυλίδι η κοπέλα λοιπόν που τον περίμενε έκλαιγε απαρηγόρητη γιατί την ξέχασε και της είπε ένα πουλάκι αυτό κι αυτό συμβαίνει ότιιι η βασίλισσα του χει κλέψει το δαχτυλίδι για να την αρραβωνιάσει με την ανηψιά της (παύση) εεεε στη συνέχεια στη συνέχεια ο βασι ο το πριγκιπόπουλο πως το λένε αρρώστησε και δεν μπορούσε να γίνει καλά μόλις λοιπόν το έμαθε η κοπελιά αυτό πήγε στο παλάτι του είπε την ιστορία που της είπε το πουλάκι και αυτός έδιωξε τις γυναίκες και παντρεύτηκε.

❖

4.

Σ(υμμετέχων)*: Μια φορά κι έναν καιρό σε ένα παλάτι ζούσε ένα (διστάζει) βασιλόπουλο ε που ήθελε να παντρευτεί αλλά είχε μητριά και η μητριά ήθελε να το παντρέψει με την άσχημη και κακιά ανηψιά της εεε κάποια στιγμή βέβαια το βασιλόπουλο εε βγήκε βόλτα και συνάντησε μια όμορφη κοπέλα που την ερωτεύτηκε εεε η κοπέλα του είπε ότι ήταν χαρούμενη που τον γνώρισε και του είπε ότι για να παντρευτούν θα πρέπει εε να του έδωσε ένα δαχτυλίδι και του είπε κράτησε αυτό το δαχτυλίδι ήθελε να τον δοκιμάσει κράτησε αυτό το δαχτυλίδι και όταν ανθίσουν πάλι οι τριανταφυλλιές να έρθεις να με βρεις το παλικάρι πήρε το δαχτυλίδι πήγε στο σπίτι η μητριά όμως το έμαθε αυτό και είπε στην ανηψιά της μη στενοχωριέσαι θα του πάρουμε το δαχτυλίδι θα του το κλέψουμε του έκλεψαν λοιπόν το δαχτυλίδι και τοο όταν ανακάλυψε το πριγκιπόπουλο ότι το δαχτυλίδι (επιμήκυνση του ι) το είχε χάσει έπεσε σε βαριά αρρώστια και κανένα φάρμακο δεν μπορούσε να τον θεραπεύσει (μικρή παύση) εεμμ ό πέρασε ο καιρός και ήρθε η εποχή που άνοιξαν πάλι οι τριανταφυλλιές η όμορφη κοπέλα περίμενε το πριγκιπόπουλο για να εεε πάει να την βρει αλλά δεν πήγαινε στενοχωρήθηκε και έκλαψε γιατί νόμιζε ότι την ξέχασε (μικρή παύση) όμως την άκουσε ένα πουλάκι και την λυπήθηκε και της είπε ό,τι είχε συμβεί ότι δηλαδή το δαχτυλίδι του το έκλεψε η κακιά μητριά γιατί ήθελε να τον παντρέψει με την ε (επιμήκυνση του ε) άσχημη και κακιά ανηψιά της*

*Συνοδό*Σ: *Αυτή εε (γέλια)*

Σ: *Ναι. Εεεμ Τελικά το πουλ- το πουλάκι τα είπε όλα αυτά στην πρι- στην όμορφη κοπέλα και η όμορφη κοπέλα αποφάσισε να πάει στο παλάτι να βρει τον πρίγκιπα και να του πει τι*

είχε γίνει όταν τα εεφτασε εκεί και τα είπε όλα στον πρίγκιπα ο πρίγκιπας ε (επιμήκυνση του ε) από την χαρά του που είδε την κοπέλα έγινε καλά, την παντρεύτηκε και έτσι ζήσανε αυτοί καλά και εμείς καλύτερα (επιμήκυνση του α).

❖

5.

Σ: *ζούσε ένα (επιμήκυνση του α) βασιλόπουλο σε ένα παλάτι και (επιμήκυνση του αι) είχε μία μητριά η οποία ήθελε να τον παντρέψει με την ανηψιά της, την άσχημη ανηψιά της μια μέρα όμως το βασιλόπουλο εκεί όπου ήτανε στο δάσος συνάντησε μία ωραία κοπέλα και την ερωτεύτηκε και αμέσως της ζήτησε να την παντρευτεί εκείνη του είπε πάρε αυτό το δαχτυλίδι και όταν θα ξαναανθί- για να ξέρω ότι με αγαπάς πράγματι όταν θα ξανανθίσουνε τελοσπάντων τα λουλούδια θα έρθεις πάλι να μου το δώσεις*

Ε; Ναι.

Σ: *το βασιλόπουλο χαρούμενο όταν πήγε στο σπίτι το είπε αφηγήθηκε αυτό που συνέβη και (επιμήκυνση του αι) αυτό βέβαια δεν άρεσε στη μητριά και είπε στην ανηψιά της σιγά να μην τον αφήσουμε να πάρει το δαχτυλίδι να βρει την κοπέλα το βράδυ που θα κοιμηθεί θα του το κλέψουμε και πράγματι έτσι έγινε πήρανε το δαχτυλίδι όταν ανακάλυψε το βασιλόπουλο ότι το έχασε το δαχτυλίδι ε έπεσε σε μεγάλη θλίψη και (επιμήκυνση του αι) δεν μπορούσε να σηκωθεί από το κρεβάτι και κανένα γιατρικό δεν μπορούσε να τον θεραπεύσει εεε πέρασε ο καιρός και (επιμήκυνση του αι) άρχισαν πάλι να ανθίζουνε τα λουλούδια ο καιρός που έπρεπε να πάει να δει την κοπέλα η κοπέλα περίμενε και έβλεπε ότι δεν ερχότανε το βασιλόπουλο και άρχισε να κλαίει ένα πουλάκι που τον είδε εε τη λυπήθηκε και της είπε ότι μη στενοχωριέσαι συνέβη αυτό και αυτό του έκλεψε το δαχτυλίδι η μητριά και αυτός σ'αγαπάει αλλά από τη στενοχώρια του έπεσε σε μεγάλη αρρώστια τότε λοιπόν η κοπέλα σηκώθηκε και πήγε στο παλάτι και είπε την ιστορία στο βασιλόπουλο αυτός απ'τη χαρά του έγινε αμέσως καλά και παντρευτήκανε και έδιωξε τη (επιμήκυνση του η) μητριά με την ανηψιά.*

Ε: *Πολύ ωραία. Μια χαρά.*

Σ: *Και ζήσανε.*

❖

6.

Ε(ρευνήτρια)*: Πάμε (μικρή παύση)*

Σ(υμμετέχων)*: εεεε τον παλιό καιρόοο σ'ένα παλάτι ζούσεεεε ο πρίγκιπας (παύση) με τηηην μητριά του την κακιά (μικρή παύση) καιιιι μια ανηψιά της άσχημη που ήθελε να τον παντρέψει (παύση) σε μια βόλτα του το βασιλόπουλο, ο πρίγκιπας συνάντησε μία ωραία κοπέλα (παύση) ααα που του άρεσε καιιιι αφού μιλήσανε τουυ εκείνη του έδωσε ένα δαχτυλίδι και του είπε όταααααν ανθίσουν πάλιιι ταααα λουλούδια να έρθεις να με βρεις (μικρή παύση) εε πράγματι πήρε το δαχτυλίδι τοο ο πρίγκιπας χαρούμενος πήγε στο παλάτι και το είπε σε όλους (μικρή παύση) και στηηην μητριά του η μητριά του και έπεσε όταν έπεσε να κοιμηθεί η μητριά του εεε συνεννοήθηκε και με την ανηψιά και είπε σιγά να μην τον αφήσουμε να παντρευτείιι (μικρή παύση) αυτήν τηηην την όμορφη εεε καιιι όταν κοιμόταν του κλέψανε το δαχτυλίδι ο πρίγκιπας όταν ξύπνησε και δε είδε ότι το χε χάσει έψαξε έψαξε δεν το βρήκε αρρώστησε απ'τη στενοχώρια του καιιιι όταν ήρθε ο καιρός που έπρεπε να πάει να βρει την κοπέλααααα δεν πήγε (μικρή παύση) εεε οο αυτή έκλαιγε απαρηγόρητα αλλάααα σε ένα ποτάμι εδώ όπως την βλέπω αλλά ένα πουλάκι (μικρή παύση) της είπε μην κλαιιις ο πρίγκιπας δεν σε ξέχασε αλλαααά αρρώστησε γιατί έχασε το δαχτυλίδι εεε μετά το εδώ δεν πρόσεχα (γελόντας το εδώ δεν πρόσεχα) το πουλάκι πήγεεεε εε στον πρίγκιπα και τα είπε (μικρή παύση) και βρεθήκανε. Και ζήσανε καλά και εμείς καλύτερα.*

❖

7.

Σ: *Αυτά συμβαίνουν και στην πραγματικότητα στη ζωή (μικρή παύση) ε (επιμήκυνση του ε) με άλλους τρόπους ή κάπου κοντά να πούμε ε (επιμήκυνση του ε) είπαμε το παλικάρι πήγε να κάνει τη βόλτα του στο (επιμήκυνση του ο) στο πάρκο στο (μικρή επιμήκυνση του ο) δάσος βρήκε την μια κοπέλα πανέμορφη την ερωτεύτηκε της πρότεινε (μικρή παύση) το γάμο της (μικρή παύση) εκείνη επιφυλάχτηκε και λέει ναι αν είσαι πραγματικά αληθινός πάρε το δαχτυλίδι μου και να ρθεις να με βρεις αύριο να μου πεις (μικρή παύση) τι θα κάνουμε (μικρή παύση) έτρεξε πίσω στο παλάτι (μικρή παύση) είπε την ιστορία (μικρή παύση) όπως αυτός ήθελε (μικρή παύση) ε (επιμήκυνση του ε) η κακιά μητριά του όμως δεν της άρεσε γιατί ήθελε να τον δώσει στην (επιμήκυνση του η -δισταγμός) πανέμορφη ανηψιά της (γέλια) να μην την πούμε την άσχημη (γέλια) ε (επιμήκυνση του ε) (παύση) και όταν πήγε για (επιμήκυνση του α) είπε θα ρθεις να μου δώσεις το δαχτυλίδι πάλι και θα κανονίσουμε όταν πήγε για ύπνο τής είπα ότι μου δωσε δαχτυλίδι και λοιπά όταν πήγε και κοιμήθηκε το παιδί πήγε και του πήρανε το το δαχτυλίδι κι σηκώθηκε το παιδί το πρωί (μικρή παύση-έμφαση) αφού είχε σκεφτεί αποφάσισε να πάει να ζητήσει για γάμο την*

κοπέλα δεν μπορούσε να βρει το κλειδί το το το δαχτυλίδι και εκεί (μικρή παύση) άρχισε το παιδί και μαράζωνε (μικρή επιμήκυνση του ε) μόλις έχασε το δαχτυλίδι ψάχτηκε τι έκανε (μικρή παύση) μην πούμε σε όλη την ιστορία (μικρή παύση) ε (επιμήκυνση του ε) και αρρώστησε κατάθλιψη και ε (επιμήκυνση του ε) αρρώστησε το παιδί (μικρή παύση) η κοπέλα πήγε όμως την άλλη μέρα δεν την βρήκε άρχισε έκλαιγε δε στενοχωριότανε ακούει ένα πουλάκι της λέει κυρά μου δεν γίνεται αυτό και αυτό με την την κακιά πεθερά ε (μικρή επιμήκυνση του ε) μητριά και λέει είναι εκεί είναι άρρωστος έφυγε πήγε τον βρήκε (μικρή παύση) του εξήγησε τι ακριβώς γίνανε καταλάβαινε γύρισε το παιδί στο παλάτι έδιωξε την (επιμήκυνση του η) την κακιά μητριά και (επιμήκυνση του αι) ζήσανε αυτή βασιλικά (γέλια)

Ε: *Πολύ ωραία. Ωραία*

Σ: *δεν ξέρω αν το (επιμήκυνση του ο) το βγαλα.*

❖

8.

Σ: *Λοιπόν. Θα σας πω ένα παραμύθι που μου το πε (γέλια) η γιαγιά μου όταν ήμουνα εγώ μικρό παιδάκι μού λεγε λοιπόν για μία οικογένεια η οποία της στην οποία η οποία οικογένεια αποτελείτο από τον πατέρα την μητέρα και (επιμήκυνση του αι) ένα αγοράκι το αγοράκι μεγάλωσε ο πατέρας δούλευε καλά είχε μια καλή δουλειά είχε χρήματα αρκετά χρήματα τόσα όσα μπορούσε να πάρει μία γυναίκα να την εγκαταστήσει στο σπίτι για να βοηθάει τη γυναίκα του στις δουλειές του σπιτιού*

Ε: *Ναι.*

Σ: *ήρθε λοιπόν αυτή η κυρία η οποία σημειωτέον είχε και μία ανηψιά την οποία αγαπούσε πολύ την ανηψιά και ζούσανε μαζί (επιμήκυνση του ι) κοντά*

Ε: *Ναι.*

Σ: *ε το παλ- το (επιμήκυνση του ο) η οικογένεια περνούσαν τα χρόνια το αγοράκι που είχε η οικογένεια αυτή μεγάλωνε, μεγάλωνε και η κυρία την οποίαν στην οποία είχανε απόλυτη εμπιστοσύνη και της είχανε δώσει πολλά πάρα πολλά δικαιώματα μες στο σπίτι και μπαινόβγαινε και η ανηψούλα (επιμήκυνση του α) το παλι- το αγοράκι έγινε ένα παλικάρι*

Ε: *Μχμ*

Σ: *άρχισε να βγαίνει έξω και κάποτε γνώρισε μία κοπέλα,*

Ε: *Ωραία.*

Σ: *την οποία ερωτεύτηκε την αγάπησε την κοπέλα και μάλιστα είπανε ότι θα παντρευτούμε εγώ λέει το παλικάρι επειδή μου αρέσεις επειδή είσαι καλή σ'αγαπάω θα σε πάρω (μικρή παύση) και συμφωνήσανε να παντρευτούνε*

Ε: *Μχμ*

Σ: *εγώ θα το πω και πιο ωραία (γέλια) και μάλιστα επειδή το (επιμήκυνση του ο) η κοπέλα είχε κάποιους ενδοιασμούς πιάνει και του λέει αν λες αλήθεια ότι θέλεις να παντρευτείς εγώ θα σε περιμένω και για να δείξω την αγάπη μου το βλέπεις αυτό το δαχτυλίδι είναι της γυ- της μαμάς μου η οποία δεν ζει ακόμη ή της γιαγιάς μου εδώ πέρα μπορείς να το διανθίσεις πολύ ωραία θα το κόψουμε στη μέση το δαχτυλίδι μισό θα πάρεις εσύ μισό θα κρατήσω εγώ Ερωτόκριτος αυτό*

Ε: *(γέλια)*

Σ: *Και πραγματικά το παλικάρι πήρε το δαχτυλίδι και της είπε ότι μόλις θα ρθουν τα χελιδόνια εγώ θα ρθω και θα σε πάρω*

Ε: *Αχα*

Σ: *Σύμφωνοι, σύμφωνοι. Γιατί τώρα έχω κάποιες εργασίες δεν μπορώ να παντρε- να κάνω το γάμο πέρασε λοιπόν ο καιρός αυτό και το είπε το παλικάρι στους δικούς του μαζί όμως με τους γονείς που το είπε ήτανε και η κυρία η οποία είχε και την ανηψιά της και ήθελε πονηρά σκεπτομένη το παλικάρι να παντρευτεί την ανηψιά της για να χει και αυτή ίδια οφέλη και τι έκανε πήρε λοιπόν έκρυψε το δαχτυλίδι το μισό δαχτυλίδι και δεν έλεγε τίποτα στο παλικάρι ότι ήρθε κάποιος ειδοποίησε ότι ήρθε το καλοκαίρι ήρθαν τα χελιδόνια το παλικάρι ε είδε ότι δεν ανταποκρινόταν η κοπέλα έναντι και έπεσε σε μεγάλη στενοχώρια έπαθε λοιπόν ενώ ήτανε καλά στην υγεία του δεν μπορούσε κανείς γιατρός να τον κάνει καλά γιατί δεν ήταν άρρωστος σωματικά ήτανε (γέλια) η αρρώστια του ήταν ψυχική*

Ε: *Ναι.*

Σ: *και ήτανε λοιπόν άστα να πάνε στο διάβολο (γέλια)*

Ε: *(γέλια)*

Σ: *Στενοχωρέθηκε το παλικάρι έπεσε άρρωστο ο πατέρας του και η μάνα του κοντεύανε να τρελαθούν τι έχει το παλικάρι μας τι έχει το ο κανακάρης μας τι έχει η μόνη που έτριβε τα χέρια της ήταν η κυρία η υπηρέτρια που είχανε στο σπίτι*

Ε: *Πολύ ωραία. Και;*

Σ: *και κάποια στιγμή από την άλλη πλευρά η κοπέλα κόντευε να πάθει (γέλια)*

Ε: *(γέλια)*

Σ: *έχασα και το δαχτυλίδι*

Ε: *(γέλια)*

Σ: *Δεν είχε το...α ρε με συγχωρείς που γελάω αλλά το λέω έτσι*

Ε: *Όχι, όχι.*

Σ: *Και τότε να το ο απομηχανής θεός που έρχεται που τον είχανε ποιος ήτανε ο απομηχανής;*

Ε: *στον Όμηρο τον είχανε αν δεν κάνω λάθος*

Σ: *Ε (επιμήκυνση του ε) Μωρε όλοι τον είχανε στα θέατρα συνήθως φαινόταν ο απο μηχανής θεός*

που ερχότανε μέσα (επιμήκυνση του ε) στο θέατρο. Μην κάνουμε (επιμήκυνση του ε)

Ε: *Μπράβο. Στις αρχαίες.*

Σ: *Γιατί πως ήρθε; ή (επιμήκυνση του η) το κοριτσάκι είχε επειδή ζούσε στην επαρχία είχε συνηθίσει να πηγαίνει σε μια περιοχή που είχε και νε- μία λιμνούλα ένα ποταμάκι πράσινο χορταράκι και καθότανε εκεί και (επιμήκυνση του αι) αναπολούσε το τι έχασε τι να γίνεται που να είναι και ότι οι άντρες τέτοια τομάρια (γέλια)*

Ε: *(γέλια)*

Σ: *χωρίς να ξέρει και για αυτό δεν πρέπει ποτέ μα ποτέ άμα δεν ξέρουμε δεν πρέπει και να κρίνουμε.*

Ε: *Πολύ σωστά.*

Σ: *Οπότε κάποια στιγμή έρχεται ο απο μηχανής θεός από τον Θεό σταλμένος ένα πουλάκι το οποίο πήγαινε το έβλεπε στενοχωρημένο και με ανθρώπινη φωνή γύρισε και της είπε κοριτσάκι μου μη στενοχωριέσαι το και το*

Ε: *(γέλια)*

Σ: *και τι μπορούμε να κάνουμε τίποτα λέει απλούστατα εγώ θα πάω και θα την ειδοποιήσω για να γίνει καλά και αυτός πήγε λοιπόν στο δωμάτιο που ήτανε το παλικάρι έκατσε σε ένα στο παράθυρο και την ώρα που το παράθυρο το άνοιξε για να μπει λίγος αέρας*

Ε: *(γέλια)*

Σ: *Να αναπνεύσει το παιδάκι που ήταν έτσι άρχισε το πουλάκι και του λεγε τσίκου τσίου τσίκου τσίου τσίου τσίου τσίου κατάλαβε ο κόπανος (γέλια) και σηκώθηκε έβηχε, πήγε, βρήκε την (επιμήκυνση του η) κοπέλα την πήρε, την πήγε στον πατέρα του, πατέρα εγώ είμαι μια χαρά, και καλά με έκανε αυτή*

Ε: *Ναι, ναι.*

Σ: *Λοιπόν αυτήν αγαπώ, αυτήν θέλω να πάρω και σκασμός και εσύ μάνα και σκασμός και εσύ πατέρα εάν δεν σου αρέσει*

Ε: *(γέλια)*

Σ: *εντάξει είναι αυτό που σου είπα απλώνεις το χέρι σου μόνη*

Ε: *(παραφασία)*

Σ: *όχι εσύ μόνη σου θα απλώσεις το χέρι σου αυτό είναι ωραίο μου αρέσει το παίρνω έχει κανείς καμία αντίρρηση; (μικρή παύση) κανείς. Ή έχω εγώ μάλιστα σε ποιο σημείο και γίνεται η συζήτηση εκεί με μεταξύ πολιτισμένων ανθρώπων και τι έγινε ρε παιδί μου και δεν βρήκαμε γιατί έσκασε και ο πατέρας έσκασε και η μάνα ζητώ συγγνώμην που μιλώ με (επιμήκυνση του ε) τέτοια απρέπεια για τους γονείς είπαμε τίμα τον πατέρα σου και την μητέρα σου (παύση) και πως βρε παιδί μου έγινε έλα εδώ κύριε εσύ το δαχτυλίδι εγώ (επιμήκυνση του ω) από λάθος και δεν ήξερα και μισό δαχτυλίδι πάρτην κόρη σου πάρ την ανηψιά σου (μικρή παύση) και άντε πηγαίντε να βρείτε αλλού δαχτυλίδι λοιπόν δεν ξέρω αν σας άρεσε το δαχ- το αυτό άμα θέλετε μπορώ να μιλάω άλλη μισή ώρα.*

Ε: *(γέλια).*

❖

9.

Σ: *Κάποτε σε μια πολύ μακρινή χώρα*

Ε: *Ωραία.*

Σ: *ζούσε ένα βασιλόπουλο*

Ε: *Ωραία.*

Σ: *Μαζί με την μητριά του*

Ε: *Μχμ*

Σ: *και με την ανηψιά της μητριάς του μάλλον αυτή είναι η μητριά του αφού έχει κορώνα και αυτή είναι η ανηψιά η άσχημη*

Ε: *Μπράβο.*

Σ: *το βασιλόπουλο μια μέρα όπως περπατούσε βρήκε μία αντάμωσε μίια πολύ όμορφη κοπέλα και την ερωτεύτηκε αμέσως*

Ε: *Μχμ*

Σ: *τότε η κοπέλα για να τον δοκιμ- ήθελε να τον δοκιμάσει αν όντως τον αγαπούσε της έδωσε του έδωσε το δαχτυλίδι*

Ε: *Μχμ*

Σ: *και του είπε ότι αν μ'αγαπάς θα μου το φέρεις τότε που ανθίζουν ξανά οι τριανταφυλλιές*

Ε: *Μχμ*

Σ: *το παλικάρι χαρούμενο το βασιλόπουλο χαρούμενο πήγε στο σπίτι και διηγήθηκε όλα αυτά που του συνέβησαν*

Ε: *Μχμ*

Σ: *Και η μητριά της μαζί με την ανηψιά της θύμωσαν τόσο πολύ που είπαν σιγά που θα αφήσουμε την άλλη κοπέλα να ρθει να μας τον πάρει θα του κλέψουμε το δαχτυλίδι για να παντρευτεί εσένα το παλικάρι που κοιμήθηκε ξέγνοιαστο*

Ε: *Μχμ*

Σ: *όταν ξύπνησε το πρωί είδε ότι έλειπε το δαχτυλίδι και νόμιζε ότι το 'χε χάσει και έπεσε σε μεγάλη στενοχώρια και αρρώστησε βαριά.*

Ε: *Μχμ*

Σ: *Περνούσε ο καιρός, ήρθαν οι, άνθισαν οι τριανταφυλλιές και η κοπέλα περίμενε να ρθει κάθε μέρα το παλικάρι είδε ότι περνούσε ο καιρός και δεν ερχόταν και άρχισε και έκλαιγε πολύ τον είδε ένα πουλάκι από το δέντρο την λυπήθηκε και της μίλησε με ανθρώπινη λαλιά και της είπε όλα τα καθέκαστα ότι το παλικάρι είναι άρρωστο γιατί δεν έπαψε να την αγαπάει αλλά η μητριά του πήρε το δαχτυλίδι για να το ξεχάσει και να παντρευτεί την ανηψιά της*

Ε: *Μχμ*

Σ: *το η κοπέλα τότε πήγε στο παλάτι διηγήθηκε στο παλικάρι όλα αυτά που συνέβησαν το παλικάρι έγινε καλά έδιωξε τη μητριά και την ανηψιά από το παλάτι και την παντρεύτηκε την κοπέλα και έτσι ζήσαν αυτοί καλά και εμείς καλύτερα.*

Ε: *Υπέροχα. Μπράβο.*

Σ: *Ε μα.*

❖

10.

Σ: *Λοιπόν (επιμήκυνση του ο) ζούσε σε ένα (επιμήκυνση του α) παλάτι ο βασιλιάς η (επιμήκυνση του η) βασίλισσα και το (επιμήκυνση του ο, μικρή παύση) πριγκιπόπουλο που ήτανε (επιμήκυνση του ε) η βασίλισσα ήταν μητριά του πριγκιπόπουλου η βασίλισσα λοιπόν ήθελε να παντρέψει τον (επιμήκυνση του ο) πρίγκιπα αυτόν με (επιμήκυνση του ε) την ανηψιά της που ήτανε κακάσχημη ε (επιμήκυνση του ε) το πριγκιπόπουλο μια μέρα όπως είχε βγει και έκανε (επιμήκυνση του ε) βόλτα συνάντησε μία πολύ όμορφη κοπέλα (επιμήκυνση του α) την αγάπησε και της ζήτησε να τον παντρευτεί ε (επιμήκυνση του ε) αυτή του έδωσε ένα δαχτυλίδι και του είπε να μη βιάζεται ότι (επιμήκυνση του ι) αν πράγματι την αγαπάει ε (επιμήκυνση του ε) όταν θα (επιμήκυνση του α) μπει η άνοιξη και θα ανθίσουνε πάλι τα λουλούδια και (επιμήκυνση του αι) θα φοράει αυτός το δαχτυλίδι τότε θα (επιμήκυνση του α)*

Ε: *Ωραία.*

Σ: *παντρευτούν ε (επιμήκυνση του ε) να την βρει και θα παντρευτούν. Γύρισε αυτός στο παλάτι τρισευτυχισμένος το είπε σε όλους αυτό και η (επιμήκυνση του ε) κακιά μητριά ε (επιμήκυνση του ε) θύμωσε αλλά είπε στην ανηψιά της μην ανησυχείς δεν πρόκειται να την πάρει (παύση) και εκείνο το ίδιο βράδυ όταν το πριγκιπόπουλο κοιμότανε αυτή πήγε και του έκλεψε το δαχτυλίδι (επιμήκυνση του ι)*

Ε: *Μχμ μχμ*

Σ: *Όταν λοιπόν ξύπνησε αυτός το πρωί και είδε ότι δεν είχε το δαχτυλίδι, εμ έκλαιγε (γέλια) από μια πλευρά μπορεί να μην έκλαιγε, έπεσε σε βαθιά κατάθλιψη (γέλια) ε (επιμήκυνση του ε) και αρρώστησε και δεν σηκωνότανε απ'το κρεβάτι του και εν πάση περιπτώσει ήταν πολύ στενοχωρημένος (παύση) όταν λοιπόν έφτασε ο καιρός που άνθισαν τα λουλούδια και ήρθε η άνοιξη και λοιπά και λοιπά η κοπέλα περίμενε να έρθει αυτός με το δαχτυλίδι (μικρή παύση) ο πρίγκιπας αλλά ο πρίγκιπας δεν ερχότανε (επιμήκυνση του ε) αυτή νόμιζε ότι την ξέχασε ο πρίγκιπας και άρχισε να κλαίει (επιμήκυνση του ει) ένα πουλάκι που ήτανε στα (επιμήκυνση του α) επάνω στο δέντρο την λυπήθηκε και (επιμήκυνση του αι) με λαλιά με φωνή (επιμήκυνση του η) ανθρώπινη τής είπε όλη την ιστορία του πριγκιπόπουλου ότι δεν την ξέχασε απλά η κακιά η (επιμήκυνση του η) μητριά που το πήρε το δαχτυλίδι και (επιμήκυνση του αι) τότε αυτή ε (επιμήκυνση του ε) χάρηκε και σηκώθηκε και πήγε και τον βρήκε στο (επιμήκυνση του ο) παλάτι εξήγησε στο πριγκιπόπουλο ό,τι (επιμήκυνση του ι) συ- συνέβη ό,τι η κακιά η μητριά με την ανηψιά της του πήραν το δαχτυλίδι αυτός τότε θύμωσε πολύ (μικρή παύση) έδιωξε τις κακιές γυναίκες απ'το παλάτι και παντρεύτηκε την κοπέλα και ζήσαμε εμείς καλά (γέλια) και αυτοί καλύτερα.*

❖

11.

Σ: *Λοιπόν ήτανε ένα (επιμήκυνση του α) βασίλειο.*

Ε: *Ναι.*

Σ: *Όπου ζούσε ένας ένα όμορφο βασιλόπουλο με την κακιά τη μητριά που είχε μια άσχημη κόρη και ήθελε να την παντρέψει με το βασιλόπουλο*

Ε: *Χμ.*

Σ: *αυτό όμως μια μέρα που τον (παραφασία) έξω απ'το παλάτι μια κοπέλα που την αγάπησε και ήθελε να την παντρευτεί αυτή ήθελε να τον δοκιμάσει ε της του έδωσε λοιπόν ένα το δαχτυλίδι της*

Ε: *Ωραία.*

Σ: *και είπε ότι με αυτό το δαχτυλίδι να δω αν με αγαπάς ή όχι*

Ε: *Ωραία, ωραία.*

Σ: *έπεσε να κοιμηθεί το παιδί*

Ε: *Αχα*

Σ: *η κακιά η μαγι- η κακιά η γυναίκα με την άθλια την κόρη πήγαν του κλέψαν το δαχτυλίδι και αυτός αρρώστησε πάρα πολύ και (επιμήκυνση του αι) από κει και πέρα προσπάθησε να δει τι μπορεί να κάνει αλλά πήγε ένα πουλάκι μίλησε ανθρώπινα στη βασίλισσα στην όμορφη την κοπέλα και πήγε το είπε στο βασιλόπουλο και αυτό προσπάθησε βρήκε το δαχτυλίδι έδιωξε την κακιά με την κόρη και παντρεύτηκε την καλή κοπελίτσα.*

Ε: *Ωραία, τέλεια.*

❖

12.

Σ: *Το λοιπόν. Αρχικά το βασιλόπουλο (μικρή επιμήκυνση του ο) ζούσε (μικρή επιμήκυνση του ε) με τη μητριά (παύση)*

Ε: *Ναι.*

Σ: *η μητριά ήτανε (επιμήκυνση του ε) να την παντρέψει με την ανηψιά αυτός ενώ (μικρή παύση) έφυγε και προχωρούσε μέσα στον (επιμήκυνση του ο) ας πούμε στον κήπο σε έναν κήπο συνάντησε μία κοπέλα την ερωτεύτηκε (παύση) και της έκανε πρόταση γάμου η κοπέλα (παύση) δεν αρκέστηκε άμεσα παρά του έκανε πρόταση (παύση) και τού έδωσε ένα δαχτυλίδι το οποίο (μικρή επιμήκυνση του ο) του λέει (παύση) οι αμυγδα- οι (επιμήκυνση του οι) τριανταφυλλιές είναι στο τέλος των ανθών όταν θα ανθίσουνε τα τριαντάφυλλα θα μου το δώσεις*

Ε: *Μχμ μχμ ωραία.*

Σ: *Η (επιμήκυνση του η) Και είχε πάρει το δαχτυλίδι (επιμήκυνση του ι) αυτός και το κράταγε η (μικρή παύση-επιμήκυνση του η) κακ- η μητριά όμως έχει αντιληφθεί όλη την ιστορία και πήρε το δαχτυλίδι (παύση) και το οποίο το έκρυψε (παύση) στενοχωρέθηκε το παλικάρι και έπεσε σε μελαγχολία*

Ε: *Μχμμ μχμ*

Σ: *στην μελαγχολία αυτή προκύψανε ορισμένα θέματα ζωτ- α (επιμήκυνση του α) αδυναμίας σκέψεων το (επιμήκυνση του ο) δε η κοπέλα την οποία ερωτεύτηκε έχει απογοητευθεί (μικρή παύση) και έψαχνε να τον βρει δυστυχώς και έκλαιγε (μικρή παύση) εκεί που έκλαιγε παρουσιάστηκε ένα πουλάκι που τής είπε την ιστορία απ' ό,τι αντιλαμβάνομαι ας πούμε (μικρή παύση) εν περιλήψει και φεύγει και πάει στο παλάτι (μικρή παύση-επιμήκυνση του ι) να βρει το βασιλόπουλο το οποίο και βρήκε και παντρεύτηκε. Οκ;*

❖

13.

Σ: *ε μια φορά κι έναν καιρό ε (επιμήκυνση του ε) η (επιμήκυνση του η) ένας ένας βασιλιάς ένα ωραίο παλικάρι ένας βασιλιάς ε συνάντησε μία κοπέλα ε (επιμήκυνση του ε)*

Ε: *Μχμ*

Σ: *η οποία του άρεσε με δικά μου λόγια όχι τα ίδια*

Ε: *Μχμ*

Σ: *του άρεσε και ήθελε να την να παντρευτεί έφυγε λοιπόν ε η κοπέλα του είπε ότι (επιμήκυνση του ι) θα σου δώσω ένα δαχτυλίδι να σε γνωρίσω πρώτα (μικρή παύση) θα σου δώσω ένα δαχτυλίδι ξέρω γω και όταν ανοίξουν να το σκεφτώ και όταν ανοίξουν οι τριανταφυλλιές να έρθεις να με βρεις ε το παλικάρι το βασιλόπουλο πήγε στο παλάτι ε το είπε εκεί βρισκότανε η (επιμήκυνση του η) η κακιά μάγισσα η θεία μάγισσα με την βασίλισσα την ανηψιά της που ήθελε να τον παντρέψει με αυτήνε*

Ε: *Μχμ*

Σ: *και σκεφτήκανε ότι να του πάρουνε το δαχτυλίδι ε πήρανε το δαχτυλίδι αυτός στενοχωρέθηκε πάρα πολύ όταν το χασε ε αρρώστησε ε και ήταν πάρα πολύ στενοχωρημένος οπότε (επιμήκυνση του ε) όταν ήρθε η άνοιξη και δεν μπορούσε να πάει να βρει την κοπέλα άκουσε από ένα πουλάκι την φωνή που μίλαγε σαν άνθρωπος ξέρω γω*

Ε: *Μχμ*

Σ: *ότι μη στενοχωριέσαι η κοπέλα σ'αγαπάει ε και να της εξηγήσεις πήγε λοιπόν της εξήγησε ό,τι είχε συμβεί μές στο παλάτι ε (επιμήκυνση του ε) έδιωξε την κακιά μάγισσα θεία με το τη βασίλισσα και παντρεύτηκε αυτήνε (επιμήκυνση του ε). Δεν ξέρω. (γέλια).*

Ε: *Μια χαρά.*

Σ: *Καλά;*

❖

14.

Ε: *Ξεκινάμε*

Σ: *Μια φορά κι έναν καιρό υπήρχε ένα βασιλόπουλο ε που είχε μία μητριά η οποία ήθελε να τον παντρέψει με την ανηψιά της η οποία ήτανε πολύ άσχημη εεε το βασιλόπουλο στενοχωρημένο έφ- έφυγε από το παλάτι και πήγε στο (επιμήκυνση του ο) δάσος μία βόλτα εκεί συνάντησε μια όμορφη κοπέλα ε η οποία του άρεσε πάρα πολύ ε και αυτή τον ερωτεύτηκε και (επιμήκυνση του αι) της είπε ότι θέλει να την παντρευτεί αλλά η κοπέλα*

είπε ότι θέλω να σε δοκιμάσω για αυτό θα σου χαρίσω ένα (επιμήκυνση του α) δαχτυλίδι και μετά από ένα χρόνο την άνοιξη θα ξαναβρεθούμε και θα συζητήσουμε ας πούμε για να είμαστε μαζί να παντρευτούμε ε έφυγε ο βασιλιάς εκείνη το πριγκιπόπουλο εεε μετά πήγε στο σπίτι ε και πάντοτε τη σκεφτόταν έπεσε να κοιμηθεί

Ε: *Αχα*

Σ: *και άφησε κοντά στο κρεβάτι του το δαχτυλίδι*

Ε: *Μχμ μχμ*

Σ: *ε όμως το βράδυ ε η βα- η βασίλισσα η μητριά του και η ανηψιά της έμαθαν για αυτό το (επιμήκυνση του ο) γεγονός που συνάντησε αυτή την κοπέλα και λένε ότι δεν θα τον σιγά μην τον αφήσουμε να παντρευτεί αυτήν την κοπέλα και του έκλεψαν το δαχτυλίδι αυτό αυτός όταν ξύπνησε ήταν πάρα πολύ στενοχωρημένος και απαρηγόρητος*

Ε: *Μχμ*

Σ: *και εξακολούθησε για διάστημα να έχει αυτή την στενοχώρια πέρασε ο καιρός, ήρθε η άνοιξη και ο η κοπέλα πήγε στο ραντεβού που είχαν στο σημείο αυτό που βρεθήκανε*

Ε: *Μχμ*

Σ: *ε δεν είδε το πριγκιπόπουλο εκεί και στενοχωρήθηκε πολύ εκείνη τη στιγμή παρουσιάστηκε σε ένα δέντρο ένα κλαδί εε ένα πουλί*

Ε: *Μχμ*

Σ: *με ανθρώπινη φωνή και της λέει μη στενοχωριέσαι εγώ θα σε βοηθήσω να ξαναβρείς το (επιμήκυνση του ο) βασιλόπουλο το πρίγκηπα εμ θα πας να τον συναντήσεις γιατί αιτία που δεν ήρθε είναι η μητριά του και η ανηψιά της πραγματικά ξεκίνησε η κοπέλα και πήγε στο ανάκτορο συνάντησε τον ε πρίγκιπα ε ο πρίγκιπας ενθουσιάστηκε και έφυγε από την στενοχώρια τη μεγάλη που είχε τη παντρεύτηκε και απομάκρυναν έδιωξαν την κακιά μητριά και την ανηψιά της.*

❖

15.

Σ: *εδώ έχουμε το βασιλιά ε το παλάτι ας το πούμε ο οποίος υπάρχει ο βασιλιάς (παύση) και έκανε τι έγινε για το δαχτυλίδι και ;*

Ε: *Δες δες τες τις εικόνες και θα καταλάβετε. (παύση)*

Σ: *κάτσε τώρα δεν βρίσκω δεν μπορώ να θυμηθώ την αρχή εδώ.(γέλια)*

Ε: *Σιγά σιγά*

Σ: *τέλοσπάντων υπήρχε ένα βασιλόπουλο*

Ε: *Ναι.*

Σ: *εε το οποίο ήθελε να εδώ εδώ δεν μπορώ να θυμηθώ την αρχή αρχή ε*

Ε: *Πηγαίντε μετά στο επόμενο.*

Σ: *Ναι που ήθελε να παντρευτεί τέλοσπάντων πήγαινε κάποια βόλτα σε ένα δάσος πηγαίνοντας σε ένα δάσος συνάντησε μία κοπέλα την η οποία ήταν πανέμορφη και ήθελε να τηνε κάτσε με την σειρά (φτιάχνει τη σειρά των εικόνων) ε ήθελε κάποια στιγμή ας πούμε να την παντρευτεί και της είπε ότι εγώ θα σου προσφέρω αυτό το δαχτυλίδι μάλλον η κοπέλα είχε το δαχτυλίδι του πρόσφερε αυτό το δαχτυλίδι και αν κάποια στιγμή θέλεις να με βρεις θα έρθεις σε κα- σε ένα σημείο το οποίο την άνοιξη*

Ε: *Μχμ*

Σ: *όταν θα έχουν ανθίσει οι τριανταφυλλιές θα έρθεις σε αυτό το σημείο που φαίνεται εδώ ένα ποτάμι μία λίμνη ας το πούμε για να με βρεις όντως το παλικάρι γύρισε στο παλάτι ανέφερε αυτήν την ιστορία*

Ε: *Μχμ*

Σ: *ε όμως η δε (μικρή παύση) η δε η μητριά του μητέρα μητριά του και ο βασιλιάς που δεν ήθελαν αυτό τον δεσμό δεν ήθελαν αυτόν το γάμο έχω τη γνώμη ότι πήγανε ε και κλέψανε μες στη νύχτα το δαχτυλίδι από το βασιλόπουλο ούτως ώστε να μη μπορέσει να βρει την βασ- την κοπέλα η δε κοπέλα να είναι στην αναμονή εεε και κλαίγοντας μέρα νύχτα ας πούμε ότι έχασε το βασιλόπουλο ότι αυτό ήτανε και χάθηκε εεε και πολύ στενοχωρημένη εεε κάποια στιγμή βρέθηκε ένα (επιμήκυνση του α) περιστέρι το οποίο της λέει κοπέλα μου μη στενοχωριέσαι ο βασιλ- το βασιλόπουλο δεν σε έχει ξεχάσει ε απλώς απ'την κακία της ηηη (παύση)η μητριά και και ο βασιλιάς απ'την κακία τους κλέψανε κλέψανε το δαχτυλίδι από το βασιλόπουλο ούτως ώστε να μη θυμάται πλέον (μικρή παύση) να σε συναντήσει και αυτό έχει γίνει και δεν έχει έρθει στο δάσος που είχανε ανθίσει οι τριανταφυλλιές να σε δει εεε (μικρή παύση) οπότε ξεκίνησε η κοπέλα και πήγε στο παλάτι και τον βρήκε και από εκεί και πέρα ζούσανε ζούσανε αυτοί καλά και εμείς καλύτερα.*

Ε: *Πολύ ωραία...*

❖

16.

Σ(υμμετέχων)*: (...αλληλοεπικάλυψη με τα λεγόμενα της ερευνήτριας- δεν είναι κατανοητό τι λέει το υποκείμενο)....Λοιπόν. Εεε Μια φορά κι έναν καιρό ήτανε καα έναααα βασιλόπουλο όμορφο και η κακιά μητριά του (μικρή παύση) ήθελε να τον παντρέψει*

Ε: μμ

Σ: *με την με μίαααα ανηψιά της που κακάσχημη όμως αυτό δεν ήθελε το παλικάρι*

Ε(ρευνήτρια)*: (γέλια)*

Σ: *Πηγαίνοντας μια μέρα βόλτα (μικρή παύση) είδε μία πολύ όμορφη κοπέλα (μικρή παύση)*

Ε: *Μχμμ*

Σ: *και την αγάπησε*

Ε: *Μχμμ*

Σ: *και αυτή του είπε (μικρή παύση) και ήθελε να την παντρευτεί του λέει ακόμα θα με παντρευτείς μόνο ότ- πάρε το δαχτυλίδι (μικρή παύση)*

Ε: *Μμμ*

Σ: *και θα με παντρευτείς όταν (μικρή παύση) αποφασίσεις και το και το δεδεχτείς σοβαρά (μικρή παύση) το θέμα αυτό (παύση) εεε το χαν το μάθανε ηηη κακιά μητριά ότιιι (μικρή παύση) εεε (παύση) ότι θέλει να παντρευ να παντρευτει την την κοο την νέα ωραία κοπέλα (μικρή παύση) καιι ένα βράδυ συναντηθήκαν και πήραν το βράδυ και του κλέψαν το δαχτυλίδι (μικρή παύση) εεε η κοπέλα ααα είπε θα θα κόψει την άνοιξη ένα τριαντάφυλλο και θα μου φέρεις ένα τριαντάφυλλο (μικρή παύση) για νααα το παιδα το παλικάρι πήρε το δαχτυλίδι και περίμενε θα ρθει η άνοιξη να γο- να ανθίσουν τα τριαντάφυλλα εεε το μαθαν η κακιά μητριά και πήγαν και του κλεψαν τοοο δαχτυλίδι κρυφά κρυφά για να ξεχάσει (μικρή παύση) την υυυυπόσχεση που χε δώσει (μικρή παύση) η κοπέλα περίμενε πε- και περίμενε και περίμενε αλλά (μικρή παύση) εεε στην επόμενη ανοιξη που πε που ήρθε ήταν απελπισμένη τόσο πολύ εεε τότε ήρθε ένα πουλάκι (μικρή παύση) και της είπε μη στενοχωριέσαι εεεε ο πρίγκιπας σ'αγαπάει απλά έγινε αυτό και αυτό (μικρή παύση) του κλέψαν το δαχτυλίδι και δεν έπαψε να σ'αγαπάει όμως και να και να σε θέλει να σε παντρευτεί. και ότα έφυγε πήγε τον βρήκε χαρούμενη του εξήγησε (μικρή παύση) της είπε κι αυτός τααααα τα προβλήματα που είχε με την κακιά μητριά έδιωξε την κακιά μητριά με την με την ανηψιά της απ'τοοοο (μικρή παύση) παλάτι και παντρεύτηκε και ζήσαν αυτοί καλά και μεις χειρότερα.*

❖

17.

Σ: *(γέλια) ε το βασιλόπουλο είχε βγει (επιμήκυνση του ει) βόλτα και συνάντησε μία κοπέλα και του άρεσε πολύ και της ζήτησε να τον παντρευτεί*

Ε: *Ωραία.*

Σ: *και τη η κοπέλα δέχτηκε και του δωσε το δαχτυλίδι της και του είπε όταν ανθίσουνε τα τριαντάφυλλα να ρθεις να (επιμήκυνση του α) με ζητήσεις τη πως το είπε*

Ε: *Μχμ*

Σ: *τελοσπάντων λοιπόν αλλά η κακιά μητριά που το άκουσε ε με την ανηψιά της ε πήρανε το δαχτυλίδι με κανένα τρόπο δεν θα τον αφήσομεν να την πάρει να την παντρευτεί ε είδε πέρασε ο καιρός η κοπέλα (μικρή παύση) δεν ε είδε ότι δεν τηνε δεν ήρθε και έπεσε σε απελπισία αυτός εντωμεταξύ αρρώστησε έπεσε στο κρεβάτι (μικρή παύση) και την λυπήθηκε που έκλαιγε ένα πουλάκι και της μίλησε με ανθρώπινη λαλιά και της λέει μην κλαις δεν φταίει ο το βασιλόπουλο φταίνε η κακιά μητριά και η ανηψιά της εεε και η κοπέλα σηκώθηκε λοιπόν πήγε τονε βρήκε και διώξανε απ΄το παλάτι την κακιά μητριά και την ανηψιά (επιμήκυνση του α) και παντρευτήκανε ζήσαμε εμείς καλά και εκείνοι καλύτερα το πα σωστά;*

Ε: *Πολύ σωστά.*

❖

18.

Σ: *Σε (μικρή επιμήκυνση του ε) πριν από πολλά πολλά χρόνια (μικρή παύση) υπήρχε ένα (μικρή επιμήκυνση του -α) βασιλόπουλο το οποίο ήτανε ζούσε μαζί τους στο σπίτι λέει και (μικρή επιμήκυνση του -αι) η κακιά μάγισσα που ήθελε να του (μικρή επιμήκυνση του ου) δώσει για γυναίκα του την πανάσχημη και (μικρή επιμήκυνση του -αι) ανηψιά της*

Ε: *Αχα*

Σ: *Κι έτσι την του πρότεινε δηλαδή τον (mismatch) την προωθούσε αυτήνε για (μικρή επιμήκυνση του α) αυτό για το (μικρή επιμήκυνση του ο) ο νέος όμως ο το βασιλόπουλο δεν την ήθελε δεν του άρεσε ξέρω γω και (μικρή επιμήκυνση του -αι) μιά μέρα λέει όπως περπατούσε (μικρή παύση) στο δρόμο συνάντησε μία πανέμορφη κοπέλα εγώ το λέω τώρα δεν το λέω με όλα τα λόγια που του λεέι αυτός δεν το θυμάμαι να το πω έτσι*

Ε: *Πολύ ωραία*

Σ: *Την οποία κοπέλα την είδε και (δισταγμός) την ερωτεύτηκε (παύση) βέβαια της έκανε λέει πρόταση να την παντρευτεί αλλά εκείνη ήθελε να τον δοκιμάσει*

Ε: *Μχμ*

Σ: *και για να τον δοκιμάσει του δωσε ένα ωραίο δαχτυλίδι ένα δαχτυλίδι και του πε αν τη θέλει θα πάει και θα την ζητήσει με αυτό το δαχτυλίδι (παύση) το παλικάρι πράγματι της λέει το πήρε το δαχτυλίδι αλλά η κακούργα η μάγισσα εκεί του (μικρή επιμήκυνση του ου) το βράδυ που κοιμόταν του το κλεψε το δαχτυλίδι (μικρή παύση) ξύπνησε κατάλαβε ότι το δαχτυλίδι του το πήρανε και έπεσε σε αρρώστια αρρώστησε το παλικάρι το οποίο έπεσε στο κρεβάτι και δεν μπορούσε ήταν άρρωστος (μικρή παύση) η κοπέλα περίμενε να ρθει το βασιλόπουλο τελοσπάντων να την βρει αλλά αργούσε*

Ε: *Μχμμ*

Σ: *και είχε στενοχωρηθεί λέει πολύ και είχε βάλει τα κλάματα ένα πουλί λέει πουλάκι την είδε και την λυπήθηκε και της είπε λέει με ανθρώπινη (μικρή παύση) λαλιά ότι (μικρή επιμήκυνση του -ι) δεν την ξέχασε το βασιλόπουλο αλλά έχει συμβεί (μικρή παύση) αυτό και αυτό ότι της πήρανε του πήρανε (*mismatch *της/του) το δαχτυλίδι (μικρή επιμήκυνση του -ι) (παύση) και έτσι η κοπέλα (μικρή παύση) πήγε μια μέρα στο (μικρή επιμήκυνση του ο) σπίτι στο παλάτι τελοσπάντων ξέρω γω σπίτι τι είχε παλάτι (μικρή παύση) και (μικρή επιμήκυνση του -αι) είδε το βασιλόπουλο πράγματι ότι ήτανε άρρωστο αυτός χάρηκε τόσο πολύ που έδιωξε λέει τη κακιά μάγισσα με την ανηψιά της και έτσι παντρεύτηκε την κοπέλα και ζήσανε αυτοί καλά και εμείς καλύτερα*

❖

19.

Σ: *(παραφασία, δεν είναι κατανοητό τι λέει…πιθανόν ήταν) ένα βασιλόπουλο (μικρή παύση) που ήθελε (μικρή επιμήκυνση του ε) η μητριά του να τον παντρέψει (μικρή επιμήκυνση του ει) με την ανηψιά της (μικρή παύση) αυτός δεν ήθελε (μικρή παύση) πήγε στο (μικρή επιμήκυνση του ο) τέτοιο και γνώρισε μια κοπέλα (μικρή παύση) που η κοπέλα του δωσε το (μικρή επιμήκυνση του ο) δαχτυλίδι για να τονε (μικρή παύση) δοκιμάσει (μικρή παύση) και του πε ότι αν θέλεις (μικρή παύση-αυτοδιόρθωση) αν με αγαπάς έλα του χρόνου που οι τριανταφυλλιές θα (μικρή επιμήκυνση του α) ανθίσουνε (μικρή παύση) για να το (μικρή επιμήκυνση του ο) δούμε (μικρή παύση) πήγε στο παλάτι του εξήγησε ότι βρήκε την κοπέλα και αυτό και αυτό και η μητριά του τού πήρε το (μικρή επιμήκυνση του ο) δαχτυλίδι (μικρή παύση) για να (μικρή επιμήκυνση του α) μη θυμάτ- για να το (μικρή επιμήκυνση του ο) τέτοιο αυτός έπεσε άρρωστος στο κρεβάτι και δεν ήθελ- δεν μπορούσε να τον κάμει καλά (μικρή παύση) η κοπέλα πήγε (μικρή παύση) έκλαιγε δεν τονε (μικρή επιμήκυνση του ε) εβρήκε εκεί πέρα (μικρή παύση) και ένα πουλάκι της μίλησε και της είπε ότι (μικρή επιμήκυνση του ι) αυτό και αυτό και η κοπέλα ξεκίνησε και πήγε στο παλάτι και τον συνάντησε και του εξήγησε τι συμβαίνει (μικρή παύση) και αυτός (μικρή επιμήκυνση του ς) έγινε καλά και έδιωξε την μητριά του με την ανηψιά του και παντρεύτηκε την (μικρή επιμήκυνση του η) κοπέλα που είχε αγαπήσει.*

❖

Appendix III. (Corpus)- Transcribed Personal narratives (Personal moment)

A. AD group

1.

(...) Ε: *Να μου πείτε μια προσωπική στιγμή (μικρή παύση) που θέλετε να μοιραστείτε.*

Σ: *Που θέλω να την μοιραστώ; Λοιπόν. Όταν ήμουνα (μικρή επιμήκυνση του α) μικρός (παύση) και έπαιζα (παύση)*

Ε: *Ναι*

Σ: *στο (επιμήκυνση του ο) δρόμο δίπλα από το σπίτι σε*

Ε: *Ναι (γέλια)*

Σ: *μια παλιά μονοκατοικία (παύση) ένα (επιμήκυνση του α) βγάζανε ε (επιμήκυνση του ε) επειδή ήμασταν κοντά στους σταύλους (μικρή παύση) των αλόγων του ιπποδρομείου Παλαιό Φάληρο ε (επιμήκυνση του ε) βγάζανε τα άλογα για βόλτα για να (επιμήκυνση του α) ξεμουδιάσανε και λοιπά και (επιμήκυνση του αι) δεν με πρόσεξε (επιμήκυνση του ε) ένας αναβάτης και όπως ήτανε (μικρή επιμήκυνση του ε) το άλογο πέρασε από πάνω μου (γέλια) λοιπόν δεν ξέρω αν πραγμα- αν είναι πραγματικότητα αν εγώ νόμιζα ότι πέρασε από πάνω μου το άλογο (γέλια) Τι άλλο θες; (γέλια)*

❖

2.

Ε: *Για πείτε μου μία (επιμήκυνση του α) προσωπική στιγμή σας*

Σ: *Προσωπική στιγμή;*

Ε: *Ναι.*

Σ: *Να βρω ένα κοριτσάκι. (παύση)*

Ε: *Μία προσωπική στιγμή από το παρελθόν πείτε μου που ήσασταν πολύ χαρούμενος*

Σ: *Ε τότε είχα πολλές τώρα δεν έχω καμία*

Ε: *Ωραία. Και τι κάνατε; Μία προσωπική στιγμή θέλω με τη γυναίκα σας πώς βρεθήκατε; (μικρή παύση) Πώς παντρευτήκατε;*

Σ: *Κοιμόμουνα (μικρή παύση)*

Ε: *Ναι.*

Σ: *Και μου λένε ο πατέρα μου και η μάνα μου σήκω λέει με ξυπνήσανε στον ύπνο μου τι θέλετε; σήκω λέει τα φτιάξαμε (παύση) τι φτιάξατε; (μικρή παύση) φτιάξαμε λέει για τη Μ. τη λέγανε Μ. τότε (μικρή παύση) πάμε λέει να δώσουμε λόγο λέει να την παντρευτείτε λέει*

Ε: *Α!*

Σ: *για να μη με παντρέψανε για να μη φύγω*

Ε: *(γέλια)*

Σ: *Τότε.*

Σ: *Λένε τι θές; ε άμα την θέλετε εσείς τη θέλω και εγώ λέω*

Ε: *Πολύ σωστός.*

Σ: *Σωστός;*

Ε: *Σωστός. Και τι έγινε τελικά;*

Σ: *Ε πήγαμε εκεί πέρα τα είχανε κανονίσει (μικρή επιμήκυνση του ει) τα συμπεθέρια*

Ε: *Ναι*

Σ: *πήγε κι ο γαμπρός η νύφη κοιμότανε την είχανε ξυπνήσει αυτοί (μικρή παύση) λέει (μικρή επιμήκυνση του ει) τι θα γίνει λέει θα (επιμήκυνση του α) παντρευτούμε; (Μικρή παύση) ό,τι πουνε λέει (επιμήκυνση του ει) οι γονείς μας ε είπανε λέει ναι ε θα παντρευτούμε κοριτσάκι μας (παύση) παντρευτήκαμε (μικρή παύση) μέχρι που να παντρευτούμε ήμαστε (επιμήκυνση του ε) είχαμε δώσει λόγο (μικρή επιμήκυνση του ο) κανά μήνα αλλά μακριά ο ένας απ'τον άλλονε*

Ε: *Ναι.*

Σ: *ε όταν παντρευτήκαμε (παύση) μάς είχανε νοικιάσει ένα ξενοδοχείο στην Αθήνα μας φέρανε εδώ πήγαμε στο ξενοδοχείο κάναμε ό,τι κάναμε*

Ε: *Μχμ μχμ*

Σ: *μη λέμε και πολλά τώρα και (επιμήκυνση του αι) τα μαθαίνεις και συ και (επιμήκυνση του αι) ξεφύγεις*

Ε: *Ναι. (γέλια)*

Σ: *Και ξαναγυρίσαμε πήγαμε στο χωριό, πιάσαμε ένα κοριτσάκι το άλλο βράδυ*

Ε: *Ναι.*

Σ: *Στο χρόνο γεννήθηκε (μικρή παύση) μετά από σαράντα ημέρες λέει θέλω και άλλο (μικρή παύση) τι θέλεις κι άλλο;* ***Αυτό*** *που μου κανες να το ξανακάνεις μού λέει να κάνουμε και άλλο κορίτσι παιδί ξέρω εγώ κάτι ένα παιδί και άλλο εντάξει. Ξάπλα της λέω. Εξάπλωσε (μικρή παύση) το τσακώσαμε και το άλλο*

Ε: *Μπράβο.*

Σ: *Λέει τέρμα από εδώ και πέρα. (μικρή παύση) Εσύ θα κοιτάς τον εαυτό σου και γω τον εαυτό μου.*

Ε: *Και;*

Σ: *Παραμείναμε εκεί (μικρή παύση) δουλέψαμε, δουλέψαμε ο διάολος μάς πήρε τα σπουδάσαμε τα παρασπουδάσαμε και τώρα είναι καημένα (μικρή παύση) το μόνο καλό που έχουνε τους έχω πάρει τηλέφωνο και τηλεφωνιόμαστε.*

Ε: *Α ωραία.*

Σ: *Τα κορίτσια.*

Ε: *Ωραία.*

Σ: *Πολύ ωραία ε; Να μη σου τύχει κοριτσάκι μου.*

Ε: *Γιατί καλέ;*

Σ: *Να να το θυμάσαι* ***αυτό*** *σε όλη σου τη ζωή.*

Ε: *Γιατί καλέ;*

Σ: *Όσο περισσότερο προσφέρεις τόσο δεν παίρνεις τίποτα.*

Ε: ***Αυτό*** *είναι αλήθεια. Ναι. Μμ*

Σ: *Εγώ, οι κόρες μου έχουν τελειώσει (μικρή παύση) η μεγάλη (με έμφαση) αρχιτέκτων*

Ε: *Μπράβο.*

Σ: *η άλλη έδωσε εξετάσεις εδώ και πέτυχε πρώτη (με έμφαση) στην ανωτάτη εμπορική*

Ε: *Μπράβο της.*

Σ: *Και την στείλανε στο εξωτερικό. (παύση) Με πριμοδότηση. Έκανε είκοσι χρόνια έξω. Πήγαινε. Είχε. Σε όλες τις τράπεζες είχε πάει.*

Ε: *Α.*

Σ: *Μετά ήρθε εδώ την ήθελε* ***αυτός*** *(μικρή παύση) πώς τον λένε το (επιμήκυνση του ο) όχι στην τράπεζα Πειραιώς πώς τον λέγανε. Τον απατεώνα.*

Ε: *Δεν ξέρω.*

Σ: *Την ήφερε εδώ, της έφερε αυτοκίνητο της νοίκιασε (επιμήκυνση του ε) σπίτι να μένει*

Ε: *Ναι.*

Σ: *Και της λέει αφού ήρθες εδώ, εγώ θα τα κάνω όλα, αλλά (με έμφαση) κείνο που θέλω από σένα να τα υπογράφεις όλα (επιμήκυνση του α)*

Ε: *Μμμ μμμ*

Σ: *α (επιμήκυνση του α) με συγχωρείς του λέει εγώ ξέρω του λέει έξι, εφτά γλώσσες και αν δεν συζητάμε οποιαδήποτε ξένο ή Έλληνα ή μα σου ξου δεν πρόκειται να βάλω υπογραφή. (μικρή παύση) Είσαι στα καλά σου του λέει; Εγώ στα καλά μου εσύ δεν είσαι στα καλά σου του λέει (παύση) Κάθισε τρία τέσσερα χρόνια και έφυγε (μικρή παύση) και τί ήθελε* ***αυτός;*** *(μικρή παύση) πώς στο διάλο το λένε τον ξέχασα. (παύση)*

Ε: *Δεν πειράζει.*

Σ: *Τέλοσπαντων. (μικρή παύση) Τι να πείς. (μικρή παύση) Παντρεύτηκε μία φορά, παντρεύτηκε δύο, παντρεύτηκε τρεις και τώρα (επιμήκυνση του α) γυρίζει πάντα όμως όλο βρίσκει και κάποιον (μικρή παύση) και της λέω βρες και έναν για τη μαμά σου της λέω.*

Ε: *(γέλια)*

Σ: *Ξέρεις εσύ της λέω που ανήκει. (παύση) Κοριτσάκι μου να μη σου τύχει (μικρή παύση) εύχομαι να (τέλος ηχογράφησης)*

❖

3.

Σ: *(παραφασία) Πηγαίναμε σε μέρη (μικρή παύση) μια φορά βγάλαμε ένα ροφό (παύση)*

Ε: *Μπράβο.*

Σ: *δεκαεφτά κιλά*

Ε: *Μπράβο*

Σ: *Βέβαια. Άλλη μια φορά (μικρή παύση) βρήκαμε (μικρή παύση) δέκα αστακούς*

Ε: *Δέκα;*

Σ: *Δέκα. (γέλια)*

Ε: *Μπράβο.*

Σ: *Εντωμεταξύ πηγαίναμε οι τρεις μας. Τρεις.*

Ε: *Ποιοι τρεις;*

Σ: *Φίλοι, φίλοι μας ας πούμε και συγγενείς μας. Ναι. Και πηγαίναμε ας πούμε από εδώ, από εκεί. Γυρίζαμε (μικρή παύση) όλη όλη τη Χίο είχαμε γυρίσει. Βέβαια και μου άρεσε και μένα. Και τώρα δηλαδή. Καλά τώρα δεν έχω τις δυνάμεις που είχα τότε ας πούμε αλλά ήτανε ήτανε καλά. Πολύ καλά.*

Ε: *Μπράβο. Μπράβο.*

❖

4.

Ε: *Στιγμή απ'τη ζωή σας.(παύση)*

Σ: *όταν έρχονται τα (επιμήκυνση του α) εγγόνια μου*

Ε: *Μχμ*

Σ: *που αναγκάζομαι να παίζω μαζί τους*

Ε: *Οκ από το παρελθόν κάτι θυμάστε;*

Σ: *Ορίστε;*

Ε: *Από το παρελθόν κάτι θυμάστε;*

Σ: *ε τόσα πράγματα είμαι ογδόντα χρονών τι να θυμώμαι ογδόντα χρόνια το παρελθόν δεν τα θυμώμαι θυμάμαι που πήγαινα στο στο σχολείο στο δημοτικό μετά στο γυμνάσιο μετά στο πανεπιστήμιο μετά παντρεύτηκα κάναμε και παιδιά και ζούσαμε εμείς καλά και αυτοί καλύτερα.*

Ε: *χαχα*

❖

5.

Σ: *Στο πανεπιστήμιο*

Ε: *για πείτε μου παραπάνω (μικρή παύση) πράγματα*

Σ: *Όταν πέρασε ο εγγονός μου στο πανεπιστήμιο.*

Ε: *Πότε ήτανε αυτό;*

Σ: *Τώρα, πρωτοετής.*

Ε: *Σε τι σχολή πέρασε;*

Σ: *Στο οικονομικό πανεπιστήμιο.*

Ε: *Οκ. Πώς έγινε; Πώς το μάθατε;*

Σ: *Ε (επιμήκυνση του ε) Έχω επαφή, είμαστε πολύ αγαπημένοι.*

Ε: *Α, πολύ ωραία.*

Σ: *Έχω πολλή επαφή με τα εγγόνια μου*

Ε: *Πολύ ωραία.(παύση) Και πως σας το (επιμήκυνση του ο) σας το 'πε; Σας πήρε τηλέφωνο; Ή ήσασταν έξω;*

Σ: *Ναι, ναι, ναι, ναι. Με πήρε τηλέφωνο, έγραψε τις εξετάσεις του και πέρασε στο πανεπιστήμιο, στο Οικονομικό, που 'χει περάσει και ο γιος μου και το 'χει τελειώσει και χάρηκα πάρα πολύ (μικρή παύση) ήμουνα και πολύ περήφανη για τον έγγονό μου και είμαι.*

Ε: *Να τον χαίρεστε.*

Σ: *Να είσαι καλά, αγάπη μου και εσύ ό,τι επιθυμείς να σου 'ρθει μπροστά.*

❖

6.

Σ: *Ναι (παύση) θυμάμαι (παύση) θα κοιτάξω και εγώ ας πούμε τι (επιμήκυνση του ι) τι είναι **αυτό** το οποίο (επιμήκυνση του ο) θέλω να κοιτάξω (παύση)*

Ε: *Ναι. Τι θυμάστε με τη γυναίκα σας; Θυμάστε κάποιο καλοκαίρι που περάσατε μαζί (επιμήκυνση του ι);*

Σ: *Τι αν έχω;*

Ε: *Θυμάστε κάποιο καλοκαίρι που περάσατε μαζί;*

Σ: *Ε (επιμήκυνση του ε) Όχι τόσο αλλά (επιμήκυνση του α) (παύση) μπορούσα ας πούμε να (επιμήκυνση του α) θυ- να θυμάμαι (επιμήκυνση του αι) και να (επιμήκυνση του α) ψάχνω που λέμε (παύση)*

Ε: *Ωραία, κύριε. Ευχαριστώ πολύ.*

❖

7.

Σ: *Στο Βέλγιο. Και εκεί. Εεε*

Ε: *Σας ακούω.*

Σ: *Ναι. Ε (επιμήκυνση του ε) Είχα διοριστεί στο Ευρωπαϊκό σχολείο.*

Ε: *Ναι*

Σ: *Το στο Βέλγιο εδράζονται όλες οι ευρωπαϊκές εταιρείες και εκεί (μικρή παύση) είχα το χρόνο να πηγαίνω*

Ε: *Μχμ*

Σ: *στην ιλιάζ φρανσέζ και (επιμήκυνση του αι)*

Ε: *Τι σημαίνει **αυτό**; Δεν ξέρω.*

Σ: *Στη Γαλλική Ακαδημία.*

Ε: *Α, οκ, ναι, ναι.*

Σ: *Και όλως (μικρή παύση) ευχαρίστως δηλαδή το πήρα με (μικρή παύση) αβεκ γκραντ ντιστεκσιον με μεγάλη διάκριση*

Ε: *μπράβο σας κυρία*

Σ: *το το (επιμήκυνση του ο). Τώρα το θυμάμαι*

Ε: *ποιο ποιο δίπλωμα είναι **αυτό;***

Σ: ***Αυτό** είναι της (επιμήκυνση του η) της γαλλικής.*

Ε: *Το πρώτο δίπλωμα είναι ; Ή το Προφίσιενσι;*

Σ: *Ναι. Ναι.*

Ε: *Το lower.*

Σ: *Πως λέμε το Proficiency.*

Ε: Το δεύτερο,

Σ: *Ναι, ναι.*

Ε: *το πιο μεγάλο δίπλωμα.*

Σ: *Ναι, ναι.*

Ε: *Ωραία. Πολύ ωραία. Για πείτε μου. Πόσα χρόνια πηγαίνατε και κάνατε γαλλικά;*

Σ: *Εκεί. (επιμήκυνση του ει) Πέντε χρόνια.*

Ε: *Μπράβο σας.*

Σ: *Γιατί στο σχολείο που είχαμε διοριστεί το ελληνικό μπορούσαμε να μείνουμε μόνο πέντε χρόνια. Για να πηγαίνουν και άλλες από την Ελλάδα να μη μένει ένας μόνος μοναχός*

Ε: *Ουπς συγγνώμη με συγχωρείς (της ζητάει η ερευνήτρια συγγνώμη γιατί καταλάθος την κλώτσησε κάτω από το τραπέζι)*

Σ:*Δεν είναι τίποτα.*

Ε: *Και εκεί γνωρίσατε τον άντρα σας; (παύση)*

Σ: *Όχι. Τον άντρα μου (μικρή επιμήκυνση του ου) τον γνώρισα εδώ κάναμε παρέα με μια φίλη μου και ήτανε ένας γνωστός της (μικρή παύση) ε (επιμήκυνση του ε) και μου έκανε την πρό- την πρόταση πολύ απλά…(παύση) σας αρέσουν τα παιδιά; Πάρα πολύ του λέω. Ε θέλετε να κάνουμε μαζί παιδάκια; (γέλια)*

Ε: *Τι ωραία. Έτσι σας είπε;*

Σ: *Ναι (γέλια). Εντάξει του λέω. (γέλια)*

Ε: *Α, ναι; Και έτσι κάνατε την κόρη;*

Σ: *Κόρες. Δύο έχω.*

Ε: *Δύο;*

Σ: *Τη Ν. και τη Β.*

Ε: *Να σας ζήσουνε. Πόσο χρονών είναι;*

Σ: *Η (επιμήκυνση του η) Ν. (επιμήκυνση του α) πρέπει να είναι τώρα γύρω στα τριάντα (επιμήκυνση του α,μικρή παύση) τριανταδύο; και η Β. είναι (επιμήκυνση του αι) εικοσι (επιμήκυνση του ι) έξι κάπου εκεί*

Ε: *Α (επιμήκυνση του α) κοντά στη δικιά μου ηλικία.*

Σ: *Ναι. Τώρα αν πέφτω και κανά χρόνο έξω δύο δεν ξέρω δεν θυμάμαι τα χρόνια (παύση)*

Ε: *Κάποια στιγμή που θυμάστε άλλη από τη ζωή σας;*

Σ: *Ιδιαίτερη; (παύση) Ε (επιμήκυνση του ε) Έζησα πάρα πολύ καλά (επιμήκυνση του α) στο Βέλγιο (μικρή παύση) γιατί κάναμε πολλά ταξίδια με τον άντρα μου πηγαίναμε Λουξεμβούργο, πηγαίναμε Γαλλία, πηγαίναμε Γερμανία γιατί όλες οι χώρες* ***αυτές***

Ε: *Ναι.*

Σ: *είναι γύρω απ' το Βέλγιο.*

Ε: *Ναι, ναι.*

Σ: *Και περάσαμε πάρα πολύ ωραία.*

Ε: *Ναι ε;*

Σ: *Ναι.*

❖

8.

(….)

Ε: *Όχι όχι για το περιστατικό που έγινε στον μπαμπά σας.*

Σ: *Ναι* ***αυτό*** *και μετά (επιμήκυνση του α) εγώ (επιμήκυνση του ω) μου (αυτοδιόρθωση) Ήτανε και κάποιες φίλες της μαμάς μου που της το πανε της το πανε και λέγανε η μαμά η μαμά μου και οι κυρίες αυτές και λέει τι θα κάνουμε τώρα με το (επιμήκυνση του ο) κοριτσάκι μας τι πως θα της τα πούμε; Ε κάποια στιγμή λένε θα τα πούμε. (μικρή παύση)*

Ε: *Ναι*

Σ: *Το να κλαίω πέντε χρόνια.*

Ε: *Ναι;*

Σ: *Και* ***αυτό*** *πήγε έτσι το καράβι. Ήτανε (επιμήκυνση του ε) χάλια (μικρή παύση). Μπήκε και ο άλλος απ' τους Ρώσους και έπεσε κάτω (μικρή παύση) στη θάλασσα*

Ε: *Και πνίγηκε*

Σ: *Πνίγηκε.*

Ε: *κατευθείαν ο μπαμπάς σας;*

Σ: *Ε βέβαια, πνίγηκε αμέσως. (παύση) Αφού μέχρι τώρα που είμαι τώρα 68 χρονών δεν μπορώ να τον (επιμήκυνση του ο) δεν αν- να τον βλέπω και το έχω να σου πω τι (μικρή παύση) που τον έχω πάντα μαζί μου. (με συγκίνηση) Κάτσε να σου πω. (ψάχνει το πορτοφόλι στην τσάντα της) Όταν είναι κλαίω. (μικρή παύση) Να εδώ ήτανε (μου δείχνει τη φωτογραφία)*

Ε: *Α τι ωραίος.*

Σ: *Καλός (επιμήκυνση του ο) άνθρωπος. Τι μου έφερνε; Τι μου έφερνε; Μέχρι που μου έλεγε όταν έρχεται θέλω γιατί εκεί πέρα (επιμήκυνση του α) επειδή είναι μόνοι τους (μικρή παύση) εκεί παίρνουν και (επιμήκυνση του αι) κιθάρα (επιμήκυνση του α) παίρνουνε και* ***τέτοιο*** *και όταν είχε έρθει μου λέει θα σου φέρω (μικρή παύση) την κιθάρα να έχεις να το βλέπεις και* ***το άλλο*** *το (επιμήκυνση του ο) ακορντεόν έχουμε δύο λέει ο μπαμπάς μου (μικρή παύση) λέω μπαμπά δεν μου αρέσει (γέλια) εντάξει λέω την κιθάρα μπορώ να (επιμήκυνση του α) την κάνω αλλά (με έμφαση) όταν (αυτοδιακοπή, αυτοδιόρθωση για την προσθήκη της επεξήγησης) εγώ ήμουνα πολύ αδύνατη*

Ε Ναι

Σ: *και αρχίζει* ***αυτό*** *(επιμήκυνση του ο) είναι βαρύ*

Ε: *Ναι, ναι. Που να την κουβαλήσετε;*

Σ: *Το 'χω ακόμα. Και την κιθάρα έχω και το* ***αυτό***

Ε: *Πολύ ωραία. Τουλάχιστον έχετε αυτά ε;*

Σ: *Έχω αλλά (επιμήκυνση του α) τι να πω. (μικρή παύση) Την ξέρεις την κόρη μου;*

Ε: *Για να δω. Πολύ όμορφες*

Σ: *Η μεγάλη και το μικρό που είναι στην Αμερική.*

Ε: *Για να δω. Πόσο χρονών είναι;*

Σ: *Η μεγάλη είναι τριάντα-οκτώ η άλλη τριάντα-δύο.(παύση) Έχει πάει στην Αμερική γιατί είχε πάει στο σχολείο εκεί πέρα αρχιτεκτόνισσα και επειδή ήθελε ο (επιμήκυνση του ο)* ***αυτό****ς ας πούμε που τον είχε ε (επιμήκυνση του ε) μου λέει κοίταξε εμείς τώρα έχουμε πεθάνει οι αρχιτέκτονες έχουμε πεθάνει δεν υπάρχει τίποτα για* ***αυτό*** *θα πας αμέσως στην Αμερική τελοσπάντων είχε και λεφτά* ***για να πάω εκεί*** *και κάποια θεία κάποια αουμε ξέρεις* ***τέτοια.*** *(μικρή παύση) Και τώρα (επιμήκυνση του α) πε- είναι πολλά χρόνια. Δουλεύει από το πρωί έως τις 11 το βράδυ.*

Ε: *Πωπω*

Σ: *Ως τις 11 το βράδυ. (με έμφαση) Κρύα (μικρή παύση) ζεστά ε (επιμήκυνση του ε) ήταν εκεί (μικρή παύση) και τελικά όταν ήτανε στο κρύο να φεύγει να πάει στο (επιμήκυνση του ο)*

Ε: *Ναι*

Σ: *εκεί που πάει ας πούμε (μικρή παύση) ε (επιμήκυνση του ε)* ***βάζω από πάνω τρία τέτοια πράγματα τρία τέτοια*** *και τώρα θα έρθει (επιμήκυνση του ει) έχει έρθει μόνο μία φορά*

Ε: *Τα πέντε χρόνια;*

Σ: *Ναι. Μία φορά (με έμφαση)*

Ε: *Γιατί μόνο μία φορά;*

Σ: *Πού να πάει;* ***Αυτό*** *κάνει. Έκανε.(αυτοδιόρθωση) Μία φορά θα ερχότανε (μικρή παύση) και πε έπρεπε να φύγει. Δύο βδομάδες. (με έμφαση) Και* ***αυτή*** *ήρθε κοιμότανε (επιμήκυνση του ε-με έμφαση). Μετά πήγαινε στις φίλες της (γέλια) και μετά (μικρή επιμήκυνση του α) δεν το βλέπαμε το παιδί μου. (μικρή παύση) Τώρα θα έρθει (επιμήκυνση του ει) στις (επιμήκυνση του ι) 16 Αυγούστου.*

Ε: *Τελειωτικά. Για πάντα;*

Σ: *Όχι. Θα έρθει να μας δει (με έμφαση)*

Ε: *Ωραία.*

Σ: *Να μας δει και μετά να ξαναφύγει.*

Ε: *Για πόσο καιρό;*

Σ: *Ε πόσο καιρό. (επιμήκυνση του ο) Θέλει να φύγει να πάει στην Αγγλία. Δεν μπορώ λέει άλλο. Δεν μπορώ. Στην Αμερική (επιμήκυνση του η) είναι είναι καλά όλα αλλά δεν μπορώ να σας βλέπω. (μικρή παύση) Ξέρεις τι είναι πόσα χρόνια είναι πέντε χρόνια να μη βλέπω το παιδί μου; Και δεν μπορώ να πάω εγώ στην Αμερική να πληρώσω (επιμήκυνση του ω)*

Ε: *είναι πολλά λεφτά ε;*

Σ: *Ε βέβαια. Είμαστε εντάξει;*

Ε: *ε (επιμήκυνση του ε)*

❖

9.

Σ: *ένας Γ. Γ. Γ. τον λένε κι* ***αυτόν***

Ε: *μχμ μχμ*

Σ: *Γ. έλα σε φωνάζει ο πατέρας σου*

Ε: *Μχμ*

Σ: *ποιος πατέρας μου του λέει αυτούνου βρε ο πατέρας σου έχει έρθει και σε ζητάει βρε νάτο ο πατέρας μου και δείχνει το γιο μου που ήτανε στο (επιμήκυνση του ο) γραφείο* ***αυτός*** *είναι ο πατέρας μου βρε ο πραγματικός σου πατέρας* ***αυτός*** *είναι ο πατέρας μου* ***αυτός*** *σε έχει υιοθετήσει λέμε τον πραγματικό σου πατέρα άκου να σου πω του λέει εγώ έναν πατέρα έχω τον Σ. τον Μ. τον πατέρα μου*

Ε: *Μπράβο.*

Σ: *Ξέρεις όποτε το λέω πόσο ανατριχιάζω ρε κούκλα μου λέω κοίταξε πως έχει εκτιμήσει τον έχουνε βέβαια σα βασιλιά τον έχουνε τον έχουνε μαζί τους κάθε μέρα δεν τον αφήνουνε σπίτι μόνο του γιατί και και η γυναίκα του άντρα μου του γιου μου δουλεύει στο χαμόγελο του παιδιού.*

Ε: *Μάλιστα.*

❖

10.

Σ: *μπήκε ο γάτος στο χορό και δε χόρεψε καλά και του κόψαν την ουρά και τη πήγαν στην Αθήνα και του δώσανε γλυκό και δεν είπε φχαριστώ (τραγουδιστά τα είπε τα παραπάνω)*

Ε: *ωραίο κι* ***αυτό.***

Σ: *από τη ζωή μου που θυμάμαι ;*

Ε: *Ναι.*

Σ: *τι να θυμηθώ ; είχα μία φίλη και παντρεύτηκε*

Ε: *Ναι.*

Σ: *και πήγε και έμεινε σε άλλο μέρος*

Ε: *Σε ποιο μέρος πήγε;*

Σ: *Στο Άργος;*

Ε: *Α και (επιμήκυνση του αι) μιλάτε με αυτήν;*

Σ: *Μιλάμε.*

Ε: *Από το σχολείο συμμαθήτρια;*

Σ: *Ναι.*

Ε: *Πώς την λένε;*

Σ: *Ελένη;*

Ε: *Α!*

❖

11.

Σ: *έτσι δεν είναι; (βήχας)*

Ε: *έτσι είναι. (παύση)*

Σ: *τι θα πρέπει να κάνω εδώ τι θα πρέπει να (επιμήκυνση του α) ρωτήσω εδώ ;*

Ε: *να μου πείτε μια δικιά σας προσωπική στιγμή δεν χρειάζεται να ρωτήσετε (παύση)*

Σ: *δεν μπορώ να το κάνω να το σκεφτώ (παύση) δηλαδή (επιμήκυνση του η) απ'τα εγγόνια μου ας πούμε*

Ε: *Μχμ*

Σ: *τα παιχνίδια που παίζουμε με τα με τα παιδιά (επιμήκυνση του α) είναι μια πολύ ωραία*

Ε: *στιγμή*

Σ: *καλά εγώ μια ζωή (παύση) ασχολιόμουνα με μωρά (γέλια) και τώρα αν μου πείτε*

Ε: *Α τι ωραία.*

Σ: *μωρό θα κάνω θα ήθελα να κάνω (γέλια) ναι.*

Ε: *Ωραία.*

❖

12.

Σ: *Τι να σας πω (παύση) Δεν έχω πρόβλημα.*

Ε: *Ναι, ε (επιμήκυνση του ε) το ξέρω ότι δεν έχετε πρόβλημα.*

Σ: *Πηγαίνω στα βουνά ε (επιμήκυνση του ε) μου αρέσει να περπατάω ας πούμε (παύση) έχω και άλλους (παύση) φίλους*

Ε: *Μχμ*

Σ: *Και (παύση) το καλοκαίρι πηγαίνω στο Βραχάτι και κάνουμε τα μπάνια μας*

Ε: *Πού είναι τα Βραχάκια;*

Σ: *Στο Βραχάτι*

Ε: *Βραχάτι συγγνώμη.*

Σ: *Βραχάτι Κορινθίας*

Ε: *Μάλιστα*

Σ: *είναι η Κόρινθος μετά είναι ε (επιμήκυνση του ε) στη σειρά τα χωριά και προχωράει ακόμα απ'το Βραχάτι πέρα Κοκκώνι (επιμήκυνση του ι), Κιάτο (επιμήκυνση του ο), Ξυλόκαστρο (επιμήκυνση του ο)*

Ε: *Μχμ*

Σ: *είναι πολλά (επιμήκυνση του α)*

Ε: *Έχω μια φίλη απ'το Ξυλόκαστρο και*

Σ: *Εντάξει έχω περάσει όχι ότι έχω (επιμήκυνση του ω) κανέναν άλλο γνωστό*

Ε: *Μχμ μχμ*

Σ: *εγώ είμαι στο Βραχάτι αλλά είναι το (επιμήκυνση του ο) το Βοχαϊκό (μικρή παύση), το Σουλινάρι που είναι το χωριό μου μετά είναι το Χακί (μικρή παύση) μετά είναι το Ηράκλειο μετά είναι η Νεμέα προχωράει και γυρίζει προς τα εμένα αλλά δεν πάω εγώ προς τα βουνά εμείς κατεβαίνουμε όλο προς τα κάτω (μικρή παύση) Βραχάτι (επιμήκυνση του ι), Κόρινθο (επιμήκυνση του ο), Κοκκώνι, Κιάτο, Ξυλόκαστρο.*

Ε: *παραθαλάσσια.*

Σ: *Ναι. Ναι. Ε στο Βραχάτι κάνουμε μπάνια.*

Ε: *Είναι ωραία; Έχει τσούχτρες φέτος ή ήτανε καθαρά; Είχε τσούχτρες;*

Σ: *Εμένα δεν με τσιμπήσανε. Τώρα (επιμήκυνση του α) αν λέγονται και κούρτες*

Ε: *(γέλια)*

Σ: *δεν είχε. Αλλά (παύση) φυτεύω και κάτι (επιμήκυνση του ι) δέντρα εκεί στο (επιμήκυνση του ο) μανταρινιές, πορτοκαλιές (παραφασία) πρέπει να τα ποτίσεις να τα*

Ε: *Θέλουνε φροντίδα*

Σ: *Φροντίδα (παύση) αλλά τώρα πάνε τα παιδιά μου*

Ε: *Ναι.*

Σ: *Έχω δυο αγόρια.*

Ε: *Να σας ζήσουνε.*

Σ: *Ευχαριστώ.*

Ε: *Έχετε...*

Σ: *Ο ένας είναι (παύση) στο Υπουργείο Οικονομικών στη πλατεία Συντάγματος έχει τέσσερα παιδιά τρία κορίτσια και το τέταρτο το βοήθησε ο Θεός και έκανε αγόρι*

Ε: *Πολύ ωραία.*

Σ: *Ναι. Και θα πήγαινε και για το πέμπτο*

Ε: *Πολύ ωραία.*

Σ: *Ναι. Αλλά (επιμήκυνση του α)* ***αυτός*** *δεν πάει τώρα και χωρίς αμάξι δεν το κάνει γιατί σήμερα θα 'ρχομουνα εγώ στο μάθημα πήγε με τη μάνα του (θόρυβος) αλλά είναι καλό παιδάκι. Τα άλλα είναι πολύ κοντά (....)*

Ε: *Α. Σε ποια περιοχή;*

Σ: *Στο Παλαιό Φάληρο.*

Ε: *Παλαιό Φάληρο. Μάλιστα.*

Σ: *Και από πάνω μένει ο άλλος μου γιος, ο οποίος (μικρή παύση) δεν έχει κάνει παιδάκια* ***αυτός*** *ακόμα.*

Ε: *Πόσο χρονών είναι;*

Σ: *ε* ***αυτός*** *είναι (επιμήκυνση του αι) 3 -4 χρόνια πιο μικρός απ'τον (επιμήκυνση του ο) μεγάλο.*

Ε: *Ο μεγάλος πόσο είναι;*

Σ: *Ο μεγάλος τώρα πρέπει να είναι 37 τριαντά δεν θυμάμαι (παραφασία)*

Ε: *Εντάξει. Είναι είναι 33; καλή ηλικία εντάξει μικρός είναι,*

Σ: *Ναι.*

Ε: *για τον άντρα δεν υπάρχει πολύ μεγάλος περιορισμός όπως εμάς.*

Σ: *Ο γιος μου ο μικρός τον λέω μικρό (γέλια)* ***αυτός*** *ασχολείται με τα φωτοβολταϊκά (παύση) και πάει (επιμήκυνση του ει) σε εταιρείες ας πούμε και τους ε (παύση) και πάει και στην επαρχία να ελέγξει τα αυτά.*

Ε: *Α, πολύ ωραία.*

Σ: *Είναι καλός.*

Ε: *Πολύ ωραία.*

❖

13.

Σ: *Αυτήν την πρόσεχα εγώ.(μικρή παύση) Ήτανε δηλαδή, την είχες και περπάταγε και είχε* Parkinson *ας το πούμε. Τότε δε λεγότανε* Parkinson*, κάτι άλλο λεγότανε. Λοιπόν, κι εκεί που περπάταγε, γινότανε κολόνα κι άμα δεν προλάβαινες να την (μικρή επιμήκυνση) πάρεις να την καθίσεις μπορεί να σου 'πεφτε ανάσκελα. Κατάλαβες;* ***Αυτό*** *είναι.. την είχα εγώ (έμφαση στην προσωπική αντωνυμία) δηλαδή τη μάνα μου, την πήγαινα οπουδήποτε εγώ (έμφαση στην προσωπική αντωνυμία) σε μια γειτόνισσα σε (ανολοκλήρωτο) (μικρή επιμήκυνση του ε) να πάει κάπου μαζί και έπρεπε να καταλάβω μόλις κα- καταλάβαινα ένα κουνηματάκι, ξέρω εγώ, έφευγα να την πάρω να καθίσει, να της περάσει αυτή!*

Ε: *Τι πάθαινε δηλαδή;*

Σ: *Είχε συμφόρηση. (μικρή παύση) Κατάλαβες; Και την είχα εγώ (έμφαση στην προσωπική αντωνυμία). Αυτά είναι (μικρή παύση).*

Ε: *Δύσκολα ε;*

Σ: *Δύσκολα, δε λες τίποτα, παιδί. Όπου και να πήγαινε μόλις την έβλεπες ότι κάτι (μικρή επιμήκυνση του ι) τεντωνότανε έπρεπε να την πάρεις να καθίσει σε ένα σκαλί, γιατί έπρεπε να κάτσει να περάσει τουλάχιστον δέκα λεπτά για να συνέρθει η (επιμήκυνση του η) μπόρα, η (ανολοκλήρωτο)* ***αυτό*** *το, η αρρώστια να περάσει, κατάλαβες;*

Ε: *Ναι, ναι, ναι.*

Σ: *Ήτανε στη (επιμήκυνση του η) ήτανε μια ψηλή γυναικάρα*

Ε: *Ναι.*

Σ: *τη θυμάμαι κι είχε και κότσο γύρω στα μαλλιά (ρε παιδι μου;), τη θαυμάζαν όλοι, όχι τώρα για φιγούρα αλλά θέλω να σου πω τότε οι γυναίκες είχαν ένα κότσο έτσι έξειχε.. Έτσι κότσος, τυλιγμένος...Πώς είναι εκεί (μικρή επιμήκυνση του ει) τα (μικρή επιμήκυνση του α) σύκα η κ.. (ανολοκλήρωτο) αυτή πως τη λένε.. η τσαπέλα; Έτσι ένα πράμα πίσω στα μαλλιά, μαύρα μαλλιά, κατάμαυρα και θυμάμαι ήταν και ψηλή και τη θαυμάζαν οι γυναίκες, την είχα εγώ (έμφαση στην προσωπική αντωνυμία) γιατί δε μπορούσε να πάει μόνη της πουθενά, την έπιανε, είχε (μικρή επιμήκυνση του ε) συμφόρηση. Και εκεί που περπατάγαμε, βλέπεις στεκο-.. (ανολοκλήρωτο) ερχότανε να (ανολοκλήρωτο) να τρέμει λιγάκι έπρεπε να την πάρω να καθίσει γιατί πάθαινε τη συμφόρηση εκείνη την ώρα, τη (ανολοκλήρωτο) την κρίση! Πάθαινε κρίση κι απάνω στην κρίση έπρεπε να τη βρεις κάτω να την καθίσεις, γιατί θα σου έπεφτε ανάσκελα (έμφαση στο επίρρημα) κάτω. Κατάλαβες; Και την είχα εγώ..*

Ε: *Πάθαινε συχνά κρίση;*

Σ: *Ναι, κρίση! Συχνά.. δεν πάθαινε κάθε ώρα ας την πούμε αλλά εκεί που περπάταγε και περιπλανιότανε πρωΐς.. (ανολοκλήρωτο) σε δυο ώρες και ξέρω εγώ μπορεί να (μικρή*

επιμήκυνση του α) να σε πάθει κρίση.. κι έπρεπε να την καθίσεις αμέσως, να προλάβεις, δηλαδή, να βρεις κάτι!

Ε: *Ναι, ναι..*

Σ: *Και κυνήγαγα εγώ (μικρή επιμήκυνση του ω) να βρω (μικρή επιμήκυνση του ω) πάντα (μικρή επιμήκυνση του α), να 'χω κάπου (μικρή επιμήκυνση του ου) να σταθώ, να την καθίσω.. Κατάλαβες; Δεν την πήγαινα (μικρή επιμήκυνση του α) ασφάλτους και ξέρω εγώ, πήγαινα σε σπίτια που ναι κοντά για να κάτσει και κοίταγα να μπορώ να την.. (ανολοκλήρωτο) να μπορώ να την καθίσω γιατί άμα μου 'πεφτε ανάσκελα θα τη γλύτωνα. Και τι ήμουνα εγώ; Ήμουνα δεκα (μικρή επιμήκυνση του α) πέντε χρονών παιδάκι.. Εγώ την (μικρή επιμήκυνση του η και μικρή παύση) ταξίδεψα φέρ' ειπείν. Είχα έναν αδερφό μεγάλο αλλά δεν (μικρή επιμήκυνση του ε) εγώ ήμουνα ο πιο μικρός και τη πάταγα εγώ τη (μικρή επιμήκυνση του η) νύφη που λένε.. δεν είχαμε άλλη αδερφή, ξέρω εγώ, κατάλαβες; Αυτά είναι.. Η ζωή έχει περιπέτεια που λένε.. Καθένας.. δε ξέρω.. αλλά εγώ. έχω κι εγώ το σκοινάκι μου.. Καταλαβαίνεις τι γίνεται.. Αν είναι ένα μικρό παιδί δεκαπέντε χρονών τι να σου κάνει.. ίσα ίσα που καταλάβαινε, τίποτ' άλλο.. εκεί που περπάταγε ήταν μια γυναικάρα ψηλή σου λέω, θεός 'σχωρέσ' την που τη συζητάμε κι είχε έναν κότσο έτσι πίσω, τον κύλαγε κότσο κι ήταν πως είναι η τσαπέλα με τα σύκα; Και την.. (ανολοκλήρωτο) μπορώ να σου πω τη θαυμάζανε κιόλας (έμφαση στο επίρρημα). Μαύρο μαλλί, κατάμαυρο και το έφτιαχνε κότσο, πως το 'φτιαχνε δε ξέρω, τι έβαζε, μήπως έβαζε κανά στεφάνι μέσα (γέλιο). Άσ' τα, μη συζητάς ..*

Ε: *Μπορεί, ναι..*

Σ: *Έχω περάσει στη ζωή ορφανός που λένε.. Πατέρα δε γνώρισα (μικρή παύση). Δε βαριέσαι, η ζωή συνεχίζεται και δόξα τω θεώ, έτσι λέω εγώ, έτσι δεν είναι;*

Ε: *Έτσι πρέπει..*

Σ: *Πάμε καλά.*

Ε: *Να 'μαστε.. αισιόδοξοι!*

Σ: *Βέβαια, ο Θεός βοηθάει πάντα, άμα είσαι και με το Θεό λίγο (μικρή παύση). Εγώ πήγαινα στην εκκλησία, ήμουνα και σε επιτροπή.. Κατάλαβες; Για τα πάντα, να βγω να μαζέψω λεφτά.. Εγώ κοίταγα τον κόσμο, που που να πάω, στο πιο μακρινό να μαζέψω να λεφτά μπόλικα για το ταμείο μέσα στην εκκλησία..*

Ε: *Μπράβο σας..*

Σ: *Και παντού μέσα έφτανα..*

Ε: *Μπράβο..*

Σ: *Και στην αστυνομία ακόμα (μικρή επιμήκυνση του α) μέσα ήμουνα.. Είχα την τροχαία απέναντι, στο σπίτι μου και ήμουνα σαν τροχονόμος, πήγαινα με το περιπολικό..*

Ε: *(Ήπιο γέλιο..)*

Σ: *..βόλτες.. κι ό,τι χρειαζόταν έκανα κι εγώ.. δηλαδή έκανα.. να βοηθήσω τίποτα αν είχανε κανα για να πάρουν τίποτα να βάλουνε, κατάλαβες; Πήγαινα τη βόλτα μου, έκανα απέναντι, αλλά εξυπηρετούσα κι εγώ.. οτιδήποτε.. έκανα και τον τροχονόμο (ακούγονται γέλια).*

Ε: *Μπράβο*

Σ: *Δηλαδή σ' όλα μέσα ήμουνα, μ' αρέσει, μ' αρέσει κατάλαβες; Να πάρω τους κώνους από το περιπολικό, να πάω να τους βάλω εκεί πέρα, εκεί ξέρω 'γω για (μικρή επιμήκυνση του α) να κλείσω το δρόμο.. δεν ήξερε ο άλλος τι είμαι αν είμαι αστυφύλακας ή δεν είμαι, κατάλαβες; Μ' αρέσουν αυτά τα πράγματα, τα κυνήγαγα (μικρή παύση). Έλα Κ. πάμε, μου λέγανε (μικρή παύση), γιατί τους είχα απέναντι.. κι ήμουνα μέσα (μικρή επιμήκυνση του α) σαν αστυνομικός ήμουνα (γέλιο). Ωραία πέρναγα.. Φύγαν αυτοί, τώρα πήγανε στη βάση, τώρα στη βάση τι να πάω να κάνω. (μικρή παύση) Τα κυνήγαγα αυτά, μ' αρέσανε.*

Ε: *Μάλιστα..*

Σ: *Κατάλαβες; Πέρναγε η ώρα. Έλα, Κ., πάμε, (παραφασία) εκεί πέρα πάγαινα εγώ, καθόμουνα εκεί, κάναν αυτοί τη δουλειά τους, εγώ στο περιπολικό (γέλιο). Κατάλαβες; Ωραία, μ' αρέσουν αυτά τα πράματα και τα κυνήγαγα γιατί πέρναγε η ώρα μου.. τους είχα απέναντι κι ό,τι.. (ανολοκλήρωτο) και (έμφαση στο συμπλεκτικό σύνδεσμο) εγώ ήθελα ε! Να πάω να πάρω τους κώνους να πάω να τους βάλω εκεί που πρέπει να κλείσουμε τη (ανολοκλήρωτο) την είσοδο να μην περνάνε καθόλου (μικρή επιμήκυνση στο ο) και το δρόμο να κλείσω..(μικρή παύση) Βοηθός τροχονόμου! (γέλιο)*

Ε: *Μια χαρά!*

Σ: *Καλά δεν είναι αυτά τα πράματα;*

Ε: *Μια χαρά!*

Σ: *Άμα μπορείς και τα καταφέρνεις;*

Ε: *Πολύ ωραία!*

Σ: *Γιατί (μικρή επιμήκυνση στο ι) δουλεύει και το μυαλό.*

Ε: *Μχμ (μικρή παύση). Ωραία!*

❖

14.

Ε: *Για σκεφτείτε.*

Σ: *Δεν δουλεύει τώρα το μυαλό. Α (επιμήκυνση του α) Γιατί άμα κάτσω πολύ μ'έρχεται σα νύστα και το μυαλό σταματάει*

Ε: *(γέλια) καταλαβαίνω.*

Σ: *Τι να κάνεις.*

Ε: *Κάτι μικρούλικο. (μικρή παύση) Κάτι λίγο πείτε μου.(παύση) Να κάνουμε κάτι άλλο και να μου πείτε μετά;*

Σ: *Να πω όταν ήμουνα παιδί;*

Ε: *Πείτε, ναι. Ακούω. Εδώ είμαι.*

Σ: *(γέλια) όταν ήμουνα παιδί μου άρεσε πολύ να κάνω τα σόκινγκ (μικρή παύση) και έλεγα όλο σόκινγκ (μικρή παύση) και όλοι τρελαινόντανε να πω γιατί (επιμήκυνση του ι) σε αυτά μέσα έλεγα και προστυχόλογα και ξεκαρδιζόντανε όλοι αλλά είχαμε και ένα φίλο ο οποίος ήταν ντροπαλός (παύση)* ***αυτός*** *(παύση- γκριμάτσα ντροπής;) απ'την ντροπή του*

Ε: *(γέλια)*

Σ: *Ενώ οι άλλοι όλοι χαχαχα γελούσανε.*

Ε: *(γέλια)*

Σ: *Αααα*

Ε: *Και τι αστεία λέγατε; Για πείτε μου κανά αστείο δεν ξέρω ή (μικρή επιμήκυνση του η) πείτε μου (μικρή παύση) πείτε μου για την κυρία Ε. πώς την γνωρίσατε.*

Σ: *Η κυρία Ε. ήταν του φίλου μου αδελφή (παύση) (καθαρίζει τον λαιμό του) και (μικρή επιμήκυνση του -αι) έτσι γνωριστήκαμε κάναμε παρέα (μικρή παύση) και (μικρή επιμήκυνση του -αι) μικρή ήτανε όταν (δισταγμός-μικρή παύση) την πήραμε (μικρή παύση) τι να πεις δόξα τω θεώ το κυριότερο είναι που (μικρή παύση) ταιριάξαμε γιατί έχει και ζευγάρια που δεν ταιριάζουνε και φαγώνονται*

Ε:*Ναι, ναι*

Σ: *είχαμε και (μικρή παύση) κάποιον γνωστό ο οποίος δις την ώρα φαγωνότανε με τη γυναίκα του. (μικρή παύση) Τι να κάνουμε. (μικρή παύση) Το ζήτημα είναι (μικρή παύση-δισταγμός) να ταιριάζουν τα ζευγάρια και να μη φαγώνονται.*

Ε: *Ναι, ακριβώς κύριε, συμφωνώ.*

Σ: *Γιατί (μικρή παύση-δισταγμός) η φαγομάρα είναι και γρουσουζιά και κακ- κακό πράγμα κάνει κάκο στον οργανισμό (μικρή παύση) ενώ όταν είναι αγαπημένοι όλα πάνε καλά. (παύση)*

Ε: *Έτσι είναι κύριε.*

Σ: *Τι να κάνουμε.*

Ε: *Έτσι είναι.*

❖

15.

Σ: *χαρούμενος (γέλια) τι άλλο τι άλλο μπορούμε να ξε να (επιμήκυνση του α) φέρουμε να ναι χαρούμενη η ζωή μας που συνεχίζει ας πούμε (παίρνει ανάσα-καθαρίζει το λαιμό)*

Ε: *μια προσωπική στιγμή χαρούμενη που θυμάστε από το παρελθόν*

Σ: *από το παρελθόν έχω πολλές*

Ε: *αλλά;*

Σ: *σβήσανε φύγανε τέλοσπάντων ε (επιμήκυνση του ε) τι άλλο θέλετε να σας πω;*

Ε: *κάτι που θυμάστε από το παρελθόν*

Σ: *(παύση) Ε θυμάμαι τι θυμάμαι (παύση) καλά ήτανε δόξα τω θεώ πάρα πολύ καλά ήταν η ζωή μου πάρα πολύ καλά η ζωή και στον άντρα μου καλά πέρασα και στη μαμά μου καλά πέρασα δεν ήταν ωραία ευχάριστα ας πούμε όταν έφυγε η μαμά μου και ύστερα τότε με έπιασε με κόμπιασα*

Ε: *Μάλιστα. Ήταν δύσκολα ε;*

Σ: *Δύσκολα που δεν έβλεπα το (επιμήκυνση του ο) σώμα της στο κρεβάτι.*

Ε: *Δεν ήθελα να σας κάνω (...)*

❖

16.

Σ: *Όταν απέκτησα (παύση) 30 χρόνια πίσω θα σας πάω*

Ε: *Μχμ*

Σ: *Την κόρη μου, την κόρη μου ένας χρόνος ακριβώς κλείσαμε που γεννήθηκε και την πήρα απ'το νοσοκομείο μαζί με τη γυναίκα μου και την πήγα στο σπίτι οικογενειακώς, δηλαδή η χαρά που πήρα το παιδί μου την κόρη μου την πήγα την κόρη μου την πήγα στο (επιμήκυνση του ο) δωμάτιό μου στο σπίτι μας (παύση) και άλλαξε η ζωή μου (μικρή παύση) πριν εγώ και η γυναίκα μου τώρα είμαι με την εγγονή μου και τώρα απέκτησα και δεύτερο εγγονάκι και έτσι (επιμήκυνση του ι) μεγαλώσαμε*

Ε: *Μχμ μχμ Ωραία.*

Σ: *Είμαστε (επιμήκυνση του ε) αρρώστειες δεν έχω σημάδι, δεν έχω σπάσιμο, δεν έχω κάταγμα δεν έχω εγκεφαλικό δεν έχω (επιμήκυνση του ω) τίποτα δεν έχω περάσει από αρρώστειες*

Ε: Μχμ μχμ

Σ: *Από αρρώστειες. Τίποτα. Δεν ξέρω αρρώστειες.*

Ε: *Μχμ. Τυχερός είστε.*

Σ: *Τυχερός μα και για **αυτό** και συνεχίζω έτσι.*

Ε: *Μάλιστα.*

❖

17.

Ε: *Πότε ξεκινήσατε; Πότε (επιμήκυνση του ε)*

Σ: *Ε (επιμήκυνση του ε) Δύο χρόνια έκανα μετά πήγα στα (επιμήκυνση του α) στα βαπόρια*

Ε: *Μχμ.*

Σ: *Πήγα στα βαπόρια και (επιμήκυνση του αι) ταξίδευα ταξίδευα (παύση)*

Ε: *ναι και (επιμήκυνση του αι) υπάρχει κάποια προσωπική στιγμή που θέλετε να μοιραστείτε μαζί μου από αυτήν την επαγγελματική σας ζωή;*

Σ: *Με ποια έννοια δηλαδή; Δηλαδή ότι;*

Ε: *κάποιο περιστατικό που μπορεί να έγινε στα καράβια ο μπαμπάς μου για παράδειγμα μου έχει αφηγηθεί πολλά γεγονότα*

Σ: *Α εντάξει και εγώ έχω*

Ε: *από τα καράβια για πείτε μου*

Σ: *Και εγώ έχω.*

Ε: *πείτε μου κάτι να ακούσω*

Σ: *Ε εντάξει.*

Ε: *κάτι που θυμόσαστε*

Σ: *έκανα ε (επιμήκυνση του ε) έκανα πέντε χρόνια ε (επιμήκυνση του ε) στα καράβια και μετά ήρθα στην Ολυμπιακή (επιμήκυνση του η)*

Ε: *Ωραία.*

Σ: *σταμάτησα (παύση)*

Ε: *ωραία και να σας πω (...)*

❖

18.

Ε: *Έχω πάει. Πανέμορφη. Για πείτε μου τη ζωή σας στην Κέρκυρα για πείτε μου λίγα πράγματα.*

Σ: *η ζωή μου στην Κέρκυρα ήτανε μια μέρα σχολείο όταν ήμουνα μικρή στα εφτά μου δηλαδή που πηγαίναμε τότε*

Ε: *Μχμ*

Σ: *μία μέρα σχολείο δύο μέρες μεροκάματο για ελιές και ξανά μανά*

Ε: *Αχ*

Σ: *Και όσο μικρή ήμουνα εγώ (μικρή παύση) τόσο έκανα πιο γρήγορα με τα δύο μου τα χεράκια να γεμίζω το καλάθι μου (παύση) για να περνάω τις μεγάλες για να μη τυχόν και με διώξουνε ότι εγώ δεν δεν βγάζω μεροκάματο δηλαδή δεν δουλεύω και δεν προσφέρω ε ήθελα να είμαι πολύ εντάξει παρόλο που ήμουν τόσο μικρή (μικρή παύση) φαντάσου όταν μεγάλωσα (μικρή παύση) και όπου εργάστηκα βέβαια σε όσα σπίτια εργάστηκα*

Ε: *Στην Κέρκυρα.*

Σ: *Όχι εδώ στην Αθήνα.*

Ε: *Α στην Αθήνα.*

Ε: *Βέβαια. Ερχότανε μία κυρία στην Κέρκυρα εκείνα τα χρόνια η οποία ήταν σε (επιμήκυνση του ε) πολύ μακρινό χωριό ο Νουμάς αλλά (επιμήκυνση του α) πως γνωριστήκανε έψαχνε για κοριτσάκι να βρει να το πάρει μαζί της στην Αθήνα εκείνο εκείνο εκείνο και εκείνο και (επιμήκυνση του αι) με γνώριζε* ***αυτός*** *ο κύριος όπου ήτανε γείτονάς της και τα λοιπά και λέει έχω εγώ ένα κοριτσάκι αλλά είναι πολύ μικρό και δεν νομίζω λέει να σου κάνει λέει εντάξει φέρτο λέει εσύ να το δω και άμα μου κάνει τα λέμε και με πήρε με γνώρισε και με πήρε από τόσο μικρή και όσο πιο μικρή ήμουνα εγώ τόσο προσπαθούσα να μαι σβέλτη γρήγορη δεν με βάζανε να κάνω γενικές καθαριότητες και τέτοια είδες πόσο σε διευκολύνω τώρα στη δουλειά σου*

Ε: *Πολύ, πάρα πολύ.*

Σ: *Λοιπόν και με βάζανε να σφουγγαρίζω να ψωνίζω να ό,τι μπορούσα απ'το μπακάλι πήγαινα ψώνιζα και τα λοιπά και (επιμήκυνση του αι) μετά που μεγάλωσα και πήγα (επιμήκυνση του α) στα δεκατέσσερα ε ήτανε άλλοι συγγενείς μου εδώ στην Αθήνα*

Ε: *Ναι.*

Σ: *που μου λέγανε βρε παιδί μου με αυτά τα λίγα και κάνεις και τόσες δουλειές και τα λοιπά μου βρήκανε άλλο σπίτι πήραμε πιο πολλά μετά πάλι ξανά σε άλλο σπίτι με πιο πολλά πιο πολλά ε και έτσι μεγάλωνα και εγώ και (επιμήκυνση του αι) παντρεύτηκα αγόρασα εντωμεταξύ ακόμα πριν παντρευτώ να φανταστείτε αγόρασα οικόπεδο είχα χτίσει και το σπίτι μου*

Ε: *Α πολύ ωραία.*

Σ: *στα εικοτέσσερά μου παντρεύτηκα*

Ε: *Μπράβο σας.*

Σ: *Ναι.*

Σ: *είχα περιθώριο χρόνου δηλαδή για να τα κάνω όλα αυτά αφού ήμουνα πόσο μικρή αν και μου τα έπαιρνε ο μπαμπάς μου τα λεφτά όσο ήμουνα πολύ μικρή αλλά μάζευα και εγώ εντάξει έβαζα φέσι στη δουλειά μου τα πλήρωνα μετά απ'τη δουλειά μου για να τα φτιάξω και τα λοιπά παντρεύτηκα έκανα τα παιδιά γέρασα και είμαι εδώ τώρα. (γέλια)*

Ε: *Πολύ ωραία, πολύ ωραία. Ωραία.*

❖

19.

Σ: *Εεερχότανε οι Γερμανοί*

Ε: *Ναι.*

Σ: *και μάλιστα επήγαμε (επιμήκυνση του ε) είχε δώσει στη (επιμήκυνση του η) μας είχε δώσει από τα αλεξίπτωτα ύφασμα για να κάνουμε (επιμήκυνση του ε) φουστανάκια να μας κάνει η μαμά μου ήρθανε οι Γερμανοί και κάνανε μες στην στο σπίτι έλεγχο έτσι να περάσουνε και λέει **αυτό** λέει μαμά σας μπαμπά σας κκ ότι βγαίνουμε έξω και κάνουμε (επιμήκυνση του ε) ότι φωνάζουνε κκ η μάνα η μαμά μου και ο μπαμπάς μου και λέει η αδελφή μου όχι καλέ μάς τα δωσε η θεία μου να κάνουμε φουστανάκια (γέλια) και (επιμήκυνση του αι) αυτά απ'το πόλεμο*

Ε: *Μάλιστα*

Σ: *(παραφασία) και απ'τους Γερμανούς.*

Ε: *Ναι ε;*

Σ: *Βλέπαμε (επιμήκυνση του ε) ήτανε οι Γερμανοί εδώ και εδώ είχανε σκοτωμένους δυο τρεις και από τι (επιμήκυνση του ι) είχε βρέξει αποβραδίς και όπως ήτανε εδώ η τρύπα είχε ξεπλυθεί ήταν έτσι εκείνοι (επιμήκυνση του οι) πεσμένοι*

Ε: *Ποια τρύπα; Τι εννοείται;*

Σ: *εδώ η τρύπα από το (επιμήκυνση του ο) πιστόλι από το όπλο πως τους σκοτώσανε*

Ε: *Ναι, ναι.*

Σ: *δεν ξέρω τι ήτανε **αυτό** και είχε την τρύπα ήταν έτσι πεσμένοι κι ήρθε ένα κάρο και τους πήρε (παύση)*

Ε: *Το έχετε δει δηλαδή εσείς **αυτό;***

Σ: *Το δα το δα **αυτό***

Ε: *Και πόσο ήσασταν; Ήταν σοκαριστικό για ένα παιδάκι*

Σ: *Ε βέβαια ναι και όμως τότε δεν μας ένοιαζε και τόσο (μικρή παύση) έτσι δεν ξέρω α και περνάγανε τα αεροπλάνα από πάνω και νομίζαμε πως θα μας σκοτώσουνε τώρα*

(επιμήκυνση του α) τα αεροπλάνα από κάτω και κρυβόμαστε κάπου σε μία μάντρα για να μη μας σκοτώσουν τα αεροπλάνα

Ε: *Πωπω μετά στον εμφύλιο τώρα μου λέτε εσείς*

Σ: *Ναι στον εμφύλιο.*

Ε: *γιατί στον πόλεμο*

Σ: *ε στον πόλεμο (επιμήκυνση του ο).*

Ε: *δεν είχατε γεννηθεί.*

Σ: *είχα γεννηθεί (παύση) ήταν ο μπαμπάς μου είχε πάει φαντάρος*

Ε: *Δεν ε ναι μχμ*

Σ: *μπαμπά (επιμήκυνση του α) ο μπαμπάς μου είχε πάει φαντάρος με τα (επιμήκυνση του α) με τα (επιμήκυνση του α) χιόνια με τα αυτά (επιμήκυνση του α) και όπως έπαιζα μικρό εγώ απ'έξω από την αυλή στην απ'έξω απ'την αυλή στο δρόμο (μικρή παύση) περα- ήρθε ο μπαμπάς μου με τα (επιμήκυνση του α) αυτά το ρόπλο εδώ φόραγε δίκοχο (μικρή παύση) τα πόδια ήτανε με (επιμήκυνση του ε)* ***τέτοιες*** *διπλωμένο πως τα λένε* ***αυτά*** *δεν ξέρω (μικρή παύση) και τον εβάζει και με συγχωρείς ψείρα (επιμήκυνση του α) ψείρα*

Ε: *α πα πα*

Σ: *Και τον εβάζει η μαμά μου (επιμήκυνση του ου) ανάβει ένα (επιμήκυνση του α) το καζάνι το γεμίζει νερό*

Ε: *Βραστό*

Σ: *βραστό όχι βραστό τον έλουσε τονε πως το λένε*

Ε: *Ναι.*

Σ: *τον ξέπλυνε τον έπλυνε τον σαπούνισε όλα για να μπει μες στο σπίτι δεν έμπαινε μες στο σπίτι λέει θα γεμίσω ψείρα (παύση) και το (επιμήκυνση του ο) τον έκανε η μαμά μου τον έλουσε τον έκανε και* ***αυτός*** *βέβαια και τότε μπήκε σπίτι (παύση)*

Ε: *και που τον έλουσε; Στο διάδρομο;*

Σ: *Είχαμε ένα (επιμήκυνση του α) είχαμε ένα μιαν (επιμήκυνση του α) αποθήκη και εκεί μέσα τον έβαλε*

Ε: *Μάλιστα.*

Σ: *Ναι τα θυμάμαι αυτά όλα.*

❖

B. NC group

1.

Σ: *(...) να πω (μικρή επιμήκυνση του ω) να πω την ημέρα που αποφασίσαμε να σε πάμε να σε βαφτίσουμε και ήτανε (επιμήκυνση του ε) ήταν μια πάρα πολύ ευχάριστη γιατί είχες μεγαλώσει γιατί είχες γεννηθεί προωρίτσα και είχες ξεπεράσει όλες τις δυσκολίες και θα πηγαίναμε να σε βαφτίσουμε (μικρή παύση) και (επιμήκυνση του ε) αποφασίσαμε να πάμε να σε βαφτίσουμε στον Άγιο Γεράσιμο που ήτανε (επιμήκυνση του τελικού ε) που έκανε η μαμά σου αγροτικό και την ξέρανε όλες οι καλόγριες (μικρή παύση) και ήτανε πάρα πολύ (επιμήκυνση του τελικού υ) ήτανε πάρα πολύ όμορφα γιατί ήρθανε όλες οι καλόγριες που (μικρή επιμήκυνση του ου) οι οποίες αγαπούσαν πολύ (επιμήκυνση του υ) τη μητέρα σου και (μικρή επιμήκυνση του ε) ψάλανε στη βάφτιση (μικρή επιμήκυνση του η) το (μικρή επιμήκυνση του ο) του μωρού ε (επιμήκυνση του ε) ήμουνα πάρα πολύ χαρούμενη είχα πει ότι στη ζωή μου θα βαφτίσω ένα παιδί και θα παντρέψω ένα ζευγάρι πάντρεψα ένα ζευγάρι φίλους μου που είναι καλά δόξα τω θεώ και οι δύο (μικρή παύση) και βάφτισα εσένα που (επιμήκυνση του ου) πήρες και το όνομα της (μικρή επιμήκυνση του η) μητέρας μου και ήμουνα πάρα πολύ χαρούμενη είχαμε πει (μικρή παύση) και έτσι το χα πει δηλαδή όταν σε (μικρή επιμήκυνση του ε) γεννήθηκες που γεννήθηκες πρόωρα ε (επιμήκυνση του ε) ότι θα ήθελα πάρα πολύ ε (μικρή επιμήκυνση του ε) να πάνε όλα καλά να ζήσεις και να σε βαφτίσουμε με το όνομα της μαμάς μου (κλαίει από συγκίνηση) και έγινε και ήτανε μια πάρα πάρα πολύ ευχάριστη για μένα ημέρα (μικρή παύση) πάρα πολύ (μικρή παύση) ήτανε η γιαγιά ήτανε η μαμά σου ήτανε όλοι οι άνθρωποι που σε αγαπούσανε γύρω σου και ήσουν ένα γλυκούλι κοριτσάκι με ένα πάρα πολύ ωραίο άσπρο πικέ φορεματάκι (μικρή παύση) αυτά.*

Ε: *(γέλια)*

❖

2.

Σ: *τα όρια ε (επιμήκυνση του ε) να μη σας προσβάλω να είμαι ευγενής να σεβαστώ το χρόνο σας (παύση) καταρχήν σέβομαι πολύ τους νέους (μικρή παύση)*

Ε: *Το βλέπω.*

Σ: *περισσότερο απ'τους γέρους το γέρο τον έχω γραμμένο (παύση) το γράφει αυτό; (γέλια)*

Ε: *Ναι (γέλια)*

Σ: *το γέρο τα γηρατειά ήθελα να πω*

Ε: *Ναι κατάλαβα.*

Σ: *Τους παλιούς.*

Ε: *Για πείτε μου.*

Σ: *Α και άλλα;*

Ε: *Πείτε μου, ναι, κάποια γεγονός της ζωής σας που θα θέλατε να το μοιραστείτε.*

Σ: *Αυτή τη στιγμή ή γενικά;*

Ε: *Κάτι δεν καταλαβαίνω μάλλον (...)*

Σ: *Θα μπορούσαν να κάνουν λιγότερα λάθη, και να μη μας αντιγράφουν (παύση) Σέβομαι τους νέους και θα θελα (επιμήκυνση του α) αν μπορούσα στον ανθρώπινο παράγοντα (επιμήκυνση του α) με τον τρόπο μου με την σκέψη μου να τους βοηθούσα επ'αγαθώ, έστω κι ένα τοις χιλίοις*

Ε: *Έχετε κάποιο κάνει κάποιο λάθος που θα θέλατε να το μοιραστείτε μαζί μου;*

Σ: *Μικρά λαθάκια τώρα πια. Έχει μπει το νερό στο αυλάκι*

Ε: *(γέλια)*

Σ: *Ε (επιμήκυνση του ε) Θα ήθελα να μιλώ να μην επαναλαμβάνομαι ε (επιμήκυνση του ε) για να με σπουδάζει ο άλλος όχι να είμαι απρόβλεπτη ε (επιμήκυνση του ε) και να και αυτό που προσπαθώ πάντα είναι να (επιμήκυνση του α) μην μιλάω (παύση)*

Ε: *Το χω διαπιστώσει.*

Σ: *να μην είμαι προβλέψιμη*

Ε: *Ναι.*

Σ: *στον άλλονε γιατί (επιμήκυνση του ι) από αυτοπροστασία θα έλεγα*

Ε: *Μχμ*

Σ: *Και να μην βλέπω να μην πιστεύω αυτό που βλέπω να ψάχνω αυτό που είναι ο άλλος (μικρή παύση) να μην ε (επιμήκυνση του ε) εντυπωσιάζομαι επηρεάζομαι από αυτό να περιμένω λίγο καιρό γιατί έχω χαμηλό δείκτη ευφυΐας και δεν μπορώ να ψυχολογήσω με το πρώτο (παύση) δεν είναι κακό να έχεις χαμηλό δείκτη ευφυΐας*

Ε: *Μου θυμίζετε πολύ τη σχέση με τον αδελφό μου ε (επιμήκυνση του ε) τα ίδια πράγματα έχουμε δηλαδή εγώ καταλήγω στο ότι πιστεύω ότι δεν είμαι ευφυής*

Ε: *γιατί έχω έναν αδελφό ο οποίος ε (επιμήκυνση του)*

Σ: *Πάντα.*

Ε: *αυτοπροστατεύεται πάρα πολύ σε σημείο που επιτίθεται.*

Σ: *Έχει πολύ εγωϊσμό μού είπε ο ψυχίατρος*

Ε: *Έχει πολύ εγωϊσμό.*

Σ: *Ο ψυχίατρος μου είπε ότι τόσο εγωϊστικό άτομο όσο η αδελφή σου σε αυτήν την καρέκλα όσες δεκαετίες είμαι γιατρός δεν έχει καθίσει*

Ε: *Πω ρε φίλε*

Σ: *και δεν αγαπάει ποτέ. Αγαπάει ο αδελφός σου;*

Ε: *Έλα μου ντε. Ε όχι. Εγώ νομίζω ότι αγαπάει*

Σ: *Ο εγωϊστής αγαπάει μόνο τον εαυτό του.*

Ε: *Δεν είναι νάρκισσος ο αδελφός μου. Αγαπάει.*

Σ: *Όχι. Δηλαδή αν χωρίσει σήμερα με την Καίτη θα πάει αύριο με την Ρένα;*

Ε: *Ελα μου ντε δεν ξέρω.*

Σ: *Αυτό ο εγωϊστής είναι ενώ εγώ θα το ψάξω θα το αυτό θα το διυλίσω, θα δώσω χρόνο,*

Ε: *Μμμ μμ μμμ*

Σ: *ευκαιρία ενώ η αδελφή μου έβγαινε σήμερα με τον Γιώργο (μικρή παύση) βρήκε τον Κώστα που είναι καλύτερος*

Ε: *Κατευθείαν.*

Σ: *δεν συζητάει πια σα να μην υπήρξε στη ζωή της αυτός τελείωσε.*

Ε: *Α οκ, οκ. Και αυτό είναι θέμα εγωϊσμού πιστεύετε;*

Σ: *Ναι, ναι. Ο ψυχίατρος καριέρας που είχα πάει και την είχα στείλει*

Ε: *Ναι.*

Σ: *και ο ψυχίατρος έχω ντοκουμέντα έστειλα πρώτο μου ξάδελφο ε (επιμήκυνση του ε) ποιο χαζός από μας μια φορά και του πε όχι άλλο δεν με χρειάζεσαι εγώ πήγα τέσσερις φορές και μου είπε όχι άλλο απλώς εγώ παίρνω από σένα (μικρή παύση) άλλη μπαίνω άλλη βγαίνω απ'τις συζητήσεις και μου λέει μπορεί είμαι γιατρός βοηθάω ασθενείς είμαι γιατρός στο χαζό τι να βοηθήσει*

Ε: *αχ τρόμαξα*

Σ: *Τίποτα. Είναι λεωφορείο. Ενώ για την αδελφή μου που είχε πρόβλημα ο γάμος της μου πε πες της να ρθει και δωρεάν είμαι γιατρός με χρειάζεται έχει αρχίσει τις αυτοκτονίες.*

Ε: *Πφφφ*

Σ: *και αυτοκτονία μου λέει (επιμήκυνση του ει) δεν θέλει κανείς να αυτοκτονήσει θέλει να δείξει στον άνθρωπο που το κάνει ότι πρόσεχε έχω αγγίξει τα όρια μου αλλά μία στις δέκα πιάνει και πάει στον άλλο κοσμό αυτό είναι η απόπειρα αυτοκτονίας μού είπε ο καριέρας ψυχίατρος*

Ε: *Ναι. Και αν το βάλουμε σε ένα συνεχές τώρα σταματάω (...)*

❖

3.

Σ:*: εγώ επειδή η νύφη μου πρόκειται να γεννήσει σε λίγες μέρες*

Ε: *ωραία, μια χαρά*

Σ: *και θα έχω το πρώτο εγγόνι.*

Ε: *Ωραία. Κοριτσάκι ή αγοράκι;*

Σ: *Αγοράκι.*

Ε: *Α (επιμήκυνση του α) Χαρά μεγάλη (γέλια)*

Σ: *Δεν θα πρέπει να το μοιραστώ;*

Ε: *Ε ναι. Για πείτε μου όμως κάποιες περισσότερες λεπτομέρειες.*

Σ: *Ε (επιμήκυνση του ε) λεπτομέρειες είναι η ανυπομονησία μέχρι να γεννήσει να είναι το μωρό καλά να βγει καλά και το μωρό και η νύφη μου την οποία την υπεραγαπάω ε (επιμήκυνση του ε) και θα μεγαλώσει λίγο η οικογένεια*

Σ: *Πολύ ωραία.*

Σ: *και θα έχουμε περισσότερες ασχολίες*

Ε: *(γέλια)*

Σ: *με το νεογέννητο γιατί όσο να το κάνουμε στην Ελλάδα οι παπούδες και οι γιαγιάδες και στα παιδιά αλλά πόσο μάλλον στα εγγόνια προσφέρουν περισσότερο από ό,τι προσφέ-προσφέρουν στα παιδιά και του παιδιού μου το παιδί είναι δυό φορές παιδί μου.*

Ε: *Αυτό έλεγε η γιαγιά μου η συγχωρεμένη.*

Σ: *Εντάξει …;*

❖

4.

Σ: *μαζί*

Ε: *εδώ οι τρεις μας*

Σ: *οι τρεις μας*

Σ2: (γέλια)

Σ: *ξεκινάω;*

Ε: *εεε*

Σ: *ωραία στιγμή θα ήταν αυτή που θα (επιμήκυνση του α) μετά από όλη αυτή τη διαδικασία θα είχαμε ένα θετικό αποτέλεσμα.*

❖

5.

Ε: *α για πες (παραφασία) ναι ναι*

Σ: *ήμουν με μία φίλη μου ήμουνα (επιμήκυνση του α) είχα τελειώσει*

δεν ήμουνα φοιτήτρια είχα τελειώσει

Ε: *Μ*

Σ: *και είχε έρθει μια φίλη μου να κοιμηθεί στο σπίτι μου το φοιτητικό για να πάμε την επόμενη μέρα σε μια εκδρομή που οργάνωνε η εταιρεία της (μικρή παύση) εε και έπρεπε να ξυπνήσουμε πρωί όποτε ήρθε χτυπάει το ξυπνητήρι δεν ξέρω αν ήταν και έξι το πρωί εγώ νυσταγμένη της λέω α εγώ δεν μην πας μην πάμε στην εκδρομή (γέλια) εκείνη θύμωσε γιατί (επιμήκυνση του ι) ναι και σηκώνεται να ντυθεί αυτό οπότε αναγκαστικά και εγώ σηκώθηκα και πήγαμε στην εκδρομή και γνώρισα όχι τον άντρα μου έναν εκεί του γραφείου που ήτανε και με τα αφεντικά συγγενείς και με συμπάθησε πολύ και ήθελε να κάνουμε παρέα και με άλλους να μου γνωρίσει εντωμεταξύ η Γ. μου είχε πεί ότι στο γραφείο τους είχε έρθει ένας ωραίος από την Κρήτη που πρέπει να έχει και συγγένεια με τα αφεντικά και λοιπά και (επιμήκυνση του αι) στην εκδρομή αυτή δεν είχε έρθει (μικρή παύση) ο σύζυγος δεν του αρέσουνε αυτά και τελοσπάντων γνωριστήκαμε με τον φίλο του και ο οποίος ήθελε να μας βγάλει έξω και να φέρει και τον φίλο του τον άλλο να γνωριστούμε ε (επιμήκυνση του ε) η Γ. τότε είχε ένα δεσμό η φίλη αυτή ε (επιμήκυνση του ε) που και αυτού δεν του καλάρεσε ότι να πάμε εμείς οι δυο με άλλους έξω και κατά κάποιο τρόπο θύμωσε και είχε φέρει αυτόν τον φίλο τον άντρα μου δηλαδή (γέλια)*

Ε: *(γέλια)*

Σ: *ο οποίος ε (επιμήκυνση του ε) με συμπάθησε του άρεσα*

Ε: *Ναι*

Σ: *Ανταλλάξαμε τηλέφωνα*

Ε: *Ναι*

Σ: *και από εκεί και πέρα άρχισε κάποια ιστορία που τελικά κατέληξε σε γάμο μετά από πολλές περιπέτειες*

Ε: *Τι ωραία. Πολύ ωραία είναι αυτά. (γέλια)*

Σ: *Δηλαδή αν δεν πήγαινα στην εκδρομή αν ακολουθούσα την τεμπελιά μου και δεν πήγαινα δεν θα τον γνώριζα*

❖

6.

Σ: *Μιλήσω ε (επιμήκυνση του ε) για τη (επιμήκυνση του η) χαρά που πήρα όταν ήρθε η κόρη μου (παύση) από την ε Αγγλί- από το Λονδίνο και τη βλέπω κάθε φορά όμως συμβαίνει αυτό η χαρά είναι μεγάλη κάθε φορά που έρχεται (μικρή παύση) και την αγκαλιάζω και την φιλάω μήπως έπρεπε πιο (επιμήκυνση του ο) κανά πιο συγκεκριμένο τίποτα*

Ε: *Ναι, πείτε κάτι πιο συγκεκριμένο ας πούμε μια φορά που την συναντήσατε και έγινε κάτι πήγατε κάπου (παύση).*

Σ: *ε (επιμήκυνση του ε) όταν πέτυχε έδωσε εξετάσεις η κόρη μου στο (επιμήκυνση του ο) πανεπιστήμιο και (επιμήκυνση του αι) βγήκε με (επιμήκυνση του ε) σχεδόν είκοσι πέρασε ε (επιμήκυνση του ε) που με πήρανε και με πήρανε απ'το (επιμήκυνση του ο) σχολείο όλοι οι καθηγητές εδώ του (επιμήκυνση του ου) να με συγχαρούν ε (επιμήκυνση του ε) αυτό (επιμήκυνση του ο) ήτανε μια μου έχει μείνει βέβαια (παύση) και πολλές στιγμές (μικρή παύση) δηλαδή πήγαινα στο φροντιστήριο που έκανε για να δώσει εξετάσεις και σηκω- δύο καθηγητές πεταχτήκανε απ'την καρέκλα τους μόλις τους είπα ότι είμαι η μητέρα της (επιμήκυνση του η) Μ. (μικρή παύση) για να με συγχαρούν (παύση) ε αυτά ναι δεν θα τα ξεχάσω πράγματι πιο πολύ αυτό ότι πετάχτηκε απ'την καρέκλα ένας καθηγητής ναι (γέλια) τους βγήκε ήμασταν στη σειρά οι μαθ- οι (επιμήκυνση του οι) γονείς*

Ε: *Ναι.*

Σ: *να μάθουμε πώς πάνε και μόλις είπα (γελώντας) ότι είναι η Μαρι- είμαι η μητέρα της (επιμήκυνση του η) Μ. πετάχτηκε όρθιος και μου λέει συχχαρητήρια (με στόμφο) δεν έχει κανένα πρόβλημα εσείς θα περάσει το παιδί. Και όμως έτσι ήτανε*

Ε: *Μπράβο, μπράβο.*

Σ: *Δεν θα το ξεχάσω ποτέ αυτό.*

❖

7.

Σ: *Είμαι ευτυχισμένος (μικρή παύση) είμαι ικανοποιημένος απ' τη ζωή μου (μικρή παύση) δεν έχω κανένα παράπονο (μικρή παύση) με τα προβλήματά της και με τις λύσεις της*

Ε: *Οκ*

Σ: *ε (μικρή παύση) τώρα αυτή την περίοδο (επιμήκυνση του ο) χαίρομαι τα παιδιά μου και τα εγγόνια μου (μικρή παύση) και την σύντροφό μου όχι τη σύντροφό μου τη γυναίκα μου α (μικρή επιμήκυνση του α) τι άλλο να πω δεν ξέρω πρέπει να προχωρήσω και κάτι άλλο ή (επιμήκυνση του η) καλύτερα*

Ε: *Εδώ γιατί ήρθατε;*

Σ: *Ορίστε;*

Ε: *Εδώ γιατί ήρθατε;*

Σ: *Ω (επιμήκυνση του ω) Να δοκιμάσω τον εαυτό μου να δω που βρίσκομαι το αντικείμενο που μαι που δουλεύαμε μαζί*

Ε: *Μχμ μχμ οκ.*

Σ: *Α (επιμήκυνση του α) και είμαι (επιμήκυνση του αι) αισθάνομαι καλά που που το κανα*

Ε: *Και καλά κάνατε.*

Σ: *Ναι.*

Ε: *Και ήρθατε*

Σ: *Ευχαριστώ. Δεν ε (επιμήκυνση του ε) δεν λέω όχι ποτέ όταν είναι να μάθω κάτι*

Ε: *Αχα αχα*

Σ: *Ή για τον εαυτό μου ή για ιστορικά ή (επιμήκυνση του η) α (επιμήκυνση του α) επιστημονικά αυτά τα κυνηγάω πολύ μου αρέσουνε*

Ε: *Μπράβο σας που είστε ανοιχτός*

Σ: *Α (επιμήκυνση του α) και εκεί σε αυτό το σημείο βρίσκομαι αυτή τη στιγ- τη στιγμή*

Ε: *Οκ, μια χαρά. Οκ.*

❖

8.

Ε: *Ε (επιμήκυνση του ε) Θα θελα να μου πείτε μία σημαντική στιγμή της ζωή σας.*

Σ: *Στη ζωή μου (επιμήκυνση του ου) μία που είναι πολύ σημαντική (γέλια) είναι τότε που γνώρισα τη γυναίκα μου (μικρή παύση) επί γράμμα βέβαια εμένα μου αρέσουν αυτού του είδους οι άνθρωποι που του αρέσει αυτό απλώνει το χέρι του (μικρή επιμήκυνση του ου) και το παίρνει και αν υπάρχουν αντιδράσεις αρχίζει και παλεύει αυτά τα (επιμήκυνση του α) που (επιμήκυνση του ου) δεν το θέλω και φοβάμαι αυτά είναι (επιμήκυνση του αι) ας μου επιτραπεί η λέξη για τους αδαείς για τους δειλούς θέλω κάτι απλώνεις το χέρι σου και προσπαθείς να το αποκτήσεις όχι βρώμικα (με συνωμοτικό ύφος) μην (επιμήκυνση του η) πάμε παρακάτω.*

Ε: *Για πείτε μου λοιπόν πως τη γνωρίσατε τη γυναίκα*

Σ: *Μες στο τραίνο ταξιδ- ήταν να ταξιδέψουμε από κάπου να πάμε κάπου αλλού ήταν στο παράθυρο πλησίασα και αρχίσαμε και μιλάμε εγώ δεν έχω (επιμήκυνση του ω) στην επικοινωνία με τους ανθρώπους προβλήματα*

Ε: *Στην Ελλάδα ήταν το ταξίδι ή (επιμήκυνση του η) στο εξωτερικό;*

Σ: *Στην Ελλάδα. Τότε δεν είχαμε την οικονομική ευχέρεια να κάνουμε στο εξωτερικό (γέλια) και τώρα που είμαστε στο τέλος πάλι δεν μπορούμε γιατί δεν μας αφήσανε (μικρή παύση) άλλη ερώτηση;*

Ε: *Και (επιμήκυνση του αι) όταν την συναντήσατε στο (επιμήκυνση του ο) στο τρένο μετά (επιμήκυνση του α) κανονίσατε να (επιμήκυνση του α) βρεθείτε ξανά (επιμήκυνση του α) και*

Σ: *Ίδρωσα για να πάρω το τηλέφωνό της ε (επιμήκυνση του ε) και μετά αρχίσαμε είδα ότι ήταν αυτό που σας είπα πιο μπροστά η οπτική μου επαφή μού άρεσε αυτή μετά ήταν η συζήτηση που κάναμε είδα ότι δεν έχω να κάνω με κάποιο (επιμήκυνση του ο) άτομο (μικρή παύση) έδειχνε ότι ενδιαφέρονταν και μετά είδα κάποια πράγματα που εμένα μου αρέσανε ποια ήτανε αυτά τα πράγματα που μου αρέσανε πρώτα απ'όλα ότι (επιμήκυνση του ι) ήτανε σωστ- σωστή διαχείριση χρημάτων (μικρή παύση) της έδινα χρήματα πάρε και βλέπαμε μετά από ένα μήνα δύο μήνες ε (επιμήκυνση του ε) για να δούμε τι χρήματα έχουμε*

Ε: *Χμ χμ Σημαντικό, ναι.*

Σ: *Πολύ σημαντικό. (γέλια επιβεβαίωσης)*

Ε: *για μία οικογένεια μία συμβίωση*

Σ: *Και το πιο σημαντικό ήτανε όταν αποφασίσαμε πριν ακόμα αποφασίσαμε να (επιμήκυνση του α) παντρευτούμε κάπου ήτανε να πάω που άρχιζα τη ζωή μου εγώ να εργάζομαι από εκεί ξεκινήσαμε μου έδωσε αυτή χρήματα*

Ε: *Μπράβο. Σας στήριξε*

Σ: *Ναι, ναι. Δεν μπορείτε να φανταστείτε τι χαρά ήτανε.*

Ε: *Μπράβο.*

Σ: *Μου έδωσε. Δεν είχαμε ακόμα είχαμε απλώς ε (επιμήκυνση του ε) σχέσεις (μικρή παύση) έπεες στον αέρα που λέμε έπεα πτερόεντα (μικρή παύση) και όμως με (επιμήκυνση του ε) στήριξε μου έδωσε (μικρή παύση) μου είχε εμπιστοσύνη οπότε εγώ δεν το κλωτσάω αυτό δεν είμαι χαζός (γέλια) έγινα αντιληπτός;*

Ε: *Απόλυτα.*

Σ: *Απόλυτα.*

❖

9.

Σ: *Τώρα τι είπαμε να πω;*

Ε: *μία προσωπική στιγμή κάτι που μπορείτε να μοιραστείτε και να το (επιμήκυνση του ο) αναπτύξετε ας πούμε να πείτε δύο πράγματα για αυτό από τη ζωή σας.*

Σ: *πολλά υπάρχουν. Ας πούμε τώρα ένα πιο πρόσφατο από τη στιγμή που (επιμήκυνση του ου) γεννήθηκαν τα εγγόνια μου*

Ε: *Μχμ για πείτε.*

Σ: *πως ένιωσα χαρούμενος που είδα που είδα αυτά τα μικρά πλασματάκια και τα βλέπω να μεγαλώνουν και να λένε παππού*

Ε: *Χα*

Σ: *σε αγαπάω ο μεγάλος λέει παππού σε αγαπάω πολύ τα άλλα ακόμα δε μιλάνε τα δίδυμα παππού σε αγαπάω πολύ παππού σε αγαπάω πολύ συνέχεια εσύ με αγαπάς παππού αυτά δεν περιγράφονται με λόγια νιώθεις ολοκληρωμένος.*

Ε: *Ναι, ναι. Ωραία.*

❖

10.

Σ: *Μία που που με με ζόρισε πολύ*

Ε: *Ναι*

Σ: *είναι (μικρή παύση) το 2009 η κόρη μου δούλευε στο αερόδρομιο (μικρή παύση) είναι (επιμήκυνση του αι) ήτανε γιατί έχει σταματήσει εδώ και δύο χρόνια ε (επιμήκυνση του ε) εδάφους συνοδός εδάφους και (επιμήκυνση του αι) ήτανε γύρω στις εφτά το βράδυ με πήρανε τηλέφωνο από το αεροδρόμιο και μου είπανε να πάω στο νοσοκομείο της Βούλας είχε συμβεί ένα ατύχημα (επιμήκυνση του α) στη διαδρομή της και μέχρι να φτάσω στο νοσοκομείο ε (επιμήκυνση του ε) τα είδα όλα (μικρή παύση) και όταν την είδα μπροστά μου που την είχανε ήτανε αναίσθητη βέβαια σε ένα (επιμήκυνση του α) κρεβάτι σε ένα ράντσο μάλλον αυτά τα που τα σέρνουνε ήτανε μες στο αίμα το κεφάλι δεν το αναγνώριζα φουυυ ήτανε τα τα ρούχα της το παλτό τα (επιμήκυνση του α) και κόσμος από την Aegean βέβαια, συνάδελφοι εκεί, δόξα σοι ο θεός σιγά σιγά (επιμήκυνση του α) το ξεπέρασε και βγήκε είχε ένα σημάδι μόνο στο πρόσωπο και (επιμήκυνση του αι) στο πόδι της είχανε βάλει λάμα (μικρή παύση) εντάξει αλλά μέχρι να τη δω (μικρή παύση) να να μιλήσει κάποια στιγμή ε (επιμήκυνση του ε) τα είχα δει όλα ήτανε πολύ πολύ συνταρακτικό αυτό να μην το πάθει κανένας γονιός να δει έτσι (μικρή παύση) σε αυτή την κατάσταση ε και όταν πήγα και είδα και το αμάξι (επμήκυνση του ι) το αυτοκίνητο έλεγα πως βγήκε άνθρωπος από εκεί μέσα*

Ε: *Ναι ε;*

Σ: *δεν το συζητώ είχε μπει κάτω από ένα φορτηγό*

Ε: *(ιιι) πώς έζησε!*

Σ: *Πώς έζησε έσπασε το κάθισμα και έπεσε πίσω (μικρή παύση) και τα τζάμια την χτυπήσανε εδώ και (επιμήκυνση του αι) κάπου το πόδι της έσπασε (παύση) πώς έζησε απορώ πως έζησε ίσως επειδή ήτανε κοντή (;) γιατί αν ήτανε πιο ψηλή θα της το χε φάει το κεφάλι (μικρή παύση) δεν ξέρω τι να σου πω (μικρή παύση) απορούσαν όλοι που βλέπανε*

Ε: *Έχω σοκαριστεί.*

Σ: *το αυτοκίνητο πως (επιμήκυνση του ω) πως έζησε. Ναι αυτό.*

Ε: *Πω πω*

❖

11.

Ε: *Κάτι σοβαρό*

Σ: *αυτόν τον (επιμήκυνση του ο) (πατάς;) αυτόν τον καιρό περνάω πάρα πολύ ωραία γιατί ασχολούμαι πάρα πολύ με την εγγονή την Ο. που είναι πέντε χρονών και (επιμήκυνση του αι) παίζω πάρα πολύ μαζί της την τρέχω στα μπαλέτα και στους στίβους και στους αγώνες που κάνει και (επιμήκυνση του αι) μου γεμίζει τη ζωή και νιώθω μια μεγάλη αγάπη και τρυφερότητα για αυτήν*

Ε: *πολύ ωραία.*

❖

12.

Ε: *Ναι, οκ. Μάλιστα. Ένα σημαντικό γεγονός στη ζωή σας που έγινε.*

Σ: *Σημαντικό.(επιμήκυνση του ο)*

Ε: *Θυμάστε;*

Σ: *Πολλά σημαντικά. Οι γάμοι των παιδιών μου. (μικρή παύση) Ήτανε (επιμήκυνση του ε) το όνειρο της ζωής μου.*

Ε: *Μμ*

Σ: *Το γενιο- γεννήθηκε ο (επιμήκυνση του ο) αντικαταστάτης μου. (μικρή παύση) Ο εγγονός μου. (μικρή παύση) Γεννήθηκαν οι εγγονές μου, τα αστέρια της ζωής μου. Αυτά είναι σημαντικά (μικρή επιμήκυνση του α) γεγονότα.(παύση)*

Ε: *Πολύ ωραία. Να τις χαίρεστε.*

Σ: *Να σαι (επιμήκυνση του σ) καλά.*

❖

13.

Σ: *(...) Έ- έχουμε παιδιά και ότι το εεε η μία κόρη μου είναι παντρεμένη και έχει τέσσερα παιδάκια*

Ε: *Α τέλεια. Να σας ζήσουν.*

Σ: *Το μεγαλύτερό της είναι εικοσιδύο το μικρότερο είναι εννιά.*

Σ: *εε καλά ο γιος μου είναι ελεύθερος βέβαια*

Ε: *Μχμ*

Σ: *καλά περνάω (...) έχω βέβαια προβλήματα υγείας που με στενοχωρούνε με κουράζουνε δηλαδή ψυ- όχι ψυχικά σωματικά με πόνους κάτι άλλο ευχάριστο πιο πολύ;*

Ε: *(γέλια)*

Σ: *ευχάριστο γενικά νομίζω εγώ ότι τα βλέπω ευχάριστα τα πράγματα ενώ έχω προβλήματα ε τα προβλήματα υγείας αν σκεφτείς κάποια φορά έκανα τέσσερα χειρουργεία στο νερ-φρό ώσπου να το αφαιρέσω είχα πολλά προβλήματα ήμουνα συνεχώς μες στα νοσοκομεία και αυτά εγώ τα έβλεπα θετικά λέω δεν πειράζει θα περάσουνε μόλις έβγαινα έξω έβλεπα τα παιδάκια την οικογένεια ενώ παιδευόμουνα πολύ μέσα στο νοσοκομείο έκανα ενδοφλέβιες έκανα*

Ε: *Μάλιστα.*

Σ: *Οι πιο πολλοί με είχανε ξεγραμμένη μετά πήγα στο Λονδίνο σε γενικές γραμμές αυτά στην οικογένεια καλά περνάμε ο γιος μας είναι ελεύθερος και μένει μαζί μας (παύση) στενοχωριόμαστε γιατί τα παιδάκια είναι άνεργα οι γονείς τους και έχουμε τα παιδιά την ευθύνη των παιδιών ε σπουδάζει το ένα στην Καβάλα το άλλο στη στα Χανιά τα έξοδα εκεί πάνω σε προβληματίζεσαι*

Ε: *Ναι ναι*

Σ: *Δηλαδή τώρα που μπορούσαμε και εμείς πες έστω και με την σύνταξη γιατί καιι η δουλειά δεν πήγε καλά εδώ τα δίνουμε (γέλια) για να βοηθήσουμε*

Ε: *Ναι.*

❖

14.

Σ: *Πρώτα πρώτα πήγαινα σαν δοκιμάστρια σε ορισμένες θεραπείες στην ομοιοπαθητική.*

Ε: *Αααα*

Σ: *Ε (επιμήκυνση του ε) Γιατί κα- είχα κάνει κάποτε μία θεραπεία ομοιοπαθητικής μετά την ξεπέρασα και δεν αυτό και δεν διατήρησα το διαιτολόγιο και τη συμπεριφορά που πρέπει να έχεις για να κάνεις ομοιοπαθητική και (επιμήκυνση του αι) κάποια στιγμή (επιμήκυνση του η) η κόρη μου (επιμήκυνση του ου) αρραβωνιάστηκε και στη συνέχεια παντρεύτηκε κάποιον γιατρό, ο οποίος ξεκίνησε και (επιμήκυνση του αι) και ομοιοπαθητική και ήθελε κανά δυο ασθενείς ε (επιμήκυνση του ε) όχι ασθενείς κανα δυο (επιμήκυνση του ο) ανθρώπους για να (επιμήκυνση του α) τους κάνει ομοιοπαθητική σε κάποιο πρόβλημα υγείας*

Ε: *Ναι*

Σ: *που μπορεί να είχανε ας πούμε όπως τώρα εσύ*

Ε: *Ναι*

Σ: *για να κάνει το (επιμήκυνση του ο) (μικρή παύση) ας πούμε δεν ήταν διδακτορικό για να κάνει για να πάρει το πτυχίο του λοιπόν ε και πήγα πάλι και μάλιστα μετά από κάποιο καιρό μου λέει θέλεις να πας και για κάποιον άλλο φίλο ο οποίος κάνει και αυτός ομοιοπαθητική;*

Ε: *Αχ ωραία.*

Σ: *και πήγα και ωφελήθηκα πάλι και εγώ αλλά δεν το διατηρώ γιατί μου αρέσει πολύ ο καφές και (επιμήκυνση του αι) κάποτε κάπνιζα κιόλα όχι πάρα πολύ αλλά ε καπνίζω από δεκαοκτώ χρονώ όμως όχι καπνίστρια να καπνίζω απλώς να καπνίζω που και που κανένα τσιγαράκι τότε ήτανε και μόδα είχε ξεκινήσει ο το '60 το '63 το '63 τελείωσα το γυμνάσιο το φεμινιστικό κίνημα και μέσα σ'αυτό ήταν και το τσιγάρο (μικρή παύση) δυστυχώς βέβαια γιατί δεν έχει καμία σχέση βέβαια ντάξει μετά καταλάβαμε καλά τι είναι φεμινισμός ότι δεν είναι ε (επιμήκυνση του ε) ισότητα και να θέλουμε εμείς να είμαστε πάνω από τον άντρα ούτε ο άντρας πάνω από εμάς*

Ε: *Ακριβώς.*

Σ: *ισότητα είναι να είμαστε ίσοι*

Ε: *Ακριβώς.*

Σ: *εμείς όμως οι γυναίκες παρεξηγήσαμε μιλάω γενικά τώρα δεν μιλάω για τον εαυτό μου παρεξηγήσαμε και πιστέψαμε επειδή βγήκαμε στην εργασία επειδή σπουδάσαμε επειδή κοινωνικοποιηθήκαμε ότι θα μπορούσαμε να εκμεταλλευτούμε κάπως αυτήν τη (επιμήκυνση του η) δυνατότητα που μας έδωσε η κοινωνία βέβαια*

Ε: *Αυτή την απελευθέρωση.*

Σ: *βέβαια άκουσε να δεις οι φεμινίστριες το πήρανε με το σπαθί τους αλλά να είσαι πραγματική φεμινίστρια φεμινίστρια δεν πάει να πει ότι ξέρεις δεν κάνω μόνη μου τις δουλειές τής κάνω με τον άντρα μου το θέμα είναι να συννεννοείσαι τι μπορεί ο ένας να κάνει και γιατί μπορεί κάτι να μην μπορεί ο ένας να το κάνει ή γιατί δεν το μαθε από τη μαμά του ή γιατί δεν το*

Ε: *Ναι.*

Σ: *δεν είναι του χαρακτήρα του κάποιες δουλειές ή και δικές μου μετά είναι κάποιες δουλειές τις οποίες δεν θέλει ούτε ο ένας να κάνει ούτε ο άλλος έτσι;*

Ε Μχμ

Σ: *κανείς δεν θέλει να σφουγγαρίζει*

Ε: *Ναι.*

Σ: *ούτε να καθαρίζει τζάμια*

Ε: *Ναι, ναι.*

Σ: *ούτε ο άντρας ούτε η γυναίκα ε ναι πως τι θα γίνει πρέπει να τα μοιραζόμαστε αυτά (μικρή παύση) αυτά είναι απλά πράγματα υπάρχουν πολύ πιο σοβαρά πράγματα που πρέπει να μοιραζόμαστε λοιπόν κάποιες γυναίκες ας πούμε εί (παραφασία) ε (επιμήκυνση του ε) το εκμεταλλευτήκανε αυτό και επειδή και οι άντρες θέλουνε να χουνε να χουνε μοντέρνες γυναίκες τις ανέχτηκαν και έκατσε αυτό χάθηκε αυτή η ισορροπία*

Ε: *Έχετε απόλυτο δίκιο.*

Σ: *χάθηκε ο σεβασμός ο ένας στον άλλο*

Ε: *Έχετε απόλυτο δίκιο. Ναι.*

Σ: *λέμε καμιά φορά ότι ο άνδρας δεν σέβεται και μιλάει άσχημα μήπως η γυναίκα σέβεται;*

Ε: *Ναι. Όταν είναι ακραίος ο φεμινισμός*

Σ: *Ναι.*

Ε: *δεν υπάρχει σεβασμός.*

Σ: *Δεν υπάρχει.*

Ε: *Και από την πατριαρχία*

Σ: *Φεμινισμός δεν πα να πει να ναι η γυναίκα πάνω απ'τον αυτόνε είναι ισότητα.*

Ε: *Ακριβώς. Φεμινισμός σημαίνει ισότητα αλλά έχει διαστρεβλωθεί η έννοια.*

Σ: *Έχει διαστρεβλω-*

Ε: *Του όρου.*

Σ: *Υπάρχουν όμως και κάποιοι άνδρες που το εκμεταλλεύτηκαν αυτό. Κατα- (...)*

❖

15.

Σ: *αλλά μία από τις καλύτερες για εμένα προσωπικά είναι*
όταν βρίσκομαι με τα παιδιά μου με τα εγγόνια μου ε
όταν μπορώ να τους προσφέρω ό,τι καλύτερο να τα πάω θάλασσα
να τα πάω παιδότοπο να τα πάω κούνιες ε και (επιμήκυνση του αι)
αυτό είναι μία πλήρη ικανοποίηση επίσης μία ικανοποίηση είναι
επι καθημερινή στην καθημερινότητά μου το ότι σηκώνομαι το πρωί
και βλέπω την ανατολή του ηλίου βλέπω τη φύση γύρω μου το σύμπαν
και νομίζω ότι αυτό είναι ό,τι καλύτερο.

❖

16.

Σ: *και τα λοιπά λοιπόν εγώ (μικρή παύση) είχα πάει σε μια δια- όχι πριν τη Χούντα είχα πάει σε μια συγκέντρωση κάτω στο (Επιμήκυνση του ο) επί ένωση κέντρου τότε ήταν ο Γεώργιος ο Παπανδρέου ο γέρος και είχα τα νέα μια εφημ- και μια ομπρέλα και έβρεχε και όταν πήγα φαντάρος ξέρανε ότι εγώ ήμουνα την τάδε ώρα στο τάδε σημείο με μια ομπρέλα και μια εφημερίδα και ήμουνα στη (επιμήκυνση του η) συγκέντρωση από ρουφιάνους της γειτονιάς μου*

Ε: *ξέρετε ποιος είναι ρουφιάνος τώρα; το Facebook, στο Facebook φαίνονται τα πάντα.*

Σ: *Εγώ ναι εγράφτηκα, έκανα Facebook, από κει και πέρα δεν το χρησιμοποιώ ούτε ούτε μία στιγμή. Τα έχω (επιμήκυνση του ω) το χω αποβάλει από τον οργανισμό μου τελείωσε. Δεν τα θέλω αυτά. Και το Instagram το ίδιο. Τι γίνεται με το Instagram;*

Ε: *Το ίδιο.*

Σ: *Τα ίδια πράγματα. Μακριά απ'αυτά.(μικρή παύση) Παντρεύονται με το (επιμήκυνση του ο) με το Facebook και γνωρίζονται την ώρα που παντρεύονται. (μικρή παύση) Το το διάβασες αυτό;*

Ε: *Δεν το χω διαβάσει.*

Σ: *στην στην στην στο Χόνγκ-Κόνγκ, στη Σιγκαπούρη δεν ξέρω είχε ένα γάμο που γινόταν σε ένα γήπεδο πεντακόσια ζευγάρια και οι περισσότεροι είχανε γνωριστεί μέσω Facebook και γνωριστήκανε εκείνη την ημέρα που παντρευ- παντρευτήκανε εκεί δεν ήρθανε σε επαφή και παντρευτήκανε*

Ε: *Εντάξει, ναι.*

Σ: *Ωραία, ε; και άνοιξε μια σχολή τώρα λέει και για φλερτ γιατί λέει με τα τηλέφωνα κορίτσια και αγόρια δεν ξέρουν τι πάει να πει φλερτ*

Ε: *(γέλια) όντως*

Σ: *όπως εμείς παλιά*

Ε: *Ναι.*

Σ: *Δεν το ξέρουν. Και άνοιξε σχολή φλέρτ*

Ε: *(γέλια)*

Σ: *Το πιστεύεις αυτό;*

Ε: *(γέλια) όχι*

Σ: *πως θα σε κοιτάξω, πως θα σε κρατάω, πως θα σ'αρέσω, πως θα κάνεις εσύ τα μάτια σου*

σχολή φλερτ, είπανε άνοιξε, αυτά παιδί μου, λοιπόν ξεκινάμε, τα υπόλοιπα.

Ε: *Για καμιά άλλη προσωπική στιγμή θέλετε να πείτε;*

Σ: *Τι προσωπική τι προσωπική (γέλια)*

Ε: *από το εργοστάσιο*

Σ: *Το εργοστάσιο είχε πολλή δουλειά*

πέντε ηώρα το πρωί σηκωνόμουνα, ε (επιμήκυνση του ε) πέντεμιση έφευγα, πήγαινα στη θάλασσα έκανα μπάνιο, χειμώνα, καλοκαίρι,

Ε: *Μπράβο.*

Σ: *και από εκεί στο εργοστάσιο, έξι και μισή άνοιγα το εργοστάσιο, από τις εξίμισή μέχρι τις 10, 11, 12, 1 το βράδυ δουλειά*

Ε: *Τη νύχτα;*

Σ: *Και το πρωί πάλι στις πέντε, (μικρή παύση) εντάξει; ε Ήτανε σκληρές εποχές*

αλλά αν δεν κα- δεν παλεύαμε έτσι, δεν γίνοτανε τίποτα. Και τώρα αν πεις σε κάποιον άλλο νεαρό έλα να δουλέψεις τόσες ώρες (...)

Σ: *δωδεκάμιση ετών ήμουνα (επιμήκυνση του α) είχαμε πάει λέει πόναγα στο σκωληκοειδίτη*

Ε: *Ναι, ναι.*

Σ: *λέω μαμά θα πάω για να μαμά είχε τέσσερα παιδιά ακόμα, πέμπτος ήμουνα εγώ που θα πας παιδί μου λέω θα πάω στο γιατρό και πήγα μόνος μου με τα πόδια από την Ηλιούπολη στο Νέο Κόσμο με βλέπει ο γιατρός πρέπει να κάνεις εγχείριση επείγον; επείγον γιατ- μου λέει του λέω γιατρέ πότε εσύ θα μου πεις λέω τη Δευτέρα πότε μπορ- και μου βγάζει Δευτέρα Παρασκευή*

Ε: *πωπω*

Σ: *Δευτέρα να πάω και πάω στη με το χαρτί που είχα απ'το βιβλιάριο πάω στη μητέρα μου λέω μαμά θα πάω τη Δευτέρα για εγχείριση άρχισε τα κλάματα παιδί μου θα πας για αυτό και φεύγω μόνος μου τη Δευτέρα παίρνω το λεωφορείο απ'την (επιμήκυνση του η) Ηλιούπολη πάω στην Ομόνοια, εκεί που ήταν τότε στην Πειραιώς, του Μιχάλη η κλινική, πάω μέσα με βλέπουν οι νοσοκόμες τι θες εσύ παιδί μου εδώ ; Που είναι ο μπαμπάς σου; Λέω έχουν δουλειά. Τι θες εδώ; Ήρθα για εγχείριση.*

Ε: *(γέλια)*

Σ: *Κουφαθήκανε. Τους έδειξα το χαρτί. Τι να πουν. Γέλασαν. (γέλια). Ήρθε και με βρήκε η μητέρα μου την άλλη μέρα, εγχειρισμένο.*

Ε: *Φαντάσου, πωπω είστε και γενναίος άνθρωπος*

Σ: *Αυτοί, αυτοί ήμασταν εμείς οι μικροί τότε, μικρομέγαλοι.*

Ε: *Εγώ σε γιατρούς (...)*

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17.

Σ: *ήρθε ο (επιμήκυνση του ο) κουνιάδος μου (μικρή παύση) τη (επιμήκυνση του η) το '48 ήτανε ; ήρθε ο κουνιάδος μου στη Σύρο ως κλώστης στο Φουστάνη το εργοστάσιο και είχαμε μια κουμπάρα*

Ε: *Μχμ*

Σ: *ε νοσοκόμα εντάντευε τον (επιμήκυνση του ο) νονό του αδελφού μου*

Ε: *Ναι.*

Σ: *και (επιμήκυνση του αι) καθόντανε κοντά μας η συνυφάδα μου τους παρήχανε σοφέρ με το αυτοκίνητο το εργοστάσιο και (επιμήκυνση του αι) μέσω κουμπάρας αυτηνής γνωριστήκαμε*

Ε: *Ααα*

Σ: *και την έφερε σπίτι την ε συνυφάδα μου*

Ε: *μχμ*

Σ: *παιδιά είχανε ένα τότε δεν είχε παιδιά η είχε ζάχαρο όμως τελοσπάντων τρώγανε πολύ*

Ε: *Ναι.*

Σ: *και μας την φέρνει και ο μπαμπάς μου ήταν Σμυρνιός ήτανε πολύ έτσι, έπαιζε ακορντεόν, μάς έβαζε τραγουδούσαμε, πολύ γλεντζές εκεί τον έχω τον καημενούλη μου μετά θα σου δείξω οικογενειακή φωτογραφία*

Ε: *Ναι, ναι, βέβαια.*

Σ: *λοιπόν και κάτι κρατήσαμε να φάει συγκεκριμένα θυμάμαι είχε φασολάδα και γαρί- τα γαρίδες καθαρισμένες*

Ε: *Ναι.*

Σ: *τις πουλούσε σε κουτιά*

Ε: *Α*

Σ: *ναι ελίτσες τέτοια ήταν φαίνεται Τετάρτη γιατί η μαμά μου ήτανε θεοσεβής και (επιμήκυνση του αι) με γνώρισε και πάει στην Αθήνα μια μέρα στον Πειραιά μένανε και λέει στον άντρα μου Θανάση γνώρισα μια κοπελίτσα θα ναι κατάλληλη για σένα πρέπει να την δεις αλλά ο άντρας μου δεν μπορούσε να ρθει εύκολα τότε*

Ε: *(γέλια)*

Σ: *για να ειδωθούμε ήταν απ'την Απελευθέρωση ξέρεις τότε όλα ήτανε μετά το πενήντα και άνω άρχισαν ανοικοδόμηση όλα*

Ε: *Ναι, ναι.*

Σ: *έψαχνε α λοιπόν ε λέει κάποια στιγμή πρέπει να ειδωθούμε και έτυχε η αδελφή μου η μικρή*

Ε: *Ο άντρας σας.*

Σ: *όχι η συνυφάδα μου καλύτερα πρέπει να ειδωθείτε λέει και ήρθε η αδελφή μου να κάνει εγχείριση στις κόγχες Θεός σχωρέστην και λέει τότε ξέρεις ζητούσανε προίκα οι γαμπροί αλλά ο μπαμπάς μου παρόλον που είχε εκατομμύριο στην τράπεζα δεν μπορούσε με τους Ιταλούς εξανεμίστηκαν τα λεφτά γίνανε πληθωρικά μας επιτάξανε το σπίτι καθόντανε εξήντα Ιταλοί γιατί σου λέω ήτανε τεράστιο ε μας πήρανε την βενζινάκατο τότε μια μεγάλη μας πήρανε τα μέχρι το ραδιόφωνο και ως αγγλόφωνο μετά τον πήγαν φυλακή στη Σάμο τέλοσπαντων λοιπόν και λέει η μαμά μου α η Γεωργία να μην έρθει γιατί είδες οι γαμπροί ζητούνε με ζητούσανε πολύ και ξέρουν ότι ο μπαμπάς μου έχει και απαιτούσανε πολλά να πάρουνε ναι και μη στα πολυλογώ λέει η μαμά μου ε η Γεωργία να μην έρθει λέει γιατί να μην κάνουμε κι έξοδα παραπάνω λέει στο μπαμπά μου και να σκεφτείς όταν επειδή ήτανε μεγαλέμπορος όταν τροφοδοτούσε όλη τη Σύρο με τα διάφορα και (επιμήκυνση του αι) μόλις έκανε ε την αρχή να ξεκινήσει το εμπόριο του κάνανε πίστωση οι πολυέμποροι είχε τοποθετήσει λεφτά σε δέρματα μπαλότες δέρματα δέρματα για να επενδύσει και να προλάβει και λεπτά πρόλαβε λίγα λεπτά τα επένδυσε και τα δίνει σε ένα Χρυσαφίδης λεγότανε παπουτσής να του τα φυλάξει και όταν γύρισε και τα ζήτησε του λέει κύριε Τουτούζη μου τα πήρανε οι Ιταλοί τα πήρανε; δεν το ξέρω πρόλαβε έκανε ράβδους χρυσού και (επιμήκυνση του αι) αφού μας επίταξαν το σπίτι πήγαμε σε ένα εξοχικό που είχε τεράστιο στη Σύρο λεγότανε κάτω από το Επισκοπιό κοημός ένα τριώροφο σπίτι ωραίο (γιατι λεγότανε κοημός) δεν ξέρω το γιατί απέραντη είχε ελαιοτριβείο πενηνταπέντε στρέμματα βουνό με ελιές και αν δεν το χαμε αυτό θα χαμε πεθάνει και εντωμεταξύ πρόλαβε και έκανε και ράβδους χρυσού ξέραμε τη αφού στη Σύρο διεδίδετο τώρα τελευταία που είχαμε πάει ένα παραγιό του είδαμε ο οποίος είχε γίνει ξυλέμπορας και λέει του Τουτούζη η κόρη μωρέ έπαιζε λέει με τις λίρες στην τσέπη του πραγματικά τότε είχαμε λίρες και γω γιατί έπαθα ζημιά γιατί ο Μαρκεζίνης υποτίμησε την τη λίρα ναι τελοσπάντων και φεύγω απ'το ένα θέμα και πάω στο άλλο και πάω τώρα τελευταία πήγαμε και είδαμε το κτήμα (μικρή παύση) ρημαδιό ελαιοτριβείο πεταμένο σάπιο πως το λένε σκουριασμένο με είχε αυτό το είδες ξέρεις εμ έκανε μια νεροποντή κάποτε και παρέσυρε ντουβάρι με ελαιό- με λεμονόδεντρα. Τι να σου πω. Πολύ.*

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18.

Σ: *Προσωπική. Τι να σου πω. Εντάξει.*

Ε: *Για πείτε μου.*

Σ: *Προσωπικές στιγμές δε δεν ξέρω τι να σου πω (γέλια). Για κάτσε τώρα να σκεφτώ να σκεφτώ κάποιο που θα μου έχει κάνει εννοείς εντύπωση*

Ε:*Ναι, ακριβώς.*

Σ: *να με κάνει να χαρώ*

Ε: *Ναι ναι ναι*

Σ: *Αυτό που με έχει κάνει να χαρώ τελευταία είναι (επιμήκυνση του αι) του αδελφού μου που έχει πεθάνει η κόρη (μικρή παύση) που είναι έγκυος και θα παντρευτεί και χάρηκα πάρα πάρα πολύ*

Ε: *Ποιος είναι έγκυος;*

Σ: *Η κόρη του*

Ε: *αφού έχει πεθάνει*

Σ: *Μα του αδελφού μου η κόρη*

Ε: *Ο αδελφός έχει πεθάνει*

Σ: *Ναι.*

Ε: *Α, μάλιστα.*

Ε: *πολύ ωραία πολύ ωραία. Ωραία.*

Σ: *Πολύ χάρηκα. Τώρα μου το πε πρόσφατα και χάρηκα πολύ.*

Ε: *Πολύ ωραία.*

Σ: *Αυτά.*

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19.

Σ: *Τη γυναίκα μου την παντρεύτηκα στην Ελλάδα. (παύση)*

Ε: *Α! Πώς έγινε αυτό;*

Σ: *Τι εννοείτε πώς έγινε;*

Ε: *εεεμ εε γνωρίσατε τη γυναίκα σας στην Αμερική.*

Σ: *Στην Αμερική.*

Ε: *Για πείτε μου όλο το περιστατικό πώς εγιν- . Πότε την γνωρίσ- την γνωρίσατε (επιμήκυνση του ε);*

Σ: *Την γνώρισα στην Αμερική και (επιμήκυνση του -αι) οι γονείς της δεν με θέλανε. Και (μικρή επιμήκυνση του αι) αυτοί την στείλανε στην Ελλάδα. (μικρή παύση) Και ήρθα στην Ελλάδα (παύση) και την (μικρή επιμήκυνση του η) έκλεψα και παντρεύτηκα. (παύση)*

Ε: *Καμία άλλη λεπτομέρεια; (γέλια)*

Σ: *Τι λεπτομέρεια; Δεν με θέλανε οι γονείς της. Εντάξει.*

Ε: *Πού τι γνωριστ- πού την γνωρίσατε πρώτη φορά;*

Σ: *Στην Αμερική. Στο σινεμά.*

Ε: *Α! Στο σινεμά. Α! Ωραία. Ωραία. Εντάξει. Οκ.*

▪

Appendix IV - Offline picture-selection task

Auditory stimuli -Ordered sentences per condition

Reflexive condition

1. Εδώ βλέπουμε μια μάγισσα και μια χορεύτρια. Η μάγισσα χτενίζει τον εαυτό της. (warming up sentence)

2.Εδώ βλέπουμε ένα μπαμπά και ένα παππού. Ο μπαμπάς σκουπίζει τον **ε**αυτό του.

3.Εδώ βλέπουμε έναν ελέφαντα κι έναν άντρα. Ο ελέφαντας βρέχει τον εαυτό του.

4. Εδώ βλέπουμε μια νεράιδα και μια πριγκίπισσα. Η νεράιδα σκεπάζει τον εαυτό της.

5. Εδώ βλέπουμε μια γιαγιά και μια χορεύτρια. Η γιαγιά αγκαλιάζει τον εαυτό της.

6. Εδώ βλέπουμε ένα μάγο κι ένα βασιλιά. Ο μάγος ζωγραφίζει τον εαυτό του.

7. Εδώ βλέπουμε ένα κλόουν κι ένα παππού. Ο κλόουν βάφει τον εαυτό του.

8. Εδώ βλέπουμε μια νεράιδα και μια βασίλισσα. Η νεράιδα αγγίζει τον εαυτό της.

9.Εδώ βλέπουμε ένα σκύλο κι ένα ελέφαντα. Ο σκύλος γλύφει τον εαυτό του.

10. Εδώ βλέπουμε ένα βασιλιά κι ένα μάγο. Ο βασιλιάς πλένει τον εαυτό του.

Clitic condition

1. Εδώ βλέπουμε έναν ελέφαντα κι έναν άντρα. Ο ελέφαντας τον βρέχει. (warming up sentence)

2. Εδώ βλέπουμε μια γιαγιά και μια μάγισσα. Η γιαγιά την αγγίζει.

3. Εδώ βλέπουμε μια καμηλοπάρδαλη και μια αγελάδα. Η καμηλοπάρδαλη τη γλύφει.

4. Εδώ βλέπουμε μια μαμά και μια γιαγιά. Η μαμά την πλένει.

5. Εδώ βλέπουμε ένα πρίγκιπα και ένα νάνο. Ο πρίγκιπας τον σκεπάζει.

6. Εδώ βλέπουμε μια πριγκίπισσα και μια μάγισσα. Η πριγκίπισσα τη βάφει.

7. Εδώ βλέπουμε ένα μπαμπά και ένα παππού. Ο μπαμπάς τον σκουπίζει.

8. Εδώ βλέπουμε μια μάγισσα και μια χορεύτρια. Η μάγισσα τη χτενίζει.

9. Εδώ βλέπουμε ένα παππού κι ένα πυροσβέστη. Ο παππούς τον αγκαλιάζει.

10. Εδώ βλέπουμε ένα μάγο κι ένα βασιλιά. Ο μάγος τον ζωγραφίζει.

Pronoun condition

1. Εδώ βλέπουμε μια βασίλισσα και μια μάγισσα. Η βασίλισσα ζωγραφίζει αυτήν.

2. Εδώ βλέπουμε ένα παππού κι ένα πυροσβέστη. Ο παππούς αγκαλιάζει αυτόν.

3. Εδώ βλέπουμε μια μαμά και μια γιαγιά. Η μαμά σκουπίζει αυτήν.

4. Εδώ βλέπουμε μια νεράιδα και μια πριγκίπισσα. Η νεράιδα σκεπάζει αυτήν.

5. Εδώ βλέπουμε μια νεράιδα και μια βασίλισσα. Η νεράιδα αγγίζει αυτήν.

6. Εδώ βλέπουμε μια καμηλοπάρδαλη και μια αγελάδα. Η καμηλοπάρδαλη γλύφει αυτήν.

7. Εδώ βλέπουμε ένα κλόουν κι ένα παππού. Ο κλόουν βάφει αυτόν.

8. Εδώ βλέπουμε ένα νάνο κι ένα πρίγκιπα. Ο νάνος χτενίζει αυτόν.

9. Εδώ βλέπουμε μια μαμά και μια γιαγιά. Η μαμά πλένει αυτήν.

Control condition

1. Εδώ βλέπουμε ένα πρίγκιπα και ένα νάνο. Ο πρίγκιπας σκεπάζει το νάνο.

2. Εδώ βλέπουμε μια πριγκίπισσα και μια μάγισσα. Η πριγκίπισσα βάφει τη μάγισσα.

3. Εδώ βλέπουμε μια μάγισσα και μια χορεύτρια. Η μάγισσα χτενίζει τη χορεύτρια.

4. Εδώ βλέπουμε μια μαμά και μια γιαγιά. Η μαμά πλένει τη γιαγιά.

5. Εδώ βλέπουμε μια νεράιδα και μια βασίλισσα. Η νεράιδα αγγίζει τη βασίλισσα.

6. Εδώ βλέπουμε ένα σκύλο κι ένα ελέφαντα. Ο σκύλος γλύφει τον ελέφαντα.

7. Εδώ βλέπουμε ένα μάγο κι ένα βασιλιά. Ο μάγος ζωγραφίζει το βασιλιά.

8. Εδώ βλέπουμε ένα μπαμπά και ένα παππού. Ο μπαμπάς σκουπίζει τον παππού.

9. Εδώ βλέπουμε ένα παππού κι ένα πυροσβέστη. Ο παππούς αγκαλιάζει τον πυροσβέστη.

Appendix V- Pronoun comprehension task

Warming-up sentences (stimuli)

1. Οι αρουραίοι πλησίασαν τον άντρα. (Ήταν αργά τη νύχτα του Σαββάτου.) Κατευθείαν, ο άντρας **ΤΟΥΣ**/ΤΟΝ/ΑΥΤΟΥΣ σκότωσε.
2. Ο άντρας άγγιξε τον γιατρό. Αμέσως, ο γιατρός έστρεψε σε ΤΟΝ/**ΑΥΤΌΝ**/ΑΥΤΟΥΣ το βλέμμα.
3. Η ποιήτρια συνάντησε την καθηγήτρια. (Ήταν η ώρα της εκδήλωσης.) Στη συνέχεια, η καθηγήτρια **ΤΗΝ**/ΤΙΣ/ΑΥΤΗΝ συμπάθησε.
4. Οι καθαρίστριες είδαν τη διευθύντρια. Αμέσως, η διευθύντρια **ΤΙΣ**/ΑΥΤΗΝ/ΑΥΤΕΣ πλήρωσε.

Main experimental stimuli

1. Οι πωλήτριες έπιασαν την κοπέλα. (Τριγύρω υπήρχαν τρομαγμένοι άνθρωποι.) Στη συνέχεια, η κοπέλα φώναξε σε ΤΙΣ/**ΑΥΤΈΣ**/ΑΥΤΗΝ δυνατά.
2. Ο δάσκαλος μίλησε στους μαθητές για την ποίηση. Οι μαθητές διάβασαν σε ΑΥΤΟΥΣ/ΤΟΝ/**ΑΥΤΟΝ** το ποίημα.
3. Οι ανηψιές αγαπούσαν πολύ την θεία. Σήμερα, η θεία αγόρασε σε ΤΙΣ/ΑΥΤΗΝ/**ΑΥΤΕΣ** δύο κούκλες.
4. Ο γυμναστής έδειξε την μπάλα στους μαθητές. (Ήταν η ώρα του ποδοσφαίρου.) Αμέσως, οι μαθητές ΑΥΤΟΝ/**ΤΟΝ**/ΤΟΥΣ χειροκρότησαν.
5. Ο καπετάνιος κάλεσε τους ναύτες. Την ίδια στιγμή, οι ναύτες ΑΥΤΌΝ/ΤΟΥΣ/**ΤΟΝ** ενημέρωσαν.
6. Οι αθλήτριες λάτρευαν τη γυμνάστρια. Με το πέρασμα των χρόνων, η γυμνάστρια ΑΥΤΕΣ/**ΤΙΣ**/ΤΗΝ εκπαίδευσε.
7. Η δασκάλα ρωτούσε τις μαθήτριες. Όλη την ώρα, οι μαθήτριες ΑΥΤΗΝ/**ΤΗΝ**/ΤΙΣ αγνοούσαν.
8. Η γυμνάστρια μίλησε στις μαθήτριες. (Στην τάξη επικρατούσε πανικός.) Μετά από λίγη ώρα, οι μαθήτριες ΑΥΤΗΝ/**ΤΗΝ**/ΤΙΣ άκουσαν.
9. Ο δάσκαλος μίλησε στους μαθητές για την ποίηση. Οι μαθητές ΑΥΤΟΝ/**ΤΟΝ**/ΤΟΥΣ άκουσαν.
10. Ο γυμναστής έδειξε την μπάλα στους μαθητές. (Ήταν η ώρα του ποδόσφαιρου.) Οι μαθητές έπαιξαν με ΤΟΝ/ΑΥΤΟΥΣ/**ΑΥΤΟΝ** ποδόσφαιρο.

11. Ο μπαμπάς πήγε τους γιους του στον αγώνα. (Το γήπεδο γέμισε κόσμο.) Μετά τον αγώνα, οι γιοι ΑΥΤΟΝ/ΤΟΥΣ/**ΤΟΝ** λάτρεψαν.
12. Οι γυναίκες μίλησαν στη μαθήτρια. (Στην τάξη επικρατούσε πανικός.) Μετά από λίγη ώρα, η μαθήτρια **ΤΙΣ**/ΑΥΤΕΣ/ΤΗΝ άκουσε.
13. Οι γιοι αγαπούσαν τον παππού πάρα πολύ. Όλα αυτά τα χρόνια, ο παππούς ΑΥΤΟΥΣ/ΤΟΝ/**ΤΟΥΣ** φρόντιζε.
14. Οι δασκάλες ρωτούσαν τη μαθήτρια. Συνεχώς, η μαθήτρια απαντούσε σε ΤΙΣ/**ΑΥΤΕΣ**/ΑΥΤΗΝ σωστά.
15. Η ανηψιά αγαπούσε πολύ τις θείες. (Παλιά, πήγαιναν μαζί στο σχολείο.) Σήμερα, οι θείες αγόρασαν σε **ΑΥΤΗΝ**/ΑΥΤΕΣ/ΤΗΝ μία κούκλα.
16. Οι μανάδες πήγαν την κοπέλα στο πάρκο. (Ήταν μια ηλιόλουστη Κυριακή.) Η κοπέλα έδωσε σε **ΑΥΤΈΣ**/ΑΥΤΗΝ/ΤΙΣ ένα φιλί .
17. Οι κοπέλες κάλεσαν τη χορεύτρια. Ύστερα, η χορεύτρια έδειξε σε **ΑΥΤΕΣ**/ΤΙΣ/ΑΥΤΗΝ έναν χορό.
18. Η πωλήτρια έπιασε τις κοπέλες στα πράσα. (Τριγύρω υπήρχαν τρομαγμένοι άνθρωποι.) Στη συνέχεια, οι κοπέλες ΑΥΤΗΝ/**ΤΗΝ**/ΤΙΣ κορόιδεψαν.
19. Ο αθλητής λάτρευε τους προπονητές. Όλα τα χρόνια, οι προπονητές δίδαξαν σε ΤΟΝ/**ΑΥΤΌΝ**/ΑΥΤΟΥΣ το τρέξιμο.
20. Η διευθύντρια φώναξε τις χορεύτριες. Ύστερα, οι χορεύτριες έδειξαν σε ΤΗΝ/ΑΥΤΕΣ/**ΑΥΤΗΝ** ένα χορό.
21. Η μαμά πήγε τις κόρες στο πάρκο. (Ήταν μια ηλιόλουστη Κυριακή.) Στο τέλος της βόλτας, οι κόρες ΤΙΣ/**ΤΗΝ**/ΑΥΤΗΝ φίλησαν.
22. Οι κάτοικοι ζήτησαν χρήματα από τον δήμαρχο. Κατευθείαν, ο δήμαρχος ΑΥΤΟΥΣ/**ΤΟΥΣ**/ΤΟΝ βοήθησε.
23. Οι κάτοικοι τηλεφώνησαν στον δήμαρχο. Κατευθείαν, ο δήμαρχος προσέφερε σε **ΑΥΤΟΥΣ**/ ΑΥΤΟΝ/ΤΟΥΣ βοήθεια.
24. Ο ανηψιός αγαπούσε πολύ τους θείους. (Πήγαιναν μαζί περίπατο στη θάλασσα.) Προχτές, οι θείοι αγόρασαν σε ΑΥΤΟΥΣ/ΤΟΝ/**ΑΥΤΟΝ** ένα καπέλο.
25. Η δασκάλα ρωτούσε τις μαθήτριες. Συνεχώς, οι μαθήτριες απαντούσαν σε **ΑΥΤΗΝ**/ΤΗΝ/ΑΥΤΕΣ σωστά.
26. Οι δασκάλες ρωτούσαν τη μαθήτρια. Όλη την ώρα, η μαθήτρια ΑΥΤΕΣ/**ΤΙΣ**/ΤΗΝ αγνοούσε.

27. Η αθλήτρια λάτρευε τις δασκάλες. Οι δασκάλες δίδαξαν σε ΑΥΤΕΣ/**ΑΥΤΗΝ**/ΤΗΝ το άλμα.
28. Οι ανηψιές αγαπούσαν πολύ τη θεία. Για αυτό, η θεία ΑΥΤΕΣ/**ΤΙΣ**/ΤΗΝ σκεφτόταν.
29. Η διευθύντρια κάλεσε τις χορεύτριες. Μετά το μάθημα, οι χορεύτριες ΑΥΤΗΝ/ΤΙΣ/**ΤΗΝ** αγκάλιασαν.
30. Οι δικαστές φυλάκισαν τον κατηγορούμενο. (Η δίκη δεν κράτησε πολλή ώρα.) Μετά την απόφαση, ο κατηγορούμενος ΑΥΤΟΥΣ/ΤΟΝ/**ΤΟΥΣ** έβρισε.
31. Ο αθλητής λάτρευε τους προπονητές. Όλα αυτά τα χρόνια, οι προπονητές ΑΥΤΟΝ/**ΤΟΝ**/ΤΟΥΣ βοηθούσαν.
32. Οι φοιτητές έστειλαν μήνυμα στον καθηγητή. Αργότερα την ίδια μέρα, ο καθηγητής ΑΥΤΟΥΣ/**ΤΟΥΣ**/ΤΟΝ συνάντησε.
33. Η ανηψιά αγαπούσε πολύ τις θείες. (Παλιά, πήγαιναν μαζί στο σχολείο.) Κάθε μέρα, οι θείες ΑΥΤΗΝ/ΤΙΣ/**ΤΗΝ** φρόντιζαν.
34. Οι γυναίκες μίλησαν στη μαθήτρια. (Στην τάξη επικρατούσε πανικός.) Όμως, η μαθήτρια γέλασε με ΑΥΤΗΝ/**ΑΥΤΈΣ**/ΤΙΣ κοροϊδευτικά.
35. Η πωλήτρια έπιασε τις κοπέλες. (Τριγύρω υπήρχαν τρομαγμένοι άνθρωποι.) Στη συνέχεια, οι κοπέλες φώναξαν σε ΑΥΤΕΣ/ΤΗΝ/**ΑΥΤΗΝ** δυνατά.
36. Η αθλήτρια λάτρευε τις δασκάλες. Στο πέρασμα των χρόνων, οι δασκάλες ΤΙΣ/**ΤΗΝ**/ΑΥΤΗΝ εκπαίδευσαν.
37. Οι πωλήτριες έπιασαν την κοπέλα στα πράσα. (Τριγύρω υπήρχαν τρομαγμένοι άνθρωποι.) Στη συνέχεια, η κοπέλα **ΤΙΣ**/ΤΗΝ/ΑΥΤΕΣ κορόιδεψε.
38. Οι μουσικοί κοιτούσαν τον μαέστρο. Ο μαέστρος χαμογέλασε σε ΤΟΥΣ/**ΑΥΤΟΥΣ**/ΑΥΤΌΝ μετά τη συναυλία.
39. Οι μαθητές έπαιξαν με τον κλόουν στο πάρτυ. (Έκανε πολλά έξυπνα αστεία.) Ο κλόουν χάρισε σε ΑΥΤΟΝ/**ΑΥΤΟΥΣ**/ΤΟΥΣ ένα μπαλόνι.
40. Ο αστυνομικός έπιασε τους κλέφτες. (Το μαγαζί είχε πολύ κόσμο.) Μετά την σύλληψη, οι κλέφτες έδωσαν σε **ΑΥΤΟΝ**/ΤΟΝ/ΑΥΤΟΥΣ τα λεφτά.
41. Ο ανηψιός αγαπούσε πολύ τους θείους. Χτες το βράδυ, οι θείοι ΑΥΤΟΝ/ΤΟΥΣ/**ΤΟΝ** αγκάλιασαν.
42. Ο αστυνομικός έπιασε τους κλέφτες στα πράσα. (Το μαγαζί είχε πολύ κόσμο.) Κατά την σύλληψη, οι κλέφτες ΑΥΤΟΝ/**ΤΟΝ**/ΤΟΥΣ έσπρωξαν.

43. Οι μαθήτριες λάτρευαν τη γυμνάστρια. Η γυμνάστρια δίδαξε σε ΑΥΤΗΝ/ΤΙΣ/**ΑΥΤΕΣ** το άλμα.
44. Οι γείτονες άκουσαν τη γιαγιά προσεκτικά. (Ήταν η μεγαλύτερη σε ηλικία του χωριού.) Η γιαγιά συζήτησε με **ΑΥΤΟΥΣ**/ΑΥΤΟΝ/ΤΟΥΣ το βράδυ.
45. Η γυμνάστρια μίλησε στις μαθήτριες. (Στην τάξη επικρατούσε πανικός.) Όμως, οι μαθήτριες γέλασαν με ΤΗΝ/**ΑΥΤΗΝ**/ΑΥΤΕΣ κοροϊδευτικά.
46. Η μαμά πήγε τις κόρες της στο πάρκο. (Ήταν μια ηλιόλουστη Κυριακή.) Οι κόρες έδωσαν σε **ΑΥΤΗΝ**/ΑΥΤΕΣ/ΤΗΝ ένα φιλί.
47. Οι φοιτητές έστειλαν μήνυμα στον καθηγητή. (Έπρεπε να κανονίσουν συνάντηση.) Ο καθηγητής απάντησε σε ΑΥΤΟΝ/**ΑΥΤΟΥΣ**/ΤΟΥΣ την ίδια μέρα.
48. Οι μουσικοί κοιτούσαν τον μαέστρο στη συναυλία. Μετά τη συναυλία, ο μαέστρος ΑΥΤΟΥΣ/ΤΟΝ/**ΤΟΥΣ** φίλησε.
49. Οι δικαστές φυλάκισαν τον κατηγορούμενο. (Η δίκη δεν κράτησε πολλή ώρα.) Ο κατηγορούμενος φώναξε σε ΤΟΥΣ/ΑΥΤΟΝ/**ΑΥΤΟΥΣ** μετά την απόφαση.
50. Οι μαθητές γέλασαν με τον κλόουν στο πάρτυ. (Έκανε πολλά έξυπνα αστεία.) Στο τέλος του πάρτυ, ο κλόουν ΑΥΤΟΥΣ/ΤΟΝ/**ΤΟΥΣ** αγκάλιασε.
51. Οι κοπέλες κάλεσαν τη χορεύτρια. Μετά το μάθημα, η χορεύτρια ΑΥΤΕΣ/ΤΗΝ/**ΤΙΣ** αγκάλιασε.
52. Ο μπαμπάς πήγε τους γιους του στον αγώνα. (Το γήπεδο γέμισε κόσμο.) Οι γιοι χάρισαν σε **ΑΥΤΟΝ**/ΑΥΤΟΥΣ/ΤΟΝ ένα δώρο.
53. Οι γείτονες άκουσαν τη γιαγιά προσεκτικά. (Ήταν η μεγαλύτερη σε ηλικία του χωριού.) Το βράδυ, η γιαγιά ΑΥΤΟΥΣ/**ΤΟΥΣ**/ΤΟΝ είπε μια ιστορία.
54. Οι μανάδες πήγαν την κόρη στο πάρκο. (Ήταν μια ηλιόλουστη Κυριακή.) Στο τέλος της βόλτας, η κόρη **ΤΙΣ**/ΤΗΝ/ΑΥΤΕΣ φίλησε.
55. Οι γιοι αγαπούσαν τον παππού πολύ. Όλα αυτά τα χρόνια, ο παππούς αγόρασε σε ΤΟΥΣ/ΑΥΤΟΝ/**ΑΥΤΟΥΣ** παιχνίδια.
56. Ο καπετάνιος κάλεσε τους ναύτες. Αργότερα, οι ναύτες πήραν από **ΑΥΤΟΝ**/ΑΥΤΟΥΣ/ΤΟΝ την πυξίδα.

Appendix VI- PhD's thesis contrastive correlational results

NAMING- AD group	**Corpora**		**Picture-selection task**		**Pronoun comprehension task**
	r F p		r F p		r F p
Pronoun-to noun ratio	**-.67** 14.3 .001	**Reflexives**	.33 2.20 .15	**Overall performance in PCT**	**.58** 8.65 .009
Interrogative pronouns-to-total pronouns ratio	-.40 3.3 .08	**Strong Personal Pronouns**	.30 1.73 .20	**Short condition**	**.45** 4.54 .04
Cookie-theft (AD group)	r F p	**Clitics**	**.57** 8.5 .009	**Long condition**	.**57** 8.5 .009
Pronoun rate	-.33 . 2.16 .15	----------	---------	**Singular number**	**.58** 8.9 .008
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INHIBITORY CONTROL-AD group	**Corpora**		**Picture-selection task**		**Pronoun Comprehension Task**
Correlations	r F p	Correlations	r F p	Correlations	r F p
Pronoun-to noun ratio	.14 .37 .5	Reflexives	-0.13 0.31 .57	Overall performance in PCT	-.09 0.15 .70
Interrogative pronouns-to-total pronouns ratio	-.07 .08 .7	Strong Personal Pronouns	.14 0.36 .55	Short condition	-.16 0.47 .49
Cookie-theft (AD group)	r F p	Clitics	.01 0.004 .94	Long condition	-.01 0.004 .94
Pronoun rate	.36 2.6 .12	----------	----------	Singular number	-.02 0.01 .9
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WORKING MEMORY- AD group	**Corpora**		**Picture-selection task**		**Pronoun comprehension task**
Correlations	r F p	Correlations	r F p	Correlations	r F p
Pronoun-to noun ratio	-.26 1.3 .2	Reflexives	**.50** 5.86 .02	Overall performance in PCT	**.70** 17.12 .0006
Interrogative pronouns-to-total pronouns ratio	-.05 .04 .8	Strong Personal Pronouns	.28 1.47 .24	Short condition	**.65** 12.98 .002
Cookie-theft (AD group)	r F p	Clitics	.38 2.93 .10	Long condition	**.63** 11.69 .003
Pronoun rate	-.001 .005 .9	----------	----------	Singular number	**.63** .11.32 .003
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Semantic Fluency AD group	**Corpora**		**Picture-selection task**		**Pronoun Comprehension task**
Correlations	r F p	Correlations	r F p	Correlations	r F p
Pronoun-to noun ratio	-.39 3.08 .09	Reflexives	.35 2.5 .13	Overall performance in PCT	.42 3.84 .06
Interrogative pronouns-to-total pronouns ratio	-.23 .96 .33	Strong Personal Pronouns	**.50** 5.84 .02	Short condition	**.44** 4.31 .05
Cookie-theft (AD group)	r F p	Clitics	**.52** 6.59 .01	Long condition	.33 2.18 .15
Pronoun rate	.12 .2 .6	----------	----------	Singular number	**.47** 4.98 .003
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Appendix VII

Kinds of Pronouns elicited in corpora	Examples
Possessive Pronouns	τους, της, μου, του, μας
Indefinite Pronouns	ένας, άλλος, άλλη, άλλο, άλλα, άλλες, άλλοι, ένα, κάτι, τίποτα, ενός, καμία, κανένα(ς), κάποιες, καθένας, κάποιος, κάτι, αρκετό, κάθε, κάποια, μια, άλλου
Interrogative Pronouns	τι, ποιο, ποια, ποιος
Personal Pronouns	σου, της, την, τη, τα, το, του, σας, εγώ, γω, μένα, εσείς, μου, με, τονε, σε, σένα, εμάς, εμείς, μας, εσύ, τους
Relative Pronouns	που, οποίος, οποία, οποίο(ν), οποίους
Relative Indefinite Pronouns	ό,τι, όποια
Demonstrative Pronouns	αυτός, αυτή, αυτό(νε), αυτοί, αυτές, ετούτο(ς), αυτά, τόσα, εκείνη, ετούτα, αυτηνής, αυτοί, αυτουνού, τέτοιο, τόση, αυτουνούς