

The Acquisition of Negation in Najdi Arabic

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ABSTRACT

This investigation follows the development of negation of a Najdi speaking child.

Previous negation studies have treated negation as one unit (NEG) regardless of its form in the adult language (*no* and *not*). This investigation provides a syntactic account of negation in Najdi in light of previous Arabic studies (Benmamoun 2000). It is argued in this study that verbal and non-verbal negation is captured by the same syntactic analysis. Both the affirmative and negative sentences of an adult and a child were evaluated and negation markers in verbal (*la* and *ma*) and non-verbal (*muhub*) sentences were examined. The data is analyzed by examining six contexts of negation: discourse, imperative, existential, declarative interrogative and non-verbal predicate negation. Qualitative and quantitative methods were applied to assess the development of negation in Najdi.

The results of the study have significant implications for the Continuity Hypothesis (Pinker 1984). The Continuity Hypothesis proposes that children and adults share the same types of grammatical elements and rules. Results of the study show that the subject made clear distinctions between verbal and non-verbal negation markers. The data also show that Najdi children demonstrate the linguistic ability to correctly produce negation in six different contexts. The results of the study support a discontinuous approach to language acquisition for the non-verbal (*muhub*) negation sentences. At the same, the results support continuity in the discourse and imperative contexts (*la*). Only partial support for continuity is shown for *ma* production in declarative, existential and interrogative contexts.

In addition, this research took into consideration whether the input frequency has an effect on the child's productions. This study shows that input is not the driving factor for the

early production of negative markers as usage based studies suggest (Cameron-Faulkner, Lieven, & Theakston 2007).

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DEDICATION

To my mother Aljawhara for her immeasurable love and prayers, to my father Abdullah for his unbroken support, to my wife Ghada for her unconditional dedication and sacrifices and to the apples of my eyes Badr and Jenna who's without my life would be dull.

TABLE OF CONTENTS

ABSTRACT.....	iii
ACKNOWLEDGMENT.....	v
DEDICATION.....	vii
TABLE OF CONTENTS.....	viii
LIST OF TABLES.....	xii
LIST OF FIGURES	xiii
CHAPTER ONE: INTRODUCTION.....	1
1.1 Research questions	10
1.2 Organization of the Dissertation	12
CHAPTER TWO: THE ACAQUISITION OF NEGATION IN ENGLISH AND OTHER LANGUAGES	14
2.1 English Language: Formal studies.....	14
2.1.1 Klima & Bellugi (1966)	14
2.1.2 Deprez & Pierce (1993).....	18
2.1.3 Batem & Grau (1995).....	20
2.1.4 Drozd (2002)	23
2.2 English Language: Functional studies	27
2.2.1 Bloom (1970)	27
2.2.2 Choi (1988)	29

2.2.3	Cameron-Faulkner, Lieven, & Theakston (2007)	30
2.3	Other Languages	32
2.3.1	Wode (1977).....	33
2.3.2	Meisel (1997)	36
2.3.3	Park (1979).....	36
2.3.4	Plunkett & Strömquist (1990)	37
2.4	Arabic.....	38
2.4.1	Omar (1973)	38
2.4.2	Smadi (1979).....	40
2.4.3	Al-Buainain (2003)	43
2.5	Conclusion	47
	CHAPTER THREE: THE GRAMMAR OF NEGATION IN NAJDI ARABIC	49
3.1	Negation strategies in Arabic	50
3.1.1	Verbal predicate negation.....	51
3.1.1.1	The morpheme /la/.....	51
3.1.1.2	The morpheme /ma/	53
3.1.2	Non-verbal predicate negation	54
3.1.3	Term Negation.....	57
3.2	The Syntax of Sentential Negation in Arabic dialects	58
3.3	Najdi Arabic.....	66

3.3.1	Anaphoric negation	66
3.3.2	Verbal negation	67
3.3.2.1	/la/	67
3.3.2.2	/ma/	69
3.3.2.3	Contrasting ma and la	72
3.3.3	Non-verbal predicate negation	74
3.3.3.1	/muhub/	74
3.4	The Syntax of Sentential Negation in Najdi	76
3.4.1	Negation in Najdi	76
3.4.2	Modals	78
3.4.3	Negative Connotation Lexicon.....	80
3.5	Summary and Conclusion	82
CHAPTER FOUR: METHODOLOGY		84
4.1	Setting	84
4.2	Project description	84
4.3	Recordings	85
4.4	Equipment	88
4.5	Transcription	89
4.6	Analyses	92
CHAPTER FIVE: RESULTS		95

5.1	Adult Utterances	95
5.1.1	Contexts of Affirmative Production	95
5.1.2	Contexts of Negative Production	97
5.2	Child Utterances.....	102
5.2.1	Contexts of Affirmative Utterances	102
5.2.2	Contexts of Negation.....	104
5.3	Adult to Child Utterances	106
5.3.1	Adult Affirmative Utterances to Child Affirmative.....	107
5.3.2	Adult Affirmative Utterances to Child Negative Utterances	108
5.3.3	Adult Negative Utterances to Child Negative Utterances.....	111
5.4	Addressing expectations	114
	CHAPTER SIX: DISCUSSION	116
6.1	Productions of <i>la</i> in discourse and imperative contexts.....	123
6.2	Productions of <i>ma</i> in existential, declarative and interrogative contexts.....	125
6.3	Productions of <i>muhub</i> in Non-verbal Predicate Negation	131
6.4	Negative Incorrect Substitutions.....	134
6.5	Analysis of non-verbal predicate negation as verbal predicate negation.....	138
	CHPTER SEVEN: CONCLUSION	145
	BIBLIOGRAPHY	154
	APPENDICES	159

LIST OF TABLES

Table 1. Particles of Negation (Brustad: 2000:282)	51
Table 2. The distribution of verbal and non-verbal negation among Arabic languages.....	57
Table 3. Comparison of <i>la</i> and <i>ma</i> in Najdi	73
Table 4. Non-verbal negation in Najdi	74
Table 5. Modals in Najdi	78
Table 6. Sample of filing of data	87
Table 7. Distribution of Adult Affirmative Sentences.....	96
Table 8. Distribution of Adult Negative Utterances	98
Table 9. Affirmative Contexts Distribution of Child Sentences.....	102
Table 10. Negative Contexts Distribution of Child Sentences	104
Table 11. Adult and Child Total Affirmative Utterances	107
Table 12. Adult and Child Total Negative Utterances.....	112
Table 13. Percentages of Correct and Incorrect Negative Utterances	122
Table 14. Distribution of Correct and Incorrect negative utterances of <i>la</i>	123
Table 15. Distribution of Correct and Incorrect negative utterances of <i>ma</i> in existential	126
Table 16. Distribution of Correct and Incorrect negative utterances of <i>ma</i> in declarative	128
Table 17. Distribution of Correct and Incorrect negative utterances of <i>ma</i> in interrogative	130
Table 18. Distribution of Correct and Incorrect negative utterances of <i>mu</i> in Non-Verbal	132
Table 19. Percent Correct in Obligatory Contexts.....	133
Table 20. Negative Incorrect Substitutions types	135
Table 21. Modals in Badr's production	141
Table 22. Modals to <i>mu</i> ratio in Badr's production	144

LIST OF FIGURES

Figure 1. Voice Editing program Ver. A.05A Premium Edition (Panasonic Inc.)	88
Figure 2 . ELAN Linguistic Annotator	90
Figure 3 . Qancordance output.....	93
Figure 4 . Transcription and resulting analysis.....	94
Figure 5. Percentage of Affirmative Contexts in the Adult sentences.....	97
Figure 6 . Percentage of Negative Contexts in the Adult sentences	99
Figure 7 . Percentage of Child Utterances in Affirmative Contexts Across all age periods.....	103
Figure 8. Number of Child Utterances in Negative Contexts across 3 age periods.....	105
Figure 9. Percentage of Affirmative Contexts in the Adult sentences.....	117
Figure 10. Percentage of Negative Contexts in the Adult sentences	119
Figure 11. Percent Correct in Obligatory Contexts	134

CHAPTER ONE: INTRODUCTION

Driven by an interest in shedding light on language acquisition, this study opens a unique window to understanding child language acquisition in Najdi Arabic. Unlike better researched languages, Arabic is rarely discussed in the acquisition literature. The data collected in this project is more significant to researchers because it analyzes naturally occurring utterances of a Najdi Arabic speaking child. One goal of this project is to provide a database for research on language acquisition in Najdi Arabic. More generally, this project provides a detailed picture of spontaneous speech patterns for child and adult Najdi Arabic.

It has become almost universally acknowledged that children possess an innate capacity for grammar that enables them to grow into the fully functional grammars of adults. The Universal Grammar concept is the starting point of two main schools of thought that are interested in the acquisition of language. One group claims that adults and children have access to the same set of grammatical features and constraints. In this sense, children's grammar is continuous with the adult grammar. The Continuity Hypothesis (CH) divides researchers of language acquisition into two groups. The notion that children and adults share the same pool of grammatical rules has been the subject of many debates (Borer & Wexler, 1987; Cameron-Faulkner et al., 2007; Deprez & Pierce, 1993; Drozd, 2002; Hyams, 1987, 1996, 2011; i Batet & i Grau, 1995; Pinker, 1984). The continuity argument could be summarized in Pinker's (1984) interpretation that the child and adult languages share the same linguistic components.

Pinker justified the continuity assumption by arguing that the most parsimonious theory requires the fewest developmental changes. He cited Macnamara (1982) who argued that the cognitive mechanisms of children and adults are identical. Pinker viewed continuity as an

additional constraint on models of children's language. Pinker further assumed that continuity applies to the grammatical mechanisms as well as the cognitive mechanisms of children. He claimed that "in the absence of compelling evidence to the contrary, the child's grammatical rules should be drawn from the same basic rule types, and be composed of primitive symbols from the same class, as the grammatical rules attributed to adults in standard linguistic investigation" (Pinker 7:1984). Pinker argued that continuity is realized in child language in three forms: qualitative abilities, in the formal nature of the child grammar and in the realization of these rules in comprehension and production.

Pinker (1984) applied the continuity assumption to the asymmetry between subjects and objects noted in the utterances of English speaking children. Subject constructions in early word combinations tend to be bare nouns (N_{SUBJ}) while object constructions surface in more expanded noun phrases (NP_{OBJ}) (Bloom 1970). Pinker stressed that the input is not the driving force for this asymmetry because the adult language does not supply substantial processing variables. Pinker listed what he called "factors extrinsic to the grammar" as justifications to the Subject-Object asymmetry. To account for this treatment of NPs in the child language, Pinker postulated that children produce full noun phrases according to what their grammar requires. He adds that no adult grammar rule could support a child production of maximal and submaximal phrases in one external position. Pinker (1984) suggested that one of the external reasons for the children's asymmetry is the cognitive processing ability between the initial subject NP and end of sentence object NP. He cited various researchers (Bever, 1970; Fodor, Bever, Garrett, & others, 1974; Pinker & Birdsong, 1979; Slobin, 1978) to support the proposal that children display a greater ability to produce more complex phrases at the sentences' final position than at the beginning of the sentence. He used this evidence to claim that children and adults tend to produce shorter

subjects in subject initial languages like English. Pragmatic reasons were mentioned briefly in Pinker's arguments. However, Pinker did not detail how the "pragmatic" component produces these specific effects. Pinker also failed to highlight an example he borrowed from Brown's (1970) Adam's Stage I and early Stage II production in relation to his argument of a modified N sequence with the form Neg + N. The importance of this example lies in the interaction of negation and noun categories in English. Here negation is the only functional category that is produced in the list of complex subjects yet no further explanation is offered.

Pinker examined whether the children's grammar is represented syntactically or semantically. He first highlights that illocutionary forces or word meanings are not related to the usage of syntactic categories. He also criticizes Bloom's (1970) interpretation of the complex noun phrase. He added that noun combinations in the child and adult languages should only be regarded as ambiguous and not be subjected to two different interpretations as possession and agent-patient relation. Pinker argued that the syntactic ability of children to produce meaning or vice versa means that their grammar is rooted in a parser that uses syntactic rules. He suggested that the majority of previous early language research depended on a limited language sample which led to ambiguous gaps in the data. He added that arguments against phrase structure rules are unreliable due to data ambiguity (Pinker 1984). He asserted that child data corpora are not a reliable source of evidence to justify phrase structure grammar. He claimed that evidence for the use of semantic categories and relations must account for the child's recognition of universal categories and relations. He stressed that only systematic experimental evidence on the child language can provide precise indications for the location of difficulties in language acquisition.

Pinker criticized Lois Bloom's (1970) analysis of phrasal deletion as an example of imprecise analysis. He presented four arguments against an analysis of deletion in the child

language grammar. First, a comprehensive deletion rule must account for other deletions in the data which is not the case (Bloom, 1970). Second, the deletion approach is considered a violation of the “recoverability of deletion” constraint on transformations which requires an identity between the antecedent and the deleted target. Third, given the fact that adults produce full sentences, there is a certain ambiguity between the learning mechanism and the input that guided the learner to the deletion rule. Fourth, Pinker raised a continuity concern about learnability. He wondered how children would continue to the adult grammar with the deletion rule. In other words, if they learn to delete certain phrases how would they unlearn this rule and master the adult language? He claimed that in order for the child to progress, a sort of negative evidence would be required. He claimed that children are not biased towards a certain constituent. In various sentences children delete different constituents. He further argued that if optionality is a valid assumption, children should occasionally produce a complete adult sentence that would include the whole string of agent-action-dative-object-locative. On the other hand Pinker gave credit to Bloom for assuming that children display knowledge of entire strings of argument relations (subject-verb, verb-object and subject-object). He also supported the notion of the presence of a force that functions similarly to the deletion rule which prevents young learners from producing full adult like sentences. Pinker argued that Bloom was forced to suggest a deletion rule because in the grammar model she adopted (Standard Theory and Case Grammar) an identity mapping between the underlying representation and the surface structure is required to assign grammatical relations. Pinker asserted that a rule such as deletion is counterintuitive to the transformational grammar approach because it adds to the set of operations a child must process as the child attempts to speak.

One problem is raised for the continuity assumption when children produce sentences that do not conform to the adult grammar, for example *dog big*. Pinker accounts for such sentences by means of the non-adult mechanism of orphan nodes. An orphan node allows the child grammar to attach a node in a non-adult fashion. In the example, the predicate adjective *big* is temporarily attached directly to the subject NP *dog* rather than through a verb phrase. Pinker assumes that once children observe the overt copula in English they will re-attach predicate adjectives as complements to the verb phrase.

This example violates the continuity assumption in three ways. The first contradiction lies in the fact that continuity assumes that children have access to the rules of the adult grammar. In the adult sentence the adjective phrase is attached to the verb phrase. However, children display a lack of production of the copula which leaves the adjective phrase unattached. The second contradiction lies in the assumption that the child is treating *big* as a verb phrase rather than as an adjective phrase. The third contradiction lies in the assumption that the child's sentence assigns *big* to the verb category. It violates continuity in the sense that the child's verb category is different from the adult category. The continuity assumption could be preserved by assuming that the child grammar is the same as the grammar of another language, e.g. Najdi. This parametric approach violates Occam's Razor in the sense that children would be free use rules from any one of 7000 other languages.

Another significant point in favor of the discontinuous language approach is the misuse of negation types in child language. Researchers such as Bellugi (1967), Bloom (1970) and Klima & Bellugi (1966) all demonstrated a non-adult representation of negation in monolingual utterances of English speaking children. For example Klima & Bellugi (1966) asserted that early speakers of English place negation external to the sentence as demonstrated by their phrase

structure rules [$\{\text{no}, \text{not}\} - \text{Nucleus}$]_s or [$\text{Nucleus} - \text{no}$]_s. As well established, adult English places negation between Infl and VP i.e. sentence internally (Deprez & Pierce 1993, Pollock 1989 and Zanuttini 1990). Children acquiring English exhibit a generalization of anaphoric negation *no* in place of predicate negation *not*. English learning children start by producing *no* almost exclusively at the two word stage. This can be observed by examining data on language acquisition from Brian's speech reported by Cameron-Faulkner, Lieven, & Theakston (2007). At the age of 2;3, Brian produced 97% of 121 negator tokens as *no* and only four tokens (3%) as *not*. Examples of the misuse of *no* for *not* include *No move*, *No drop it* and *No reach* which correspond to the adult forms *Don't move*, *Don't drop it* and *I can not reach it* respectively in the adult language (Cameron-Faulkner et al., 2007). Similar utterances can be found in Bloom's et al. (1975) language samples. Bloom reported that Eric, Gia and Kathryn produced a total of 52 negative words; 37 *no* and 16 *not*. When examining the *no* productions of Bloom's children it was found that 17 (45%) were misuses of *no* for *not*. Children between the age of 1;7 - 2;2 demonstrated the inability to correctly use the predicate negation form *not*. This evidence casts serious doubts over the claims for continuity between the child and adult grammars.

In support of continuity, Deprez & Pierce (1993) argued, using data from English, French, German and Swedish, that utterances with external negation provide powerful evidence to support the VP-internal subject hypothesis. Deprez & Pierce (1993) assumed that negation is placed sentence-internally. Their assumption gives strong support to the continuity approach to the acquisition of language.

In support of continuity Félix-Brasdefer (2014) argued that the functional categories of tense, complementizer, agreement and negation are available as early as 1;7 years. Félix-Brasdefer investigated the utterances of three monolingual early learners of Spanish. He showed that

Spanish children produced agreement features for person and number as suffixes on verbs, e.g. *como pan* ‘I eat bread’ (1;9). Tense inflection was also observed in the data yielding evidence of tense phrase accessibility in the children’s grammar. Félix-Brasdefer reported that all 185 tokens (23%) of negation were correctly placed to the left of the verb as in adult Spanish (1).

- (1) *no sta e nino* (Koki 1;7 from Félix-Brasdefer 2014:19)
not is-3SG.PRESENT the boy
'the boy is not here'

Early learners of Spanish also demonstrated the ability to satisfy the Wh-criterion. Basing his argument on the Minimalist Program, CP and wh-movement (Chomsky 1995 and Rizzi 1991), Félix-Brasdefer (2014) adopted the assumption that children were able to move the Wh word to Spec CP and perform subject-verb inversion or I-to-C movement where the verb moves to C. Wh-questions formed 9% (76) of all utterances (2).

- (2) *One ta e apicito?* (Koki 1;11 from Félix-Brasdefer 2014:21)
Where is-3SG PRESENT the little pencil?
'where is the little pencil?'

Continuity advocates also introduced the notion that parameter theory gives a precise sense to a unified language of adults and children. Hyams (2011) reconciled parameter setting with continuity as the first being an ideal account for insufficient input. In respect to the Pro-drop parameter, Hyams postulated that all children start their language setting with ‘Italian’ as one of many options available to them by UG. As their experiences expand they adjust specific parameters to fit the adult grammar (Hyams 2011).

One study of negation that argued in support of continuity in child language is Drozd (2002). He supported continuity by proposing a new analysis of negation in child English. Previous research (Bloom, 1970; Deprez & Pierce, 1993; Klima & Bellugi, 1966) claimed that

children acquiring negation in English initially place the general negation marker *no* at the left and right margins of sentences. This analysis treated *no* as a member of a single Neg category, along with *not* and *don't*. Drozd postulated that *no* constructions in English are members of the determiner category as in *no flour in there*. He supported his claim presenting arguments from distributional evidence, morphosyntactic arguments, child elliptical evidence and statistical comparisons between the adult and child *no* constructions.

Drozd contributed a new analysis of *no* use as a determiner. He hypothesized that previous work on child acquisition of negation in English (over 30 years of research) had misanalysed children's *no* constructions. It is worth stating here that while previous work addressed various types of negation i.e. *no*, *not*, *don't*, *haven't* and others, Drozd only analyzed *no* constructions. Drozd even compared his work on *no* to previous work despite the lack of attention to the other forms of negation.

Drozd (2002) explained that if *no* exhibits the distributional properties of determiners then the children's use of *no* would be continuous with the adult grammar. Drozd listed the situations that determiners would and would not appear in English (2002:89). He claimed that determiners must precede a Common Noun or a CN phrase, and an adjectival phrase preceding a CN or a CN phrase. Determiners do not occur with other determiners and pronominals, and they do not appear as an independent constituent. He compared these contexts of use to the contexts in which children produce *no*. It is important to highlight here the fact that determiners do not precede verbs in English. Drozd labels child productions of *no* + V as "independent etiologies" and accounts for them outside of the distributional analysis he proposed for determiners. Drozd extracted the determiner grammar in English by the set of rules stated above. Along the lines of his argument, he failed to account for a violation to one of these rules. This violation is

manifested in the example *no a flag* (Drozd 2002:88). For Drozd's continuity argument to hold, *no* should not appear before another determiner in the children's utterances. This significant example challenges Drozd's distribution argument at its core and casts doubt over Drozd's argument for continuity.

Drozd (2002) argued for DP *no* constructions by using discourse ellipsis. By adopting Klein's (1993) and Quirk et al.'s (1985) classes of elliptical expressions, he postulated that English adult and children optionally delete parts of an utterance in their responses. Drozd acknowledges that the continuity assumption is the most suitable theory of language acquisition that bridges the gap between the child language and the adult grammar. By suggesting the DP analysis of *no* he aligned the children's language with the adult grammar.

Most studies that investigated negation in child language failed to distinguish between the contexts of use for *no* and *not*. The form *no* is used for discourse negation, also known as elliptical negation, and often occurs in response to questions like: *did you pick up the groceries?* *No*. The form *no* is also used for term negation, also known as DP negation, and is used to negate phrases that are not predicates, e.g. *There is no sugar on the table*. The form *not* is only used to negate predicates such as: *There is not any sugar on the table*.

Bloom 1970, Bloom et al. 1975, Klima & Bellugi 1966, and Félix-Brasdefer 2014 do not distinguish between the contexts of use for discourse negation and predicate negation. For instance, without providing any justification, Klima & Bellugi (1966) did not distinguish between the different types of negation available in the adult language. This can be inferred from the proposed grammar rule of children in Period 1 from their rule [$\{no, not\}$ – Nucleus]_s. As a

result these representations should manifest into differences in the language of children and adults, and consequently have varying impacts on children's first utterances.

Plunkett & Strömqvist (1990) investigated -among several language aspects- discourse, predicate and term negation in a set of three Scandinavian languages. They analyzed children's utterances in Danish, Norwegian and Swedish. For discourse negation the children used *nej*, *nei* and *na/nej* for Danish, Norwegian and Swedish respectively. The element *ikke* (Danish and Norwegian) and *inte* (Swedish) is used to negate predicates. Plunkett & Strömqvist's (1990) main focus is to classify negation under the interpretations of four semantic modalities: alethic, epistemic, deontic and boulemaic. However, they observed that Danish children produced discourse negation and showed mastery by the end of the second year. The children produced predicate negation infrequently and it did not surface until the end of the children's second year.

1.1 Research questions

The investigation of negation in a language like Najdi provides a unique opportunity to test the continuity hypothesis. This research demonstrates how continuity would apply to the acquisition of a language with a grammar of negation that is distinct from that of English. While English has distinct forms for discourse and predicate negation, Najdi extends its discourse form of negation (*la*) to imperative sentences. While English has a form of term negation, term negation is not possible in Najdi. Finally, English only has one form of predicate negation, while Najdi negation distinguishes between verbal and nonverbal predicates. The structural differences between negation in Najdi and English motivate this acquisition study.

This dissertation investigates the following research questions related to the acquisition of negation in Najdi:

1) What is the effect of the input frequency on children's negation production?

Addressing this question will demonstrate whether the input frequency accounts for the forms of negation that children acquire early in Najdi. This investigation has implications for research that found input effects on the acquisition of negation in English (Cameron-Faulkner et al., 2007).

2) Do children acquiring Najdi extend anaphoric negation markers to verbal and nonverbal predicates in a way that is similar to children acquiring English? Addressing this question provides an opportunity to assess children's ability to distinguish different types of negation. Moreover, it addresses the acquisition of negation in English research. As will be demonstrated along the lines of this research, English children incorrectly extend the anaphoric negation to predicate negation. Uncovering how Najdi children perform may provide additional insight to how to view the acquisition of negation in English.

3) When do children distinguish between verbal and non-verbal predicate negation in Najdi? In a language that uses distinct negation markers for verbal and non-verbal negation, it is interesting to investigate if children's performance is equal for these two negation forms. The negation marker for verbal predicates does not inflect for person, whereas the negation marker for nonverbal predicates does inflect for person. Comparing the acquisition of verbal and non-verbal negation in Najdi will determine whether the complexity of negation marking effects the acquisition of negation.

4) What are the implications of the Najdi acquisition data for the Continuity Hypothesis? Najdi children who display an adult grammar of negation should distinguish between the appropriate contexts of use for the Najdi forms of negation. Another possibility would be that

childrenl acquiring Najdi initially adopt an English grammar of negation and extend the discourse form of negation to contexts of predicate negation. A third possibility is that children acquiring Najdi adopt a nonadult grammar of negation. Addressing this question will demonstrate the ability of the CH to capture the acquisition of languages other than English. It may also encourage researchers to investigate less studied languages to account for theories in the field.

1.2 Organization of the Dissertation

The dissertation is divided into seven chapters as follows. Chapter one presents the Continuity Hypothesis and highlights the place of negation in the debate on the continuity hypothesis. The chapter also presents some limitations of previous research on the acquisition of negation in English.

Chapter two reviews the literature on the acquisition of negation in various languages. The English language acquisition literature is presented in two groups: studies that investigated the form of negation and studies that examined the function of negation in English. The results of all groups were measured against the predictions of Continuity. The chapter also reviews the acquisition of negation in various languages. Research on French, German, Danish, Norwegian and Swedish is introduced to place the research on English and Arabic in perspective. Finally, studies that examined the acquisition of negation in Egyptian, Jordanian and Qatari Arabic are presented.

Chapter three presents the grammar of negation in Najdi Arabic. This chapter discusses the syntactic distribution of negation in Najdi and presents arguments for the availability and

position of a negation node in Najdi. It also compares how negation is observed in other Arabic dialects and how it is different than Najdi.

Chapter four presents the methodology and strategies used to collect the data for this dissertation. It demonstrates the data collection methods, transcription tools, equipment and analysis programs that were developed for this project.

Chapter five reports the results of the analysis. Adult production data in the affirmative and negative contexts were compared to child's production in the affirmative and negative to evaluate the effect of the input on the child's production.

Chapter six demonstrates how the results test the continuity assumption by following the same line of data reporting earlier in the chapter. It takes every comparison made and evaluates how the theory of continuity accounts for the data.

Chapter seven reviews the implications of the findings of this study for the research questions. Cameron-Faulkner et al.'s (2007) usage based study is analyzed under the light of the current study. Moreover, Drozd's (2002) account of DP analysis of *no* and support for the CH is also evaluated. This chapter also accounts for the non-verbal extensions to verbal contexts. Finally, the continuity assumption is scrutinized against the evidence provided by the study of acquisition of negation in Najdi.

CHAPTER TWO: THE ACQUISITION OF NEGATION IN ENGLISH AND OTHER LANGUAGES

I divide my review of the literature on the acquisition of negation into three sections. The first section addresses acquisition studies that focus on the structure of negation in the grammar of children acquiring English. This section includes research by Bellugi (1967), Deprez & Pierce (1993), Batet & Grau (1995) and Klima & U. Bellugi (1966). It also includes acquisition studies that focus on the function of negation and reviews the studies by Bloom (1970) and Choi (1988). The second section examines the acquisition of negation in languages other than English. The work of Meisel (1997), Mills (1985), Park (1979) and Wode (1977) on the acquisition of negation in German is presented. In the final section, research on the acquisition of negation in Arabic is introduced. This section reviews studies by Al Buainain (2002), Omar (1973) and Smadi (1979). A common limitation among previous studies is the lack of a comprehensive treatment of the form, structure and function of the negation markers. Most studies neglect the distinction between anaphoric, predicate and term negation. The first study to account for this distinction is Drozd (2002). Unfortunately Drozd only provides an account for the acquisition of term negation in English.

2.1 English Language: Formal studies

2.1.1 Klima & Bellugi (1966)

The seminal work of Klima & Bellugi (1966) is the starting point of various acquisition studies on negation. Klima & Bellugi (1966) studied the emergence of negation and interrogatives in the speech of early learners of English. They analyzed data that was collected from three children aged 18, 26 and 27 months. Subjects were at the one-word stage of

production at the beginning of the study. The conversations between the children and their mothers were tape recorded and divided into three stages. These stages were defined according to the mean length of utterance (MLU). The first stage ended at MLU 1.75, the second ended roughly at 2.75 and the third ended at 3.5 morphemes. Klima & Bellugi identified a systematic behavior in the acquisition of negative markers in English. More importantly, they established that the children's speech did not resemble the adult language and has its own grammar.

Negation in the children's grammar was placed externally to the sentence unlike in the adult language where negation follows the subject and auxiliary verb. They added that the children's language is a reflection of an interlanguage period and not just a replica of the adult language.

Klima & Bellugi proposed a set of phrase structure rules to describe the data for each period. The data produced in Period 1 included *no* and *not* preceding or following an utterance (3).

- (3) No heavy (Klima & Bellugi 418:1966)
No want stand here
No the sun shining
More...no

Klima & Bellugi represented the children's speech in Period 1 by the rules in (4). Their rules for this period generate a projection for negation that is external to the sentence.

- (4) [<{no, not} – Nucleus]_s or [Nucleus – no]_s

Klima & Bellugi noted that in Period 2 the contracted auxiliary verb appeared in its negative form; *I don't want it* and *I can't see you*. The children also produced *no* in an uncontracted form as in *He no bite me*. Klima & Bellugi claimed that *can't* and *don't* are unanalyzed units (*auxiliary + n't*). Despite the presence of *can't* and *don't* in children's utterances, Bellugi argues that auxiliary verbs were missing from the children's production. This

can be seen in *He no little, he bug* (Bellugi 57:1967). She argues that except for *can't* and *don't* the auxiliary system is absent from the data. Sample utterances from Period 2 are listed in (5) from Klima & Bellugi (418:1966).

- (5) I can't catch you
You can't dance
I don't like him
That no Mommy (Klima & Bellugi 418:1996)

For Period 2, Klima & Bellugi represented the data in the set of rules shown in (6). Their rules generate a projection for negation that is internal to the sentence, but do not distinguish between the use of *no* and *not*.

- (6) S → NP – (Neg) – VP
Neg → {no, not, Vneg}
Vneg → {*can't*, *don't*}

In the final period, the children produced auxiliary verbs in declarative and in negative sentences, and their language approached the adult target (7). Despite this improvement the children's speech was still not fully adult. It did not exhibit the complex relationship between negation and indefinites such as *any* and *anything*.

- (7) I didn't see something
No, I don't have a book
I don't want cover on it
That was not me (Klima & Bellugi 419:1996)

Klima & Bellugi (1966) suggested the following rules for this period:

- (8) S → NP – Aux – VP
Aux → T- Vaux – (Neg)
Vaux → {do, can, will, *be*}
Neg → {*can't*, *don't*, not, no}

Klima & Bellugi's study has significant implications for the continuity hypothesis. First, they suggested that English children's speech reflects a non-adult word order in the early stages. The indication of a non-adult grammar is a strong evidence of discontinuity. Second, Klima & Bellugi showed that English children initially produce the single anaphoric negator *no* in a position outside the clause. In the following stages children add the negator *not* as well as the unanalyzed negative auxiliary verbs *can't* and *won't* in the medial position of the sentence. They postulate that negative auxiliary verbs are unanalyzed negative forms and they are not an auxiliary and a contracted negation form as in the adult language. Klima & Bellugi hypothesize that if children understood the negative auxiliary contracted constructions as adults, then instances of positive auxiliary verbs would be recorded in the data. Third, in later stages when the children have analyzed negative auxiliaries as combinations of an auxiliary verb and negation, they still do not produce negative polarity items such as *any*. Klima & Bellugi's results suggest that children initially substitute anaphoric negation for predicate negation and add lexical negation before constructing a functional projection for negation.

Although English distinguishes between predicate and discourse negation, Klima & Bellugi (1966) treated the *no* and *not* forms of negation as a single negation marker. They collapsed separate forms of negation such as *no* and *not* into a single "Neg" projection. As a result, their analysis of negation in the child language does not reflect this distinction in the adult grammar. Moreover, their analysis has shaped the general view of negation in the child language literature by not distinguishing between the uses of *no* and *not*. Another limitation of their analysis is that they did not discuss the functions of negation. In that sense, they did not discuss the contexts in which the children produced negation. Because Klima & Bellugi (1966) followed

a unified syntactic analysis for Neg in their study, their analysis is viewed as a discontinuity between the child and adult grammars.

2.1.2 Deprez & Pierce (1993)

Deprez & Pierce (1993) adopted the VP-internal subject hypothesis in their study of the acquisition of negation. Using child data from English, French, German and Swedish they demonstrated that nominative case can be assigned to the subject under the VP (see Huang 1989, Koopman & Sportiche, 1988 and Sportiche 1988). They also argued that the inflectional category INFL is operational in the early child grammar. Additionally, they demonstrated that negation occupies its own projection in child language. The researchers analyzed English data from the CHILDES data-base of MacWhinney & Snow (1985). Data for the three American children came from one child analyzed in Klima & Bellugi (1966), a second subject from Bloom (1972) and a third child from Suppes, Smith & Léveilli (1973). The average age for all three subjects was 23;3 – 26;6 months and their average MLU was between 1.8 and 3.4. Deprez & Pierce (1993) argue that children, unlike adults, have the option of leaving subjects internal to the VP. Moreover, they asserted that negation is located in the same position in adult and child grammars. They observed that French children never place the non-anaphoric negation *pas* in the anaphoric position of *non*. However, Meisel (1997) analyzed data from Deprez & Pierce (1993) and reported that *ne* was never attested and the anaphoric *non* appeared sentence finally (3%). In support of Pollock (1989), Deprez & Pierce claim that negation is reflected in its own projection and occupies a location below IP and above VP. They argued that children's early negative utterances have the word order (Neg-S-V). They interpreted children's errors in subject

placement (*No mommy doing*) as evidence supporting the VP-internal subject hypothesis. The children did not move the subject out of the VP to Spec of IP.

Deprez & Pierce argued against the Comp analysis for the appearance of Neg-initial data. The Comp analysis assumes that children initially mark negation in Comp outside of the IP. Deprez & Pierce claim that the Comp analysis does not account for the appearance of *no* in noninitial position in children's negatives utterances as in *He no bite you*. They added that certain errors are absent from the children's utterances. They argued that if the children's Neg was in Comp, it would appear to the left of AUX, and that the child's grammar would produce such sentences as **No(t) can John leave* (Deprez & Pierce 36:1993). This unobserved error is utilized as evidence that Neg is not in Comp. If the predictions of the Comp analysis for negation are correct then Deprez & Pierce's (1993) arguments against it would be challenged. Early research on negation (Bellugi 1967) showed that in the initial stages of acquisitions, learners of English produce only negative auxiliaries and do not show evidence of a positive AUX in production. It was argued that if children had preceived that the contracted forms of negation are composed of an AUX and NEG than it would be expected to find a positive AUX in the data. However, Bellugi (1967) demonstrated that no positive AUX was found in the child language.

Although Deprez & Pierce (1993) argue that children have an adult-like projection for negation above the VP thus supporting continuity, they failed to address the distinction between anaphoric and verbal negation in English. They do not explain children's use of *no* in predicate negation in English. In other words their assessment of negation is incomplete. It only accounted for one type of negation. Moreover, they did not account for the structural differences of *no* and *not* in either the adult language or in the child language. They did not investigate this difference in the other languages. Moreover, they noted that in German *nein* and *nicht* is observed in initial

and medial positions. This alternation or misuse was not accounted for in their paper. These limitations place their assessment of negation in child language in the same position as Klima & Bellugi (1966). Both studies fail to connect structure and form in the children's language.

2.1.3 Batet & Grau (1995)

Batet & Grau (1995) argued that children learning English go through two stages. They indicated that the first stage reflected three features of the negation element: mobility, independence and free variation. The second stage exhibited a fixed order, use of adult-like forms and a distinction between *no* and *not*. Batet & Grau (1995) adopted Radford's (1990) hypothesis that early clauses do not include a C or I projection. In other words, child grammar is different from the adult grammar because it lacks functional projections and is only composed of lexical categories [NP XP].

Batet & Grau (1995) distinguished two stages in the acquisition of negation in English by the emergence of functional categories. They argued that Neg is operational in the second stage. They looked at child English learners between the ages of 20 and 30 months. They reviewed data from Bloom (1970), Klima and Bellugi (1966), Radford (1990), Ferguson & Slobin (1973). They labeled the early stage as prefunctional and the later as a functional stage. In the prefunctional stage, they suggested that *no* and *not* do not belong to the functional projection for negation. Following the assumption that *no* belongs to the lexical category and *not* belongs to the functional category, they argued that because the functional category did not emerge in the first stage, it should be expected that *no* and *not* appear in the same position (*no the sun shining*) and (*not Fraser read it*) (Batet & Grau 1995:38). They claim that negation is either adjoined to a

higher VP (*no doll sleep*) or a lower VP (*he no bite me*) (Batet & Grau 37:1995). Based on the adjoindance and lack of direction claim, they also noted that negation is either placed before the VP (*no pinch me*) or after the VP (*wear mitten no*) which supports Klima & Bellugi's (1966) claims.

In the functional stage they considered NEG to head its own projection and select VP as in the adult grammar. The adult-like usage of *not* and *n't* constructions and the appearance of affirmative models *can*, *did* and *do* suggest that *can't* should be analyzed as *can + not*. That means the contrastive form of the auxiliary is now analyzed.

Batet & Grau (1995) concluded that the evidence they analyzed from previous acquisition of negation studies poses difficulties for the Continuity hypothesis and favors a Maturation approach to language acquisition. Their strongest argument against continuity would be the dominance of VP over Neg and the location of *no* after the subject in the child data which is contrary to the adult grammar. A shortcoming to Batet & Grau's analysis is their interpretation of anaphoric negation in the functional stage. They only identified anaphoric negation in the functional stage and they neglected its interpretation in the second stage. In their first stage they treated *no* and *not* similarly as Neg units. In the second stage they were content to analyze *no* in the child language as adult like production with no further explanation. This raises questions about their criteria for distinguishing the two stages of negation. Also, their methodology of analyzing data from various studies seems inadequate. It appears unreliable because they selected examples from multiple sources without presenting a detailed scrutiny of the data such as the total number of sentences that were surveyed. The only information they provided about the data is the source and age range of the children. One important observation is the lack of justification for a transition between the two stages. Children in this study seemed to move from

a total lack of functional competence in the first stage to mastering negation in the second.

Nearly all studies of child language acquisition identify a transitional stage that children go through.

Batet & Grau postulated that continuity assumes that syntactic properties demonstrate a default value which is set according to the identification of “triggering data”. These data are assumed to demonstrate specific characteristics in that when they are recognized in the input at a certain stage they lead to parameter resetting (Batet & Grau 1995).

Batet & Grau (1995) relied entirely on the ability of children to produce different types of negation in the later stage such as *no*, *not*, *n’t*. In other words it appears that Batet & Grau (1995) interpreted the parameter setting as the presence or absence of the projection for negation. However, this interpretation does not predict why children would use a form for predicate negation and another for anaphoric negation. Similar to previous studies, they failed to take into account the distinction between the forms of anaphoric and predicate negation in their study. More specifically Batet & Grau (1995) failed to address the anaphoric form of negation adequately. In addition, their account of Maturation is problematic. Without providing evidence from the input, they assumed that “triggering data” affects the child language only at stage II. If triggering data is assumed to be a force that drives the child to the production of negation, why did they not examine the input more closely? Their approach to the input effect is mere speculation. As Cameron-Faulkner, Lieven & Theakston (2007) showed in their study, the input includes several negators (*no*, *not*, *can’t*, *didn’t*, *don’t*, *won’t*) with different frequencies at the same age periods (2;1). Batet & Grau (1995) chose to ignore the variety of negators and concentrated on just a few of them. Despite limiting their hypothesis to *no*, *not* and *n’t* they

failed to explain why the child would use one form for predicate negation and use another form for anaphoric negation.

A common denominator in previous research on the acquisition of negation is the lack of consideration of the distinction between *no* and *not*. The majority of the structural studies in the literature collapsed all negator forms together in English under a unified Neg treatment. The adult target makes a clear distinction between the forms of negation in English. It utilizes *no* for anaphoric negation while at the same time uses *not* for predicate negation. The choice of Klima & Bellugi (1966), Deprez & Pierce (1993) and Batet & Grau (1995) to disregard this distinction is problematic. For instance Klima & Bellugi (1966) claimed that despite the fact that negation combines with different parts of the sentences the different forms are members of the single category Neg. They added that ultimately Neg is similar despite its complexity in the adult language especially in form and position. For years to follow, this approach led researchers to assume that negation in all forms appears in the same structural position. The analysis is extended to research that investigated the functions of negation. As will be demonstrated in the studies that looked at the functions of negation, we will see that children were able to distinguish various functions with limited negation structures. However, these researchers have blindly displayed the same lack of distinction in the negation forms in English.

2.1.4 Drozd (2002)

Drozd (2002) argued in support of the continuity of negation in child language. He supported continuity by proposing a new analysis of negation in child English. Previous research (Bloom, 1970; Deprez & Pierce, 1993; Klima & Bellugi, 1966) claimed that children acquiring

negation in English initially place the general negation marker *no* at the left and right margins of sentences. This analysis treated *no* as a member of a single Neg category, along with *not* and *don't*. Drozd postulated that *no* constructions in English are members of the determiner category as in *There is no flour in there*. He supported his claim by presenting arguments from distributional evidence, morphosyntactic arguments, child elliptical evidence and statistical comparisons between the adult and child *no* constructions.

Drozd contributed a new analysis of *no* use as determiner negation. He hypothesized that previous work on the acquisition of negation in English (over 30 years of research) had misanalysed *no* constructions. It is worth stating here that while previous work had addressed various types of negation i.e. *no*, *not*, *don't*, *haven't* and others, Drozd only analyzed *no* constructions. Drozd even compared his work on *no* to previous work despite the lack of accountability of the other forms of negation.

Drozd (2002) explains that if *no* exhibits the distributional properties of determiners then the children's use of *no* would be continuous with the adult grammar. Drozd listed the situations in which determiners would and would not appear in English (2002:89). He claimed that determiners must precede a Common Noun or a CN phrase, and an adjectival phrase preceding a CN or a CN phrase; they do not occur with other determiners. Determiners do not occur with pronominals and they do not appear as an independent constituent. He compared these contexts of use to the contexts in which children produce *no*. It is important to highlight here the fact that determiners do not precede verbs in English. Drozd labels child productions of *no + V* as "independent etiologies" and accounts for them outside of the distributional analysis he proposed for determiners. Drozd extracted the determiner grammar in English by the set of rules stated above. Along the lines of his argument, Drozd failed to account for a violation of one of these

rules. This violation is manifested in the example *no a flag* (Drozd 2002:88). For Drozd's continuity argument to hold, *no* should not appear before another determiner in the children's utterances. This significant example challenges Drozd's distribution argument at its core and casts doubt over Drozd's argument for continuity.

Drozd (2002) argued for DP *no* constructions by using discourse ellipsis. By adopting Klein (1993) and Quirk et al. (1985) classes of elliptical expressions, he postulated that English adults and children optionally delete parts of an utterance in their responses.

Finally, Drozd presented a set of data that summarized the areas calculated in the favor of his argument (see Table 1 from Drozd 86:2002). The table detailed *no*, *don't*, *not* utterances of 10 monolingual English children compared to only *no* adult utterances. After starting with a large number of utterances, Drozd singled out 8,590 (5%) utterances that included the word *no*. Then he decided to limit this number by eliminating anaphoric *no*, immediate repetition of the word *no*, unintelligible speech, *no* used in songs, games or stories, and unanalyzable *no* that could be assigned to discourse function. The motivation for excluding anaphoric *no* was not provided despite his acknowledgement of its frequent use. Anaphoric negation includes some level of ellipsis (Drozd 2002 and Klein 1993). The relations between the two were not addressed in Drozd's arguments.

Drozd was left with 384 utterances of analyzable *no* constructions for the 10 children. He added that *be* in the position of the main verb was considered a copula and any other verb was assigned to a regular verb status including the verb *have*. Drozd further divided the *no* constructions into five categories based on their contexts of use. Drozd assigned the negative word to a DP category if it was followed by a Common Noun (CN) phrase, an Adjective that was

followed by a CN or CN phrase or the word *more*. He assigned *no* to a Reported Speech category if it followed a mental verb or a verb of saying like *she said no*. He assigned *no* to a modifier category if it preceded an adjective like *good* or an adverb such as *longer*. The third category was labeled Internal (preverbal) which constituted of *no* tokens preceding a verb or a verb phrase with an overt verbal head. The preclausal category included utterances of *no* preceding an overt subject. Any utterances other than the four categories mentioned above were assigned to an “other” category. Drozd reported that the number of *no* constructions in a DP added up to 65%, internal (13%), reported speech (8%), external (5%) and other (9%). Drozd highlighted the large number of DP category arguing that this number supports analyzing the children’s *no* use as a determiner.

It seems that some of Drozd’s five construction categories include general classifications. For example, in the Preclausal category, Drozd does not distinguish between *no* that precede subjects and *no* that is used for negating a sentence which create ambiguity. In the first type *no* modifies the subject and in the latter *no* modifies the entire sentence. Also it seems that Drozd’s “other” category is not clearly defined. The examples listed in the other category included *no* preceding an adverb *no yet*, a complementizer *No that?*, and most notably a preposition *no to bathroom*, and a determiner *no a flag*. In total the other category constitutes 9% of the *no* constructions. An examination of data from individual children shows that the other category constituted 20% of Adam’s utterances and more than 10% of *no* utterances from three other children. Drozd does not discuss this category further. The other uses of *no* together with the children’s use of *no* before subjects and before verbs raise concerns for Drozd’s argument for continuity. In English an example such as *no yet* would be interpreted as *not yet*. The same

applies to *no good* and *no a flag* which might be understood as *it is not good* and *it is not a flag*.

These examples are clear cases of *no* use that is discontinuous with the adult grammar.

2.2 English Language: Functional studies

2.2.1 Bloom (1970)

Bloom examined the utterances of three children ages 19;7- 24;8 months with MLU between 1.8 and 2.58. In a study that investigates the development of form and function of negation in English, Bloom (1970) claims that early learners of English display three distinct semantic functions in their use of negation namely *nonexistence*, *rejection* and *denial*. In addition to identifying the functions of negation in the child language of English, Bloom argued for an acquisition order of these functions. She also demonstrated that syntactic complexity differed between these functions. However, this syntactic complexity did not play into the acquisition order of negation semantics. Bloom argued for two phases of the acquisition of negation. The first was identified by the initial meaningful productions of negation in *rejection* and *denial*. The second was characterized by the ability to demonstrate *nonexistence* negation.

In Bloom's (1970) study, early learners first mark *nonexistence* followed by *rejection* then finally *denial* negation meanings. Examples of these different semantic functions are shown in (9).

- (9) Nonexistence: *no more noise* (Erick) (Bloom 177:1970)
Denial: *no*
Rejection: *no more*

This order also reflects complexity as follows: *nonexistence* was the most complex because it demanded verbal constituents, different sentence subjects, predicate complement constructions and the like. *Denial* was the least complex because of the consistency of the shape of the negative element (*no*) and it did not require a verbal expression in the construction.

Bloom (1970) approached the acquisition question from a semantic and syntactic point of view. She wanted to unpack children's development of meaning of negation in correlation with their syntactic emergence. Bloom's study strengthens our understanding of the acquisition of negation in English by complementing Klima & Bellugi's (1966) syntactic findings. Bloom's work implies that syntactic complexity is not related to the acquisition order and meaning. One would speculate that complex structures could be acquired later; however Bloom's findings do not support this notion. She maintained that children displayed different functions of negation with the same syntactic structures. In other words, Bloom's findings suggest that children do not need to learn new syntactic structures to produce new semantic uses of negation. *Nonexistence* negation demands the presence of certain syntactic abilities less than *Denial* negation. However, children demonstrated correct performance in *Nonexistence* negation first. Bloom was careful not to suggest that children possess any syntactic ability needed to express *nonexistence*. Nevertheless, she postulated that children correctly demonstrated the meaning of negation.

Although Bloom (1970) drafted the blueprint for a negation semantics taxonomy in the language of early learners of English, she failed to distinguish between the forms *no*, *not* and *n't*. All three negative markers were regarded as elliptical forms of sentential negation. Similar to Klima & Bellugi (1966), Deprez & Pierce (1993) and Batet & Grau (1995), Bloom (1970) failed to address the distinction between anaphoric and predicate forms of negation. Bloom's (1970)

lack of distinction was apparent in her paraphrasing of children utterances. Children's sentences like *No dirty soap* were paraphrased as *I don't want any dirty soap*.

2.2.2 Choi (1988)

Choi (1988) analyzed the non-verbal contexts and linguistic forms in a study that investigated the development of form and function of negation in English, French and Korean early learners (age 1;7-3;4). Choi expanded Bloom's (1970) three functions of negation to nine. Choi argued that all nine functions developed in similar order across all languages (Choi 1988).

Choi (1988) supports Klima & Bellugi's (1970) interpretation of the contacted *auxiliary* + *n't* form. Choi observed a form that did not surface in Klima & Bellugi's investigation in early stages which is *won't*. More importantly, the relationship between form and function corresponded to three phases of linguistic development. Each phase of linguistic ability would witness the emergence of a function. The phases and semantic interpretations of children's speech emerged in the following order:

Phase 1:	NONEXISTENCE	PROHIBITION	REJECTION	FAILURE	(Choi 525:1988)
	<i>All gone</i>	<i>it won't</i>	<i>I don't want to</i>	<i>It won't</i>	
Phase 2:	DENIAL	INABILITY	PISTEMIC		
	<i>No</i>	<i>I can't</i>	<i>I don't know</i>		
Phase 3:	NORMATIVE	INFERRENTIAL			
	<i>(you) can't</i>	<i>AUX + not</i>			

Choi observed that functions were not distinguished syntactically when they appeared in Phase 1. *Nonexistence* dominated all of the children's utterance in all three languages. The children used a single form to represent *prohibition*, *rejection* and *failure*. In Phase 2 children represented *denial* using the old form (the single word *no*) and the new form (*not*), while inability and epistemic negation were represented by new forms (*I can't*). Choi added that by Phase 3 adult-like linguistic abilities were productive for all categories.

The importance of Choi's (1988) work resides in its cross-linguistic contribution. She managed to test the acquisition of negation in three distinct languages: English, French and Korean. The negation functions of *rejection*, *prohibition* and *failure* appear early in all languages. Opposite to Bloom's (1970) interpretations, Choi's findings showed that children are able to produce negation for eight functions cross-linguistically. Choi maintained that one form was used to represent more than one function, however new forms were acquired to express new functions or at least to differentiate old ones.

The studies that investigated negation namely Klima & Bellugi (1966), Bellugi (1967), Deprez & Pierce (1993), Batet & Grau (1995), Bloom (1970) and Choi (1988) commonly failed to account for the distinction between *no* and *not*. It is also worth mentioning that all these studies failed to analyze the input data in their studies.

2.2.3 Cameron-Faulkner, Lieven, & Theakston (2007)

Cameron-Faulkner et al. (2007) investigated the acquisition of negation from a usage-based prospective. They analyzed the emergence of the negative markers *no*, *not*, *can't*, *won't* and *don't*. Cameron-Faulkner et al. transcribed and examined 83 hours of recordings that tracked

a single mother-child pair speaking English from the child's age of 2;3 to 3;4. Cameron-Faulkner et al. (2007) used a modified categorical classification of Choi's (1988) taxonomy. Omitting INFERENTIAL and NORMATIVE negation and only relying on the remaining seven functions while adding an "OTHER" category. Below are examples from Brian's speech from Cameron-Faulkner et al. (258-259:2007)

NONEEXISTENCE	PROHIBITION	REJECTION	FAILURE
<i>No more Bow</i>	<i>No move</i>	<i>No watch</i>	<i>No fit in da box</i>
DENIAL	INABILITY	EPISTEMIC	OTHER
<i>No soggy</i>	<i>No reach</i>	<i>I don't know</i>	<i>I don't think you are very well</i>

After analyzing the emergence and usage of negators, Cameron-Faulkner et al. (2007) found that the input had a strong effect on the development of negatives. They claimed that the development of the speech of the child (Brian) followed the frequency of negators in his mother's input. Brian gradually exhibited a systematic order of development of *no-not-n't* in his acquisition.

Cameron-Faulkner et al. (2007) argued that Brain's language development pattern of negators (*no* and *not*) supports the findings of Klima & Bellugi (1966) and Choi (1988). Despite that they reported data from every three months (2;3-2;6-2;9-3;0-3;3), their initial data sets involved two word utterances, neglecting the one stage word. This raises questions about their interpretation of the one word utterances of negation. As explained earlier, Bloom (1970) and Choi (1988) argued for the presence of several functions of negation. In their early stages of acquisition they relied upon the one word stage; this stage however is absent from Cameron-Faulkner et al.'s analysis. Cameron-Faulkner et al. only looked at negation form a frequency

prospective. They did not evaluate the grammaticality of Brian's negative utterances. It is not clear if the productions of Brian were adult like. Assessing the acquisition of negation from the bases of frequency alone may be misleading. The child might produce a negator that is inconsistent with the adult grammar. Cameron-Faulkner et al. did not address this point. They only claimed that productions of negation were recorded in both grammatical and ungrammatical sentences.

The findings of this study contribute to the ongoing argument on Continuity. On one hand it supports the Maturation claim and trigger mechanisms. On the other, they claimed that there were instances of non-grammatical usage of *no* and *not* in the multiword stage. "Brian's earliest multiword negation utterances involve *no* and *not* in both grammatical and non-grammatical environments" (Cameron-Faulkner et al. 272:2007). It is a severe limitation to their study to ignore Brain's ungrammatical behavior. Moreover, they found higher occurrences of *not* rather than *no* in the input. However, *no* surfaced earlier in Brain's speech. More interestingly, it is reported that the adult used *no* almost exclusively as a single word negator unlike what is reported of *no* being used as multiword negator in children's language. The same is reported with regard to *can't* and *don't*. The form *don't* had a higher use in the input; however, the child used *can't* more frequently than *don't*. Cameron-Faulkner et al. (2007) ascribe these differences between the adult input and the child's production to unspecified factors other than the input.

2.3 Other Languages

One of the relevant points to include in a section about languages other than English is to demonstrate how negation interacts in different grammars. One significant difference that some

languages demonstrate is the syntactic location of the negative element in relation to verbs.

Negation in English does not change position if the state of the verbs changes. Unlike English, negation in German and Swedish, for example, behave differently when it interacts with finite and infinitive verbs. It is located after the finite verb and precedes the infinitive. This phenomenon can not be tested in English because negation location is not affected by verb movement. These sections will also serve as a broader prospective on negation and the theory of continuity.

2.3.1 Wode (1977)

Wode (1977) investigated the development of negation in German in the language of two children a boy and a girl. He also aimed at reaching a cross-linguistic development analysis by investigating negation in Swedish and English. Wode took daily notes and recorded the speech of his German children. Wode identified three stages of acquisition in the development of negation in German. Stage I was identified by a single word the negation *nein* ‘no’. Stage II was divided into two subcategories; the first subcategory (IIa) included an anaphoric negation as in: *nein ich* ‘no, I’ and *nein Milch* ‘no, milk’. Wode asserted that children at stage IIa are in full accordance with adult usage syntactically and semantically. The second subcategory (IIb) included a non-anaphoric negation as in: *nein sauber (machen)* ‘I don’t want to be cleaned’ and *nein hausen* ‘don’t bang’ (Wode 92: 1977). Wode maintained that children at stage IIb produced semantic adult usage of *nicht* ‘not’ but with the syntax of *nien* ‘no’. Stage three (III), was signaled by the adult like production of what known as “intra-sentential negation” *nicht* as in: *ich will nicht schakfen* ‘I do not want schakfen’ (Wode 93: 1977). At the final stage, it was claimed

that children produced a syntactic and semantic uses of *nicht* ‘not’. Wode further compared the stages of acquisition of negation in German to data from English and Swedish. He argues that children acquiring negation demonstrate the three stages he identified above. At the beginning they start with anaphoric negation almost exclusively (stage I) modelling adult NEG usage. Stage II included anaphoric and non-anaphoric negation utterances using the same negation element *nein*. It was added that at this stage children exhibited an overgeneralization of the negation element *nein*. At the later stage, it was also demonstrated that children switched from the usage of *nein* ‘no’ to *nicht* ‘not’ in German signaling the accurate use of the negative element. Wode attempted to reconcile the English children’s use of *no* in the non-anaphoric uses with what he demonstrated in German. Citing examples from Bloom’s Kathyern *no close* ‘I can’t close the box’, he argued that as in the German anaphoric *nein* English children use anaphoric *no* to convey non-anaphoric meanings.

Wode (1977) looked at Swedish data from Lange & Larsson (1973) which followed a Swedish girl from the age of 1;8-2;1 for a period of 10 months. Wode reported that the child produced anaphoric negation first as in: *nej mama* ‘no, mother’ (Wode 96:1977). Wode argued that the child produced a non-anaphoric use of *nej* as in: *nej kossa* ‘no moo-cow’ (Wode 96:1977). He reported that at the latest stage the child produced *inte* ‘not’ productively and correctly. Wode draws similarities between the German and Swedish child use of anaphoric and non-anaphoric negation and the interaction of negation with verbs. He observed that as in the adult German and Swedish grammars children show different locations in respect to finite and nonfinite verbs. He observed that the Swedish child placed *inte/nich* ‘not’ after the finite verb ($V_{fin} + Neg$) and before the non-finite verb ($NEG + V_{nonfin}$).

- (10) a. jag vill inte
‘I want not’

(Wode 97:1977)

- b. vill inte rida
‘will not ride’

Although Wode (1977) describes three stages of negation, he ignored important methodological information. He failed to adequately include an MLU for the children and details of their age. The article does not specify when a stage ends or when the following stage begins. Also, of greater importance, the Wode’s position that German children were able to correctly use negation as adults gives support to continuity. He argued that the misuse of anaphoric negation for predicate negation was an instance of generalization. The example [*ne_θaf ic*] *nein schaffe ich* ‘I can’t manage it’ demonstrates the children were unable to correctly produce the adult form of negation *nicht*. It is true that *nein* ‘no’ and *nicht* ‘not’ are both negation forms in German, but syntactically the anaphoric form *nein* may never replace predicate negation in the adult language and vice versa. It may be possible that children delivered the semantics of anaphoric negation in the non-anaphoric construction as Wode (1977) argued, however, the sentence is syntactically unsound. The ungrammatical nature of the children’s use of *nein* indicates a discontinuity between the child and the adult language.

Wode’s (1977) study demonstrated that similarities might be drawn from children across languages. What it also shows is that child speakers of German, Swedish and English children commonly commit similar errors in the use of anaphoric negation in place of predicate negation. Wode acknowledges that the use of *no* as a non-anaphoric negation marker is ungrammatical and cannot be found in the adult grammar of all three languages. This evidence contradicts the continuity hypothesis and raises concerns over how children retreat from a non-adult grammar.

2.3.2 Meisel (1997)

Meisel (1997) surveyed research on the acquisition of negation in French, German, Spanish and Basque (Bloom, 1970; Clahsen, 1983; Deprez & Pierce, 1993; Klima & U. Bellugi, 1966; Mills, 1985; Park, 1979; Wode, 1977). He assumed that functional categories are absent from children's initial grammars arguing that early constructions are similar to VPs rather than IPs in German. Mesiel observed that negation is located externally in German. This observation situates German with English as Klima & Bellugi (1966) described in their grammar rules. He maintained that *nein* 'no' is the choice of German children for anaphoric use and it occurred in non-anaphoric sentences in both initial and final positions. As for *nicht* 'not' it was observed that children age 2;2 placed it before the verb and at age 2;10 it was placed after the verb. The predicate negation form *nicht* always occupied the final position at later stages (42 months) of acquisition (Mills 1985). It was also observed that other forms of negation in German such as the negative article *kein* and the negative pronoun *nichts* 'nothing' were not present in the data.

2.3.3 Park (1979)

Wode was strongly criticized by Park (1979) because the size of the sample that Wode collected was not revealed. Park added that Wode's analysis of negation in German (stage II & III) was based on just 13 examples. Park argued that a distributional analysis of the data may demonstrate a more reliable assessment of the child grammar. Park examined data from a German speaking child. He classified production into early stage I and late stage I. He found that out of a total of 134 utterances in early stage I the child produced 15 negative utterances; 13 *nein* and 1 *nicht*. In late stage I, 502 total utterances were recorded with 56 negative utterances; 43

nein and 11 *nicht*. Park argued that in early stage I, *nein* was used to express non-anaphoric negation as Wode (1977) suggested. However, all 13 *nein* utterances were non-anaphoric with no traces of anaphoric uses of *nein* (Park 1979). Park argued that Wodes's first stage of German children producing an anaphoric *nein* did not surface.

2.3.4 Plunkett & Strömqvist (1990)

Plunkett & Strömqvist investigated Danish, Norwegian and Swedish discourse and predicate negation under four semantic classifications: alethic, epistemic, deontic and boulemaic. The equivalent of the anaphoric English negation *no* is *nej* (Danish), *nei* (Norwegian) and *na* or *nej* (Swedish). The equivalent to the English form of predicate negation *not* is *ikke* (Danish and Norwegian) and *inte* (Swedish). Plunkett & Strömqvist reported data from Lange and Larsson (1977) showing that the Swedish child Elba produced few *inte* instances between 20-22 months while their production is considered productive later (23-25 months). The sentence negation *inte* ‘not’ was found exclusively in sentence initial position preceding nouns, adjectives and locatives as in: *inte juice* ‘NEG juice’, *inte stor* ‘NEG big’, *inte underbilen* ‘NEG under the car’ (Plunkett & Strömqvist 1990). In Danish, there was an infrequent and limited production of usage of *ikke* ‘not’ for anaphoric negation at the age of 18 months. This type of usage did not last and disappeared completely. When sentential negation reemerged in the language of the two Danish children the usage was exclusively maintained by *ikke* in predicate negation constructions with occasional use of *nej* ‘no’ in one child. Plunkett & Strömqvist (1990) argued that Danish children produced a boulemaic and deontic meaning in discourse negation at 19;04 months and alethic and epistemic at the age of 19;18 months.

2.4 Arabic

This section surveys relevant acquisition studies in Arabic. This review includes Egyptian, Qatari and Jordanian Arabic. It is relevant to the current research to demonstrate what other studies have discussed in other Arabic varieties.

2.4.1 Omar (1973)

Omar (1973) studied the acquisition of Egyptian Arabic (EA) in the language of 37 children ages 6 months to 15 years. For three months she observed, tested, elicited and recorded children's linguistic abilities. She approached the corpus from a sociolinguistic prospective; however, she provided some description of syntactic developments of the participants. She claimed that the evidence showed that the children acquire the negation system at the age of 3;6 and over all mastery of the system occurs at 6-7 years. Omar identified three linguistic stages that young learners of EA go through before they master the adult grammar of negation.

Stage 1 is marked by the presence of the free form of the negative particle /laʔ/ which can precede or follow other elements in the sentence. Data were reported starting at age 2.8 years.

- (11) S → (S) + laʔ +(S) (Omar 125:1973)
- a. laʔ
NEG
 - b. hiyya laʔ
she NEG
 - c. laʔ di wizzah
NEG this goose
'this is not a goose'

The appearance of *mif* marks the beginning of stage 2. Omar (1973) observed that this particle occurs at the age of 3;6 before the sentences and supports the rule; $S \rightarrow mif + S$. Also children generalized the use of *mif* in contexts that require the *ma...f* form (12).

Finally at stage three the appearance of /ma...ʃ/ is recorded. Omar did not provide a rule for this stage but she maintained that at this stage evidence of adult like syntactic structure is visible. The following example is from Omar (126:1973) where the children were prompted to display negation in the answer.

- (13) Q: Feen il-bit illi Ha-tiseab? A: ?ahe. ma-tisrab-ʃ
 Where the-girl that will-drink? Here. NEG-drinking- NEG
 ‘Q: Where is the girl who will drink? Here. (she) is not drinking’

Omar described the acquisition stages of negation in Egyptian Arabic. However, she did not report an MLU rate for the participants. In addition, the stages were marked by the appearance of certain negative markers. This method of data analysis may have been the reason for not analyzing the ungrammatical instances of negative markers across the children. Omar (1973) reported that children as old as 10 and 11 years still displayed errors in negation (14).

- (14) huwa mis raH
 = huwa ma-raH-ʃ
 he NEG-go- NEG
 ‘He did not go’

2.4.2 Smadi (1979)

Smadi (1979) examined the development of negation and interrogatives in the language of a Jordanian speaking child. His doctoral dissertation is the most detailed work on the child acquisition of negation that I have come across. Data was collected from the age of 1:7 until the child was 3 years old. MLU was reported from 1.22 up to 3.64. He divided the acquisition of negation into three main stages based on MLU. Stage two was divided into two sub-stages, the first one included three milestones and the second sub-stage included two (Smadi 1979).

Stage one was recorded at age 1.6 and MLU 1.22. The child displayed a free use of /la:/. Smadi put forward this rule:

$S \rightarrow /la:/$

Smadi (1979) divided stage two into two sub-stages. The first sub-stage started at age 2:10 with a MLU of 1.65. Smadi suggested the rule of this stage as:

$S \rightarrow la: + S$

The second sub-stage (age 2:18 MLU 2.37) revealed the appearance of -/ suffixing the word to be negated. Also this stage demonstrated a nonadult like use of *ma...ʃ* (Smadi 1979). The rule to represent this stage was reported as:

$S \rightarrow (NP) + (VP) + \neg + (x)$

Finally, Smadi reported that repetition of negativity was the landmark of this final sub-stage. This repetition was used to emphasize denial or refusal in the child language (Smadi 1979). The grammar rule that represented this sub-stage was claimed to be:

$$S \rightarrow /la:/ + \{VP + /-ʃ/ + (x) \\ mu: + X\}$$

The negative particle was also noted to appear sentence initially in this stage and Smadi represented this appearance with the rule:

$$S \rightarrow mu: + S$$

The final sub-stage of stage 2 was recorded at age 2:1 MLU 2.5. This stage marked the first instance of negative imperative in the child's language. Smadi (1979) suggested that the following grammatical rule captures the child's grammar at this stage:

$$Vimp \rightarrow la: + Vimp$$

The third and final stage showed several developments in the child's grammar. Anaphoric negation was recorded at age 2:3 MLU 2.58. The grammatical rule that was set to represent this grammar was:

$$S \rightarrow la: + S$$

At age 2:4 MLU 2.94, Smadi reported that *mu:* appeared in the medial position for the first time. It also appeared in stage 2 in the initial position. He maintained that *mu:* continued to be present until the appearance of *mis*/ later in the data. The rule that was placed to capture the optionality of use of *mu:* at this stage was:

$$S \rightarrow mu: + S \quad \text{OR} \quad S \rightarrow Subj + mu: + pred$$

Smadi argued that *wala* was produced at age 2:7 MLU 3.32. The following rule was proposed to represent this phase:

$S \rightarrow \text{wala } ?\text{i}\text{f}\text{i} + S$

At age 2;18 MLU 2.37 the child displayed the correct discontinuous negation *ma-f*.

Smadi (1979) suggested that this stage would be captured by the following rule:

$S \rightarrow (\text{NP}) + \text{ma } \{\text{V}\} \int + (\text{x})$

Finally, Smadi reported that the disappearance of *mu* and the appearance of *mif* sentence initially and medially was registered at the age of 3;1 MLU 3.64. Smadi attempted to capture this optionality in the use of *mif* by the following rules:

$S \rightarrow \text{mif} + S$ OR $S \rightarrow \text{Subj} + \text{mif} + \text{pred}$

Smadi (1979) managed to capture three stages where development of several negation strategies were carefully tracked and presented. Although he was a pioneer in the Arabic acquisition field, his analysis failed to account for several points. His study lacked a theoretical framework. Smadi (1979) explained that due to the lack of availability of any acquisition theory capable of capturing the connection between the child grammar and the terminal grammar, he decided not to discuss any. Regarding his division of stages, it was not clear why Smadi would divide stage 2 into several sub-stages. The age and MLU range between the sub-groups was very close. In addition, no chronological relation was put forward among the sub-groups. For example, sub-group 1 contained ages older than sub-group 2. More broadly speaking, when we examine the length of stages we find that Stage 1 lasted 6 months, while data was divided between stage 2 & 3 with no apparent reason. For instance, stage 3 contained data from when the child was as young as 2;3 while stage 2 included data at ages of 2;18. Why would Smadi claim that stage 2 negative strategies were acquired before stage 3?

Another apparent limitation is the vagueness of the grammaticality surrounding the child's utterances. Smadi failed to maintain a clear distinction between the correct and incorrect utterances. In many cases he reports the child's utterance without pointing out whether it was grammatical or not. The only way to make this connection is to compare what he had reported with the adult target of the child's utterances.

Smadi claimed that he presented evidence that supports the appearance of non-anaphoric negation before anaphoric negation. Smadi reported that his data showed the child produced non-anaphoric negation at stage 2 (age 2:10 MLU 1.65) and produced anaphoric negation at stage 3 (age 2:3 MLU 2.58). By simply comparing the ages and MLU we immediately notice that the child was at a younger age when producing anaphoric negation (2:3) and she was at an older age (2:10) when she produced the non-anaphoric negation (despite a low MLU). The chronological appearance of the anaphoric negation contradicts his claim. Moreover, Smadi (1979) failed to test whether the first stage utterances are anaphoric or not. Another criticism to Smadi's analysis would be his assumption of the incorrect form of the discontinuous negation *ma-/s* as expressed by child using the suffix .../ only. Smadi did not account for the omission the prefix *ma* in the data.

2.4.3 Al-Buainain (2003)

Al-Buainain (2003) investigated the acquisition of negation and interrogatives in the Qatari dialect (QD). She identified several developmental stages of negation in the utterances of her children (ages 1:6 – 9). Al-Buainain identified a preliminary stage at the age of 1:7 when

subjects used *ba:H* in what she labeled baby talk. This non-adultlike word was used before and after nouns to indicate non-existence (negative existential).

- (15) a. ba:H aoa:n
 NEG color
 = there is no color

- b. babah ba:H
 dad NEG
 = Dad is not here

Al-Buainain did not go into detail about the acquisition of what might be an indication of an early acquisition of a negative existential in QD. She did not consider *ba:H* as a negative marker and gave little attention to its use in the language of the child.

Al-Buainain began the developmental description of QD by stating that stage 1 started at age 1;8 and was marked by the appearance of *la:* (16).

- (16) a. *la: Hali:b
 NEG milk
 ‘no milk’

- b. *la: raH
 NEG go
 ‘(he) didn’t go’

In this stage, children added /la:/ to sentences without morphophonemic changes (Al-Buainain 2003). With no clarification, Al-Buainain reported data at four years of age to mark the second stage. She noted that *ma:* and *mob + V* were found among the subjects’ negative particles.

- (17) a. ma: sawaith
 NEG do
 ‘I didn’t do it’

- b. mob ra:yH almadrseh bekreh
 NEG go the-school tomorrow
 ‘I’m not going/will not go to school tomorrow’

- c. ma: Helo
 NEG sweet/good
 ‘not good’

At stage 2, QD children did not demonstrate the ability to use the negative particle *ma*:

with perfective verbs. *Ma*: typically precedes indicative verbs in both perfective and imperfective aspects. However, Al-Buainain’s data showed that QD children only used *ma*: with the imperfective aspect (Al-Buainain 2003). The data also revealed that QD children used *ma*: and *mob* interchangeably. For example, Al-Buainain reported that children at age 4 years said *ma: Helo* as in (17c) where they should have used *mob*. However, Al-Buainain did not report if the children used *mob* in place of *ma*:

At stage 3 (5-7 years), Al-Buainain claimed that the children used the correct forms of negation in all declarative contexts. Moreover, imperatives were noted as an aspect of the QD children’s language patterns.

- (18) a. mamah la: etro:Heen
 mommy NEG leave
 ‘mama don’t go’

Finally, negative questions were noted among the data at the age of 5 years. Al-Buainain also highlighted that negative questions emerged later than other interrogative constructions.

- (19) mamah: ma: gelty ly?
 mama NEG day me?
 ‘mama you didn’t tell me?’

Al-Buainain (2003) attempted to track the development of negation and interrogatives in QD, but was unsuccessful in a number of areas. Al-Buainain did not report MLU at any point in the paper for the children. Also, the total number of children was not reported. It was difficult to determine the basis for dividing the development progress into three stages. For example, stage 2

included data from ages as old as 8 years and stage 3 had data sets from ages as young as 4 years. Al-Buainain did not report data for children between the ages 1;8 and 4;6 which is an important period to investigate. Finally, the author did not elaborate on the data sets at the preliminary and first stage. The data sets showed that early learners of QD used *la* with nouns and verbs, in contexts of anaphoric and non-anaphoric negation, and produced instances of what appears to be double negation: *mob ahmed la*: ‘it isn’t Ahmed no’. Moreover, Al-Buainain did not explain what might indicate early acquisition of a negative existential in QD i.e. ba:H.

Omar (1973), Smadi (1979) and Al-Buainain (2003), contributed to the acquisition field of Arabic in general and to negation in particular. All of the studies managed to capture a progression of negation across different Arabic varieties. More importantly these studies suggested grammatical rules for each stage. However, there were some limitations to their work. When looking at the acquisition literature we notice that on more than one occasion it is difficult to interpret their results without more information on the context of the children’s utterances. Without reporting the context the example in (20) would have different interpretations.

- (20) *la: Hali:b
NEG milk
= la (pause) ma ?abi Halib
‘No. I don’t want milk’

It was reported that the utterance was ungrammatical because the child failed to use the appropriate negative marker *ma* (Al-Buainain 2003). By comparing ((20) to the adult interpretation, this example can be viewed differently. It can be argued that the child omitted *ma* and the verb ‘want’ *?abi* and retained the initial anaphoric marker *la*. Another possible interpretation of this example derives from the work of Drozd (2002). Drozd analyzed children’s *no* constructions as determiner phrases. He considered *no* to be a negative determiner. The

negative marker *la* could be considered as a determiner to the noun *Halib*, in which case the sentence would be grammatical. This example and many more in the Arabic literature of negation create challenges to researchers analyzing the acquisition of negation.

The methods reported in the existing studies were not well defined. For example, Al-Buainain (2003) was not clear about the number of subjects she studied. She reported the data linguistically, but failed to establish a chronological progression of the acquisition of negation. Smadi's (1979) research exhibited the same error. As explained earlier, Smadi reported data from different ages under one acquisition stage. Omar (1973) did not provide adult interpretations of the children's utterances. It was a mere guess what could be the children's intended target.

2.5 Conclusion

This literature review examined three main groups of studies that focused on negation in child language. A variety of languages were chosen to demonstrate how negation was investigated. English, German, French, Danish, Norwegian, Swedish and several Arabic varieties were among these languages. It is very striking to observe that these studies have focused on one aspect of negation while neglecting the other. The reader could almost classify these studies into two main groups. A group that investigated the forms of negation that children produced and another that concentrated on the function of negation. It has not been observed that a study investigated both the context and form of negation in child language.

The chapter also demonstrates the significance of negation for the continuity hypothesis and its validity in research on child language. I showed that missuses of negation elements at

early stages challenge continuity at its core. There was no sound argument to account for the extensions of non-anaphoric to anaphoric negation and vice versa in the literature. Based on continuity assumptions, the arguments of generalizations of children's productions are considered instances of discontinuity.

One last point that this section adds is the need to study negation in a language that can tease apart the different uses of negation in its grammar. More importantly, a language that has the facets needed to distinguish these differences on the level of form and function. Also of equal importance the literature calls for the need for a study that analyzes the effect of the input frequency on child production. The study at hand demonstrates these factors accordingly.

CHAPTER THREE: THE GRAMMAR OF NEGATION IN NAJDI ARABIC

I present the grammar of negation in Najdi Arabic (NA) in this chapter. More specifically, I explore the negation of verbs, nouns, adjectives, adverbs and prepositional phrases. The previous analyses of negation in other Arabic varieties are maintained in the presentation of Najdi. Moreover, this section provides an account of the syntactic structure of negation in Najdi. Previous analyses of predicate negation in other Arabic varieties are considered in this study and I conclude that negation in Najdi can be analyzed along similar lines.

This chapter has four sections. The first section reviews the previous literature on negation. The second discusses the syntactic accounts for sentential negation in Arabic. The third section presents the grammar and morphosyntax of negation in NA in verbal and nonverbal contexts. The final section provides a syntactic account of negation in Najdi. The paper classifies negation morphemes in Najdi Arabic (NA) into three groups: anaphoric, verbal and non-verbal predicate negation. The morphemes /la/ and /ma/ are classified as anaphoric and verbal predicate negation markers, while /muhub/ is regarded as a non-verbal predicate negation element. The current account for Najdi adopts previous analyses of other varieties of Arabic, including Egyptian, Kuwaiti, Moroccan, Palestinian, Syrian and Standard Arabic (Aoun, Choueiri & Benmamoun 2010, Benmamoun 2000 and Brustad 2000). I will argue that Negation in Najdi heads its own negation projection (NegP) along the lines of the analyses of negation in other Arabic dialects. Benmamoun (2000) presented an analysis of negation that holds for all modern Arabic dialects. I have attempted to extend his analysis to Najdi. I conclude that Benmamoun's account of sentential negation in other dialects also holds for Najdi Arabic.

One final but equally important contribution of this paper is its discussion of the

limitations of existing descriptions of Arabic negation. This literature concentrates on verbal predicate and non-anaphoric negation. Term and anaphoric negation, for example, are hardly discussed in the Arabic negation literature. Here I elaborate on the forms of term and anaphoric negation in Najdi.

3.1 Negation strategies in Arabic

This section provides a framework for the analysis of Arabic negation. This framework provides a foundation for the syntactic accounts that is presented later. This section explores negation in Arabic languages such as Moroccan, Jordanian, Palestinian, Syrian and Kuwaiti. First, I examine the forms of verbal predicate negation followed by the forms of non-verbal predicate negation. One goal of this chapter is to provide a detailed description of negation particles that adult speakers of Najdi Arabic use in their grammar. Therefore, it is important to note at the beginning, that many researchers (Aftat 1982, Brustad 2000, Benmamoun 2000 and Smadi 1979) identified different negation morphemes such as *ma...ʃ* or *maʃì* as an independent morpheme different than *ma*. Najdi Arabic does not include the discontinuous negative morpheme *ma...ʃ* or *maʃì* (Benmamoun 2000).

In a recent analysis of Arabic negation, Benmamoun (2000) argued that there are five negative morphemes in Standard Arabic and they are divided into two main groups. He placed *laa* along with its variants *lam*, *lan* and *laysa* in one group while placing *ma* in another group. These forms have different contexts of use (see Benmamoun 2000). In NA, *la* and *ma* are the only negation morphemes that are shared with Standard Arabic. Negation particles are detailed in section three below.

Previous researchers (Aoun et al, 2010, Benmamoun 2000 and Brustad 2000) described modern Arabic dialects as predominantly composed of two types of sentential negation. Brustad (2000) argued for the existence of what she labeled Verbal Negation and Predicate Negation in Moroccan, Egyptian, Syrian and Kuwaiti (Table 1). As the term “verbal” suggests, this type typically negates verbal predicates. However, “predicate” refers to the type that negates non-verbal predicates. In this dissertation Non-Verbal predicate negation is used instead of Brustad’s Predicate Negation. The table below is from Brustad (2000). It shows the different negation particles in verbal and non-verbal predicate negation in the western dialects (Moroccan and Egyptian) and Eastern dialects (Syrian and Kuwaiti).

Particles of Negation		
Language	Verbal Predicate Negation	Non-verbal Predicate Negation
Moroccan	ma V ſ(i)	maʃ(i)
Egyptian	ma V ſ(i)	miʃ
Syrian	ma V	mu
Kuwaiti	ma V	mu

Table 1. Particles of Negation (Brustad: 2000:282)

3.1.1 Verbal predicate negation

3.1.1.1 The morpheme /la/

Brustad (2000) compared and contrasted four Arabic dialects: Moroccan, Egyptian, Syrian, and Kuwaiti. She classified these dialects into East (urban Syrian and Kuwaiti Arabic) and West (Moroccan and Egyptian Arabic). One major difference that Brustad highlighted

between the two groups is the insertion of the suffix *-ʃ* at the end of negated verbs. This can be seen in example (21) below from Egyptian Arabic (Brustad 295:2000). The East dialects do not have this type of suffixation. Example (22) is from Brustad (294:2000) from the Kuwaiti dialect.

- (21) laa tifki-ʃ EA
 NEG you-complain-NEG
 'Don't complain'
- (22) bass la tHutt li fihi la ?uud la fai ?afan la yiHssuun KA
 only NEG you-put for-me in-it NEG stick NEG thing so-that NEG they-feel
 'But don't put in it either a stick or anything else so they won't sense'

The verb *tifki* in (21) is suffixed by the particle *-ʃ*, however, the verbs in (22) do not include the particle *-ʃ* (Brustad 2000). East Arabic dialects lack the split particle construction *la -ʃ* and consequently it does not exist in Najdi Arabic.

Smadi (1979) described *la'* represented by the two allophones *laa* and *la'ah* as one of four ways that adult speakers of Jordanian Arabic express negation. He showed that /la'/ could be used in three different positions in a sentence: sentence initial, sentence final or independently as in the following examples (Smadi 1979:129):

- (23) a. laa tukitbi-ʃ iddars JA
 NEG write. 2ND.FEM.SG-NEG the lesson
 'Don't write the lesson'
- b. la'ah JA
 NEG
 'no'
- c. huwwa la'
 he NEG JA
 'Him! no'

Example (23)(a) occurs in the context of a negative imperative, while examples of (23)b and (c) occur in the context of discourse or anaphoric negation. Smadi explained that in example (23)a the imperfective verb form rather than the imperative verb form occurs in the context of

negative imperatives. He adds that negation only occurs in the initial position with imperatives while *la'* occurs in initial or final position to mark anaphoric negation.

3.1.1.2 The morpheme /ma/

Holes (1990) listed *ma* as a negative word that precedes perfective and imperfective verbs. His analysis matches that of Brustad (2000). Brustad demonstrated that *ma* precedes verbs in Kuwaiti Arabic.

- (24) ma xallau shay ma xaDu KA
 NEG leave-they thing NEG take-they-it
 'They didn't leave anything they didn't take'

Cowell (1964: 383) showed the same is true in Syrian Arabic (25).

- (25) ma ⴻarrabt li'anno ma kan ma?i wa't
 NEG tri because NEGwas with-me time
 'I haven't tried (it) because I haven't had time'

Aftat (1982) showed that *ma* also occurs in “neither..nor” contexts of negation. In his analysis of negation, Aftat did not present further details about *ma* in Moroccan. The only description he presented is that *ma* appears preceding verbs and adjectives as in the examples below (Aftat 1982:105):

- (26) a. ma ⴻa ma-xalla-hum yⴻiw MA
 NEG come NEG-let-them come
 'he neither came nor let them come'
- b. ma kbir ma SaGir MA
 NEG big NEG small
 'neither big nor small'

Brustad (2000) also described the use of *ma* to negate pseudo-verbs in Kuwaiti Arabic. Pseudo-verbs consist of non-verbal or prepositional phrases which are treated like verbs. The example in (27) from Kuwaiti uses *ma* to negate the prepositional phrase *?alek* that serves as an imperative predicate (Brustad 2000:288).

- (27) ma ?alek
 NEG on-you
 'don't worry about it'

3.1.2 Non-verbal predicate negation

The morpheme *mu* is analyzed differently by many researchers mainly because it surfaces differently and because the function of this particle differs. Holes (1990) identified the morpheme *mub* with allomorphs *mu*, *muhub*, *hub* as a morpheme that is used by educated Gulf Arabic speakers in non-verbal predicates to negate adjectives, participles, adverbs, prepositions, nouns and pronouns. For the purpose of this paper, the form *mu* is adopted to represent this category of negation. The negative morpheme for the singular masculine is different than the singular feminine morpheme. Holes (73:1990) presented the examples ((28) a-h) as the system of negation used in most Gulf States.

- (28) a. huw mub zeen
 he NEG good
 'He's no good'
- b. il-gharfa mub baarda
 the-bottle NEG A.PART-be-cold-f
 'the bottle isn't cold'

- c. il-farraqʃ mub ſaayil il-awraagw
the-servant NEG A.PART-remove the-papers
‘the office-boy hasn’t removed the papers’
- d. mub baachir laakin ?ogub baachir yooSil
NEG tomorrow but after tomorrow 3SG.MSC-arrive
‘it’s not tomorrow he arrives but the day after’
- e. beetna mub mgaabil il-bank
house-our NEG opposite the-bank
‘our house isn’t opposite the bank’
- f. haadi mub jaami?a
this NEG university
‘This isn’t a university’
- g. mub inta illi abbiih
NEG you whom 1SG-want-him
‘It’s not you I want’
- h. ?aTni haadha mub dhaak
give-MSG-me this NEG that
‘Give me this, not that’

Holes also mentioned that some gulf states distinguish between a masculine morpheme *mu* and the feminine morpheme *mi* when negating noun and adjective phrases. As exemplified in (29) from Holes (73:1990):

- (29) is-sayyaara dhi mi zeena
the-car this NEG good-FEM
‘This car is no good’

Smadi (130-131:1979) described *mif* and *mu* as morphemes that are used to negate non-verbal, verbal and pre-modal sentences in Jordanian (30) (a-c). In (a) the negation morpheme *mif* precedes the noun clause *Talib nafiT*. However, in (b) *mif* appears in a pre-verbal position before the future marker *raH*. In the final example (30)(c), it precedes the modal *laazim* in a verb phrase. In Jordanian Arabic, *mif* or *mu* can negate a wide range of sentences.

- (30) a. ?ahmad miʃ/mu Talib naʃiT
 Ahmad NEG student good
 ‘Ahmed is not a good student’
- b. ?iHna miʃ/mu raH nsaafir bukrah
 we NEG shall leave tomorrow
 ‘we shall not leave tomorrow’
- c. ?nta miʃ/mu laazim tudxul
 you NEG must enter
 ‘you must not enter’

The non-verbal negation marker has different forms in other dialects of Arabic; in Moroccan *mafi*, Syrian *mu* and in Egyptian *miʃ* (Benmamoun 2000 and Brustad 2000). The negative copula that can be found in other neighboring dialects like Gulf, Jordanian and Syrian has a fixed form *mub* and does not inflect for any features. Holes (1990) shows *mub* preceding predicates that carry different features. He added that some dialects of the Gulf display negative markers that inflect for gender. Here I note a key difference between Najdi and other Gulf dialects. To have a better understanding of the two negation particles I list two examples from Holes (1990:73). These examples were copied directly with no alternations.

- (31) a. huwa mub zeen
 he NEG good.MSC
 ‘He’s no good’
- b. il-gharfa mub baarda
 the-bottle.FEM NEG cold.FEM
 ‘the bottle isn’t cold’

As demonstrated by Holes, *mu* remain unchanged in its agreement features, hence the generic form *mu* preceding a masculine adjective in (31)a) and *mu* preceding a feminine adjective in (31)b). In the case of Najdi negation gender would be reflected as an inflection on the non-negation element to reflect *muhub* for (a) and *maheeb* for (b).

Table 2 summarizes the distribution of the anaphoric, verbal and non-verbal negative markers in Egyptian, Moroccan, Jordanian, Syrian, Kuwaiti and Gulf dialects. Verbal negation includes pseudo verb predicates, while non-verbal negation includes predicates based on verb participles. All languages are unified in their use of *la* as anaphoric or a discourse marker regardless of its phonological differences i.e. *laa*, *la?*, *la* and *laa?*. They use *la* to mark anaphoric negation and negative imperatives. However, it is clear from the table that there are apparent distinctions between east and west languages in the use of *ma* and *mu*. As demonstrated, Syrian, Kuwaiti and Gulf states use *ma* as a verbal negative marker and they use *mu* and *muhub* for predicate negation. On the other hand, Egyptian, Moroccan and Jordanian use *ma...ʃ* and *ma* as verbal negative markers and *mijʃ* and *maʃī* for non-verbal negative marker.

Type of negation	Negative marker	Arabic Languages					
		Egyptian	Moroccan	Jordanian	Syrian	Kuwaiti	Gulf
Verbal	la	✓	✓	✓	✓	✓	✓
	ma				✓	✓	✓
	ma...ʃ	✓	✓	✓			
Non-verbal	mu/ muhub			✓	✓	✓	✓
	mijʃ/ maʃī	✓	✓	✓			

Table 2. The distribution of verbal and non-verbal negation among Arabic languages

3.1.3 Term Negation

A review of the Arabic literature on negation reveals an important limitation in comparison with English. The literature on negation concentrates on morphemes of negation for verbal and non-verbal predicates and does not explore other types of negation such as term negation. Despite the various factors involved in negation, not a single study investigated

negation in specific contexts. All studies presented earlier are merely descriptive in that language with few exceptions. In addition unlike what is established in English in regard to predicate and term negation, it is important to highlight that none of the Arabic studies investigated term negation. Term negation results from the negation of non-verbal phrases in non-predicate positions. Arabic does not have a form of term negation as English does. Instead, Najdi uses a form of verbal predicate negation to express a counterpart to term negation in English. A sentence such as *I saw no dogs in the yard* provides an example of term negation in English. However, when attempting to maintain the same meaning in Najdi, it translates into a predicate type of negation (32).

- (32) ma-shift kala:b fi ?l-Hadeeqah
NEG-saw dogs in the-yard
‘I did not see any dogs in the yard’

In the English sentence we notice the negative marker has limited scope over the NP *dogs*. However, in Najdi the negation has scope over the whole predicate, which gives it a predicate negation reading. Term negation [no dogs] does not translate into Arabic in the same way that English grammar requires. In that sense, Arabic does not possess any negative equivalent to the English *no* that would maintain the same constituent negation construction.

3.2 The Syntax of Sentential Negation in Arabic dialects

In this section, I review the syntactic analyses of predicate negation that have been offered for a number of Arabic varieties such as Moroccan, Egyptian, Palestinian, Kuwaiti, Syrian and Standard Arabic (Aoun et al, 2010, Benmamoun 2000 and Brustad 2000).

Benmamoun (2000) presented an analysis of negation that holds for most modern Arabic dialects.

Benmamoun (2000) and Aoun et al. (2010) argued for a unified syntactic treatment for verbal and non-verbal predicate negation in Arabic (both are considered sentential negation types). For their argument, they dealt with predicate negation as whole. Assuming a minimalist framework, typological data and arguments from French negation, they claimed that negation heads are specified for certain categorical features [+D]. By supposing that NegP occupies a projection between TP and VP, they argued that *ma* and its variants is a head of NegP that merges with the verb while it moves up to check the tense feature (Benmamoun 2000). They argue that negative markers head their own projection. This claim comes from the ability of negative particles to reflect properties of heads.

Aoun et al. (2010) argued that subject clitics can be hosted by *ma* and its variants (*ma-/ʃ*), and it has the ability to host agreement as well. In the example below from Holes (1990: 73), we see that the negative marker *mi* reflects gender agreement with the feminine adjective *zeena*. As noted this marker would reflect masculine gender *mu* if the adjective is masculine *zeen* therefore reflecting gender features.

- (33) is-sayyaara θi mi zeena
the-car this NEG good_{FEM}
'This car is no good'

The paradigm below from Aoun et al (98:2010), shows that different dialects of Arabic have the capacity to host subject clitics, which is a property of heads.

(34)

<i>a. Moroccan</i>	<i>b. Egyptian</i>	<i>c. Kuwaiti</i>	
ma-ni-ʃ	ma-nii-ʃ	maani	I + Neg
ma-nta-ʃ	ma-ntaa-ʃ	mint/mant	you.ms + Neg
ma-nti-ʃ	ma-ntii-ʃ	minti	you.fs + Neg
ma-huwa-ʃ	ma-huwwaa-ʃ	muhu	he + Neg
ma-hiya-ʃ	ma-hiyyaa-ʃ	mihi	she + Neg
ma-Hna-ʃ	ma-Hnaa-ʃ	miHna	we + Neg
ma-ntuma-ʃ	ma-ntuu-ʃ	mintu/mantu	you.p + Neg
ma-huma-ʃ	ma-hummaa-ʃ	muhum	they + Neg

After presenting this evidence to support the argument that negative markers demonstrate head features, the next step is to argue that the negative markers head their own projection. As established in the literature (Aoun et al, 2010, Benmamoun 2000), negation in Arabic is specified for an uninterpretable feature that needs to be checked against a specified feature. Based on Chomsky's (1995) Minimalist Program, Aoun et al (2010) and Benmamoun (2000) supposed that negation is specified for a [+D] feature. As a result, this feature needs to be checked against a specified feature. The verb carries a specified [+D] and checks it against the unspecified [+D] in the negative head and merges with it. By proposing that the negative layer is in a position between TP and dominating VP, the verb must move across negation on its way to T to check one more feature which is [+V], otherwise the derivation would violate minimality and the sentence would crash (Aoun et al, 2010, Benmamoun 2000).

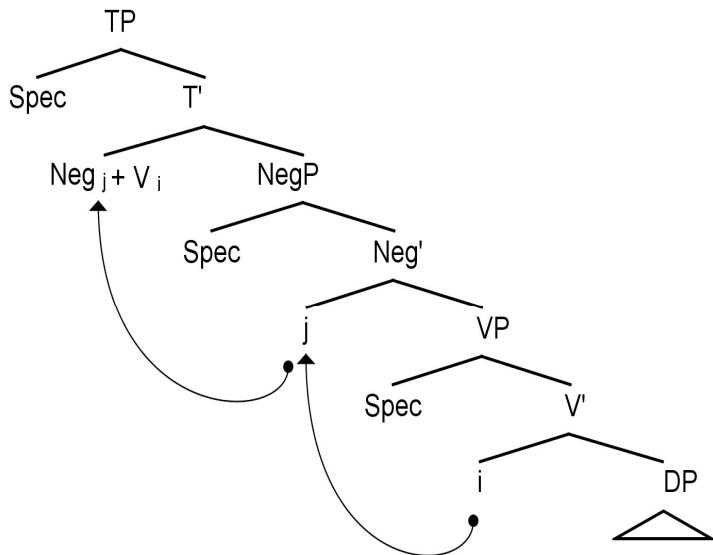
This assumption is supported by the fact that negative heads must merge with the verb.

Independent evidence from Sudanese shows that adverbs cannot occur between negation and the verb.

- (35) *Omar ma ?amis dʒa (Sudanese: Benmamoun 71:2000)
 Omar NEG yesterday come.past.3ms
 'Omar didn't come yesterday'

In the example above, *?amis* (adv) cannot intervene between the negative marker and the verb. In Sudanese, *ma* must immediately precede the verb. This gives support to Aoun et al, (2010) and Benmamoun's (2000) claim of positioning NegP immediately above VP (36).

- (36) Verbal Negation structure as represented by Benmamoun (2000)



The syntactic representation above is triggered by the movement of the verb to check [+V] feature in T. Along the way it picks up the negative particle in head of NegP and merges with it (Aoun et al, 2010, Benmamoun 2000).

Benmamoun (2000) argues that this analysis holds for non-verbal predicate negation as well. To accommodate verbless sentences in the dialects of Arabic, Benmamoun (2000) maintained that the negative marker in Arabic carries an uninterpretable [+D] feature that needs to be checked by an NP or a head that carries a specified [+D] feature. By assuming that *maa* is in Spec of NegP, through a Spec-head relation with the subject the negative marker can satisfy the checking mechanism. As evidence Benmamoun argued that negation merges with pronominals in Moroccan, Egyptian and Kuwaiti (see (34) earlier). In Maltese Arabic, the pronominal *hu*, which carries a masculine singular feature, merges with the negative *ma* to form *mhux* (Benmamoun 2000). Rather than appearing as an independent nominative pronoun, negatives in Moroccan and Egyptian Arabic merge with genitive pronominals. This can be observed in the paradigm below from Benmamoun (2000:80).

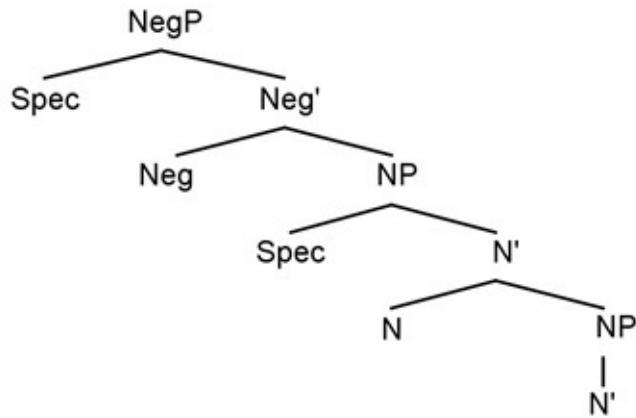
(37)

maani	my +neg
maanaak	your.S+neg
maahu	his+neg
maahi	her+neg
manna	our+neg
mankum	your+neg
maahum	their +neg

I will propose for this research that non-verbal negation is accounted for by assuming that the negation marker *ma* remains in the head position in the non-verbal positon in the same

position as in verbal predicates. By presenting the structure in (38) verbal and non-verbal negation in Najdi could be unified under one structure. The only difference between the verbal structure and non-verbal structures in Najdi is the checking mechanism of [+D]. In non-verbal predicates it is checked by the movement of the pronominal to merge with the negation head *ma*.

(38) Non-verbal Negation structure as represented in Najdi



Other dialects of Arabic substitute all these forms with one form *mu*. The over generalization of *mu* was noted by several researches such as Brustad (2000), Holes (1990) and Matar (1976).

To sum up, Aoun et al (2010) and Benmamoun (2000) argue for a minimalist analysis of sentential negation in Arabic dialects. The negative marker in Arabic heads its own projection that is located between TP and VP or NP. This negative marker is associated with an uninterpretable [+D] feature that needs to be checked against an interpretable [+D] feature. The feature checking process is accomplished in verbal sentences through merger by head movement and through the Spec-head relation in non-verbal sentences. However, it is unclear why the

negation marker is assumed to be in different positions in the verbal (head of NegP) and in the non-verbal (Spec of NegP).

Alsarayreh (2012) proposed a challenge to the Aoun et al. (2010) and Benmamoun (2000) accounts. He claimed that a NegP lower than TP does not account for all instances in Jordanian Arabic. He argued that the following examples pose a challenge to Aoun et al. and Benmamoun's proposal of a NegP lower than TP (39).

- (39) a. ma-kan biHib t-tufaH
 NEG-was.3MS like.3MS the-apples
 'He did not use to like apples'
- b. ma-^find-i sayyarah
 NEG-at-me car
 'I do not have a car'
- c. ma-Hada ?idʒa
 NEG-one came.3MS
 'no one came'
- d. ma-fi Hada ?idʒa
 NEG-there one came.3MS
 'no one came'
- e. ma-^fumr-u Hathir l-dʒtimaʃ
 NEG-ever-him attended.3MS the-meeting
 'He has not ever attended the meeting'

In the examples above, the elements following *ma* are argued to be base-generated in TP or higher. In (39) (a-e) we see auxiliary verbs, prepositions hosting pronouns, indefinite pronouns, existential particles and adverbials hosting prounoun clitics appear prefixed by *ma*. Alsarayreh (2012) wondered, if they are base generated in a projection higher than NegP, how can the negative markers appear preceding them? By proposing that NegP is in a hierarchical position above TP, Alsarayreh assumes it accounts for the data from Jordanian.

Alsarayreh's (2012) arguments on the surface seem plausible and challenge Benmamoun's account of negative projection lower than TP. However, when Alsarayreh's evidence was examined it was discovered that they indeed could be captured by Benmamoun's analysis. By taking auxiliaries in English as a starting point, it is argued that the status of auxiliaries in English is ambiguous. Auxiliaries can act as main verbs in sentences such as *He was a policeman*. In Jordanian Arabic, the so called auxiliary '*kan*' expresses more verb features than English auxiliaries. *Kan* has the ability to conjugate to different tenses (40).

- (40) a. Ali kan fi el-bait
 Ali be.PAST in the-home
 'Ali was home'
- b. Ali raH- / bi-yku:n fi el-bait
 Ali will / IND-be. in the-home
 'Ali will be home'

In the examples from Jordanian above, *kan* is the only verb in the sentence which expresses the past tense. In (b) we notice *kan* is prefixed by *bi-* which is the imperfective marker or by *raH* which is the future marker in Jordanian Arabic. Similarly, when investigating the class of the existential *fi* in Arabic we find arguments that it can be analyzed as a verb. Al-Kulaib (2010) and Mohammad (1998) provided typological and acquisition evidence from Saudi and Palestinian Arabic arguing that *fi* belongs to a verb class. This evidence shows that *kan* and *fii* in Arabic behave as verbs. Furthermore, the fact that JA uses the verbal negative morpheme *ma* rather than the predicate negation *mi*, *mu*, and *mumah* with the examples mentioned ((38) a-e) indicates that all Alsarayreh's examples can be accounted for differently. As a result Benmamoun (2000) would argue that these sentences provided by Alsarayreh's (2012) can be captured by his analysis. Moreover, when examining the remaining examples of Alsarayreh, we

notice that they possess the ability to accept pronominal suffixes (38 b and e) which maps the behavior of regular verb in Arabic.

In sum, Benmamoun's (2000) analysis is a result of a wide range survey of Arabic dialects, and more importantly it holds as a valid argument against Alsarayreh (2012) evidence. Therefore, for the purpose of this paper I will adopt Benmamoun's (2000) accounts to account for negation in Najdi.

3.3 Najdi Arabic

This section describes the forms of negation found in Najdi Arabic. I divide negation into anaphoric, verbal and non-verbal predicate types. I list all forms of negation that negate verbs and pseudo verbs in perfective, imperfective and future contexts. Non-verbal predicate negation includes the negation of nouns, pronouns, adjectives, adverbs and the like acting as predicates in verbless sentences. I also discuss strategies of negation in contexts that do not have a visible negative element. Instead, these contexts reflect negation through their negative semantic connotation, which I label as Negative Connotation Lexicon. I include a brief discussion of Negative Polarity Items in Najdi as well. Finally, I examine double negation. This section of the study provides a thorough typology of how negation is expressed in Najdi Arabic.

3.3.1 Anaphoric negation

Najdi uses the particle *la* to mark anaphoric negation. The anaphoric element appears at the beginning or end of a sentence. Its position shows that the anaphoric marker is external to the sentence. Anaphoric *la* can be used in Najdi as a response to a yes/no questions (41).

- (41) A: tabi tiji?
want-you come-you
'Do you want to come?'

- B: la
NEG
'No'

Najdi expresses negation in a unique manner that as far as I know has not been addressed by the literature. Najdi speakers use an ingressive palatal alveolar click instead of *la* in response to a yes/no question. This onomatopoeic sound only occurs in highly restricted pragmatic situations. It is used with close peers and it is a generation marker. Speakers of Najdi would not use it with their parents. It would appear in a situation where a person may be occupied and while being asked a yes/no question he or she would response by producing this sound.

3.3.2 Verbal negation

This section addresses the types of negation that occur on different verb and pseudo verb predicates in Najdi. These verb forms are used in imperative, perfective, imperfective, continuous and future contexts. There are three particles used to negate verbs in Najdi Arabic. These particles are *la*, *ma* and *muhub* with its variants. The following sections describe how each particle is used with these verb forms.

3.3.2.1 /la/

The morpheme *la* is used to negate the imperative verb and pseudo verb constructions in Najdi Arabic. The particle *la* only appears preverbally in these contexts. As in previously

observed in other Arabic languages, it does not change form or inflect for other arguments in the sentence.

- (42) a. la-takel
NEG-eat.2MS.SUBJ
'do not eat!'
- b. *takel-la
eat.2MS.SUBJ - NEG
'do not eat'
- c. ?rkD
run
'run!'
- d. *la-?rkD
NEG-run
'Don't run'
- e. la-turkD
NEG-run
'Don't run'
- f. la-teSi:r *ksabi*
NEG-become stupid
'Don't be stupid'

Examples (42) (a) and (c) show the negative particle *la* preceding the verb. However, in (42) (b) it is ungrammatical because *la* appeared in a position following the verb. The verb has different representation when comparing positive to negative imperative in Najdi. As in other Arabic languages, the imperfective (2nd person) verb form is used in the negative imperative context as in (42) (a, c & e). When attempting to introduce *la* to the imperative form of the verb, the sentence is ungrammatical (42) (d). When attempting to negate an adjective we end up inserting a verb to intervene between the negative marker and the adjective. In example (42) (f), the negative marker *la* is used and the verb *teSi:r* 'become' is inserted because what is negated here is a verbal predicate.

3.3.2.2 /ma/

The distribution of *ma* in Najdi Arabic is similar to other Arabic dialects in respect to its position before verbs. The particle *ma* is used to negate perfective, imperfective verbs (3rd person), and verb-like expressions such as pseudo-verbs, and it appears at the beginning of negative questions. Like the negative particle *la*, *ma* does not inflect for any agreement feature (gender, number or person) and does not appear with any suffixation such as *-ʃ*. The examples below are from data excerpts collected from native speakers of Najdi Arabic.

- (43) a. ma-frab qahwah
NEG-drink.3MS coffee
'He did not drink coffee'
- b. ma-yfrab qahwah
NEG-drink.3MS coffee
'He does not drink coffee'

The only difference between examples (43)(a) and (b) are in aspect, where the first example expresses perfective aspect and the later expresses imperfective aspect. The imperfective marker is a prefix that carries the features of aspect and gender (*y-* for masculine and *t-* for feminine). The difference in aspect does not affect the properties and position of /ma/ in both contexts. Manipulating number has no affect on *ma* either. The subject gender and number do not affect the distribution of *ma*.

- (44) a. ma-frabat qahwah
NEG-drink.3SG.FEM coffee
'She did not drink coffee'
- b. ma-frabau qahwah
NEG-drink.PL coffee
'They did not drink coffee'

In (44) (a) the subject is feminine while in (b) it is masculine plural, however /ma/ is not affected by the number of subjects and its usage remains the same across the data.

Brustad (2000) claims that pseudo verbs do not belong to one category or another. The semantics of the sentence can only determine if these lexical items belong to verbs or a non-verbal category. However, Brustad (2000) provided an important test for determining the class of a pseudo verb. She claims that negation places these items in the verb category. In this paper, pseudo verbs are considered a type of verbal negation because they behave as verbs in terms of the use of the negative marker *ma* (45). Another feature of these pseudo verbs is their ability to be suffixed by pronouns similarly to regular verbs.

- (45) a. ma- ?ale-k
NEG-on-you.2ND.MSC
'Don't worry'
- b. ma-?ind-i floos
NEG-have-me money
'I don't have money/ lit: I do not possess money'
- c. ma-maf-i sayarah
NEG-with-me car
'I do not have a car'

In Njadi, *la* can also precede verbs in the subjunctive mood (46).

- (46) la-yʃrab qhwah
NEG- SUBJ.drink.3MS coffee
'Do not let him drink coffee/stop him from drinking coffee'

Imperative and subjunctive contexts do not allow perfective or modal verbs. They are non-finite contexts in contrast to finite contexts that permit the use of perfective and modal verbs. The negation marker *la* only occurs with verbs in non-finite contexts. Pseudo-verbs exist

in Najdi as well, see examples (47) (a & b) below. Despite the fact that these items behave similarly to verbs, they usually do not exhibit full verb features. These items are classified as verbs because of their verb like features. One of the arguments presented in the literature (Al-Kulaib 2010, Lakoff 1987 and Mohammad 1998) is the negation morpheme that is used to negate pseudo-verbs is the same negative morpheme used for verbal negation *ma*. As shown in (47) pseudo-verbs are negated by *ma* in Najdi as well.

- (47) a. ma-*ʕalek*
 NEG-on-you.2ND.MSC
 'Don't worry'
- b. ma-*fiih* ?*Had* *ʕend* *il-baab*
 NEG-there someone at the-door
 'There no one at the door'

Example (48)(a) shows that *ma* precedes the preposition *ʕalek*. In (48)(b) *ma* appears before the existential *fiih*. Similar to all instances of negation in Najdi *ma* in these examples cannot appear in any other position in the sentence

The presence of *ma* is also notable in interrogatives in Najdi. Because the syntax of forming negative questions as in (48) and negative statements as in (48) is the same (NEG V S O), it is important to note that when forming negative questions in Najdi, the speaker must produce a rising intonation in order to distinguish it from the falling intonation of statements.

- (48) a. ma-*y-a?*ref *y-tkallam?*
 NEG-know.3SG.MSC talk.3SG.MSC?
 'Doesn't he know how to talk?'
- b. ma-*ʃrab* *Haliib?*
 NEG-drink.3SG.MSC milk
 'Didn't he drink milk?'

3.3.2.3 Contrasting *ma* and *la*

I mentioned earlier in this chapter that *la* precedes non-finite forms of the verb. The negation marker *ma* is used in finite contexts. Typological evidence supporting this claim comes from other Arabic dialects where overt morphology marks the finite form.

The two constructions appear in the same preverbal environment. However, they reveal different interpretations. Examples are repeated below for convenience.

- (49) a. la-yfrab qahwah
NEG- SUBJ.drink.3MS coffee
'Do not let him drink coffee/ stop him from drinking coffee'
- b. ma-yfrab qahwah
NEG- IMPERF.drink.3MS coffee
'He does not drink coffee'

As explained earlier, the negative particles occupy a preverbal position. However, they result in different interpretations. In (49) (a), the listener understands the agent (null in Najdi) is prohibited from drinking coffee now i.e. the verb is in the imperative mood. However in (49) b), the meaning becomes a statement of habitual action as the agent does not drink coffee i.e. the verb is in the indicative mood.

Additional evidence for this claim comes from the typology of verbs in Jordanian Arabic. Jordanian Arabic overtly marks the indicative form of the verb by prefixing the verb with *bi-*. Examples (50) a) and (b) shows how JA distinguish between the two verb moods.

- (50) a. la-yfrab qahweh JA
NEG-drink.3MS.SUBJ coffee
'Do not let him drink coffee/ stop him from drinking coffee'
- b. ma-bi-yfrab qahweh JA
NEG- IND -drink.3MS coffee
'He does not drink coffee'

There are differences in the interpretations between sentences negated using *la* and *ma* in Najdi. Moreover, morphological evidence for this claim was presented from Jordanian Arabic, a language that overtly marks the indicative by a distinctive prefix namely *bi-*. These differences are caused by the fact that Najdi Arabic does not overtly mark the distinction between the indicative and subjunctive verb forms as some other Arabic dialects. Both moods in Najdi do not bare any morphological features. Speakers of Najdi rely to the information supplied by the context.

The table below is a summary and quick comparison between the two morphemes *la* and *ma*. As we learned so far, both morphemes appear in the preverbal position. The marker *la* is used to negate verbal predicates in non-finite contexts. Najdi also uses *la* as a discourse negation morpheme. Moreover, it uses *ma* to negate the indicative verb forms and construct negative questions.

	Indicative	Questions	existential	Subjunctive	Imperative	Anaphoric
<i>la</i>				✓	✓	✓
<i>ma</i>	✓	✓	✓			

Table 3. Comparison of *la* and *ma* in Najdi

To summarize Najdi shares features with other Arabic dialects such as Kuwait and Syrian. It demonstrated that Najdi does not include the split particle construction (*ma...ʃ*) that is present in other Arabic versions such as Moroccan and Egyptian. It also described the complementary distribution of *la* and *ma*. Neither morpheme is sensitive to gender, number or person. In addition, there is a general agreement in the negation literature in Arabic about *la* and

ma, an agreement on how these two particles surface. Additionally, *la* and *ma* precede different verb moods imperative/subjunctive and indicative respectively.

3.3.3 Non-verbal predicate negation

3.3.3.1 /muhub/

This section provides a description of non-verbal predicate negation in Najdi. In this section I use the third person singular masculine morpheme *muhub* to represent all inflections of the morpheme. In Najdi Arabic *muhub* has eight forms for person and number to mark agreement with the subject. The table below summarizes the multiple inflections that speakers of Najdi Arabic use in their everyday conversation.

1SG.	1PL	2SG.MSC	2SG.FEM	2PL	3SG.MSC	3SG.FEM	3PL
maniib	mannaab	manntab	manteb	mantumb	muhub	maheeb	muhumb

Table 4. Non-verbal negation in Najdi

As far as the internal construction of *muhub* goes, Matar (1976) explained that all variations of non-verbal predicate negation *mub*, *ma-hu-b*, *muhub*, and *hub* are basically composed of the negation marker *ma*, a pronominal *hu* and an emphatic *-b*. He explained that the emphatic /b/ is an additional morpheme. This position is considered one of six positions in which Arabic exhibits the addition of emphatic /b/. In addition, Matar claimed that vowel harmony played a role in creating the vowel [u] in the negative particle *muhub*.

The negation particle *muhub* and its variants (Table 4) are used in Najdi Arabic to negate predicate nouns, pronouns, adjectives, active participles, adverbs and prepositions.

- (51) a. maniib doktor
 NEG.1SM doctor.2SM
 'I am not a doctor'
- b. (Ali) muhub fi il-beet
 Ali NEG.3SM in the-house
 '(Ali) is not in the house'
- c. il-moeyah maheeb baarda
 the-water.FEM NEG.3SG.FEM cold.FEM
 'the water is not cold'

The examples above (51) (a-c) are instances of the negative marker *muhub* used with a noun (a), a preposition (b), and an adjective (c). The examples show that *muhub* agrees with the subject in person, gender and number. The negative marker *muhub* constitutes a negative predicate that precedes non-verbal elements.

- (52) al-ijtema^f muhub-bukrah al?sbuu^f iljay
 the-meeting NEG.3SG.MSC-tomorrow week next
 'The meeting is not tomorrow, it is next week'

Example (52) above show that *muhub* can negate adverbs *bukrah* in Najdi. Additionally, prepositional phrases are negated by *muhub* (53).

- (53) il-kittab muhub ma^f-i
 the-book NEG.3SG.MSC with-me
 'the book is not with me'

By examining examples (51) (a & b) above we notice that *muhub* can inflect for different agreement features. This could be evidence to show the syntactic location of *muhub* in the derivation as a head of its projection. This also suggests that *muhub* is the predicate in the sentence. Najdi Arabic uses a masculine negative morpheme *muhub* preceding *zeen* and feminine negative morpheme *maheeb* preceding *baarda*.

3.4 The Syntax of Sentential Negation in Najdi

In this section I analyze the syntactic structure of sentential negation in Najdi Arabic in relation to the accounts of negation in other Arabic dialects. The current account for Najdi adopts previous analyses conducted on other varieties of Arabic, including Moroccan, Egyptian, Palestinian, Kuwaiti, Syrian and Standard Arabic (Aoun et al, 2010, Benmamoun 2000 and Brustad 2000). Benmamoun (2000) presented an analysis of negation that holds for all modern Arabic dialects (explained earlier). This section demonstrates an attempt to extend his analysis to Najdi. As a result, it is concluded that the account of sentential negation in other dialects holds for Najdi Arabic.

3.4.1 Negation in Najdi

I will now demonstrate that Najdi does not stray far from the analysis of negation in other dialects of Arabic. First, an argument of the status of negative markers is presented i.e suggesting that they demonstrate head features. Second, the position of negation projection in the syntactic hierarchy is suggested i.e. NegP occupies a position between TP and VP. Finally, I will provide an explanation to motivate checking features to satisfy minimality constraints.

It has been established that negatives in the dialects of Arabic display head features. The evidence from Najdi Arabic mimics other dialects in two respects. Negatives in non-verbal contexts can host subject clitics and exhibit subject agreement features. The argument does not extend to verbal negation with /ma/ or /la/.

- (54) as-syarah ma-heeb Xarbanah
 the-car NEG-3FS broken
 ‘The car is not broken’

Having established that negative markers are heads in Najdi, the following step would be to determine the position of NegP in Najdi. By claiming that NegP is located above VP and below TP, Najdi is placed in a position among other Arabic languages (Aoun et al, 2010, Benmamoun 2000 and Pollock 1989). This claim is supported by the fact that no lexical element can intervene between the verb and the negative marker. As we already established that the only position for negative markers in Najdi is a position preceding what it negates. Therefore, if any element in the sentence intervenes between the negative marker and the verb predicate the sentence is ungrammatical (55). As a result, I assume that NegP captures negation behavior in Najdi

- (55) a. Omar ma-dʒa
 Omar NEG-come. 3MS
 ‘Omar did not come’
- b. *Omar ma ?ams dʒa?
 Omar NEG yesterday come. 3MS
 ‘Omar did not come yesterday’
- c. ma-ʃumr-u Hathir l-dʒtimaʃ
 NEG-ever-him attended.3MS the-meeting
 ‘He has not ever attended the meeting’

Earlier in the chapter, I demonstrated that Aoun et al (2010) and Benmamoun (2000) argued that the negative marker in Arabic is associated with an uninterpretable [+D] feature that needs to be checked against an interpretable [+D] feature. The feature checking process is executed in verbal sentences through merger by head movement and through the Spec-head relation in non-verbal sentences. I will extend the checking mechanisms to Najdi.

Verbal *ma* and non-verbal *muhub* negative markers are assumed to demonstrate an uninterpretable [+D] in Najdi. The only difference between these markers is the checking processes. Verbal sentences check their feature through merger with negation marker in the head

position while non-verbal sentences check their feature through a Spec-head relation with negation marker being in the Spec position. Here I claim that Benmamoun (2000) is on the right track and his accounts apply to Najdi in the verbal position. *Ma* uninterpretable [+D] is checked through head-to-head merger movement of the verb. The non-verbal negation in Najdi could also be maintained by keeping the negative marker in the head of NegP. The [+D] feature is checked through the movement of the pronominal head to merge with negative marker creating *muhub* and its variants in the spell out.

3.4.2 Modals

Najdi modal grammar is different than that in English. Modals in Najdi can take verbal and non-verbal complements. Also, modals are always negated by the non-verbal predicate negative *muhub*. A sample list of these modals is shown in Table 5 along with their interpretations and meanings.

Modal	Meaning
<i>lazim</i>	Obligation (must)
<i>mumkin</i>	Permission (may)

Table 5. Modals in Najdi

Examples below show modals preceding verbs (56) (a & c), negated modals preceded by *muhub* (b & e) and a modal with non-verbal complements (d)

- (56) a. lazim tij-i lil-?asa
 must come-you for-dinner
 'You must show up for dinner'

- b. muhub-lazim tij-i lil-?asa
 NEG-must come-you for-dinner
 ‘You don’t have to show up for dinner’ ‘lit: You must not show up for dinner’

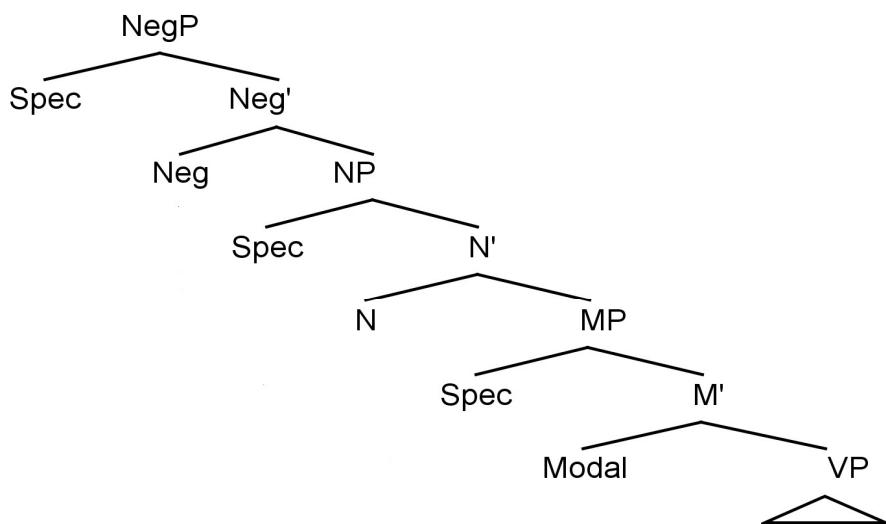
c. mumkin tjareb el-farawlah?
 may try-you the-strawberry
 ‘Could you try the strawberry?’

d. mumkin Yousef yazor-na
 may Yousef visit-us
 ‘Yousef may visit us’

e. muhub-mumkin ?akil farawlah
 NEG-may eat strawberry
 ‘it is not possible I eat strawberry’

Examples (56) (b & e) show the interaction between modals and negative markers in Najdi Arabic. It is important to highlight that modals are negated by a non-verbal negative markers *muhub* which may indicate that they may not fall under a verbal category.

(57)



To summarize, unlike what is available in other Arabic dialects that have a negative copula *mu*, Najdi has a pronoun of negation that inflects for all agreement features. *Muhub* constitutes a negative predicate that precedes nonverbal arguments such as nouns, adjectives, modals and prepositional phrases.

3.4.3 Negative Connotation Lexicon

In this section I present a type of negation that does not show an explicit morpheme of negation. However, these sentences still have a negative interpretation. This type of negation is present in languages like English.

- (58) Smoking is prohibited

Najdi Arabic has what I call a Negative Connotation Lexicon (NCL). Unlike the previously described types of negative markers (*ma*, *la* and *muhub*), NCL's usually have a free word order (59).

- (59)
- a. mammouf addouxoul
prohibit entering
'Entering is prohibited'
 - b. addouxoul mammouf
entering prohibit
'Entering is prohibited'

These examples do not contain an overt negation marker. However, the sentence conveys the reading of *entering is not allowed*. Another, characteristic of NCL is that they all have the same type of Transfix. Semitic languages like Arabic are famous for their root-and-pattern

morphology (personal communication January 27, 2010). Arabic has an inventory of root tiers that map on to a skeleton of transfixes patterns that surfaces in the vocalic or melody tier.

- (60) $\sqrt{\text{ktb}}$ ‘write’

- a. katab ‘write’ CVCVC
- b. kattab ‘cause to write’ CVCCVC
- c. kaatab ‘correspond’ CVVCVC

If we examine a list of NCL’s like: *marfouD* “rejected”, *mamnouf* “prohibited”, *masdoud* “closed: dead end road” *maSkouk* “closed: door is closed” and *maḥjoub* “cannot see”, we notice that the large majority of NCL’s carry the same skeleton tier of CVCCVVC. Moreover, these words all begin with /ma/, which suggests they may have been derived through a process of contraction with the negative marker /ma/. However, not every Najdi word with the same form has a negative reading. There are words in Najdi with this form that have other readings such as *mabsouT* “happy” and *makoul* “was eaten”. There are also other NCLs that have a negative reading but do not map on the CVCCVVC tier. Words like *muḥarram* “forbidden” that has religious implications as in:

- (61) ?l-?lkel fi nahar ramaDan muḥarram
 the-eating in day Ramadan forbidden
 ‘eating is forbidden during the day in Ramadan’ Lit: it is not allowed to eat during the day in Ramadan’

The NCL serve as the sentential predicate. This type of construction is not the main focus of this study. In the following section I address another aspect of negation in Najdi, Negative Polarity Items.

3.5 Summary and Conclusion

This section provided a detailed description of negation forms used by adult speakers of Najdi Arabic. Two main groups of morphemes seemed to represent negation elements in anaphoric, verbal and non-verbal contexts. The negative marker /la/ is used in discourse (anaphoric), imperative and subjunctive contexts of negation. The negative marker /ma/ is used with verbal predicates to negate interrogative and indicative sentences. The inflected form /muhub/ is used to negate non-verbal predicates. Najdi /la/ and /ma/ do not employ the enclitic /-/ʃ/, which makes them unique among previously studied Arabic dialects. Under the non-verbal negation type, eight inflections were demonstrated as everyday uses of the morpheme *muhub*. Typological evidence was presented to argue that *muhub* is sensitive to gender, number, and person. This provides an indication that categorical non-verbal features can be carried in negation (Benmamoun 2000).

This chapter explored the grammar of negation in Najdi Arabic. More importantly, the analysis showed that Najdi is not different than other versions of Arabic in the syntactic distribution of negation and in the checking mechanisms of negation. Negatives head their own projection in Najdi that is located between TP and VP. Mimicking other dialects of Arabic, negative markers in Najdi are associated with uninterpretable [+D] feature that needs to be checked. It was also demonstrated that Najdi is unique in its treatment of non-verbal negation particle. Arabic varieties include a pronoun of negation as a fixed uninflected form *mu*. However

Najdi, show a distinctive inflection of *mu* that inflect to gender, number and person. This review of the typology of negation presented two unique negation strategies. A onomatopoeic sound used instead of the anaphoric *la* in restrictive environments and the Negative Connotation Lexicon.

CHAPTER FOUR: METHODOLOGY

This chapter presents the processes that were administrated to generate the data collected for this study. Here I begin with the description of the setting, the characteristics of the subject chosen for this study. Finally I describe the method of data collection followed by how the data were coded and analyzed.

4.1 Setting

The data were collected in the household of native Najdi speaking parents. Najdi is the primary language used in the recorded conversations and it is the main language that the child is acquiring.

4.2 Project description

The data traces Badr (B) a native speaker of Najdi Arabic and his interactions with mainly his father. Although the child was recorded from the age of 7 months until the age of 5 years, the study focuses on the recordings made at ages of 2;0, 2;6 and 3;0 years. The starting age was chosen because the child did not produce multiword utterances before that age. Also keeping on par with acquisition literature makes cross-linguistics comparison more attainable. His parents are native speakers of Najdi Arabic. Both parents are graduate students in the University of Kansas. The father is the person who followed the child's language development and recordings and is the main adult speaker in the recordings. There were only a few times that the mother or other adults were involved. All utterances are natural spontaneous speech. They include everyday activities with the child such as reading Arabic story books, play time and

direct conversation. At the beginning of each recording, a description of the setting was recorded and relevant information such as time of the day and date were noted. For example, the researcher explains that this session is going to include interactions during playing with building blocks or the description would note the preparations before nap time and similar at home activities.

4.3 Recordings

Sessions were recorded almost every week. At times, more than one session was recorded on the same day. In addition to the recordings, the researcher audio comments were included and written notes were also taken when the digital recorder was not available. There were no limitations on the length of each session. Some sessions lasted 55 minutes while others were less than 5 minutes long; on average each session length was 25 minutes. A recording log was prepared to keep track of every finished recording. It includes the serial number of the recording, the child's age at the time of recording, the date, the length, and the codename of the file (See Table 6).

No.	Age	Date of recording	Duration	Time of the day
1	2;0	2/19/2008	33:16:160	1:00 PM
2	2;0	2/19/2008	10:54:960	2:00 PM
3	2;0	2/19/2008	01:09:200	3:00 PM
4	2;0	2/19/2008	15:33:360	4:00 PM
5	2;0	2/19/2008	04:41:360	5:00 PM
6	2;0	2/20/2008	02:37:680	1:45 PM
7	2;0	2/20/2008	01:55:440	1:50 PM
8	2;0	2/20/2008	11:52:480	7:30 PM
9	2;0	2/21/2008	32:31:840	6:30 PM
10	2;0	2/22/2008	14:36:160	8:30 AM
11	2;0	2/22/2008	07:49:600	9:00 AM
12	2;0	2/29/2008	06:19:440	6:48 PM
13	2;0	2/29/2008	05:32:640	8:49 PM
14	2;01	3/4/2008	20:29:360	6:30 PM
15	2;6	8/12/2008	31:18:000	9:00 AM
16	2;6	8/15/2008	03:41:640	7:45 PM
17	2;6	8/16/2008	16:50:040	7:45 PM
18	2;6	8/18/2008	11: 21:360	5:00 PM
19	2;6	8/20/2008	32:14:720	
20	2;6	8/23/2008	08:12:000	5:45 PM
21	2;6	8/23/2008	09:44:000	7:45 PM
22	2;6	8/23/2008	06:19:000	8:30 PM
23	2;6	8/26/2008	31:07:000	7:45 PM
24	2;6	8/26/2008	07:37:000	

25	2;7	9/1/2008	04:20:000	1:40 PM
26	2;7	9/2/2008	04:08:00	9:20 PM
27	2;9	11/14/2008	11:06:000	6:00 PM
28	2;9	11/29/2008	06:00:560	11:18 AM
29	2;9	11/29/2008	05:41:280	4:00 PM
30	2;9	11/29/2008	02:41:120	1:50 PM
31	3;0	2/10/2009	11:13:680	1:00 PM
32	3;0	2/12/2009	25:45:840	4:25 PM
33	3;0	2/13/2009	14:39:200	4:50 PM
34	3;0	2/15/2009	06:13:640	
35	3;0	2/19/2009	40:17:400	7:07 PM
36	3;0	2/20/2009	20:21:600	
37	3;0	2/22/2009	30:27:760	9:00 PM
38	3;0	2/23/2009	04:52:640	7:20 PM
39	3;0	2/24/2009	23:14:560	12:15 PM
40	3;0	2/24/2009	13:13:080	1:00 PM
41	3;0	2/24/2009	03:18:800	1:30 PM
42	3;0	2/24/2009	01:55:360	2:00 PM
43	3;0	2/24/2009	20:46:320	5:00 PM
44	3;0	2/24/2009	06:02:920	6:00 PM
45	3;0	2/25/2009	23:46:760	1:00 PM
46	3;1	3/26/2009	14:39:600	1:05 PM
47	3;1	3/27/2009	04:20:080	1:40 PM

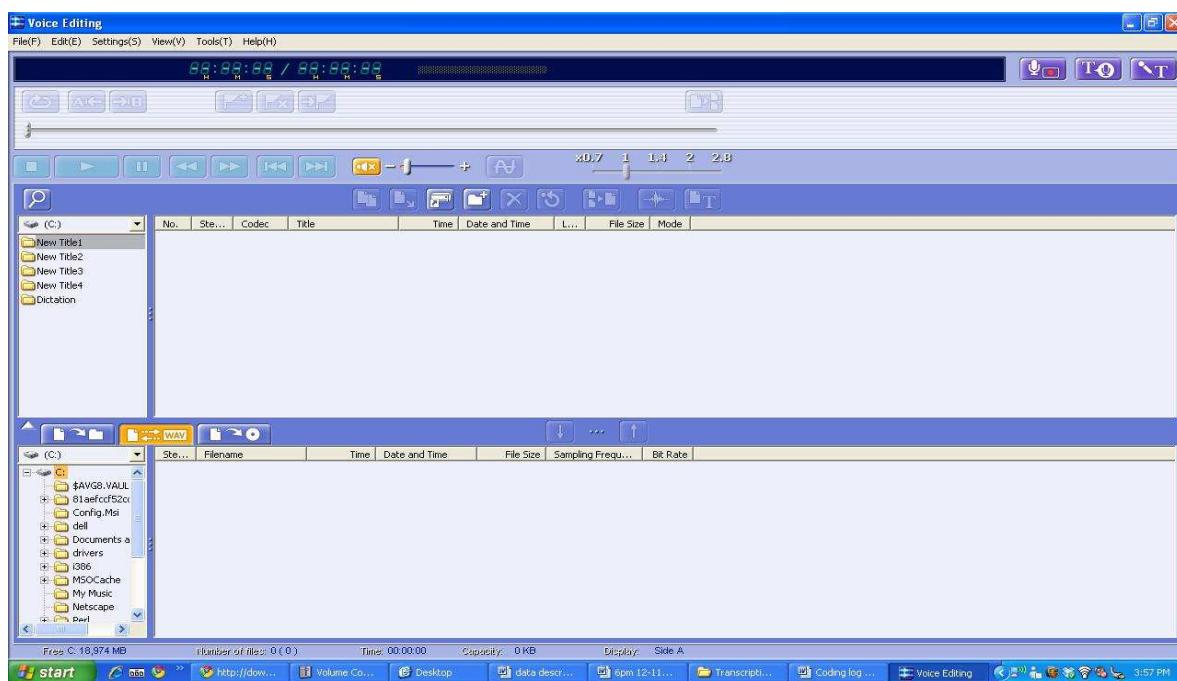
Table 6. Sample of filing of data

4.4 Equipment

A Panasonic digital recorder (model RR-US395) with an embedded microphone was used for the recordings. The recordings were made at 16 bits at 16 kHz. The audio data were transferred into several folders on a PC computer and organized by month and year. Back up files were made on CDs and a portable hard drive. The audio files were copied and converted from the digital recorder into the WAV format onto the computer using Voice Editing program Ver. A.05A Premium Edition. In a separate folder, each file was saved into the computer as a WAV file format (Figure 1). For example, Badr Dec 2009 - Jan 2010> 5pm 12/12/09.WAV, 6pm 12/17/09, 3:30pm 1/1/10.

To transcribe the audio corpus, a Plantronics Audio 365 Closed-Ear Full-Range Stereo Headset was used to listen to audio playback. This headset provided a quiet environment to listen to the audio files on the computer.

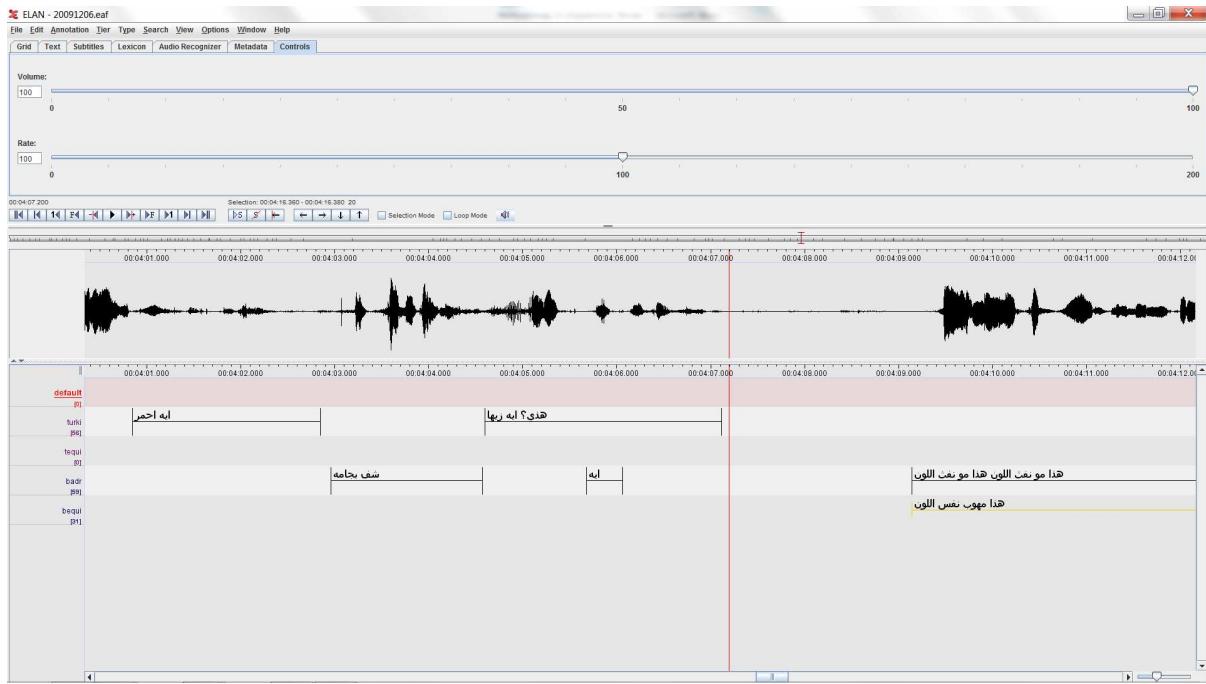
Figure 1. Voice Editing program Ver. A.05A Premium Edition (Panasonic Inc.)



4.5 Transcription

In order to produce an output that would enable adequate data analysis the first step was to transcribe audio files into a written format. I used the ELAN Linguistic Annotator Version: 4.4.0 for this task. The free software is provided through the Max Planck Institute for Psycholinguistics, The Language Archive, Nijmegen, The Netherlands (Sloetjes & Wittenburg 2008). For the purpose of this project, all audio files were transcribed in Arabic orthography. Fortunately, ELAN supports Arabic text, therefore the transcriptions were typed into the program on the conversation window (Figure 2 below). ELAN has the function of designating multiple fields or tiers. Depending on the each file a number of 4-6 tiers were used. The first tier was labeled “turki”. It includes file information such as the date and time, the description and comments. The second tier was labeled as “tequi” which was an extension of the first tier. This tier was used to provide additional comments that may have been added during transcription. The third tier was labeled “badr”. It was designated for the child’s utterances. Fourthly, a tier labeled “bequi” was used for the adult equivalent or the researcher’s interpretations of the child’s sentences. Additional tiers were added depending on the number of speakers such as the mother of the subject.

Figure 2. ELAN Linguistic Annotator



In order to produce a file that can be run in special modified files, it was important to transfer all transcribed files into the Excel format. I followed a series of procedures in order to produce an Excel file from the ELAN transcriptions. In ELAN the file was exported as a Tab-delimited text format with the hh:mm:ss:ms function highlighted. This file was imported to Excel by clicking the data icon then importing “external data from text”. The data columns in the Excel needed to be sorted by the time column. To perform this task, all columns were highlighted, and then sorted by the beginning and ending of each utterance. This file was saved in a Unicode text format then clicking sort under the data icon.

Sentences were examined individually and placed into groups depending on the negation particle. First, data was broken down into *la*, *ma*, *muhub*, *baH* and *?a?a* groups. The child’s forms of negation (*baH* and *?a?a*) were grouped by age and were interpreted according to the context. This gave an accurate account of the child’s production of negation elements

individually. Second, the data were assigned to one of the following contexts: discourse (*la*), declarative (*ma*), imperative (*la*), interrogative (*ma*), existential (*ma*) and non-verbal (*muhub*) (see examples (62)-(67) below). All negative sentences were classified into two main categories: correct and incorrect utterance. The incorrect production was further classified into omissions and substitutions. The non-verbal contexts were further analyzed to see the extent of interaction of negation with nouns, adjective and prepositional phrases. This provided an exact understanding of the sentence produced under each context.

(62) Discourse:

A: tab-i Halib? (age 2;0)
 want-you milk-you
 'Do you want milk?'

B: la
 NEG
 'No'

(63) Declarative:

?na ma-?aHba-h (age 2;6)
 I NEG-love-it
 'I do not like it'

(64) Imperative:

la-tashufan-i (age 2;6)
 NEG-look.2ms.subj
 'do not look at me!'

(65) Interrogative:

ma-y-a?ref y-tkallm? (age 3;0)
 NEG-know.3sg.msc talk.3sg.msc?
 'doesn't he know how to talk?'

(66) Existential:

ma-fih waHdah hina (age 3;0)
 NEG-there someone.3fem here
 'There is no one here '

- (67) a. Non-verbal: Noun
- | | | | |
|--------------------|-----|------|-----------|
| *?na | mu | Badr | (age 3;0) |
| this | NEG | Badr | |
| ‘This is not Badr’ | | | |
- b. Non-verbal: Adjective:
- | | | | |
|-------------|-----|---------|-----------|
| *PRO | mu? | naDefah | (age 3;0) |
| PRO | NEG | clean | |
| ‘not clean’ | | | |
- c. Non-verbal: Prepositional Phrase
- | | | | |
|-----------------------------|----------------------|--|--|
| PRO | muhub-fi-al-bait | | |
| PRO | NEG.3sm-in-the-house | | |
| ‘(Ali) is not in the house’ | | | |

I performed this division for both the adult and child utterances. Furthermore, the affirmative sentences were subjected to the same procedure. In order to accurately place affirmative sentences in the same categories as the negative sentences a negation test was administrated to every sentence. This means that every affirmative sentence was negated and then placed accordingly.

4.6 Analyses

The second step of analysis involved the incorporation of two data analysis programs that were modified to deal with Arabic text. The QANFORM and QANCORDANC2 programs were initially written to analyze Latin text. After several trial and error procedures the programs were adapted to work with Arabic text. Basically these files produce an output that lists each word along with every sentence that this word had appeared in. More importantly, these programs determine whether the sentences were grammatical or not. It can perform this task because during the time of transcription in ELAN every time the child made an error an adult “goal” was added in the designated tier i.e. “bequi”. The programs check the child tier; if the “bequi”

interpretation tier was empty the program automatically considers the sentence as grammatical. However, if there was an adult form in the interpretation tier, then the program determines that utterance was ungrammatical and lists it along with the correct form.

The data were mainly composed of adult and child utterances. This division was maintained in every step of the analysis.

Figure 3. Qancordance output

277	لي	توبيت من هذا مني؟ [أنت / سوبينا هذا لي]
278		اااه شكرا ثوبينا ثواه مني [شكرا إنك سوبينا لي صورة]
279	لية	لية فلتا بتدفع بلوكس؟ [لية فلتا بتدفع بلوكس]
280		بىت ما فيه واحدة هنا؟ [بس ما فيه وحده هنا!]
281	ما	أنت ما تائف تشوف نفث كذا؟ [أنت ما تعرف تسوى نفس كذا]
282		أنا لمح هذا أنا ما حلت أول [أنا أصلح هذا ما خلصت الاول]
283		موء...موء....مو حلاش! [ما خصل!] إثادي؟ أنا ما حلت حقي [مسكن تساعدني؟ أنا ما خلصت حقي]
284		إثادي؟ أنا ما حلت! [أنا ما خلصت!] أنا ما خلصت!
285		
286		
287		
288		
289	ساما	ساما بابا بابا! [ساما بابا بابا]
290		
291	مع	بس شفت حاووف مع ئحو بث أنا! [أنا/شت خروف مع سحر!]
292		
293	مس肯	مس肯 أنت... [مس肯 أنت ...] مس肯 أنا كلثوة؟ [مس肯 أكثر؟] مس肯 أنا كلثوة ثانية؟ [مس肯 أكثر ثانية؟]
294		
295		
296		يمكن إتنا قول نفث أنا قرود؟ [مس肯 تسوى زبى قرد؟]
297		يمكن أنت حطة يمكن أبىت هو نفث كذا! [مس肯 تحطه... يمكن البيت نفس كذا]

Furthermore, the data was examined to measure what effect the affirmative sentences had on the negative sentences. Chi square test was administrated in every step as well to test for significance difference. At the end, this procedure produced two sets of data of the adult utterances (affirmative and negative) and two sets of data for the child productions (affirmative and negative). An example of the transcription and resulting analysis is shown in Figure 4).

Figure 4. Transcription and resulting analysis

A	B	C	D	E	F	G
File		ها	مُهوب	?ə:a	Other	Duration hh:mm:ss
1		لا	15	1		
2	Total	39	38			
3	8111460	لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مَا أَنْتَ مَا أَنْتَ] كَثُرَتْ بِكَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]	أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]	تَبَّتْ تَرْكِيَّتْ هُوَ مُهوب نُورِيَّهُ [هُوَ مُهوب نُورِيَّهُ]		00:11:06:000
4		لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مَا أَنْتَ مَا أَنْتَ]	كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]	مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]		
5		كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]	كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]			
6		لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]	لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]			
7		لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]	لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]			
8		لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]	لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]			
9		لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]	لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]			
10		لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]	لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]			
11		لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]	لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]			
12		لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]	لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]			
13		لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]	لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنَا مُهوب كَلْمَةِ لَا إِنَّمَا أَنْتَ مَا أَنْتَ]			
14	8112911					00:06:00:560
15	811291	تَشَفَّرَتْ قَبْسَ أَيْضَى؟ بِـ لا				00:05:41:280
16		كَوْفَلَتْ بِـ لا				
17		غَلَبَتْ لَا شَكَونَ [إِلَّا شَكَرَنْ]				
18	81129	كَوْفَلَتْ حَكَبَ النَّفَسِيَّةِ؟ بِـ لا				00:02:41:120
19		كَوْفَلَتْ حَكَبَ النَّفَسِيَّةِ؟ بِـ لا				
20	90222					00:01:18:000
21	90229	لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنْتَ تَوَتْ نَفَتْ كَذَا!]				00:03:41:640
22		لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنْتَ تَوَتْ نَفَتْ كَذَا!]				
23		لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنْتَ تَوَتْ نَفَتْ كَذَا!]				
24		لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنْتَ تَوَتْ نَفَتْ كَذَا!]				
25		لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنْتَ تَوَتْ نَفَتْ كَذَا!]				
26		لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنْتَ تَوَتْ نَفَتْ كَذَا!]				
27		لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنْتَ تَوَتْ نَفَتْ كَذَا!]				
28		لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنْتَ تَوَتْ نَفَتْ كَذَا!]				
29		لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنْتَ تَوَتْ نَفَتْ كَذَا!]				
30		لَا إِنَّمَا أَنْتَ مَا أَنْتَ [أَنْتَ تَوَتْ نَفَتْ كَذَا!]				

CHAPTER FIVE: RESULTS

The data analysis was divided into two main sections; affirmative and negative. The data was further divided into six contexts: Discourse, existential, Verbal declarative, Verbal Imperative, Verbal interrogative and non-verbal. I first present an overview of the adult data in the six contexts of distribution followed by separate analyses of the affirmative and negative adult utterances. Second, I present an overview of the child data relevant to the negative contexts followed by separate analyses of the child's affirmative and negative utterances. To further investigate the relationship between the target language and the child language, I compared the adult affirmative utterances to the child affirmative utterances, the adult affirmative utterances to the child negative utterances, the adult negative utterances to the child negative utterances.

5.1 Adult Utterances

5.1.1 Contexts of Affirmative Production

To establish a comprehensive picture about the adult language, I measured the distribution of contexts for the adult affirmative sentences. The contexts for the affirmative utterances were determined by reference to their form of negation. Each affirmative sentence was negated to determine the appropriate context for comparison with the negative utterances. The Sentences (68) (a) and (b) illustrate how this division was applied to existential sentences.

- (68) a- Affirmative existential sentence:
mama fii elbait
mom at home
“Mom is home”

b- Negative existential sentence:
 mama mahiib fii elbait
 mom NEG.3FS at home
 "Mom is not home"

As shown in Table 7 and Figure 5, the adult produced a total of 132 affirmative utterances in the first age period, 430 affirmative utterances in the second age period and 855 affirmative utterances in the third age period. The adult did not produce any tokens of affirmative sentences in the discourse and existential contexts in the first period. The adult produced 12 tokens of declarative utterances (9%), 27 tokens of imperative utterances (20%), 71 tokens of interrogative utterances (54%) and 11 tokens of non-verbal utterances (17%).

In the second age period the adult produced 9 tokens of discourse utterances (2%). existential context appeared 1% with 3 sentences. The declarative increased slightly from the previous age group, registering 45 sentences (10%). The imperative recorded 61 token (14%) while the interrogative maintained its dominance of 223 (52%). non-verbal sentences remained close to previous age group with 89 (21%).

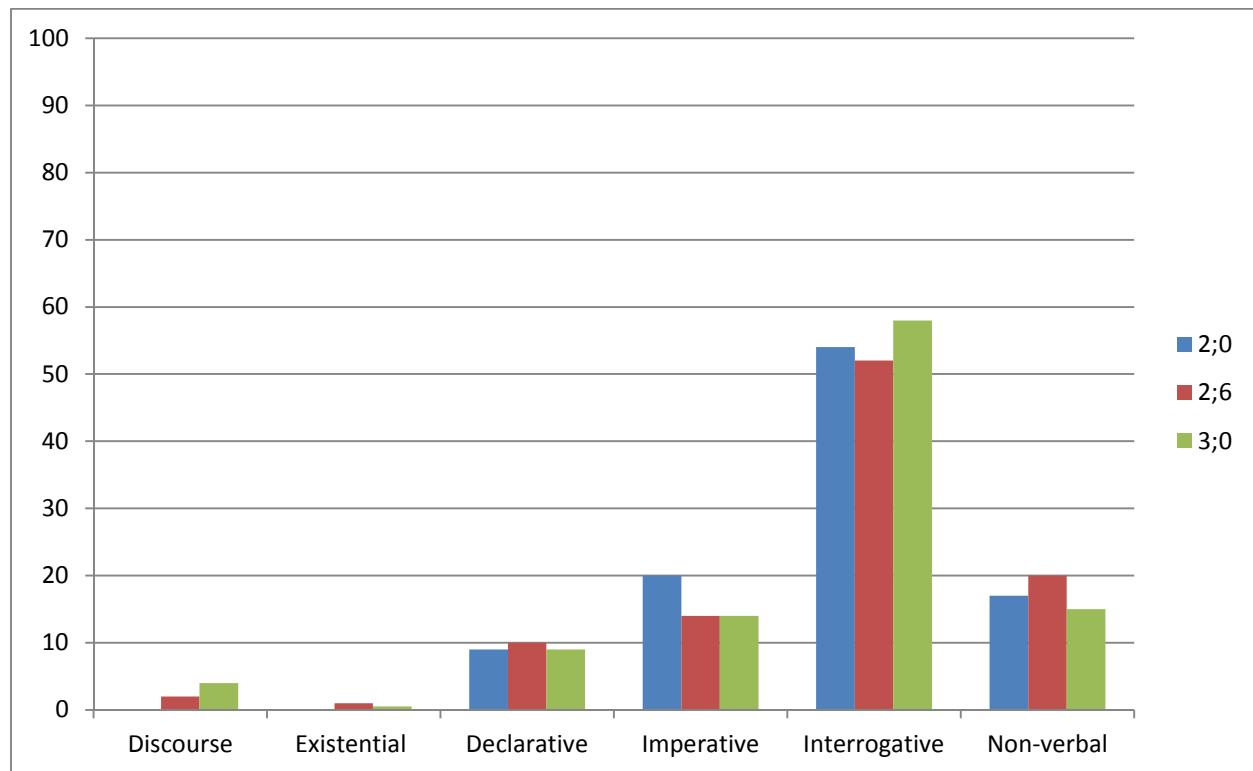
The adult did not show any significance change to the overall usage of affirmative contexts in the third age period. It was noticed that discourse was at 35 (4%), existential 4 (0.5%), declarative 74 (9 %), imperative 118 (14%), interrogative 429 (58%) and non-verbal 132 (15%). The total sentences recorded at 855 tokens.

Age	Discourse		Imperative		Existential		Declarative		Interrogative		Non-verbal		Total
	n	%	n	%	n	%	n	%	n	%	n	%	
2;0	0	0 %	27	20 %	0	0 %	12	9 %	71	54 %	22	17 %	132
2;6	9	2 %	61	14 %	3	1 %	45	10 %	223	52 %	89	21 %	430
3;0	35	4 %	118	14 %	4	0.5%	74	9 %	492	58 %	132	15 %	855

Table 7. Distribution of Adult Affirmative Sentences

The distribution of the adult affirmative contexts remained stable across the three age periods. The adult produced mostly interrogative utterances in the affirmative across all of the age periods. The adult produced few token utterances in affirmative discourse and existential contexts. The adult did not produce any discourse forms until the age 2;6 with just 2%. The adult continued to maintain his small usage of affirmative discourse forms in the last period with only 4%. The adult produced almost no tokens of the existential construction in all three periods.

Figure 5. Percentage of Affirmative Contexts in the Adult sentences



5.1.2 Contexts of Negative Production

Table 8 below provides the data for the distribution of negative contexts in the adult language sample. In the first age period the adult produced a total of 10 negative sentences. The

total is distributed over the contexts as follows: discourse 1 token (10%), existential 0 (0%), verbal declarative 1 (10%), verbal imperative 6 (60%), verbal interrogative 1 (10%) and in non-verbal 1 (10%).

The second age period showed an increase in adult production in all contexts. The data showed discourse at 13 (15%), existential 5 (6%), declarative 33 (38%), imperative 15 (17%), interrogative 9 (10%) and non-verbal 12 (14%). The total sentences result in 87 tokens. In the third age period, the adult produce 12 tokens of discourse negation (13%), 10 tokens of existential negation (11%), 18 tokens of declarative negation (19 %), 11 tokens of imperative negation (12%), 32 tokens of interrogative negation (34%) and 12 tokens of non-verbal negation (13%). The adult produced a total of 95 negative tokens.

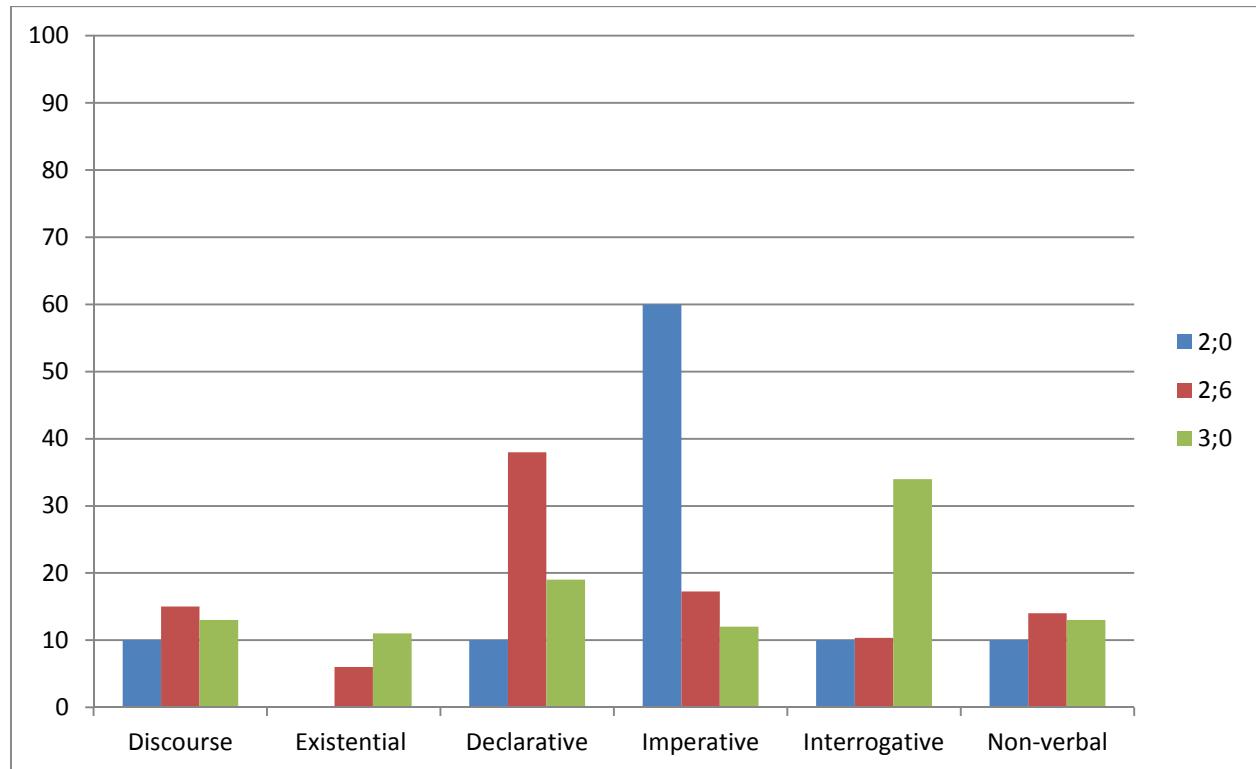
Age	<i>la</i>				<i>ma</i>				<i>muhub</i>		Total		
	Discourse		Imperative		Existential		Declarative		Interrogative		Non-verbal		
	n	%	n	%	n	%	n	%	n	%	n	%	
2;0	1	10 %	6	60 %	0	0 %	1	10 %	1	10 %	1	10 %	10
2;6	13	15 %	15	17 %	5	6 %	33	38 %	9	10 %	12	14 %	87
3;0	12	13 %	11	12 %	10	11 %	18	19 %	32	34 %	12	13 %	95

Table 8. Distribution of Adult Negative Utterances

Figure 6 shows the distribution of the adult negative contexts across the age periods. It demonstrates that while the adult's production of negation remained relatively stable across the three periods, the adult production showed dramatic changes in some contexts. Adult negative production remained steady in the discourse, existential, and non-verbal contexts. The adult production of negation displayed an interesting trade off between the imperative and interrogative contexts. The adult produced a high proportion of negation in imperative contexts in the first period and a high proportion of negation in interrogative contexts in the final period.

This trade off is expected if the adult changed from a directive style to an interrogative style as the child became more communicative. This model does not account for the spike in the adult production of negation in declarative contexts in the second period.

Figure 6. Percentage of Negative Contexts in the Adult sentences



The adult produced very different distributions of affirmative and negative utterances. While the adult produced mostly interrogative utterances as affirmatives across the three age periods, the negative interrogative production only became frequent in the final age period. The adult produced a steady percentage of affirmative utterances as imperatives, but produced a high percentage of negative imperatives in the first period. It is also interesting to note that the adult produced a higher percentage of discourse and existential utterances as negative forms than as

affirmative forms. The adult produced many more tokens of non-verbal utterances as affirmatives than as negatives.

I used Chi square statistic to test the difference between the distributions of the adult's affirmative and negative utterances. The null hypothesis assumes that speakers add negation to their utterances without regard to the context of utterance. This hypothesis predicts that the adult's affirmative and negative utterances have similar distributions across the six contexts. In order to assure that there were enough utterances in each context to satisfy the requirements of Chi square test, I tested the adult affirmative and negative utterances for the second age period and omitted the existential context because the adult only produced 3 affirmative existential utterances in the second period. The analysis confirmed my previous observation that the adult's affirmative and negative utterances have different distributions ($\chi^2 (4) = 97.4, p < .05$).

The differences between the adult's affirmative and negative utterances show that the adult's use of negation is not a direct reflection of the affirmative utterance production across all contexts, but reflects specific features of the discourse. In other words, negation contributes a discourse meaning over and above mere negation of an affirmative proposition. The changes in the adult's use of negation across the three age periods also shows that the adult's discourse style evolves, perhaps in response to the child's developing linguistic ability.

I now turn to an analysis of the child's language. The analysis of the adult input provides the basis for an investigation of the degree to which the child's language matched the adult model. A primary assumption would argue that the child's language mirrors the adult language. This conjecture is supported by the Constructionist Theory which predicts that children produce the constructions that are frequent in the input language. This assumption could predict that the

child's use of negation would follow the distribution of adult utterances in either the affirmative or negative forms. The adult produced approximately ten times as many affirmative utterances as negative utterances. Therefore, the first question that I explore will be whether the child's negative production has the same distribution as the adult affirmative or negative utterances.

If the child follows the adult's production of negation then I would predict the child would first produce as many tokens of negative imperatives because the adult mostly produced negative imperatives in the first age period. For the same reason I would predict the child would produce as many tokens of negative declarative forms in the second period and finally many tokens of negative imperative forms in the third period. Any deviation from this pattern would suggest that the child did not simply imitate the adult distribution of negation. A difference between the child and adult distributions of negation suggests that children follow their own discourse strategies in using negation.

In addition to an analysis of the overall distribution of child negation, the adult distribution of negation suggests that children receive different amounts of evidence for the forms of negation that appear in different contexts. Sixty percent of the negative forms that the adult produced in the first period were in the context of negative imperatives. This distribution suggests that the child could infer that the negative imperative marker *la* was a default form of negation in all contexts. If the child made this inference I would expect the child to overgeneralize *la* to all of the other verbal and nonverbal contexts.

Moreover, the adult data may suggest areas for the correct use of negation in the child language; whether it matches the adult production or not. The frequencies found for the adult language forecast a generalization of the declarative and imperative forms over other forms like

discourse or non-verbal negation. Moreover, the increased usage of the adult imperative form (*la* constructions) suggests the correct use for the child imperatives.

5.2 Child Utterances

This section analyses the child data. I followed the same presentation of data beginning with the child's affirmative contexts followed by the child's negative contexts.

5.2.1 Contexts of Affirmative Utterances

Table 9 displays the results for the child's production of affirmative utterances. The child produced a total of 94 utterances at age 2;0. He did not produce any tokens in the discourse and existential contexts. He produced 18 declarative utterances (19%), 5 imperatives (5%), 7 interrogatives (7%), and 64 non-verbal utterances (68%).

Age	Discourse		Imperative		Existential		Declarative		Interrogative		Non-verbal		Total
	n	%	n	%	n	%	n	%	n	%	n	%	
2;0	0	0 %	5	5 %	0	0 %	18	19 %	7	7 %	64	68 %	94
2;6	30	9 %	24	7 %	2	1 %	67	19 %	44	13 %	184	52 %	351
3;0	92	10 %	97	11 %	29	3 %	236	27 %	75	9%	348	40 %	877

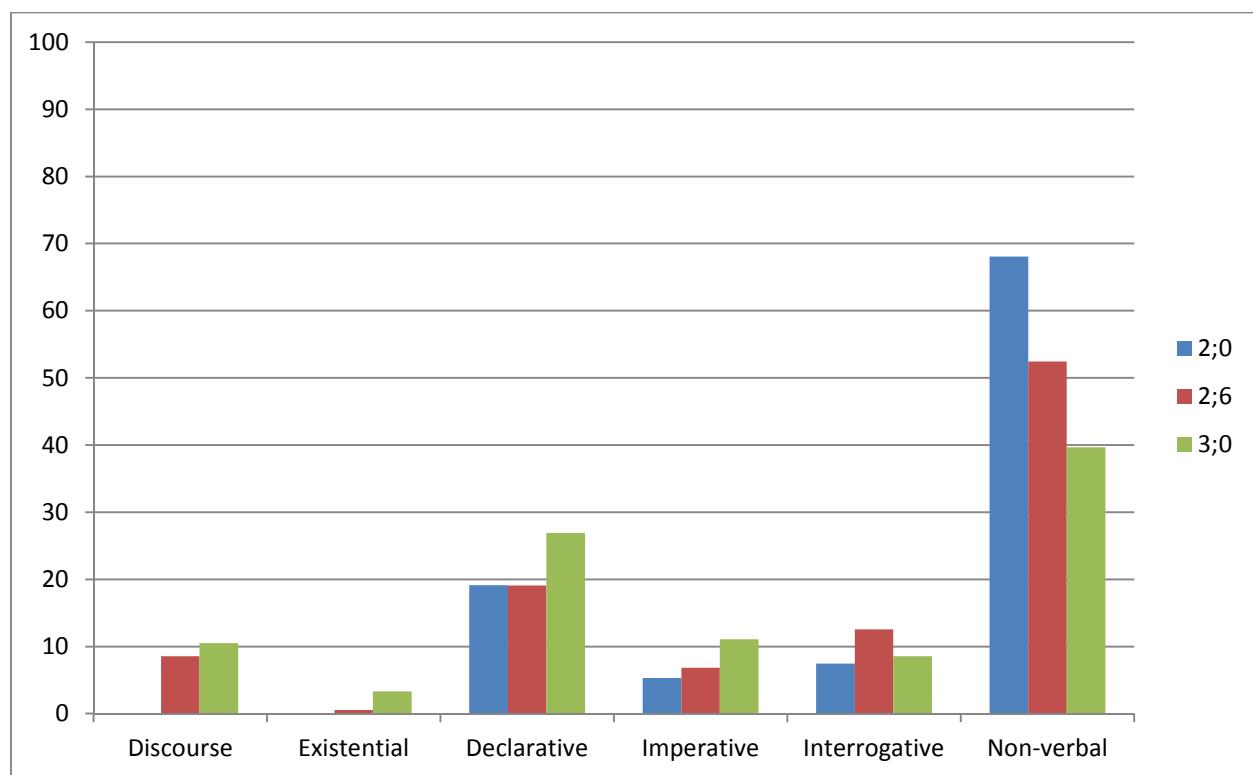
Table 9. Affirmative Contexts Distribution of Child Sentences

Age 2;6 witnessed the emergence of the discourse and existential contexts. The child produced a total of 351 sentences at that period. The child produced 30 discourse responses (9%), 2 existential utterances (1%), 67 declarative utterances (19%), 24 imperative (7%), 44 interrogative (13%), and 184 non-verbal utterances (52%).

Finally, at the age of 3;0 the child produced 877 sentences. The child produced 92 discourse forms (10%), 29 existential (3%), 236 declarative (27%), 97 imperative (11%), 75 interrogative (9%), and 348 non-verbal utterances (40%).

Figure 8 provides a graphical presentation of the affirmative results. There is a steady increase in the number of affirmative utterance production across the three age periods, but the child maintained a stable relationship in the percentage distribution of the contexts. Only the production of non-verbal utterances exhibited a significant change in percentage across the three ages.

Figure 7. Percentage of Child Utterances in Affirmative Contexts Across all age periods



5.2.2 Contexts of Negation

Table 10 presents the data on the child's production of negation forms. At the age of 2;0 the child produced negation in the discourse context 18 times (69%), in the existential context once (4%), in verbal declaratives 4 times (15%), no times in verbal imperatives (0%) and verbal interrogatives (0%) and 3 times in non-verbal contexts (12%). A total of 26 sentences were recorded. The majority of *ma* production is limited to the declarative context with a single instance in the existential context. The child did not produce any occurrences for *ma* in imperative and interrogative contexts.

Age	<i>la</i>				<i>ma</i>				<i>muhub</i>		Total		
	Discourse		Imperative		Existential		Declarative		Interrogative		Non-verbal		
	n	%	n	%	n	%	n	%	n	%	n	%	
2;0	18	69 %	0	0.0 %	1	4 %	4	15 %	0	0.0 %	3	12 %	26
2;6	32	34 %	7	8 %	8	9 %	29	31 %	2	2 %	15	16 %	93
3;0	48	26 %	12	7 %	11	6 %	63	35 %	2	1 %	46	25 %	182

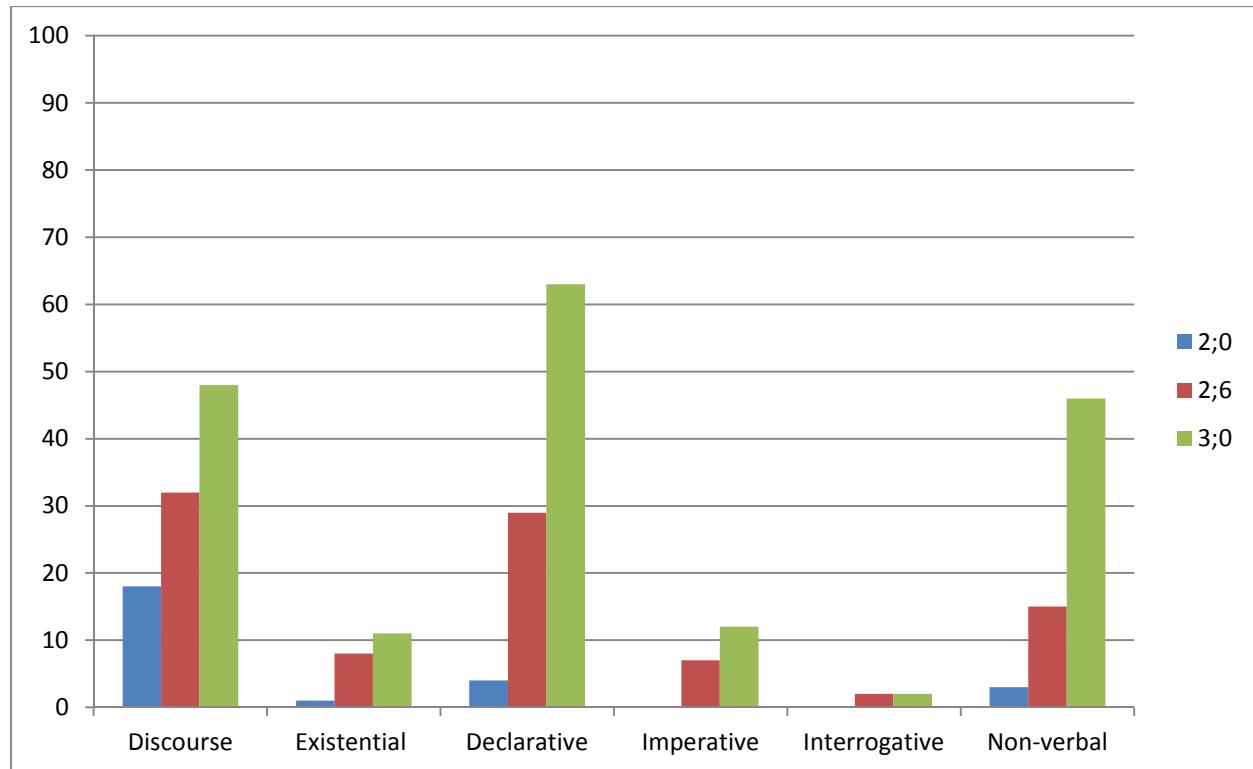
Table 10. Negative Contexts Distribution of Child Sentences

Age 2;6 reflects an increase in all contexts. The child produced negation in discourse contexts 32 times (34%), in existential contexts 8 times (9%), in declarative verbal contexts 29 times (31%), in imperative contexts 7 times (8%), in interrogative contexts twice (2%) and in non-verbal contexts 15 times (16%). The child produced a total 93 negative sentences. The middle stage marks the emergence of negation production in imperative and interrogative contexts.

Finally at the age of 3;0, it is noticed that discourse was at 48 (26%), existential 11 (6%), declarative 63 (35 %), imperative 12 (7%), interrogative 2 (1%) and non-verbal 46 (25%). A total of 182 sentence tokens were recorded.

Figure 8 provides a view of the development of the child's negative production in the different contexts. The frequency recorded for each context showed an increase as the child grew older.

Figure 8. Number of Child Utterances in Negative Contexts across 3 age periods



The child maintained an overall increase in negative production across most contexts. At the first stage the child produced 18 tokens of discourse negation and then increased it almost twice as much to 32 at 2;6 and finally produced 48 tokens at the age of 3;0. The production of negation in existential contexts remained very low across the three age periods. It was observed only once at the age of 2;0. However, at 2;6 8 tokens were produced and at the final period the child produced 11 tokens of existential negation. The child increased his use of negation in declarative contexts over the three age periods. He produces 4 declarative sentences at 2;0, 29

tokens at 2;6 and finally 63 sentences at 3;0. The child almost doubled his production of negation in declarative contexts over each 6 month period. The production of negation in imperative and interrogative contexts remained low across all ages.

I used Chi square statistic to test the difference between the distributions of the child's affirmative and negative utterances. The null hypothesis assumes that speakers add negation to their utterances without regard to the context of utterance. This hypothesis predicts that the child's affirmative and negative utterances have similar distributions across the six contexts. In order to assure that there were enough utterances in each context to satisfy the requirements of Chi square test, I tested the child affirmative and negative utterances for the second age period and omitted the existential context because the child only produced 2 affirmative existential utterances in the second period. The analysis confirmed my previous observation that the child's affirmative and negative utterances have different distributions ($\chi^2 (3) = 61, p < .05$). The significant result suggests that the difference is not a result of direct reflection but rather implies that there are other elements contributing to the child's grammar of negation.

5.3 Adult to Child Utterances

In the following sections I compare the adult frequencies and the child's. First, I compared the adult affirmative utterances to the child affirmative utterances. Second, I compared the adult affirmative utterances to the child negative utterances. Third, I compared the adult negative utterances to the child negative utterances. Each comparison is supported by Chi square test to test the null hypothesis that the adult and child productions had the same distribution.

5.3.1 Adult Affirmative Utterances to Child Affirmative

I analyzed the relationship between the child affirmative and the adult affirmative by comparing the frequencies of their affirmative utterances. This type of comparison will demonstrate whether the adult affirmative output has an effect on the child's affirmative production. Chi square test was performed to test the null hypothesis.

While the adult produced a total of 132 affirmative utterances in age period 2;0, 430 affirmative utterances in age period 2;6 and 855 affirmative utterances in age period 3;0, the child produced a total of 94 affirmative utterances at age 2;0, 351 affirmative utterances in aged period 2;6 and 877 affirmative utterances in age period 3;0.

Age	Adult	Child
2;0	132	94
2;6	430	351
3;0	855	877
Total	1417	1322

Table 11. Adult and Child Total Affirmative Utterances

By looking at the totals of each period we notice that the child and adult produced similar numbers of affirmative utterances across the three age periods. The adult produced slightly more affirmative utterances in the first two age periods. However, it is surprising to find that the child produced more affirmative utterances in the third age period. The child's increased production reflects the development of his linguistic ability.

I used Chi square statistic to test the difference between the distributions of the child's affirmative and adult affirmative utterances. The null hypothesis predicts that the child's affirmative and the adult's affirmative utterances have similar distributions across the six

contexts. In order to assure that there were enough utterances in each context to satisfy the requirements of Chi square test, I tested the child affirmative and adult affirmative utterances for the second age period and omitted the existential context because the child and adult produced no affirmative existential utterances in the second period. The analysis confirmed my previous observation that the child's and the adult's affirmative utterances have different distributions ($\chi^2(3) = 46, p < .05$).

The differences between the adult's affirmative and child's affirmative utterances show that the child's production of affirmative utterances is not a direct reflection of the adult's affirmative utterance across all contexts, but highlights a child's unique contributions to the discourse. In other words, affirmative utterances in the discourse reflect a more complex phenomenon beyond simple imitation. The changes in the child's use of affirmative utterances across the three age periods also shows that the child's language is independent of the adult language and it is evolving on the child's own linguistic ability.

5.3.2 Adult Affirmative Utterances to Child Negative Utterances

I also used Chi square test to analyze the relationship between the adult affirmative utterances and the child's negative utterances. The null hypothesis in this case predicts that the child's negative utterances are guided by the distribution of the adult's affirmative utterances. That is, the child might simply negate a preceding affirmative utterance of the adult. A significant result from Chi square test would show that the child did not simply negate the adult's affirmative utterances.

The adult produced a total of 132 affirmative utterances in age period 2;0, 430 affirmative utterances in age period 2;6 and 855 affirmative utterances in age period 3;0. The adult did not produce any tokens of affirmative sentences in the discourse and existential contexts in the first period. The adult produced 12 tokens of declarative utterances (9%), 27 tokens of imperative utterances (20%), 71 tokens of interrogative utterances (54%) and 11 tokens of non-verbal utterances (17%). On the other hand, the child produced a total of 26 negative utterances in the first period 2;0. The child produced 18 negative utterances in discourse contexts (69%), 1 utterance in the existential context (4%), 4 verbal declaratives (15%), no tokens of verbal imperatives (0%) and verbal interrogatives (0%) and 3 utterances in non-verbal contexts (12%).

At age period 2;6 the adult produced a total of 430 affirmative utterances. 9 tokens of discourse utterances (2%), 3 sentences of existential context (1%), 45 declarative sentences (10%), 61 tokens were imperatives (14%), 223 interrogative utterances (52%) and non-verbal sentences were 89 (21%). The child produced a total of 93 negative utterances. 32 utterances in discourse contexts (34%), 8 existential utterances (9%), 29 declarative utterances (31%), 7 imperatives (8%), 2 utterances of interrogative context (2%) and 15 times (16%) in non-verbal contexts were produced.

Finally at age period 3;0, the adult produced a total of 855 affirmative sentences. Discourse context was at 35 (4%), existential 4 (0.5%), declarative 74 (9 %), imperative 118 (14%), interrogative 429 (58%) and non-verbal 132 (15%). The child however produced a total of 182 negative utterances. The discourse context was at 48 (26%), existential 11 (6%), declarative 63 (35 %), imperative 12 (7%), interrogative 2 (1%) and non-verbal 46 (25%).

It is fascinating to find that across all age periods the child produced more negative utterances than the adult affirmative utterances in the discourse and existential contexts. It is also interesting to note that even when the adult affirmative production was 0 in the first period for discourse and existential contexts, the child produced 18 discourse forms and 1 existential utterance. These findings show the independence of the child's language from the adult model.

On the other hand, the child did not produce any negative imperatives or interrogatives in the first age period while the adult produced 27 imperatives and 71 interrogatives that were affirmative. The child's productions for imperatives and interrogatives for the second and third periods were very small when compared to the adult affirmative production for the same contexts and periods. Moreover, non-verbal and declarative utterances were dominated by the adult production of affirmative utterances.

It is important to highlight the adult's affirmative production across all age periods. The adult's affirmative production remained steady across contexts and age periods. (see Figure 9: Percentage of Affirmative Contexts in the Adult sentences). The adult's steady production yield the environment that the child uses to acquire the language and may have little or no effect on the child's language. The distribution that we notice in the child's production across all periods may be a result of the child's independent linguistic development.

I conducted Chi statistic test to test the difference between the distributions of the adult affirmative and child negative utterances. The null hypothesis predicts that the child's negative and adult affirmative utterances have similar distributions across the six contexts. In order to assure that there were enough utterances in each context to satisfy the requirements of Chi square test, I tested the child negative and adult affirmative utterances for the second age period and omitted the existential and interrogative contexts because the child produced 2 interrogatives and

the adult produced 3 existential utterances in the second period. The analysis confirmed my previous observation that the child's negative and adult affirmative utterances have different distributions ($\chi^2 (3) = 74, p < .05$).

The differences between the adult's affirmative and child's negative utterances show that the child's use of negation is not a direct reflection of the affirmative utterance across all contexts, but reflects specific features of the discourse. In other words, negation in the child language contributes a discourse meaning over and above negation of the adult affirmative language. The changes in the child's use of negation across the three age periods also shows that the child's discourse style evolved with his developing linguistic ability.

5.3.3 Adult Negative Utterances to Child Negative Utterances

This comparison is important as it complements previous comparisons made to draw a full picture of the relationship between the learned and target languages. It is expected that the child's production of negation utterance follows the distribution of the adult's negative utterances.

At age period 2;0 the adult produced a total of 10 negative sentences. The total is distributed over contexts as follows: discourse 1 token (10%), existential 0 (0%), verbal declarative 1 (10%), verbal imperative 6 (60%), verbal interrogative 1 (10%) and in non-verbal 1 (10%). On the other hand, the child produced a total of 26 negative utterances in the first period 2;0. discourse context was 18 times (69%), 1 utterance of existential context (4%), 4 Verbal declaratives (15%), no tokens Verbal imperatives (0%) and Verbal interrogatives (0%) and 3 utterances of non-verbal contexts (12%).

Age period 2;6 the adult negative production was 87 utterances. The data showed discourse at 13 (15%), existential 5 (6%), declarative 33 (38%), imperative 15 (17%), interrogative 9 (10%) and non-verbal 12 (14%). At the same period, the child produced a total of 93 negative utterances. 32 utterances of discourse contexts (34%), 8 existential utterances (9%), 29 declarative utterances (31%), 7 imperatives (8%), 2 utterances of interrogative context (2%) and in non-verbal contexts was 15 times (16%) were produced.

Finally at the age period of 3;0, the adult produce a total of 95 negative utterances. 12 tokens were discourse negation (13%), 10 tokens of existential negation (11%), 18 tokens of declarative negation (19 %), 11 tokens of imperative negation (12%), 32 tokens of interrogative negation (34%) and 12 tokens of non-verbal negation (13%). The adult produced a total of 95 negative tokens. The child however produced a total of 182 negative utterances. The discourse context was at 48 (26%), existential 11 (6%), declarative 63 (35 %), imperative 12 (7%), interrogative 2 (1%) and non-verbal 46 (25%).

Age	Adult	Child
2;0	10	26
2;6	87	93
3;0	95	182
Total	192	301

Table 12. Adult and Child Total Negative Utterances

When examining the distribution of the adult and child negative utterances we notice that the child produced a larger number of utterances. Our expectations that the negative utterances distribution would match the affirmative utterances distribution between the adult and child was

not accurate. These frequencies show that the child uses negation independently of the adult negation.

It is worth recalling that the production of the adult negation utterances remained steady for the most part across all periods. This can be seen from (Figure 2: Percentage of Negative Contexts in the Adult sentences). Adults produced equal portions of each context across all periods except for Imperatives, declarative and interrogative at first, second and thirds periods respectively. The adult produced larger numbers of utterances in different contexts in different periods. The adult produced 6 negative imperative utterances at period 2;0, 33 declaratives at period 2;6 and 32 interrogatives at period 3;0. This difference in context maybe attributed to the development of the linguistic ability of the child. As the child's ability to communicate expands, the type of adult discourse adapts.

When examining the distribution of negative utterances between the adult and the child among contexts, we notice an overwhelming dominance of the child production. It is only at period 2;6 and 3;0 in declarative and imperative and interrogative contexts we see the adult producing more utterances. At period 2;6 the adult produce 33 negative declaratives to 29 child utterances and the adult produced 15 to 7 child utterances. At 3;0 the adult produced 32 interrogative utterances to 2 child utterances.

I conducted Chi square statistics analysis to test whether the child's distribution of negation across different contexts reflects the adult use of negation. The null hypothesis predicts that the child and the adult use negation for similar purposes and so their negative utterances should have similar distributions across the six contexts. In order to assure that there were enough utterances in each context to satisfy the requirements of Chi square test, I tested the child negative and adult negative utterances for the second age period and omitted the interrogative

contexts because the child produced 2 interrogatives in the second period. The analysis confirmed my previous observation that the child's negative and adult affirmative utterances have different distributions ($\chi^2 (3) = 11, p < .05$).

5.4 Addressing expectations

The outcome of the frequency analysis challenges the constructionist approach to child language described in Cameron-Faulkner et al., (2007). These investigators argued that the input in Brian's speech had affected the order of emergence of negators. Highlighting that *no* and *not* were the most frequent negators in the input which led to their early presence in the child's speech. However, Cameron-Faulkner et al. (2007) attempted to reduce the input affect to a minimum. They tried to minimize the frequency difference in the input between the discourse negation *no* and predicate negation *not*. They maintained that *no* appeared much earlier than *not* despite the evidence that *not* appeared more frequently in the input. Cameron-Faulkner et al., (2007) did not account for this asymmetry. By ignoring the distinction between the two forms of negation they made the same error that earlier researchers have made. More specifically previous analyses lacked a specific account of the various contexts of negation that occur in the language.

In the current study, it was natural to raise essential questions about the child's marking of negation in Najdi because I examined the frequency in multiple contexts in the child's production as well as how the child is using negation across these contexts. The previous section demonstrated that the frequency of negation production in Badr's speech does not match that of the adult. Unlike what was once hypothesized that the input drives the production of the child utterance (Cameron-Faulkner et al., 2007), affirmative and negative contexts analyses have

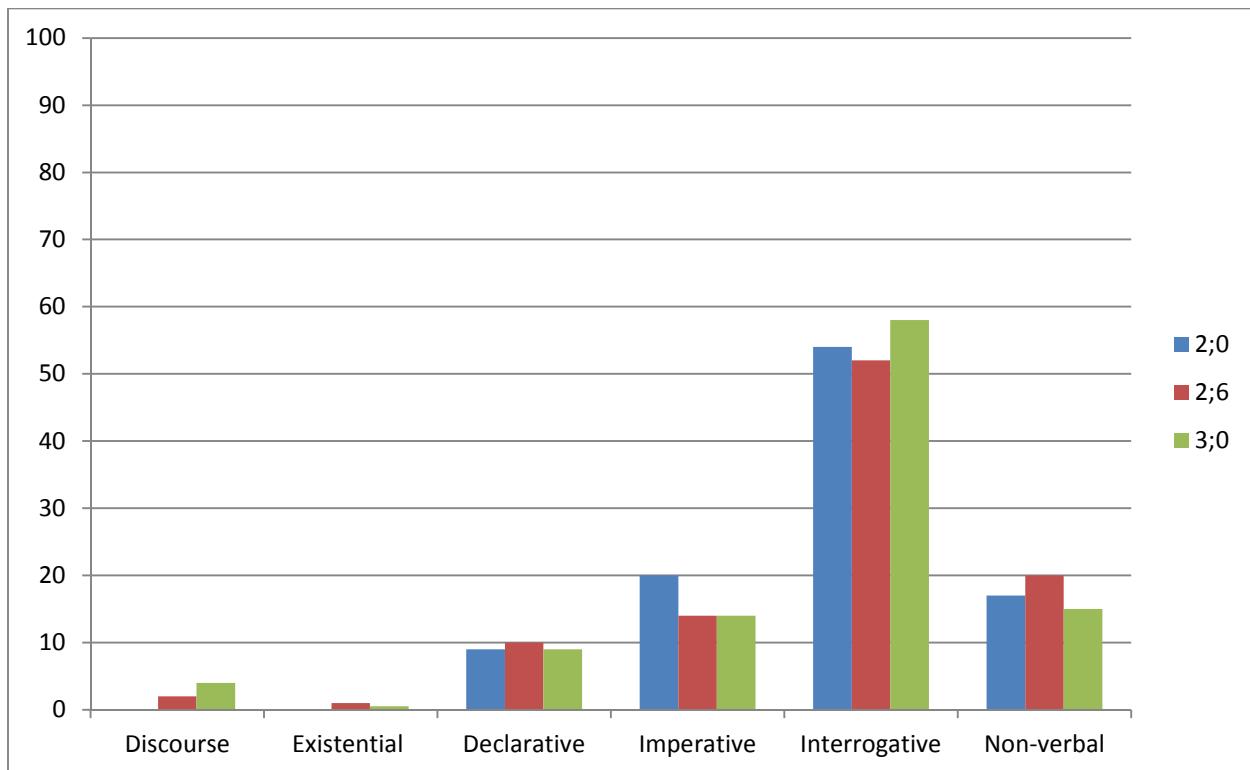
robustly revoked this relationship. There was no evidence that the adult's frequency of any negative element was reflected in the child speech. Badr's speech did not remotely resemble the frequency distribution of the adult negation forms. For example, if we compare the adult negative frequency rate of the discourse negative marker *la* to the child's production we notice that where the adult produced 1 (10%) *la* the child produced 18 (69%) instances at the age of 2;0. At age 2;6 Badr produced 32 (34%) compared to the adult's 13 (15%) and at 3;0 he produced 48 (26%) while the adult produced 12 (13%) discourse *la* instances. The production of *la* in Najdi Arabic clearly indicates that the child does not follow the frequency of the input. Since the frequency based analysis creates a direct relationship between frequency and production, the data of Najdi in this study poses a direct challenge to constructionist accounts of child language.

CHAPTER SIX: DISCUSSION

In this chapter I discuss the implications of the results for the continuity hypothesis. I follow the same line of presentation in the earlier chapter. I begin discussing the affirmative data followed by the negative data. I demonstrate how this study's conclusions challenge Pinker's view of language acquisition. I will first evaluate continuity against the quantitative section of this research. Then I will demonstrate that continuity does not account for negation in Najdi when I evaluate it against the grammar of the child.

This study aimed at investigating negation in the child language of a Najdi learner of Arabic. As reported in the previous section, the affirmative contexts were measured to account for factors that may affect negation production. It was intended to generate an understanding of the degree of effect of affirmative contexts over negative. After measuring all contexts in the affirmative a clear data distribution was available. Across all three age periods, the adult production in every context remained relatively similar (figure 10).

Figure 9. Percentage of Affirmative Contexts in the Adult sentences



The adult affirmative production was not affected by the child age. However, the type of context does show that adults produced more questions than any other context. Despite the fact that the adult did not produce utterances in the discourse or existential, the production of interrogatives was registered more than half of productions at stage one 71 (54%). More so, questions dominated the adult language production across remaining periods. At age 2;6 interrogatives were 223 (52%) and at age 3;0 were 492 (58%). The adult production rate seems to be consistent across all ages. It also seems that the adult was not affected by the low responses of the child specifically at age 2;0 nor by the low linguistic ability. Adults produced numerous questions such as:

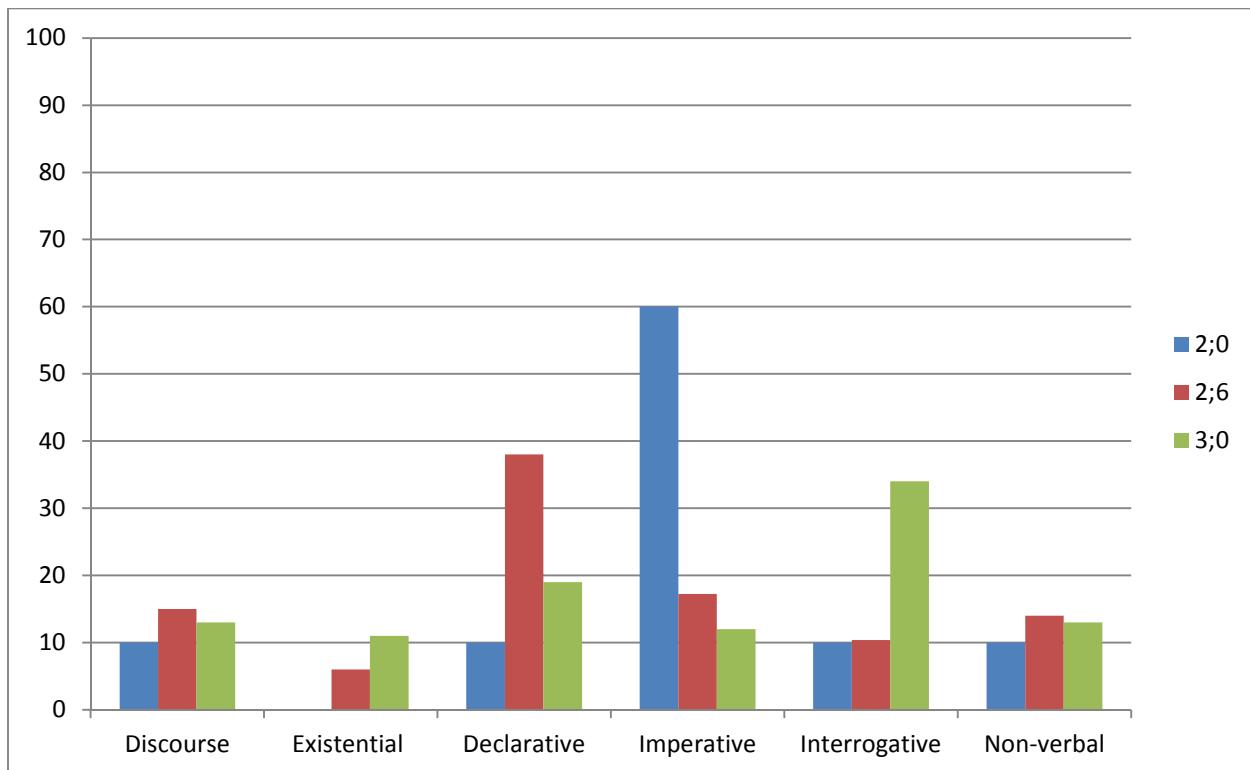
- (69) a. weshloon el-kalb?
 whatcolor the-dog?
 ‘What is the color of the dog?’
- (Age 2;0 file No.80222830)

- b. el-qalam weena-h?
 the-pen where-him
 'Where is the pen?'
- c. hathi? um-ha?
 this mother-her?
 'Is this her mother?'

The current study had not taken into consideration the discourse interaction between the adult and the child. There is no means of understanding responses of the child that were produced in response to the adult questions. A close analysis of the discourse between the adult and the child would expose the ability of the child to respond correctly to the adult questions and thus tapping on the competence and ability to interact with adults. However this is not the aim of this investigation. The adult affirmative production may lead us to assume that adult negative production will follow the same or at least similar distribution, however as data show that is far from accurate.

The adult negative context distribution (Figure 11 bellow) showed that the adult production is not similar to the affirmative contexts distribution as predicted.

Figure 10. Percentage of Negative Contexts in the Adult sentences



It appears that the adult preferred a different context of use in each age period. By further examining age periods and contexts, it is noticed that interrogatives did not dominate the production until the last stage in the affirmative. At age 2;0 *la* production in the imperative were highest at 6 (60%), age 2;6 *ma* production in the declarative were 33 (38%) and at stage 3;0 interrogatives were 32 (34%). It appears that adults adjusted their usage of negative element among contexts as the child grows. At the first period, adults predominantly used negation in the declarative to command the child to listen to their requests as these examples:

- (70) a. la-teD?aTe-h (Age 2;0)
 NEG-press._{2MS.SUBJ}-it
 'Don't press it!'
- b. la-tlfab be-h (Age 2;6)
 NEG-play._{2MS.SUBJ} with-it
 'Don't play with it'

Usage of negative utterances in the declarative seemed to be more productive in the second stage as these examples show:

- (71) a. ?ant ma-nadaytan-i (Age 2;6)
you NEG-call-me
'You didn't call me'
- b. hathi kabeerah marrah ma-tdχel hina (Age 2;6)
this big very NEG-enter here
'This is too big. It won't fit here'

As the linguistics ability of child improves and began to respond to adults various communication contexts, adults shifted their use to the interrogative context as in these examples:

- (72) a. laysh ma-tebya-h ya-ji? (Age 3;0)
why NEG-want-him come?
'Why don't you want him to come?'
- b. ma-tab-i taqfed hina? (Age 3;0)
NEG-want-you sit here?
'Don't you want to sit here?'

The analysis of the adult affirmative and negative contexts provide a unique opportunity to evaluate the target language that the child will master at the terminal stage. More specifically the frequency of contexts provided in this examination draws a clear image of the input production rate for negative elements and contexts alike. If input would leave any impression on the child language production frequencies, then it is safe to expect the child production to follow the adults' at all levels. As continuity assumes that the child and the adult language are alike,

then it is safe to follow that assumption and predict that the child will mimic the adult production in Najdi.

The following section discusses the qualitative echelon of the study. This section directly addresses the continuity assumption on the grammatical level. The performance of the child is evaluated by examining the grammatical errors in Badr's speech. To perform an adequate analysis of errors, the child's productions were categorized into correct and incorrect utterances. The correct utterances were the ones that the child produced in accordance with the target language. To that extent in example 5 Badr produced *la* form as *na* and that was regarded as a phonemic substitution rather than morphological substitution. On the other hand, every utterance in which the child omitted or substituted a negation morpheme was considered an instance of incorrect usage. An example of omission is shown in (74 a), while an example of a morpheme substitution is shown in (74b). Omitted morphemes are marked with an asterisk (*) in the adult sentence, while the substituted morpheme is marked with an exclamation point (!) in the adult sentences.

(73) Correct utterance:

A: tab-i	moyeah?	B: na
want-2MS	water?	B: NEG
“Do you want water? No”		

(74) Incorrect sentences:

a. Omission:

la-gul-ha	?ent	heb	mama
NEG-say-3FS	you.2MS	love	mom

Adult target:

la-ti-gul-ha	?enk	*ma-ti-Heb-ha
NEG-PRES-say-3FS	you.2MS	NEG-PRES-love-3FS
“Don’t tell her you don’t love her”		

b. Substitution:

?na	mu-Hareb-əh
I	NEG-break-it. _{3FS}

Adult target:

?na	!ma-Xareb-ah
I	NEG-break-it. _{3FS}
“I do not break it”	

After dividing Badr's negative utterances into two groups, the correct utterances for period 2;0 were 20 (77%) while incorrect utterances were 6 (23%). Correct utterances in period 2;6 were 69 (74%) and incorrect utterances were 24 (26%). At age 3;0 Badr produced 120 (66%) correct utterances and 62 (34%) incorrect utterances. Table 13 summarizes the percentages of correct and incorrect negative utterances across all periods.

Age	Correct		Incorrect				Total	
	n	%	Omission		Substitution			
			n	%	n	%		
2;0	20	77	3	12	3	12	26	
2;6	69	74	0	0	24	26	93	
3;0	120	66	1	1	61	34	182	

Table 13. Percentages of Correct and Incorrect Negative Utterances

A deeper understanding of the accuracy of the child utterances, would lead us to address the correct and incorrect utterances from the point view of the negative forms /la, ma, muhub/. By examining the data from this point, we will be able to better analyze the child production of each negative morpheme. This analysis will enable us to answer important questions this research such as order of acquisition among the negative morphemes.

Recall that the negative morpheme *la* is the negation morpheme used in discourse and imperative negation contexts. *ma* is the negative form used in existential, declarative and interrogative negative contexts. /muhub/ -with its variants- is used for non-verbal negation. My analysis examines the child's production of each of these morphemes in separate sections.

6.1 Productions of *la* in discourse and imperative contexts

The child produced correct and incorrect negative utterances across all age periods. Table 14 shows the distribution of correct and incorrect negative utterances of *la*. Percentages are calculated among each context individually because it has already been indicated that the child distribution distinguishes between contexts. These data address the child's accuracy in each context. Production of negative *la* in discourse contexts was accurate for all age periods. At age 2;0, the child produced a total of 18 negative discourse utterances. All 18 (100%) negative discourse utterances were correct. At age 2;6, the child produced a total of 32 discourse utterances and all were correct. Lastly, at age 3;0, the child produced 48 negative discourse utterances and all were 100% correct as well.

<i>la</i>														
Age	Discourse						Total	Imperative						
	Correct		Incorrect					Correct		Incorrect				
	Omission		Substitution					Omission		Substitution				
	n	%	n	%	n	%		n	%	n	%	n	%	
2;0	18	100	0	0	0	0	18	0	0	0	0	0	0	
2;6	32	100	0	0	0	0	32	5	71	0	0	2	29	
3;0	48	100	0	0	0	0	48	13	100	0	0	0	13	

Table 14. Distribution of Correct and Incorrect negative utterances of *la*

The grammar of the negative discourse *la* is independent from the other negation markers. To that extent, the grammar of *la* in the language controls its presence as a single element in response to a question or command. The exciting fact that Najdi Arabic uses *la* in two contexts provides a unique opportunity to evaluate the acquisition of the negative morpheme *la* in Najdi Arabic. This made it possible to evaluate Badr's use of *la* independently in the imperative contexts.

Badr treated the negative morpheme *la* differently in imperative contexts. At period 2;0 the child did not produce any *la* forms in the imperative. Age 2;6 the child produced a total of 7 utterances, five of these (71%) were correct. Examples of his correct production are shown in (75)

- (75) !la-teql min ?ant rooH
 NEG-say if you leave
 la-tqulha ?eeea ?ant b-trooH
 NEG-say if you will-leave
 'Don't tell her if you are going to leave'

Badr also produced two incorrect forms of the negative imperative (29%). Both instances were produced in the same recording session, and both involved inserting *mu* in the position of *la*.

- (76) !mu-tethawe-ea
 NEG-operate-it
 la-tesawe-ha
 NEG-do-it
 "Don't do it!"
- (77) !mu-tethawe-i waHid
 NEG-operate-you one
 la-tesaw-i wala waHid
 NEG-do-you even one
 "Don't do it not even one!"

The examples in (76) and (77) show that the child substituted the negative morpheme *mu* for *la* prior to the present verb *tesawi* ‘do’. The likelihood of Badr producing a frozen form of a verb is excluded because Badr was able to produce several other verbs such as *tequl* ‘say’, *t^fTi* ‘give’, *?tlaHaf* ‘cover with blanket’, and *?Heb* ‘love’. This shows that Badr enjoyed a higher level of productivity that is not limited to one certain verb. This indicates that he may reflect a sense of grammar that allows him to produce other inflected verb with negation. At age 3;0, the child produced a total of 13 *la* imperatives, and all were correct.

This result shows that the child distinguished between the discourse and imperative uses of *la*. The child’s production of the negative discourse marker *la* appears correct starting from the early stage until the late stage. The data does not show child producing any incorrect utterances over the length of the study. Moreover, the child heard relatively few examples of the negative discourse marker in the adult input. Meanwhile, the child performance in the production of *la* in the imperative is quite different. Although negative imperatives were relatively frequent in the adult input at 2;0, Badr did not produce any negative imperative forms. As for the intermediate stage, a correct and incorrect utterances were recorded which suggest a difference in comparison to discourse negation. This evidence indicates that the child treats discourse and imperative differently despite that the fact that both contexts use the same negation marker *la*.

6.2 Productions of *ma* in existential, declarative and interrogative contexts

The negative form *ma* appears in three contexts; existential, declarative and interrogative contexts in the adult language. Table 15 shows the distribution of correct and incorrect negative utterances of *ma* in the existential context. At period 2;0, only one existential utterance was

recorded as correct. At period 2;6, Badr produced a total of 8 negative existential utterances. Seven of them (88%) were correct and one (13%) was an incorrect substitution. He produced 11 existential utterances at age period 3;0, of which 10 (91%) were correct and one (9%) was an incorrect substitution.

Age	<i>ma</i>						Total	
	Existential							
	Correct		Incorrect					
	n	%	Omission	Substitution	n	%		
2;0	1	100	0	0	0	0	1	
2;6	7	88	0	0	1	13	8	
3;0	10	91	0	0	1	9	11	

Table 15. Distribution of Correct and Incorrect negative utterances of *ma* in existential

The child was able to correctly produce an accurate utterance in the first period. The middle stage shows a slight shift in performance. The majority of *ma* forms were accurately produced at 2;6. This accuracy in performance was extended to the third stage with small incorrect substitutions percentage recorded. The child linguistic ability to produce correct utterances increased by age while the incorrect production remains the same.

- (78) !mu-?jamah (Age 2;6)
 NEG-pajamas
 - ma-fih-pejameh
 NEG-in- pajamas
 “There’s no pajamas”

The example above shows that the child replaced the morpheme *ma* with a non-adult like form *mu*. The child might have extended the negative discourse marker to other contexts as noted in English; however this was not the case here. There was no indication that the child substituted

la for *ma* position. It seems that *mu* is the child's preferred choice when substituting a negative element. It is relevant to highlight that Badr produced *fiih* in isolation to negation (affirmative context) and his production was 2 instances at 2;6 and 29 at 3;0. The assumption that Badr could have produced *ma + fiih* as an unanalyzed or frozen form is ruled out because of his production in the affirmative sentences (see the example below).

- (79) fiih bunni fi wajh-ah (Age 3;0)
there brown on face-his
“There’s brown on his face”

(80) !fiih thnayn kalb (Age 3;0)
there two dog
- fiih kalb-ayn
there dogs-two
“There are two dogs”

The child's treatment of *ma* in the declarative context is different from the existential context. The child produced a total of 4 negative declarative utterances at age 2;0. Only one correct instance (25%) was produced by the child; he omitted the negative marker in 3 (75%) of the utterances as in the example below.

- (81) !?a?a *
 NEG
 - la (pause) ma ?ab-i
 NEG (pause) NEG want-i
 “No. I don’t want to”

At age 2;6 the child produced a total of 29 negative declarative utterances. Twenty-five of these utterances (86%) had the correct negative morpheme while 4 (14%) included incorrect substitutions. The child produced a total of 68 negative declarative utterances at age 3;0. Forty-

seven (69%) were correct utterances, 1 (1%) omitted the negation marker, and 20 (29%) had incorrect substitutions.

Age	<i>ma</i>						Total	
	Declarative							
	Correct		Incorrect					
	n	%	n	%	n	%		
2;0	1	25	3	75	0	0	4	
2;6	25	86	0	0	4	14	29	
3;0	47	69	1	1	20	29	68	

Table 16. Distribution of Correct and Incorrect negative utterances of *ma* in declarative

Although *ma* is the negative form used in both existential and declarative negative contexts, the child treated them differently. The child's incorrect performance remains controlled in the existential with a gradual increase in accurate production. However, he treated the same negative *ma* in the declarative context differently. At the early stage the child omitted *ma* completely indicating the child had some difficulty negating declarative sentences at 2;0. However, the increase in the child's linguistic ability could be supported by the shift in error types committed in the second stage. By age 2;6 the type of error shifted from omissions to substitutions indicating a realization of its presence supported by an accurate performance. The examples below demonstrate how Badr substituted *mu* for *ma* yielding an ungrammatical use of the negative morpheme in declarative contexts. It is also worth highlighting that Badr persists on using *mu* as a substitution choice despite its unavailability in the adult language. All the substitutions were *mu* substitutions in place of *ma*. Badr made these substitutions with different verbs. Badr was found producing the same verbs with the correct negation form examples (82)-(86). The final stage shows that *ma* remains a challenge to produce in the declarative context. *ma*

remains difficult to master as the third stage shows a reduced percentage of correct utterances and an increase in the number of substitutions with only one omission.

Finally I examined the child's productions of *ma* in the interrogative context. Table 17 shows the distribution of correct and incorrect negative utterances of *ma* in the interrogative context.

Age	<i>ma</i>						Total	
	Interrogative							
	Correct		Incorrect					
	n	%	n	%	n	%		
2;0	0	0	0	0	0	0	0	
2;6	0	0	0	0	2	100	2	
3;0	2	100	0	0	0	0	2	

Table 17. Distribution of Correct and Incorrect negative utterances of *ma* in interrogative

The overall production of Badr in the interrogatives is limited in comparison to previous contexts that use *ma* as a negative morpheme. As can be noticed, period 2;0 did not show any production of *ma* in the interrogative context. By stage 2;6 the child produced a total of 2 utterances and all (100%) were incorrect substitutions. What is interesting about these substitutions is the emergence of *la* as an option for Badr instead of the usual *mu*. By age 3;0 the child produced a total of 2 utterances and both were correct productions.

- (87) !la-?almas haθa?
 NEG-touch this?
 - ma-?almas hatha?
 NEG-touch this?
 'Can't I touch this?'
- (Age 2;6 file No. 902292)

- (88) !mu-katheu hu taHat?
 NEG-a lot him underneath?
 -ma-qafad kather taHat?
 NEG-stay a lot underneath?
 'Didn't it stay long underneath?'
- (Age 2;6 file No. 902292)

It is worth noting once again the relative disparity between the frequency of negative interrogative utterances in the adult input and Badr's low production of these forms. At age 2;6

the child incorrectly observed *ma* in the interrogative context. By the final stage the child had accurately produced *ma* in the interrogative negative context.

We have seen evidence that the child treats the negative morpheme *ma* differently across three contexts: the existential, declarative and interrogative. Different accuracy rates were observed along with different types of incorrect productions. This behavior shows that the child distinguished between these contexts of negation. The data shows the child's negation grammar is more sophisticated than a simple insertion of a negation element before a verb or a verb like word because if the child had observed *ma* equally across these contexts, the data would have reflected a similar distribution, accuracy or error type across the contexts.

6.3 Productions of *muhub* in Non-verbal Predicate Negation

This negative element only occurs with non-verbal predicates. As illustrated, Najdi does not include what is known as the pronoun of negation or the negative copula *mu* that is found in other Arabic dialects such as Syrian, Jordanian Kuwaiti and Gulf Arabic. Predicate non-verbal negation is also distinctive in Najdi in that it has agreement features such as person, gender and number on the predicate negation element. Table 18 shows the distribution of correct and incorrect negative utterances of *muhub* in predicate non-verbal contexts. At age 2;0, the child produced a total of 3 negative predicate non-verbal utterances and all were incorrect substitutions. At 2;6 the child produced a total of 15 negative predicate non-verbal utterances and all were considered incorrect substitutions. At age 3;0 the child produced 40 negative predicate non-verbal utterances as incorrect substitutions.

muhub								
Age	Non-verbal						Total	
	Correct		Incorrect					
			Omission		Substitution			
	n	%	n	%	n	%		
2;0	0	0	0	0	3	100	3	
2;6	0	0	0	0	15	100	15	
3;0	0	0	0	0	40	100	40	

Table 18. Distribution of Correct and Incorrect negative utterances of *mu* in Non-Verbal

The child was unable to produce *muhub* at any stage despite its availability in the input.

All substitution instances were replaced by *mu* as in the examples below. It appears as if Badr decided to coin his own negative morpheme and apply it in the non-verbal context and extended it to other contexts when he is not certain of what negative morpheme to use.

Based on the analysis of Matar (1976), *muhub* could be made up of *mu-* (NEG), *-hu-* (pronoun), and *-b* (emphatic). It is very likely that Badr *mu* was less likely to be rejected and more flexible to be extended to other context. However, if arguably *mu* is accepted as a form of non-verbal predicate negation (despite its unavailability in the adult language), then why would it be the first choice when applying negation in other contexts? The discourse negation *la* would be expected to be extended to other contexts similar to English in addition to the correct performance in the data set (check the table below). In comparison to *la* and *ma*, the predicate non-verbal negation *muhub* is the most difficult negation form for Badr to master.

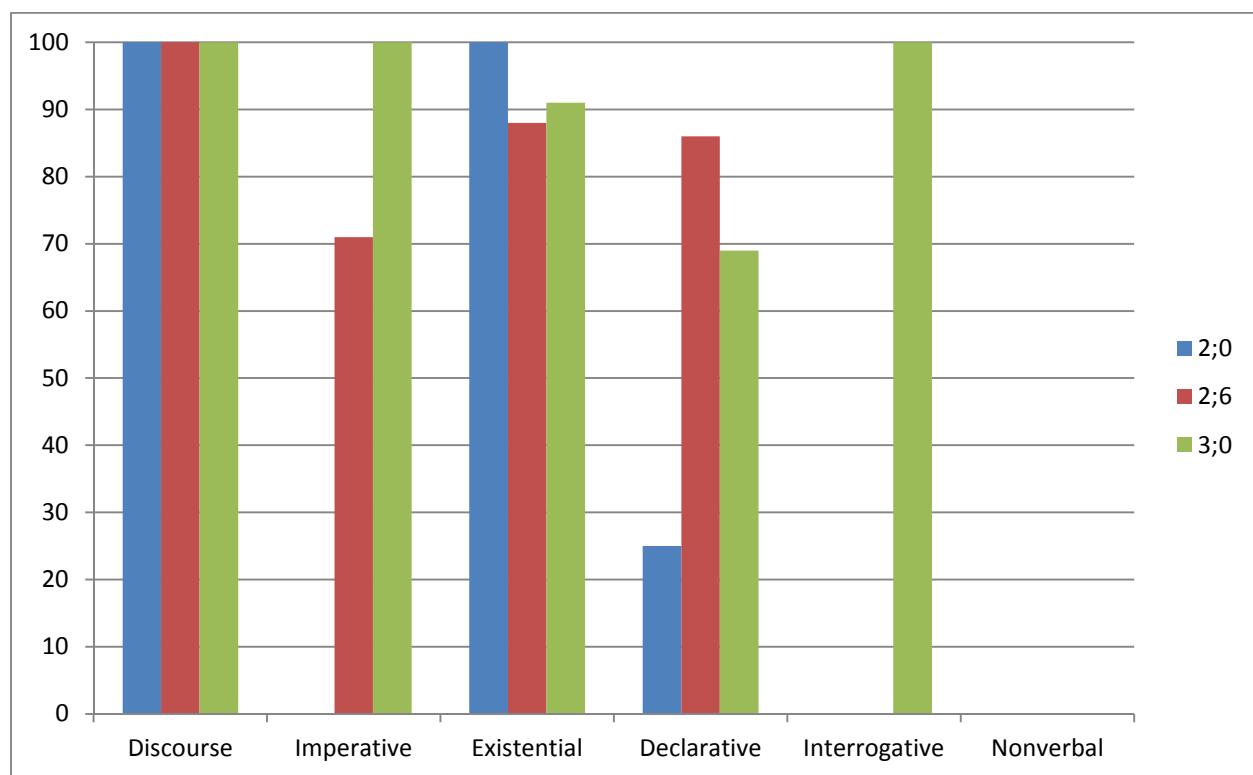
Age	<i>la</i>				<i>ma</i>				<i>muhub</i>			
	Discourse		Imperative		existential		declarative		interrogative		Non-verbal	
	n	%	n	%	n	%	n	%	n	%	n	%
2;0	18	100	0	0	1	100	1	25	0	0	0	0
2;6	32	100	5	71	7	88	25	86	0	0	0	0
3;0	48	100	13	100	10	91	47	69	2	100	0	0

Table 19. Percent Correct in Obligatory Contexts

As the child becomes older his linguistic ability improves resulting in an increase in the correct productions of negation markers across contexts. While there are negation markers that appear more challenging to master than others, there are negation markers that were mastered right from the beginning. Table 19 shows that the child produced negation marking in the discourse context correctly at all age periods. The child only produced negation correctly in 71% of the imperative contexts at age 2;6 even though the imperative negation marker has the same form as the discourse negation marker. The child produced the negation form *ma* correctly at similar levels in the existential and declarative contexts in the first two age periods. The child still showed a tendency to substitute another negation marker in these two contexts at age 3;0.

The child displayed far greater difficulty with negation marking in the interrogative and predicate non-verbal contexts. The child did not produce many negative questions, but substituted another marker in the two negative questions he produced at 2;6. The child did not produce any correct forms of negation in the non-verbal contexts. He systematically substituted other forms in this context. These results suggest that the child acquired the negation markers in the order *la* > *ma* > *muhub*.

Figure 11. Percent Correct in Obligatory Contexts



6.4 Negative Incorrect Substitutions

Up until this section I haven't addressed the substitutions that were recorded in the data. At times the child borrowed other negation forms present in the target language such as *ma* and *la*. However, the majority of substitutions were a form not used by the adult and was adopted as

a replacement for the correct negative form. i.e. *mu*. Table 20 below shows the incorrect negative substitution types. Stage 2;0 showed that the child produced a total of 3 substitutions, stage 2;6 registered 24 and stage 3;0 included 60 incorrect substitutions.

Age	Discourse	Imperative	Existential	Declarative	Interrogative	Non-verbal
2;0	0	0	0	0	0	baH
2;6	0	gestures (2)	mu	mu (3) la (1)	mu (1) la (1)	mu (15)
3;0	0	0	mu	mu (18) la (2)	0	mu (40)

Table 20. Negative Incorrect Substitutions types

At 2;0, the child substitutions were all under the non-verbal context. The child replaced *muhub* with his form of negation /baH/. This form was identified by (Al Buainain, 2002) as a negation type used by Qatari children at age 19 months in non-verbal contexts.

At 2;6 the child used gestures twice to replace *la* in the imperative context. Gestures were not observed many times in the data. Here the adult was attempting to assist the child in a coloring activity where the child was trying to prevent the adult from performing the task. The child did not produce a full sentence but tried to stop the adult by removing the coloring item from the adult's hand. These gestures /?mh ?mh / were interpreted by the adult as if the child was attempting to say "la telown" (don't color).

At the same period the child used /mu/ instead of *ma* in the existential context. He also deleted the existential *fih*.

- (92) *mu-?jamah
 NEG-pajamas
 !ma-fiih-pejameh
 NEG-in- pajamas
 "There's no pajamas"
- (Age 2;6)

In the declarative context, the child performed 4 substitutions instead of *ma*. Three of those were /mu/ and one was *la*. In the interrogative, the child had two substitutions instead of *ma*; /mu/ and *la*.

For the same age period 2;6, the child used /mu/ instead of /muhub/ in the non-verbal context. The child negative incorrect utterances included 15 substitutions and all were replaced by /mu/.

- (94) ?na !mu-Kailan
 I NEG- Kailan
 !?na maniib-Kailan
 I NEG-Kailan
 “I am not Kailan”

At age period 3;0, there were no substitutions in the discourse, imperative and interrogative contexts. In the existential context the child replaced the one substitution with *mu*. In the declarative context the child performed 20 substitutions; 18 were *mu* and 2 were *la*. In the non-verbal context the child recorded 40 substitutions; all were instances of *mu* replacing /muhub/ or its variants (maniib, mahiib, muhumb...etc).

It was hypothesized that the child would extend the negative discourse form *la* to declarative contexts based on the observation of children acquiring English. From the substitution data we can deduce two important conclusions. First, Badr did not extend the discourse negation marker *la* to non-verbal predicate contexts. I did not find a single utterance of

la replacing *muhub* or any of its variants. Second, the child did not extend *mu* to the discourse contexts. I did not find a single utterance of *mu* replacing *la* in a discourse context. The child's distribution of negation in the discourse and non-verbal contexts was consistent. All of Badr's productions of *la* in discourse contexts were *la* while all of his productions in predicate non-verbal contexts were *mu*.

The substitutions in the negative incorrect utterances were generally instances of *mu* replacing *muhub* in predicate non-verbal contexts and *mu* replacing *ma* in existential, declarative and interrogative contexts.

In regard to the child's production of *mu* within the non-verbal predicate context I would argue that the child is on the right path to acquire the target language. Remember that Matar (1976) argued that *muhub* is basically composed of the negation marker *mu-*, a pronominal *-hu-* and an emphatic *-b*. By the earliest period, the child has already identified NEG contexts. At age 2;6, his linguistic ability development to mark NEG across various contexts. Age 3;0 in the non-verbal context the child identified the NEG element in *muhub* and robustly produced it.

On the other hand the presence of *mu* in existential, declarative and interrogative contexts is puzzling. These extensions do not support Drozd's account of the use of *no* for *not* in children acquiring English. The accurate productions of *ma* in these contexts leave little room for speculation. It might be that the child is extending *mu* to existential contexts based on his inability to accurately categorize *fiih* as a pseudo verb. As explained by Al-Kulaib (2010), it could be argued that existential *fiih* in Arabic may be categorized as a noun or a verb. Al-Kulaib (2010) introduced evidence of the possibility of *fiih* could belong to either category. This conflict could explain the child's production of *mu* in the existential context.

Interrogatives generally have other elements that play a role in their construction such as intonation or movement and the like. The child intonation could have played a part in creating a confusion leading to the adaptation of form other than *ma*. It seems that Badr has chosen to elect *mu* as his first go-to NEG form when in doubt. Also keep in mind that the substitutions under the interrogatives were *mu* and *la* at 2;6 and no errors in the other two age groups. This low number of incorrect sentences indicates that Badr is well on his way to produce the correct negative form *ma* in the interrogative context. One piece of supporting evidence is his production of correct sentence in the following period 3;0.

6.5 Analysis of non-verbal predicate negation as verbal predicate negation

NA Arabic sets itself apart from English negation grammar in the sense that it expresses predicate nominatives in verbless sentences as in (95).

- (95) maneeb Tabib
NEG Tabib
'I am not a doctor'

Unlike English the NA Arabic sentence does not have a copula or a pseudo verb. The English translation uses a copula in predicate nominative constructions. The negative pronominal serves as the non-verbal predicate in Najdi Arabic.

The questions that are raised at this point in the research about Badr's extensions of *muhub* still unresolved. Why does Badr extend *muhub* to verbal predicates? Also why can't we just distinguish between verbal predication and non-verbal predication and assume he is learning them independently? Right from the onset, Badr performance is very clear in that he extended

mu to verbal predicates. On one hand, he managed to miss the distinction between verbal negation and non-verbal negation when using *mu*. On the other hand, he had little difficulty in distinguishing the contexts that require *la* or *ma*. This leads us to address the earlier question of using negation with verbal predicates.

Prior to venturing into the analysis of *mu* I would like to emphasize that *mu* never competes with *la* in its positions. In other words, *mu* has not substituted *la* in the declarative and the imperative contexts not even once. On the same notion, *mu* has competed where *ma* is expected in the existential, declarative and interrogative contexts. Thus, a question is put forward, what makes *mu* prone to extension? One hypothesis would assume that Badr might be exhibiting a general inability to distinguish contexts. More precisely he might not be sensitive to verbal and non-verbal distinction and therefore using *mu* where *ma* is expected. This premise cannot account for *mu* extensions because Badr showed robust evidence that he managed to differentiate between six different contexts where *la* and *ma* are applied. More so, he showed sensitivity by making clear distinctions within usages of *la* and *ma* between the discourse and imperative on one hand and between the declarative, existential and interrogative on the other. Another hypothesis would argue that since *muhub* was shown to include a [+D] feature that needs to be checked against tense which predict early use of different person forms which is not available in the data.

In order to account for Badr's incorrect uses of *mu*, I looked into another category in his production. I first introduce Badr's usages of modals in Najdi. Then I draw the similarities and differences between *mu* and modals in Najdi. I will demonstrate through distributional properties that Badr treated *mu* the same way as he treated modals. As an additional method to support this account of Badr treatment of *mu* as modals I checked the ratio of verbal to nonverbal

complements that he used with *mu* and compared it to the ratio of verbal to nonverbal complements that he used with modals. A Chi square test also indicates that *mu* and modals have similar distribution of complements.

First let's take a quick look at how modals are distributed in the adult grammar. Modals appear before verbal and non-verbal complements in Najdi and maintain a certain fixed form that does not show any inflection features i.e. person, gender and number. Examples below show how modals operate before verbs.

- | | | |
|---|---|--------------------------|
| (96) lazim/mumkin
must/may
'I must/ may finish the race' | ?panhi
finish. _{1S.PRES} | ?a-ssibaq
the-race |
| (97) lazim/mumkin
must/may
'He must/ may attended the lesson' | HaDar
attend. _{3MS.PAST} | ?a-ddaras
the-lesson |
| (98) lazim/mumkin
must/may
'You must/ may go to school' | t-roH
you. _{2MS.PRES} -go | lelmadrasah
to-school |
| (99) lazim/mumkin
must/may
'He must/ may attend the lesson' | y-HaDar
him. _{3MS.PRES} -attend | ?a-ddaras
the-lesson |

The examples (96)-(99) show that modals appear in one fixed form (*lazim/ mumkin*) before inflected verbs. The type of complement modals in Arabic can precede can inflect to person type 1st (96), 2nd (98), and 3rd (99). Modals verbal complements can also inflect to aspect such as perfective aspect as in (97) and imperfective (98). Modals may also precede pronouns (101) and demonstratives (102) below.

Two modals appeared in the child's productions; the first is *mumkin/-yemkin* which is a modal that expresses possibility as in the English equivalent *may* or *might*. The second is *lazim*; it expresses obligation such as *must*. Table 21 shows that Badr produced a good number of these modals starting at the second period.

Age	<i>mumkin</i>	<i>lazim</i>	Total
2;0	0	0	0
2;6	5	3	8
3;0	18	16	34

Table 21. Modals in Badr's production

Examples of the two modals are shown in (99) - (104)

- (100) !mumkin ?na ?alfab (File:1001101 Age 3;0)
 may I play
 mumkin ?alfab
 may play
 'May I play?'
- (101) !ymkin hu (File: 91206 Age 3;0)
 maybe him
 'Maybe it's him'
- (102) !ymkin haθa helwah (File: 8111460 Age 2;6)
 maybe this.MS beautiful.FEM
 ymkinhaθa helw
 maybe this.MS beautiful.MS
 'Maybe this is beautiful'
- (103) !laθim ?ant hut (File:1001101 Age 3;0)
 must you put
 lazim ?ant-i tahut-iin
 must you.2ND.FEM put-you.2ND.FEM
 'You must put (the card)'

- (104) !laθim hu waH ?ked (File:9022145 Age 3;0)
 must him go.PAST.MS run.PAST.MS
 lazim hi raHt tarkD
 must she go.PAST.FM run.PRO.FM
 ‘She must went running’
- (105) !laθim naHtah fa-?rD (File:1001101 Age 3;0)
 must put.pl on-ground
 lazim naHtah fi-l?rD
 must put on-the-ground
 ‘We must put it on the ground (lit:floor)’
- (106) mumkin Yousef yazor-na
 may Yousef visit-us
 ‘Yousef may visit us’

The examples above show that modals precedes pronouns *?na* ‘I’, *?ant* ‘you’, *hu* ‘him’, demonstratives *haθa* ‘this’, and verbs *naHtah* ‘put’. *Mumkin* and *lazim* can precede verbal as well as non-verbal predicates (106). Therefore modals in Najdi take verbal complements as well as non-verbal complements. In most cases Najdi makes a clear distinction between verbs and non-verbs. However there is an ambiguous category in the grammar of Najdi that is not very clear how to treat elements such as existential *fiih* and modals. It is very fortunate that negation is a strong test to distinguish these categories and divide them into verbal and non-verbal. Badr reflected a good grasp of negative morphemes *la* and *ma*. His understanding of what is a verb and which negative morpheme could be used with it is in general quite good. His production of *ma* and *la* has been limited to declarative and imperative verbs and was not extended to non-verbal predicates.

One explanation for Badr’s extension of *mu* to verbal predicates is that he analyzed the non-verbal negation marker as a modal. I analyzed his use of *muhub* to see whether he treated it

as a modal. I provide examples from Badr's data that show *mu* in positions resembling those of modals i.e. preceding both verbal and non-verbal predicates.

- (107) !mu? farresh (Age 3;0)
 NEG brush.
 muhub yfarresh
 NEG brush
 'He does not brush'
- (108) !mu? naDif-ah (Age 3;0)
 NEG clean-it._{FEM}
 maheeb naDif-ah
 NEG clean-it._{FEM}
 'It is not clean'
- (109) !mu? hu supuhero (Age 3;0)
 NEG him clean-it._{FEM}
 muhub superhero
 NEG superhero
 'He is not a superhero'
- (110) !mu Haθa Haθak (Age 3;0)
 NEG this that
 muhub Haθa Haθak
 NEG this that
 'Not this one, that one'

The examples above show *mu* precedes verbs *farresh* 'brush' (107), adjectives *naDif* 'clean' (108), pronouns *hu* 'him' (109) and demonstratives *haθa* 'this' (110). Badr's incorrect extensions of *mu* to verbs are important although that the grammar does not allow *muhub* to precede verbs. Badr's productions of *mu* occupy the same positions of *lazim* and *mumkin* that appeared earlier. If Badr analyzed *mu* as a modal, we would expect to find it taking verbs as complements similar to his use of other models. By looking at Badr performance, he is well aware of the two categories of nouns and verbs however he does not distinguish between the use of modals and *mu* as a negative morpheme. In other words, Badr seems to treat *mu* as a modal

and therefore places it before verbs and non-verbal predicates alike. His grammar assimilates *mu* to the modal category yielding his extensions to verbs. The nature of negation is that it takes the sentence to an irrealis mood just as modals function may provide additional support to the analysis of *mu*. Also the fact that Badr used a fixed form of negation that did not reflect inflection the same way as modals don't inflect in Najdi is a strong indicator of his categorization of *mu* as a modal.

The additional test of ratio was administrated to test the hypothesis of the treatment of *mu* as a modal in the child's grammar in Najdi. This was performed by classifying *mu* complements in Badr's data to verbal and no-verbal for all age periods. The same analysis was applied to modals complements in the same data. Table 22 shows the results of this analysis.

	Age	verbal	non-verbal	Ratio
<i>mu</i>	2;6	5	15	1:3
	3;0	19	40	19:40
Modals	2;6	1	6	1:6
	3;0	11	22	1:2

Table 22. Modals to *mu* ratio in Badr's production

Also a Chi square statistical analysis was administrated to verify the distribution between *mu* and modals. The analysis confirmed previous observation that *mu* is distributed similar to modals in the child grammar of Najdi yielding support to the hypothesis that Badr treated *mu* as modals.

CHAPTER SEVEN: CONCLUSION

This research is the first of its kind in the language acquisition field to investigate the forms negation takes across six contexts of use. It introduced several empirical points such as the effect of the input forms and frequency on language acquisition. It also demonstrated that investigating less commonly studied languages is important for current research. Because most theories are presented within the understanding and capabilities of more commonly studied languages, this research presents an opportunity to put the predictions of language acquisition theory to the test. This chapter covers two main points. The first will address the implication of the current study on the acquisition of negation in Arabic languages. The second will focus on the research questions presented earlier in the dissertation.

Smadi (1979) argued for the existence of three stages of the acquisition of negation in Jordanian. The first stage would only include the use of *la:*. The second stage includes the emergence of one word negation *la:*, suffixation of a negated word with *-ʃ*, repetition of negativity (*la -ʃ*), the negative imperative (*la + Vimp*) and the emergence of the negative word initially (*mu:+ S*) (Smadi 1979). The third stage was argued to demonstrate the correct form of the discontinuous negation (*ma-ʃ*), the emergence of the negative sensitive item *wala*, anaphoric negation (*la: + S*), the occurrence of *mu:* in the sentence medial, correct use of the negative imperative and the occurrence of *mif* instead of *mu:*. The current investigation showed that Najdi Arabic children produce three distinct negative morphemes at stage one (*la*, *ma* and *muhub*). However, the emergence that Smadi (1979) noted in Jordanian for the first stage was exclusive to *la*. As Smadi explained, JA negation grammar includes *la*, *ma-ʃ* and *mif* or *mu*. Najdi includes similar morphemes *la*, *ma*, and *muhub*. The early emergence of negative morphemes other than *la* in Najdi is a mystery in comparison to JA. The different outcomes in JA and Najdi are not

predicted by the many similarities between the languages. Despite the fact that Smadi did not provide a precise account of Iqbal's production in JA, it is left to our speculation on what implication this study has for Arabic acquisition studies. If Smadi's work would be reexamined under similar analyses as performed here, it is believed that we might find extensions of *mu* in similar numbers as appeared in Najdi. I assume it would even appear more frequently in JA because the non-verbal negator in JA does not show inflection for person.

The introduction to the dissertation raised four research questions which I investigated in this study. I will now address the implications of my research for each question in turn.

1) What is the effect of the input frequency on children's negation production?

The current study investigated the adult and child utterances in both the negative and affirmative contexts. The purpose is to measure any affect that the input might demonstrate on child acquisition outcomes. It was shown that, the adult negative discourse negative marker *la* was only 1 (10%) while the child produced 18 (69%) instances at the same stage (2;0). At age 2;6 Badr produced 32 (34%) compared to the adult's 13 (15%) and stage three (3;0) he produced 48 (26%) while the adult produced only 12 (13%) discourse *la* instances. These frequencies show that the production of *la* in Najdi Arabic clearly indicates that the child does not follow the frequency of the input. The outcome of the frequency analysis challenges the constructionist approach to child language described in Cameron-Faulkner et al., (2007). They argued that the Brian's speech had been driven by input and the order of emergence of negators was a result of the large frequencies of negators in the adult language. They showed that that *no* and *not* were the most frequent negators in the input which led to their early presence in the child's speech.

The results of the acquisition of negation in Najdi challenge Cameron-Faulkner et al. (2007). It is important to highlight that Cameron-Faulkner tried to minimize the frequency difference in the input between the discourse negation *no* and predicate negation *not*. Cameron-Faulkner et al. made no attempt to account for this asymmetry. In the current study, it was natural to raise essential questions about the child's marking of negation in Najdi because I examined the frequency in multiple contexts in the child's production as well as how the child is using negation across these contexts. Unlike what was once hypothesized that the input drives the production of the child utterance (Cameron-Faulkner et al., 2007), affirmative and negative contexts analyses have robustly revoked this relationship. There was no evidence that the adult's frequency of any negative element was reflected in the child speech.

2) Do children acquiring Najdi extend anaphoric negation markers to verbal and nonverbal predicates in a way that is similar to children acquiring English?

The evidence presented in this research indicates that Najdi children grammar feature all three morphemes of negation in Najdi early in the acquisition process. This includes *la* which is used in the contexts of discourse and negative imperative, *ma* which is concerned with existential, declarative and interrogative contexts and *muhub* where it is used preceding non-verbal predicates. Unlike sequences of appearance of negation found in English and Arabic dialects, the emergence of all types of negative morphemes in Najdi at stage one is incomparable. Children acquiring negation in languages other than Najdi showed tendency to have an emergence or acquisition order as their linguistics ability develops into adult grammar. In Najdi, Badr's data showed that he is able to produce three morphemes in various contexts at two years of age. Data also showed that Badr had adult like performance in the uses of some negative particles. His correct utterances were recorded at 77% at the first stage for all

morphemes combined and 100% for productions of *la* in the discourse contexts. These evidence shows that Najdi learning children exhibit an adult like grammar in the production of anaphoric negation namely *la*. Because all three morphemes appear simultaneously, the results of this study do not support a sequence of acquisition like other studies. However, since the analysis measured the accuracy of performance of negative morphemes, they could be presented in order of correct productions. This adaptation is even more reliable to compare the development of negation and better evaluate CH because the measurement is not mere existence in the data but rather the adult like performance. As results have demonstrated, children learning Najdi will correctly produce anaphoric *la* first followed by *ma* then finally the non-verbal predicate *muhub*.

Moreover, that data have also shown that at the first stage showed that Najdi children were able to display a correct distinction between verbal and non-verbal negation. Although, the productions of *ma* at stage one were only five instances, 40% were correct and the remaining were omissions. It safe to assume at this point that Badr had clear grasp of the difference between verbal and non-verbal negation. His performance at stage two puts him well on the track of maturing into the adult grammar. His development at stage two was measured at 82% correct *ma* instances with only 18% incorrect utterances.

3) When do children distinguish between verbal and non-verbal predicate negation in Najdi?

To address this question I have to address the data from the point of verbal and non-verbal negation. The negative marker *la* is concerned with the imperative verbal context, *ma* selects for a declarative, existential and interrogative and *muhub* is for the non-verbal. As the data have demonstrated all three negative markers were present at stage one (2;0). However, *la*

was not recorded preceding the imperative it was limited only to the discourse. Thus the negative imperative (*la* + V) did not surface. The same occurred for the *ma* in the interrogative. Verbal negation with *ma* only appeared with declarative and existential contexts. As a result the negation in the interrogative was not available in the data. However, negation in the non-verbal negation was present at the early stage (2;0). The data show that non-verbal negation registered three times (12%). As the linguistics ability of the child develops, his ability to demonstrate all negative markers became apparent. The results show that at stage two (2;6) all verbal negotiation contexts were present. The imperative occurred seven times (8%), existential eight (9%), declarative 29 (31%) and interrogative two times (2%). The importance of this stage is not limited to the emergence of the imperative and interrogative, but rather to the child's ability to demonstrate different types of verbal negation using two distinct negative markers *la* and *ma*. On the other hand, the child produced 15 (16%) in the non-verbal negation. The data showed larger numbers in the final stage. Going back to the question at hand, the data show that children learning Najdi display an early ability to produce verbal and non-verbal negation distinction at early stage. It is remarkable that children could demonstrate advanced linguistic skills to produced negation markers across varying contexts.

4) What are the implications of the Najdi acquisition data for the Continuity Hypothesis?

This research was designed to test the CH assumption that the child and adult languages are continuous. This point could not be addressed by tackling the acquisition data of negation as a whole but rather required a careful evaluation of every negative morpheme independently. As well demonstrated, Badr's productions of *la* and to the most part *ma* were accurate. No errors were recorded in any period in relation to the *la* data for anaphoric negation. The data strongly support that children learning Najdi display adult grammar at the first stage of the acquisition of

the anaphoric negation *la*. Badr's performance in *la* alone supports Pinker's (1984) assumption of continuity between child and adult's grammars. The results show that children and adults share the same grammar when it comes to the acquisition of *la* in the discourse context.

However, the negative particle *ma* is not as unequivocal as negation in discourse and imperative contexts. There were some substitutions of the non-verbal predicate negator instead pf the verbal negator *ma*. As explained earlier, these substitutions of Badr's non-verbal negator *mu* are a result of his inability to correctly classify of the existential *fih* as a verb. Therefore, he incorrectly used the non-verbal negator *mu* instead. What Badr had produced is an unexpected error. I assume that the child is on the correct path to producing *ma* in the existential, declarative and interrogative in the same grammatical capacity as adult. As a result, Badr's productions of *ma* cannot fully support continuity but only partially. I justify this position because adults would not produce these errors in their grammar. In addition the hypothesis claims that children and adults share a common grammar and therefore these errors could not be captures by Pinker's continuity assumption.

The non-verbal predicate substitutions that the data shows are very interesting. As reported, Badr failed to correctly produce a single adult like instance of non-verbal predicate negation. Badr substituted his form of the negative morpheme *mu* in all of the non-verbal contexts. These substitutions were explained earlier due to his inability to correctly classify the negative particle *mu* as belonging to the negative class of morphemes. A series of arguments demonstrated that the child analyzed the non-verbal negator *mu* as belonging to the modal category. In other words he used the non-verbal negator as a negative modal. These arguments include: the fact that he constantly produced the same inflected form of *mu* in all his substitutions which is identical to his productions of the uninflected modals *lazim* and *mumkin*. Furthermore,

the complementary distribution of *mu* with modals showed that Badr never produced modals and *mu* in one sentence contrary to what is available in the adult grammar. Furthermore, the Chi square test indicates that *mu* and modals have similar distribution of complements.

One final but equally significant argument that is introduced by the investigation of modals comes from the syntactic structure of modals in Najdi grammar. As argued earlier *mu* in Najdi selects for an NP complement. On the other hand, Modals in Najdi select a VP complement. If we want to maintain continuity then it would be expected to find *mu* to require NP complement and therefore we wouldn't expect *mu* to occur before verbs. However, by analyzing *mu* as a negative modal then it is expected for it to require verbal complement and evidence show that it indeed take VP complement in Badr's data. Therefore it is expected to find evidence of discontinuity in the child grammar.

The strong qualitative and quantitative evidence pose a challenge to the Continuity Hypothesis at its core. If the continuity prediction of a common grammar of children and adults is on the right track, then how could it account for Badr substitutions? Pinker argued that CH is a theory that captures the acquisition of child language and argued it would map into adult grammar. He also stated that if there is no qualitative and quantitative evidence to disprove CH ability to capture acquisition, then we should assume that both languages are of one. The evidence presented in this section alone is difficult to refute. It stands as an example to our little understanding of the nature of language acquisition.

Similarly, the current study introduces significant implications to Drozd (2002) claim of a DP analysis and the support of CH. It is argued in this paper that Najdi does not include term negation. As demonstrated earlier, Najdi does not include the equivalent of constituent negation

in its grammar. Thus, it is not hypothesized to expect children learning Najdi to produce term negation and even if there were instances of term negation in the data it will remain ungrammatical because the adult grammar does not include such a construction. However, I will entertain the idea that Najdi include term negation in its grammar and that Drozd is on the right track in that children learning English use *no* as a determiner in their productions. Based on these assumptions, it would be plausible to predict that children learning Najdi would produce the equivalent of an utterance like *no sugar* which would be *mu sukka*. Following what is already established in the Arabic syntax and taking into consideration the arguments presented in non-verbal predicate negation in Najdi, *muhub* or *mu* should be analyzed in the predicate position. If Najdi children do indeed produce sentences like *mu sukka* ‘no sugar’ then their production would remain ungrammatical. Because based on Drozd claims, we should analyze *mu* as a determiner not a predicate. This hypothetical assumption would present itself as an argument for discontinuity in this scenario because children produced a nonadult grammar. The current study shows that if Drozd (2002) analysis of a DP negation does persist in English, it is unlikely to occur in Najdi. What Drozd argued for may only be regarded as language specific.

At this point of the research, I would like to address what may appear as a valid point that could be raised over the ungrammatical productions of the child where he does not follow the rules of Najdi grammar by producing *mu* minus person marking. Badr’s production of the nonverbal negative without person inflection may still be used to support continuity. Another why to rephrase this point is by raising the question: could this interpretation of the child’s errors save continuity?

One way to approach such claims is adopt a parameter setting that would account for such errors. A parameter setting hypothesis could assume that the child simply has not set the

agreement parameter at this point of acquisition. This parameter predicts that while the child is comfortable in producing NEG - agreement (*la* and *ma*) in the verbal category, he faced difficulties in producing NEG + agreement in the nonverbal category. As a result, a nonverbal NEG + agreement would be regarded as a marked case. This claim would successfully account for *mu* production in the nonverbal category. However for a parameter setting analysis to hold in Najdi it must be examined in places other than negation where it is expected to show such as on verbs. This hypothesis is not supported for the acquisition of negation in Najdi because of two points. First, agreement is marked on verbs in Najdi grammar. More importantly, the data showed that the child successfully marked person, number and gender on the verbs. For, a parameter setting account to hold, agreement should be missing from the child language comprehensively. Therefore it is not valid to claim that these errors are general difficulties in the child's language. Second, a parameter hypothesis fails to account for the extensions of *mu* to the verbal contexts. The lack of person marking on *mu* in nonverbal predicates does not explain the extensions to verbal predicates. In contrast, the negative modal hypothesis elegantly accounts for the lack of agreement on negation of the nonverbal predicates and the extensions of *mu* to verbal predicates.

As I embarked on this research with many scientific predictions that were based on seminal language acquisition research on various languages, many have crumbled as I uncovered new evidence. It shows that looking into less common languages will without a doubt introduce new research areas to investigate.

BIBLIOGRAPHY

- Aftat, M. (1982). *The Acquisition of Negation and Wh-Questions in a Moroccan Arabic Speaking Four-Year-Old Child*. The University of Texas at Austin, United States -- Texas.
- Al Buainain, H. (2002). Developmental Stages of the Acquisition of Negation and Interrogation by Children Native Speakers of Qatari Dialect,. *Journal of the Faculty of Humanities and Social Sciences*, 25, 9–45.
- Al-Kulaib, E. M. (2010). *The acquisition of English and Arabic existential constructions* (Ph.D.). University of Kansas, United States -- Kansas. Retrieved from
<http://search.proquest.com.www2.lib.ku.edu/pqdtglobal/docview/762474534/abstract/88F464F59C4D4782PQ/1?accountid=14556>
- Alsarayreh, A. (2012). *The Licensing of Negative Sensitive Items in Jordanian Arabic* (Ph.D.). University of Kansas, United States -- Kansas. Retrieved from
<http://search.proquest.com.www2.lib.ku.edu/pqdtglobal/docview/1018059701/abstract/8E88DFB4DFA04886PQ/10?accountid=14556>
- Aoun, J. (2010). *The syntax of Arabic*. Cambridge, UK ; New York: Cambridge University Press.
- Bellugi, U. (1967). *THE ACQUISITION OF THE SYSTEM OF NEGATION IN CHILDREN'S SPEECH*. Harvard University, United States -- Massachusetts.
- Benmamoun, E. (2000). *The Feature Structure of Functional Categories: A Comparative Study of Arabic Dialects*. Oxford University Press, USA.
- Bever, T. G. (1970). The cognitive basis for linguistic structures. *1970*, 279–362.
- Bloom, L. (1970). *Language Development; form and Function in emerging Grammars* (2d Printing). M.I.T. Press.

Borer, H., & Wexler, K. (1987). The Maturation of Syntax. In *Parameter setting* (pp. 123–72). Springer.

Brustad, K. E. (2000). *The Syntax of Spoken Arabic: A Comparative Study of Moroccan, Egyptian, Syrian, and Kuwaiti Dialects*. Georgetown University Press.

Cameron-Faulkner, T., Lieven, E., & Theakston, A. (2007). What Part of No Do Children Not Understand? A Usage-Based Account of Multiword Negation. *Journal of Child Language*, 33(02), 251–282.

Choi, S. (1988). The Semantic Development of Negation: A Cross-Linguistic Longitudinal Study. *Journal of Child Language*, 15(03), 517–531.

Chomsky, N. (1995). The Minimalist Program. The MIT Press.

Cowell, Mark. 1964. A Reference Grammar of Syrian Arabic. Washington DC: Georgetown University Press.

Deprez, V., & Pierce, A. (1993). Negation and Functional Projections in Early Grammar. *Linguistic Inquiry*, 24(1), 25–67.

Drozdz, K. F. (2002). Negative DPs and Elliptical Negation in Child English. *Language Acquisition*, 10(2), 77–122.

Félix-Brasdefer, J. C. (2014). Acquisition of Functional Categories in Early Spanish: Evidence for the Strong Continuity Hypothesis. *IULC Working Papers*, 6(0). Retrieved from <https://www.indiana.edu/~iulcwp/wp/article/view/06-01>

Ferguson, C. A., & Slobin, D. I. (1973). *Studies of child language development*. New York: Holt, Rinehart and Winston.

- Fodor, J., Bever, A., Garrett, T. G., & others. (1974). The psychology of language: An introduction to psycholinguistics and generative grammar. Retrieved from <http://philpapers.org/rec/FODTPO>
- Holes, C. (1990). *Gulf Arabic*. Psychology Press.
- Huang, C. J. (1989). Pro-drop in Chinese: A generalized control theory. In *The null subject parameter* (pp. 185–214). Springer. Retrieved from http://link.springer.com/www2.lib.ku.edu:2048/chapter/10.1007/978-94-009-2540-3_6
- Hyams, N. (1987). The Theory of Parameters and Syntactic Development. In T. Roeper & E. Williams (Eds.), *Parameter Setting* (pp. 1–22). Springer Netherlands. Retrieved from http://link.springer.com/chapter/10.1007/978-94-009-3727-7_1
- Hyams, N. (1996). The underspecification of functional categories in early grammar. *LANGUAGE ACQUISITION AND LANGUAGE DISORDERS*, 14, 91–128.
- Hyams, N. (2011). Missing Subjects in Early Child Language. In J. de Villiers & T. Roeper (Eds.), *Handbook of Generative Approaches to Language Acquisition* (pp. 13–52). Springer Netherlands. Retrieved from http://link.springer.com/www2.lib.ku.edu/chapter/10.1007/978-94-007-1688-9_2
- I Batet, M. C., & i Grau, M. L. (1995). The Acquisition of Negation in English. *Atlantis*, 17(1/2), 27–44.
- Klima, E., & U. Bellugi. (1966). Syntactic regularities in the speech of children. *J. Lyons and R. Wales, (eds.) Psycholinguistic Papers*, 183–208.
- Koopman, H., & Sportiche, D. (1988). Subjects, ms. *Los Angeles: UCLA*.
- Lakoff, G. (1987). Women, Fire, and Dangerous Things: What Categories Reveal about the Mind. University of Chicago Press.

- Lange, S., & Larsson, K. (1973). *Syntactical development of a Swedish girl Embla, between 20 and 42 months of age*. Stockholms Universitet, Institutionen för nordiska språk.
- Macnamara, J. (1982). *Names for things: a study of human learning*. Cambridge, Mass: MIT Press.
- MacWhinney, B., & Snow, C. (1985). The child language data exchange system. *Journal of Child Language*, 12(2), 271–295.
- Matar, ‘Abd al-‘Azīz. (1976). *Zawahir nadirah fi lahjat al-khalij al-’arabi*.
- Meisel, J. M. (1997). The acquisition of the syntax of negation in French and German: contrasting first and second language development. *Second Language Research*, 13(3), 227–263. <http://doi.org/http://dx.doi.org.www2.lib.ku.edu/10.1191/026765897666180760>
- Mills, A. E. (1985). The acquisition of German. In *The crosslinguistic study of language acquisition*, Vol. 1: *The data*; Vol. 2: *Theoretical issues* (pp. 141–254). Hillsdale, NJ, England: Lawrence Erlbaum Associates, Inc.
- Omar, M. K. (1973). *The Acquisition of Egyptian Arabic as a Native Language*. The Hague, Paris: Mouton.
- Park, T.-Z. (1979). Some Facts on Negation: Wode’s Four-Stage Developmental Theory of Negation Revisited. *Journal of Child Language*, 6(1), 147–151.
- Pinker, S. (1984). *Language learnability and language development*. Harvard University Press.
- Pinker, S., & Birdsong, D. (1979). Speakers’ sensitivity to rules of frozen word order. *Journal of Verbal Learning and Verbal Behavior*, 18(4), 497–508.
- Plunkett, K., & Strömqvist, S. (1990). *The acquisition of Scandinavian languages* (Vol. 59). University of Gothenburg, Dept. of Linguistics.

- Pollock, J.-Y. (1989). Verb Movement, Universal Grammar, and the Structure of IP. *Linguistic Inquiry*, 20(3), 365–424.
- Rizzi, L. (1991). *Residual Verb Second and the Wh-criterion*. Université de Grnève.
- Slobin, D. I. (1978). Cognitive prerequisites for the development of grammar. In *CA Ferguson & D, 1*. Retrieved from [http://ihd.berkeley.edu/Slobin-Language%20Acquisition/\(1973\)%20Slobin%20-%20Cognitive%20prerequisites%20for%20acquisition%20of%20grammar.pdf](http://ihd.berkeley.edu/Slobin-Language%20Acquisition/(1973)%20Slobin%20-%20Cognitive%20prerequisites%20for%20acquisition%20of%20grammar.pdf)
- Sloetjes, H., & Wittenburg, P. (2008). Annotation by category – ELAN and ISO DCR. In: Proceedings of the 6th International Conference on Language Resources and Evaluation (LREC 2008). URL: <http://tla.mpi.nl/tools/tla-tools/elan/> Max Planck Institute for Psycholinguistics, The Language Archive, Nijmegen, The Netherlands
- Smadi, O. M. (1979). *The Acquisition of The Jordanian Arabic Interrogation and Negation by a Three-Year-Old Native Speaker of Jordanian Arabic*. The University of Texas at Austin, United States -- Texas.
- Sportiche, D. (1988). A theory of floating quantifiers and its corollaries for constituent structure. *Linguistic Inquiry*, 19(3), 425–449.
- Suppes, P., Smith, R., & Léveilli, M. (1973). The French Syntax of a Child's Noun Phrases, 42, 207–269.
- Torrence, H (2010, January). Morphology class. The University of Kansas, Lawrence
- Wode, H. (1977). Four early stages in the development of Li negation. *Journal of Child Language*, 4(01), 87–102. <http://doi.org/10.1017/S0305000900000490>
- Zanuttini, R. (1990). Two types of negative markers. In *Proceedings of NELS* (Vol. 20, pp. 517–530).

APPENDICES

Age 2;0 (*la, ma, and muhub*) Adults initials: ب ، غ Child :

<i>la</i> لا	<i>ma</i> ما	<i>muhub</i> مهوب	a?a?
18	2	3	3
نا أقي! [لا حقي!] بببي باح! [بببي مهوب فيه / بببي راح]	نا بق[ما فيه بق]	نا بق[ما فيه بق]	ت: قل ليه. ب: عمه عمه
غ: تعطي أكل للكوكو؟ ب: ناء	ما أقدر[ما أقدر]	ما أقدر[ما أقدر]	ئم ئم[لا/ما أبي] بببي بح! [بببي بح!]
نا			ئم ئم[لا/ما أبي] بببي باح! [بببي باح!]
نا أقي!			
ت: قل يا الله. ب: لا			
ت: قل يا الله يا الله! ب: لا			
ت: وش قلت تو؟ أنا أنت؟ ب: ناء			
نا آنا أنت!			
ناء			
ناء!			
ت: وش لون الكلب؟ ب: ناء			
ت: هذا ولد؟ ب: لا			
ناء آني إلمو[لا. هذا إلمو!] ناء			
ناء			
نانا [لا لا]			
ناء			
ناء			
نا			

ب : Child ، غ : Adults initials: (la, ma, & muhub)

la لا	ma ما	muhub مهوب
39	38	15
لاء	انا ما ابي[انا ما ابي]	انا مو كاي لان[انا مانيب كاي] لان[
ت: انا فزت ب: لاء	اه انا ما حبه[اه انا ما احبه]	هو بث ريكانقل هو مو دوبيوه[هو بس مستطيل مهوب دويره]
من انت ما هبه لا أطة بوثة[وادا ما تحبها لا تعطيها بوسة]	كل انا بس المنى من أحد من انا ما تادف[انا اذ ما عرفت يعلمني أحد]	موء موء كثير[مهوب كثير]
من انت ما هبه لا أطة بوثة[وادا ما تحبها لا لا تقول من انت [لا تقول اذا انت] لقوله من انت فلت من انت هب ماما[لا تقولها إنك ما تحبها]	من انت ما هبه لا أطة بوثة[وادا ما تحبها لا تعطيها بوسة] ما قلت انت شي[انت ما قلت شي]	ب: أحذو مو popoul هذا موء...[هذا موء...]
لا تثوي ثوا شف انا اكتب لاذم انت اكتب نفت انا[لا تسوبها معن شفني اكتب اول بعدين سوزي]	أنا مدو [مدري]	يث هو بث هذا مو حقوق[بس هذا مهوب حقه]
لاء	مو كثيو هو تحت؟[ما قعد كثير تحت؟]	أشان كله إثنين حاذا موبع مو نفسون شي[عشان كل هذين المربيعين مهوب نفس بعض]
ت: وزروح نكمel ال الكيك وناكله تحت البانكيك؟ ب: لا	لا إمس هادا؟[ما الماس هذا؟]	موهادا[مهوب هذا]
ت: يالله خنسوبيها ب: لاء	هذا مو هل هذا بث كبيو حتتفا قوبج باقي[هذا ما يخلني هذا كبير حطة في الزبلة]	أشان كله إثنين حاذا موبع مو نفسون شي[عشان كل هذين المربيعين مهوب نفس بعض]
مو تثوي مو تثوي= [لا تسويها]	ما فيه كفرات	موهادا[مهوب هذا]
تلح شان هادا ما فيه كفوات[تلح عشان هذا ما فيه كفرات]	هذا مو بجاame[هذا مو بجاame]	هذا مو بجاame[هذا مو بجاame]
مو تثوي واحد [لا تسوي ولا واحد]	أنا مو إللب فيه[أنا ما لعبت فيه]	أنتي مو هنا انتي هنا شفتك[ايه انت فلت لي انك منتب هنا انت هنا وشفتك]
ت: شاطر! ثابس فميص أبيض؟ ب: لا	هذا مو نفته[هذا مهوب نفسه]	أنتي مو هنا انتي هنا شفتك[ايه انت فلت لي انك منتب هنا انت هنا وشفتك]
ت: أوقف! ب: لا	هذا ما فيه ثفو![هذا ما فيه صفر]	أنا مو أبو ثيف[أنا منيب ابو ابو سيف]
غ: ليش؟ لا لا شكون [لا،شكرن]	أنت ما حلشت هذا![أنت ما حلشت هذا!] أنا ما حبة شير[أنا ما أحب أشارك]	أنا مو اسمي ثاره اسمي بن بدو[أنا مهوب اسمي ساره امي بدر]
ت: وشو تقول تحب البنفسجي؟ ب: لا	أنا ما حبة شير[أنا ما أحب أشارك]	أنا مو نفته[هذا مهوب نفسه]
ت: يالله إضغطه إضغطه ب: نا لا إنت ثويت نفث كذا![لا إنت ثويت نفث كذا!]	أنا بس ما حبة شيو[أنا بس ما أحب أشارك]	أنا ما حبة شير[أنا ما أحب أشارك]
لا أنا حطة فوق بيث[لا أنا حطة فوق بس]	وموا جامه [وما في الجامه]	أنا بس ما حبة شيو[أنا بس ما أحب أشارك]
ت: خلاص أقرى عليك بسم الله؟ ب: لاء [لا]	ونا فيه إنسايد بوكت! [وما فيه مخبأ من داخل!]	ونا فيه إنسايد بوكت! [وما فيه مخبأ من داخل!]
لا، أكيد أنا فاند[لا، أكيد أنا فزت]	ما بي ذي هادي[ما بي ذي هادي]	ما بي ذي هادي[ما بي ذي هادي]
لاء ،لازم انت تثويها شوي شوي[لا لازم انت	أنا ما بي دف حلث[أنا ما أبي أدفع]	أنا ما بي دف حلث[أنا ما أبي أدفع]

تسويفها شوي شوي [
لا وذة[لا وزة]	أنا مدوبي!
[لاء [لاء	أما لقينك باد[أنا ما لقينك بعد!]
[لاء [لاء	إيه أنا ما قلتني انتي
للا.....لا	انتا ما سمع انتا ما سمعتني[انتا ما سمع انتا ما سمعتني]
ت: ممكن تعطيني إيه؟ ب: لا بأس حبة إقعد معى	انتا ما سمع
[لاء [لاء	انتا ما سمعتني
ت: صح؟ ب: نا [لا	پاني أنت ما سماّتي[يعني أنت ما سمعتني]
لا بدر with بي [لا، بدر بالبي	ما عندي حليب[ما عندي حليب]
أفلت لاء[أنا فلت لا	لا انت بدامنه همرا[لا أنت ما لبست بجمامة حمرا]
لا انت بدامنه همرا[لا أنت ما لبست بجمامة حمرا]	انتا ما عندك أثود[أنت ما عندك أسود]
لا أنا أنا أنا حذوا وايد من هلاو مع قرد[لا أنا أخضر واييضاً زي الحلاو اللي مع القرد]	انتي ما عندك أثود[أنت ما عندك أسود]
لا هذي لونه حمرا[لا هذي لونها حمرا]	هي ماما ما تشوف شي
لا أنا ما ابي اتحلف[لا أنا ما ابي اتحلف]	ما تشوف
لا لا لي لا افتح هذي[لا لا لا لي لا افتح هذي]	أنا ما أدوبي[ما أدربي]
لا يمكن[لا يمكن]	أنا مابي لحلف[أنا ما أبي اتحلف]
لا وشو ابو حته؟[لا وشو ابو حته؟]	لا أنا ما ابي اتحلف[لا أنا ما ابي اتحلف]
ت: انا ما أنا ما سمعتك؟ ب: لا	إيه أنا ق... وانتا ما عندك أنتي شم[إيه أنا اقصه عشان ما تشم أو عشان ما يصير عندك خشم تشم]
ت: تبي حليب؟ ب: لا	

Age 3;0 (*la, ma, & muhub*) Adults initials: ئ ئ ئ Child : ب

ت: ليش عيوني بيضا؟ ب: لاء حادا حذو لا هاذا موء حاندير [لا هاذا مهوب خنزير] لاء. قول أطة بوثة هق بدور [لا. قلها عطي بدر يوسة!] [لا هذا موء هذا بس...] لا هذا واحد باب [لا هذا الواحد باب] لا	انا ما ... أنا مو بببي إقد هنا[أنا مانيب بببي عشان اقعد هنا] ما أبي تأكل شئ [ما أبي أكل شئ] أنا ما حبك! [أنا ما أحبك!] [أنا ما حبك] أنا ما حبك! [أنا ما أحبك] أنا ما حبك! [أنا ما أحبك] أنا ما حبك ماما! [أنا ما أحبك ماما]	اثـنـينـ هـذـاكـ موـ نـفـثـ اللـونـ] [الـاثـنـينـ هـنـولـيـ] مـهـومـبـ نفسـ اللـونـ] أـنـاـ أـثـوبـ موـءـ تـاـكـلـ!] [أـنـاـ أـشـرـبـ مـانـيـ] أـكـلـ!] [أـنـاـ مـوءـ friendـ هـقـةـ] [أـنـاـ مـانـيـ صـدـيقـهاـ] بـثـ أناـ موـ فـرـندـ حـكـ [بسـ أناـ مـانـيـ] صـديـقـكـ!] [أـنـاـ ...ـ أناـ مـوـءـ فـرـندـ حـكـ!] [أـنـاـ مـانـيـ] صـديـقـكـ!] [بـثـ موـ هـانـيـ مـانـيـ] [بسـ مـانـيـ هـانـيـ] مانـيـ] شـانـ أناـ موـ بـدوـ مـانـيـ] [عـشـانـ أناـ مـانـيـ بـدرـ] ماـ أحـبـ أـشـارـكـ أحـدـ فيـ دـوـنـاتـيـ] لمـاوـ هوـ موـءـ شـيوـ نـفـثـ آـنـاـلـمـارـ ماـ تـشـارـكـ زـيـيـ/ـنـفـسـيـ] إـذـاـ كـانـ بـثـ ماـ اـبـيـ هـطـ شـانـبـ!] [بسـ ماـ أـبـيـ أحـطـ شـنـبـ] منـاـ موـ أحـطـ شـانـبـ] [أـنـيـ موـ أحـطـ شـنـبـ] أـشـانـ خـثـانـ وـجـهـ ثـاـرـ موـءـ كـبـيـوـ] [عـشـانـ الـحـصـانـ وـجـهـ صـغـيرـ مـهـوبـ كـبـيرـ] لـاـ موـ هـاـذاـ هـذـاكـ ،ـهـذـاكـ تـغـيـرـ وـاحـدـ] [لـاـ مـهـوبـ هـاـذاـ ،ـهـذـاكـ؟ـ هـذـاكـ الصـغـيرـ!ـ] لـاـ هـاـذاـ موـءـ حـانـدـيرـ هـاـذاـ هوـ بـثـ هـاـذاـ بـثـ لـاـ لـاـ عـنـدـ فـيـنـيـ!ـ لـاـ تـحـطـ النـارـ فـيـنـيـ] [لـاـ عـنـدـ لـاـ ،ـاـنـاـ قـلـتـ لـاـ حـتـ نـاوـ فـيـنـيـ!] [لـاـ!ـ أـنـاـ قلـتـ لـاـ تـحـطـ النـارـ عـلـىـ] أـنـاـ بـثـ مـدـويـ منـ أـنـاـ كـلـتـ!] [أـنـاـ بـسـ] مـدـريـ وـشـ كـلـتـ] كـلـ أحـدـ مـاـ تـالـفـ ثـوـيـ شـيـ...ـ] [لـلـيـ ماـ يـعـرـفـ يـسـوـيـ شـيـ...ـ] ماـ سـوـيـتـ nock nock?] [ماـ سـوـيـتـ] ماـ حـلـثـتـ تـشـوـفـ تـلـفـيـزـيـوـنـ] [ماـ خـلـصـتـ] أـشـوـفـ التـلـفـيـزـيـوـنـ] ماـ تـالـفـ!] [ماـ أـعـرـفـ] أـنـاـ مـاـ اـشـعـ شـيـ] [أـنـاـ مـاـ اـسـمعـ شـيـ] أـنـوـ مـوـءـ الـوـنـهـ بـنـيـهـ] [بسـ مـهـوبـ اللـيـ لـونـةـ] بنـيـ..ـ] أـنـوـ نـظـيفـةـ يـانـيـ هوـ موـ فـوشـ] [مـهـيبـ نـظـيفـةـ] يعـنـيـ ماـ يـفـرـشـ /ـمـهـوبـ يـفـرـشـ] هوـ موـءـ هوـ موـءـ سـوـبـوـهـيـروـ] [هـوـ مـهـوبـ] سوـبـرـ هـيـروـ] أـولـ أـنـاـ مـنـ أـنـاـ تـاـكـلـ شـيـ موـءـ حـلـاوـ] لـاـذـمـ...ـ[أـولـ لـاـزـمـ آـكـلـ شـيـ مـهـوبـ حـلـاوـ] لـاـذـمـ أـنـاـ تـاـكـلـ شـيـ موـءـ حـلـاوـ] [لـاـزـمـ آـكـلـ شـيـ مـهـوبـ حـلـاوـ] أـنـاـ مـاـ تـاـكـلـ شـيـ موـءـ حـلـاوـ] أـنـاـ مـاـ حـلـثـتـ أـولـ!] [أـنـاـ أـصـلـحـ] هـذـاـ مـاـ خـلـصـتـ الـأـولـ] موـءـ....ـموـءـ....ـموـ حـلـثـ!] [ماـ خـلـصـ!ـ] إـنـتـ إـثـانـيـ؟ـ أـنـاـ مـاـ حـلـثـتـ حـقـيـ] [مـمـكـنـ] تسـاعـدـنـيـ؟ـ أـنـاـ مـاـ خـلـصـتـ حـقـيـ] لـاـ لـاـ لـاـ لـاـ!] [لـاـ تـدـغـ دـغـنـيـ]
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واحد أبئث بوايم [أنا ما عندي لبس موزة أنا عندي او بتامس برايم]	ذاتس أو كي من فيه سوبر هيرو [ما يخالف بصير فيه سوبر هيرو]
مدربي [ما ادربي] انا ما ادربي [ما ادربي]	أنا موء شيو سبايدرمان... [أنا ما أشارك سبايدرمان...]
انا ما ادربي [ما ادربي] شان أنا مو هذ من... [عشان أنا ما آخذ...]	شان أنا مو هذ من... [عشان أنا ما آخذ...]
ليه مو اضغط شي؟ [ليه ما اضغط شي؟]	إيه ، كذا هم موء كذا هم موء سوبيهيرو [إيه، بس ما صار سوبر هيرو]"
أنا مو اضغط شي [أنا ما ضغطت شي] نفت ما فيه شي [نفت ما فيه شي]	بات هو مو حالوه دلع [بس ما يخلية يطلع]
يمكن أنا ما تالف شيل قتاو! [يمكن ما لا، لازم أنا أقول وون	هو موء حتون سوبويهيو [هم ما يخلونك تحط سوبر هيرو]
لا هم ما تالف ادابي [لا. هم ما يعرفون عربي]	يمكن أنا ما تالف شيل قتاو! [يمكن ما أعرف أشيل القطار!]
هم ما تالف [هم ما يعرفون]	ولا إنتا الف قول هوامي من فية باد قاي [ما تعرف تقول حرامي اذا كان فيه باد قاي /شرير]
لا هم ما تالف هذا باد [لا هم ما يعرفون هذا بعد]	ممکن تلتح قطاو شان ما تالف ثوي حالي؟ [ممکن تصلحين قطار عشاني ما أعرف أسوية لحال؟]
وشلون من دلع هذا فوق وما تالف دلع تحت؟ [وشلون تعرف تطلع هذا فوق وما تعرف تطلع تحت؟]	أهيين أنا ما هبه [هالحين أنا ما أحبه]
انا ما ... أنا مو بببي إقد هنا [أنا مانيب بببي عشان اقعد هنا]	أنما إكبت هذا؟ [أنا ما ركبت هذا؟]
ما أبي تأكل شيء [ما أبي أكل شيء]	ممکن تللاح قطاو معندي أنا ما تالف تشوية حالي؟ [ممکن تصلحين معندي قطار؟ أنا ما أعرف أسوية لحال؟]
أنا ما حبك! [أنا ما أحبك!] [أنا ما أحبك!] [أنا ما حبك!]	
أنا ما حبك! [أنا ما أحبك!] [أنا ما أحبك!] [أنا ما حبك!]	
أنا ما حبك! [أنا ما أحبك!] [أنا ما أحبك!] [أنا ما حبك!]	
شان أنا ما هبه شيو الدونا هقي [عشان ما أحب أشارك أحد في دوناتي]	
لماو هو موء شيو نفت آانا [المار ما تشارك زبي/نفسني]	
إذا كان بث ما ابيا هط شانب! [بس ما أبي أحط شنب]	
منا مو أحط شانب [إني ما أحط شنب]	
أنا بث مدوي من أنا كلت [أنا بس مدربي وش كلت]	
كل أحد ما تالف ثوي شيء... [اللي ما	

يعرف يسوبي شي...]
ما سويت nock nock [ما سويت [nock nock
ما حلشت تشو夫 تلفزيون [ما حلشت أشوف التلفزيون] ما تالف! [ما أعرف]
أنا ما اثمع شي [أنا ما اسمع شي] أنا ما اثمع شي بـاـاـاد! [أنا ما أسمع شي بعد!]
إنتا إنتا ماثمع شي إنتا دلا ثوت! [أنتا ما تسمع شي لأنك أنت اللي تطلع الصوت/تنكلم]
بـث ما فـية وـاحـدة هـنـا!؟ [بس ما فـية وـحـده هـنـا!]
إـنتـ ماـ تـالـفـ تـشـوـفـ نـفـثـ كـذـا! [أـنتـ ماـ تـعـرـفـ تـسـوـيـ نفسـ كـذـا!]
أـنـاـ ثـلـحـ هـدـاـ أـنـاـ ماـ حـلـشـتـ أـولـ [أـنـاـ أـصـلـحـ هـذـاـ ماـ خـلـصـتـ الـأـولـ]
موء موء مو حلـثـ! [ما خـلـصـ!]
إـنـتـ إـثـانـدـنـيـ؟ [أـنـاـ ماـ حـلـشـتـ حقـيـ] تسـاعـدـنـيـ؟ [أـنـاـ ماـ خـلـصـتـ حقـيـ] أـنـاـ ماـ حـلـشـتـ! [أـنـاـ ماـ خـلـصـتـ!]
لا لا لا [ما أبي]
أـنـاـ ماـ اـدوـيـ [ما اـدرـيـ] أـمـدـوـيـ [ما اـدرـيـ]
ماـ فيـ [ماـ فيهـ]
شـانـ هوـ إـنـهـ أـبـوـ بـثـ موءـ أـمـ [عـشـانـ] عـنـهـ أـبـوـ بـسـ ماـ عـنـهـ أـمـ /عـشـانـ عـنـهـ أـبـوـ وـمـاـ عـنـهـ أـمـ [
هوـ ماـ إـنـهـ! [هوـ ماـ عـنـهـ]
هوـ هوـ ماـ إـنـهـ ... [ماـ عـنـهـ...]
هوـ موـ دـيـحـ دـمـ هوـ بـثـ إـقـدـ! [هوـ ماـ يـصـبـ دـمـهـ، هوـ قـاعـدـ!]
أـنـاـ ماـ أـبـيـ ماـ هـبـهـ دـيـحـ وـأـنـاـ شـقـ وـوـجـلـ يـدـديـ [أـنـاـ ماـ أـبـيـ أـطـيـحـ وـأـشـقـ رـجـليـ] وـيـدـيـ / [أـنـاـ ماـ أـحـبـ أـطـيـحـ وـأـشـقـ يـدـيـ] أـنـاـ كـداـ وـأـنـاـ ماـ هـبـةـ هوـ قـثـ أـهـنـاـ [وـأـنـاـ ماـ أـحـبـ انـهـ تـقـصـ منـ هـنـاـ]
ماـ حـبـهـ هوـ أـحـدـ قـثـنـيـ [ماـ أـحـبـ أـحـدـ يـقـصـنـيـ]
هوـ موـ قـتـهـ يـانـيـ يـانـيـ هـذـاـ سـحـوـ [هوـ ماـ قـصـةـ يـعـنـيـ هـذـيـ سـحـرـ...]
أـنـاـ ماـ بـدـيـنـ حـاـلوـفـ... [أـنـاـ ماـ بـعـدـيـنـ خـرـوفـ...]
هوـ ماـ تـالـفـ كـلمـ! [هوـ ماـ يـعـرـفـ يـنـكـلمـ!] ماـ طـقـيـنـكـ قـوـةـ! [ماـ طـقـيـتـكـ قـوـةـ!]

ياني هو ما.. ياني حاوف هو مو
ثوي في حمام[الخروف ما يسويها في
الحمام]

هو ما إنده بنطلون[هو ما عنده
بنطلون]

لا ما إنده كوت باد[لا ما عنده كوت
بعد]

باس هو موء إضك! [بس هو ما
بعضك!]

موء نظيفة ياني هو مو فوش[مهيب
نظيفة يعني ما يفرش /مهوب يفرش]
هو ما إنده توث برش[هو ما عنده
فرشة أسنان]

هو ما تالرف[هو ما يعرف]

أنا ما شفت واحد موزنة كل من الموز[أنا
ما شفت موزة تتكلم الا مع الموز]

أنا ما إندي موزة كوتشوم أنا باث إندي
واحد أبنا بوaim[أنا ما عندي لبس موزة
أنا عندي اوبيتامس برaim]

ذاتس أو كي من فيه سوبر هيرو[ما
يخالف يصير فيه سوبر هيرو]

أنا موء شيو سبايدرمان...[أنا ما
أشارك سبايدرمان...]

شان أنا مو هذ من ...[عشان أنا ما
آخذ...]

إيه ، كذا هم موء كذا هم موء
سوبيهيرو["إيه، بس ما صار سوبر
هيرو"]

باث هو مو حالوه دلع[بس ما يخلية
يطلع]

هو موء حتون سوبو هيyo[هم ما
يخلونك تحط سوبر هيرو]

يمكن أنا ما تالف شيل قتاو![يمكن ما
أعرف أشيل القطار!]

ولا إنتا الف قول هوامي من فية باد
قاي[ما تعرف تقول حرامي اذا كان
فيه باد قاي /شريير]

ممکن تتلح قطاو شان ما تالف ثوي
حالي؟[ممکن تصلحين قطار عشاني
ما أعرف أسوية لحالی؟]

أهبين أنا ما هبه[هالحين أنا ما أحبه]
أنما إكبت هاذ؟![أنا ما ركبت هاذ؟]

ممکن تتلح قطاو معي أنا ما تالف
ثنوية حالي؟[ممکن تصلحين معي
قطار؟ أنا ما أعرف أسوية لحالی]