

# A Corpus Study of the Distribution of Possessives in Child and Adult Emirati Arabic

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# Complexity and Frequency

- Acquisition of complex structures is driven by
  - frequency of structure in input
  - overall morphosyntactic and semantic complexity of structure (Diessel, 2004)
- simpler structures tend to be more frequent
- simpler structures are acquired earlier
- frequent structures are acquired earlier
- complex structures are lost or grammaticalized to simpler structures

# Complexity and Frequency

- Example: **Passives**
- Acquired late (around 4-5 years old; Maratsos et al 1985).
- Low frequency in ambient language (Brooks and Tomasello 1999; Pinker et al. 1987; Gordon & Chafetz 1990; Demuth 1989)
- Added Complexity of syntactic derivation leading to maturation effects:
  - A-chain Maturation Hypothesis (Borer and Wexler 1987)
  - External Argument Requirement Hypothesis (EARH) (Babyonyshev et al. 2001)
  - Universal Phase Requirement (UPR) (Wexler 2002)
  - Canonical Alignment Hypothesis (CAH), Hyams et al 2005)

# Complexity and Frequency

- Difficult to disentangle complexity and frequency effects
- both correlate very closely with the order of acquisition.
- In this paper we test complexity vs. frequency in two types of possessive structures in Arabic.
- I present a corpus-based analysis of the distribution of possessive forms in adult and child Emirati Arabic (EA)
- I show that the development of construct state possessives goes through stages of a maturation process before reaching target-like levels of frequency.

# Possession in EA

- Possession in EA is expressed as pronominal suffixes (1); a construct state (CS) (2) or in an analytic genitive form (AG) with the use of the particle *ma:l* (3) (Harning 1980, Holes 1990, among others).

1. ʔxo-j      fu    ne-saw-i    ʃeyel-na    haða  
brother-1SG    what PL-do-2SG    job-1PL    this  
“What can we do my brother, this is our job.”

2. marwan    j-ʃeyel    fe məktabat    el- yamʕah    ʃalafan    j- qedar    j- ʃejjel ʃemrah  
Marwan    3SG- work in    library    the- university because 3SG- able    3SG-live himself  
“Marwan works at the university's library to be able to live.”

3. seqat<sup>s</sup>-t    fe    el-ʔemthan    ma:l    el-ʔenglizi  
failed-3SG    in    the- test    POSS    the-English  
“She failed in the English test.”

# Construct State/iḍa:fa (CS)

- The structure has received great attention within Semitic languages and has been extensively studied in the context of Arabic
- ʔna ba-sʔal-kum soʔal ʔent-o ʃef-t-o malaf ħsejn  
 I FUT-ask-2PL question you-PL saw-2SG-PL file Hosain  
 “I’ll ask you a question, did you see Hosain’s file?”
  - ʃof-i ʔamna ʔent-i xəð-i raj ybaʃ we neħen ħaðʕer -in  
 see-2SG.F Amna you-2SG.F take-2SG.F opinion Gbash and us present-PL.M  
 “look Amna, accept Gbash’s opinion, and we will help you.”
  - ʔsrar el-modir kel-ha ʃend-sk  
 secrets the-manager all-it with -2SG.M  
 “All the manager’s secrets are with you now.”



# Construct State/iḍa:fa

- Adjacency: Possessor and Possessee DP have to be adjacent (except the definiteness marker)

9. a. ʔsrar el- modir el-kabira...  
 secrets the-manager the-big...  
 "the manager's big secrets ..."

b.\* ʔsrar el-kabira el-modir

- The post-CS position of the adjective creates ambiguity, which is resolved when gender agreement becomes relevant (c.f. *el-kabi:r* if the manager is big in (9.a)).



# Construct State/iḍā:fa

- Phonological Properties; CSs exhibit “sub-lexical” properties
  - CSs act as a single prosodic unit for purposes of stress assignment.
  - The *-t* part of the feminine suffix surfaces only in CS environments:

10. a. fi məktabat al- ʔamʔah  
in library the- university  
“... in the university library”

b. al-məktaba  
the-library

# Construct State/iḍa:fa

- The derivation of CS structures has been assumed to involve some sort of process that adds complexity to the structure:
  - head movement of the possessed noun N to D (Fassi Fehri 1993; see also Ritter 1991; Borer 1999; Mohammad 1990; Siloni 1991, 1997) Explains definiteness effects and adjacency but problematic given recent discussion of the status of head-movement in syntactic theory (Chomsky 1999).
  - phrasal movement of the possessee NP (Shlonsky 2004); the phrasal construct NP containing the possessee and the possessor DP moves to spec-DP and due to doubly-filled filter a definiteness marker cannot appear in D.
  - a lexical merger operation (Borer 1996); or post-syntactic merger operation at spell-out (Benmamoun 2000).
- All above proposals have in common that the resulting structure has acquired complexity due to additional syntactic/morphophonological operations involved in its derivation.

# Analytic Genitive (AG)

- Possession can be additionally expressed with a prepositional element with usually nominal origins. In Emirati Arabic this is the possessive particle is *ma:l*. It is homonymous with a nominal expression meaning “property; possessions” (Erwin 1963: 376, fn. 1).
- The main distribution of *ma:l* is as a ‘dummy’ nominal that supports postnominal possessive affixes when in predicative position:

11. a. jaʔni mob ma:l -i  
 mean NEG PRT -1SG/GEN  
 “So, it’s not mine.”

b. ... wə t- ʔatʕ -eh el- telefon ma:l -h  
 ... and 2SG-give -3SG.M the- phone PRT -3SG.M  
 “... and give him his phone ...”

c. ʔxo-j meftaħ ðakəm-i ʔna nasjan haðs ed-dabasah ma:l-i wela ma:l-hom  
 brother-1SG Moftah remind-1SG I forget this the-stapler PRT-1SG or PRT-3PL  
 “Brother Moftah remind me, is this stapler mine or theirs?”

# Analytic Genitive (AG)

- Harning also notes that the use of *ma:l* is very productive with borrowed nominals (c.f. Qafisheh, 1975: 239). We found a similar use in our corpus:

12. a. ʔ-ba-k                      baʔad t-xal-hom      j-dʕahhər-o-ni      fe el-barnamag  
 1SG-want-2SG.M also      2SG-let-3PL 3SG-show-PL-1SG in the-program  
ma:l et-telfezjon      ma:l ʔrsjadʕah  
 PRT the-television PRT the-sport  
 “I want you to let me be in the television sports program.”
- b. el- ʔemthan      ma:l el- ʔenglizi  
 the-test                      PRT the-English  
 “the English test”
- c. ħqel      ma:l bətrol  
 field                      PRT oil  
 “oil field”

# Analytic Genitive (AG)

- Single merger of a nominal head with a complement PP or PrtP. AG structures in (12) are simpler than the CS structures of (4-6).
- In addition, FS structures seem to be preferable in cases of ambiguity resolution (Holes, 2004:209-210; Harning, 1980:78-79) (examples from Holes 2004:210):

13. a. [al-bet al-tʃbir] ma:l sʻadi:g-i  
 the-house the-big PRT friend-1SG  
 “my friend’s big house”

b. be:t sʻadi:g-i al-tʃbir  
 house friend-1SG the-big  
preferred: “my elder friend’s house”  
with context: “my friend’s big house”

# Frequency

- Harning (1980): CS much more frequent than AG, but the texts that represent the Gulf region (Johnstone 1967) are too short to provide a clear picture.
- Harning (1980:70) states that “*the frequency of the AG in JOHNSTONE’s texts is so low as to be insignificant.*” (see also Holes (1990); Brustad (2000:88)).
- Brustad (2000): Moroccan AG particle *dja:l* has a much wider distribution than the EA *ma:l*, in that it is used in quantificational and inalienable contexts, which do not allow *ma:l* in EA.

# Frequency

- We checked frequencies of AG and CS structures in EA, using a transcribed corpus of spoken adult EA. We found a total of 1853 possessive structures from which the greatest percentage was structures containing a possessee nominal suffixed with a genitive pronominal suffix (as in (1), repeated here as (14)´

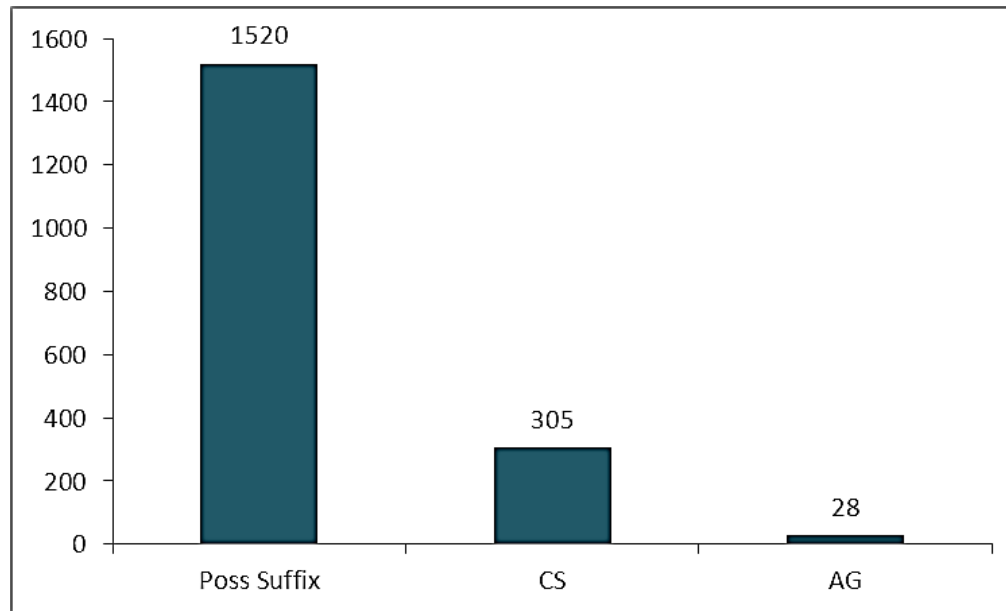
14.     ʔxo -j            fu    ng-saw-i    ʃyval-na    haða  
           brother-1SG    what PL-do-2SG    job-1PL    this  
           “What can we do my brother, this is our job.”

- The AG with the particle *ma:l* also appears 13 times with a possessive suffix, as in (11), repeated here as (15):

15.     jaʃni    mob    ma:l    -i  
           mean NEG    PRT    -1SG/GEN  
           “So, it’s not mine.”

# Frequency

- Of the remaining 320 cases of possessor-possessee strings, 305 structures are of the CS type and 15 structures of the AS type, of which six appear with borrowed words. The following table summarizes the results (AGs with a possessive suffix and with two nominals have been collapsed together):



**Graph 1:** Distribution of Possessive Structures in adult EA



# Frequency

- Thus, the adult corpus confirms the generally accepted assumption that the EA dialect uses predominately CSs (16.4% of the total number of possessive structures) while the *ma:l* AG is used only 1.5% of times.

# Child Language

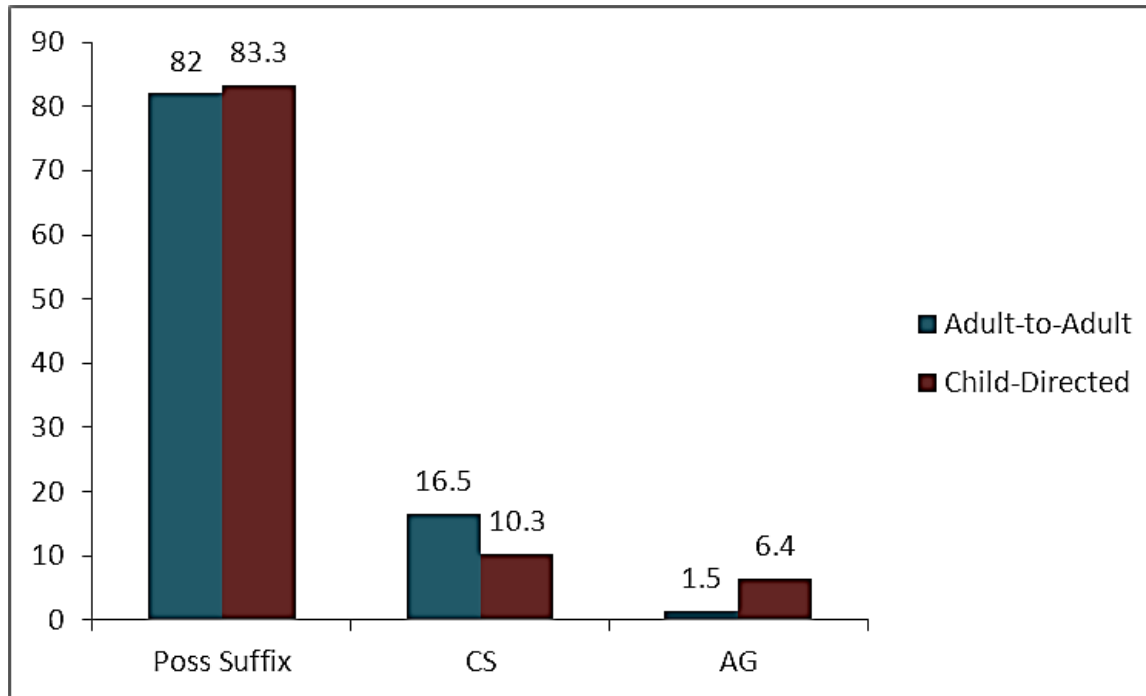
- If the CS is marked, this could predict a shift towards the use of AG in Arabic dialects in addition to a maturational process in the development of possession in child EA.
- The first idea has been put forward in Harning (1980), who claims that the AG is a “dialectal innovation” (1980:10).
- However, Brustad (2000:70-71) shows that analytic particles were documented in Classical Arabic, e.g. *li-* “for, belonging to” and *min* “of”.

# Child Language

- **Language development:**
  - maturational approach: CS should be acquired much later than AG because of its greater morphosyntactic complexity/pragmatic function.
  - usage-based account: CS should be acquired earlier and in greater numbers than AG to match the frequencies of its production in child-directed speech.
- We tested these predictions in a corpus of EA child language collected through the EMALAC project (Ntelitheos et al 2009)

# Child Language

- **child-directed adult speech (CDS):** adults seem to use fewer CS structures and more AG structures when addressing children.



**Graph 2:** Comparison of frequencies of Possessive Structures in adult-to-adult and child-directed EA

# Child Language

- Snow and Ferguson (1977) and later work (e.g. Gleitman et al 1988; Cameron-Faulkner 2003; and others), show that adults are highly selective in the words and syntactic constructions they use when addressing young children.
- More specifically Cameron-Faulkner (2003) find that frequency of certain structures in child speech match frequency of identical structures in Child Directed Speech but not in adult-to-adult exchanges.

# Child Language

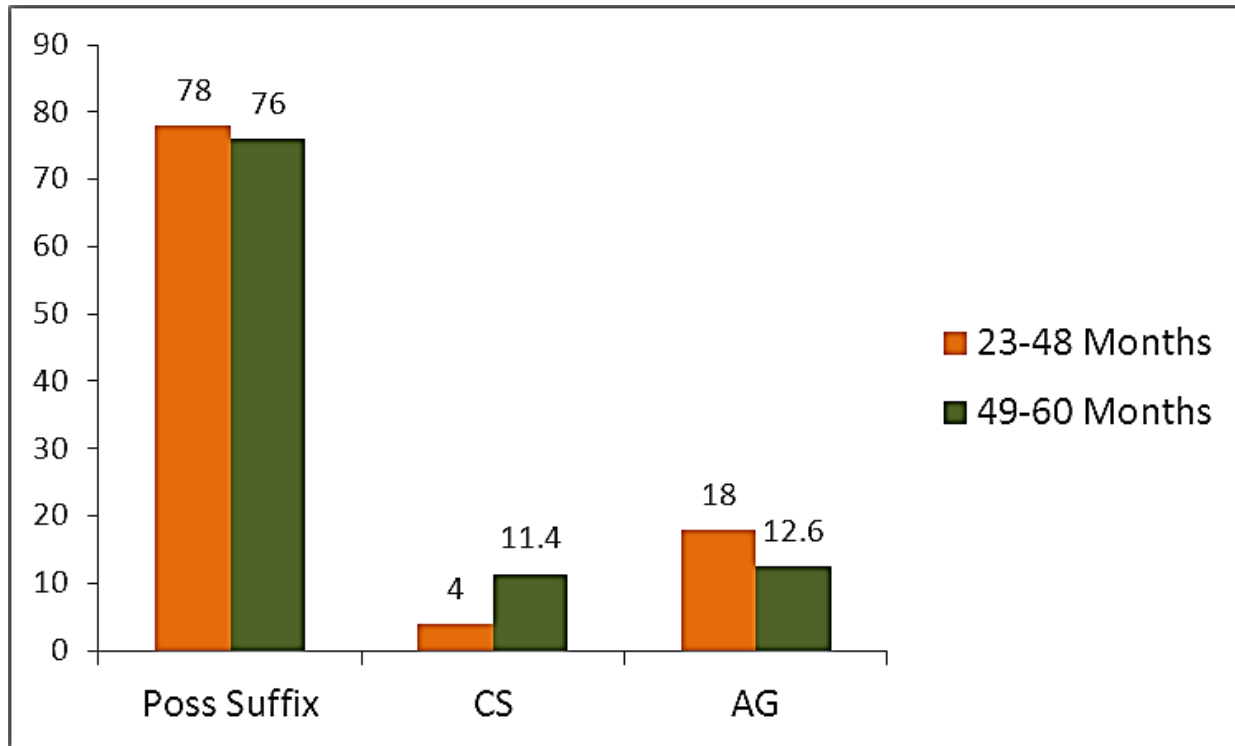
- Children produce all different types of possessive structures at different stages of language acquisition:

16. a. la: nfaalet hannu:d (FATIMA, 4:05)  
NEG shoes Hindi  
“No, (these are) Hindi’s shoes.”
- b. halaawa ma:l teffaḥa (FATIMA, 4:07)  
sweet PRT apple  
“Sweet(ness) of apple ...”
- c. haaḏa ma:l-i (MOHAMMED, 3:10)  
this PRT-1SG.GEN  
“This is mine.”
- d. tʃəlb-i haaḏa (MOHAMMED, 4:01)  
dog-1SG.GEN this  
“This is my dog.”

# Child Language

- **Two stages:** 23-48 months and 49-60 months:
  - During the first stage the children produced 646 possessive structures of which 506 (78%) were possessive suffix structures (c.f. (16.c). 116 (18%) are of the AG type (16.b-16.c) and only 24 (4%) are of the CS type (16.a).
  - During the second stage, out of a total of 714 possessive structures, 544 (76%) are suffixed possessives, 90 (12.6%) are of the AG type and 81 (11.34%) of the CS type:

# Child Language

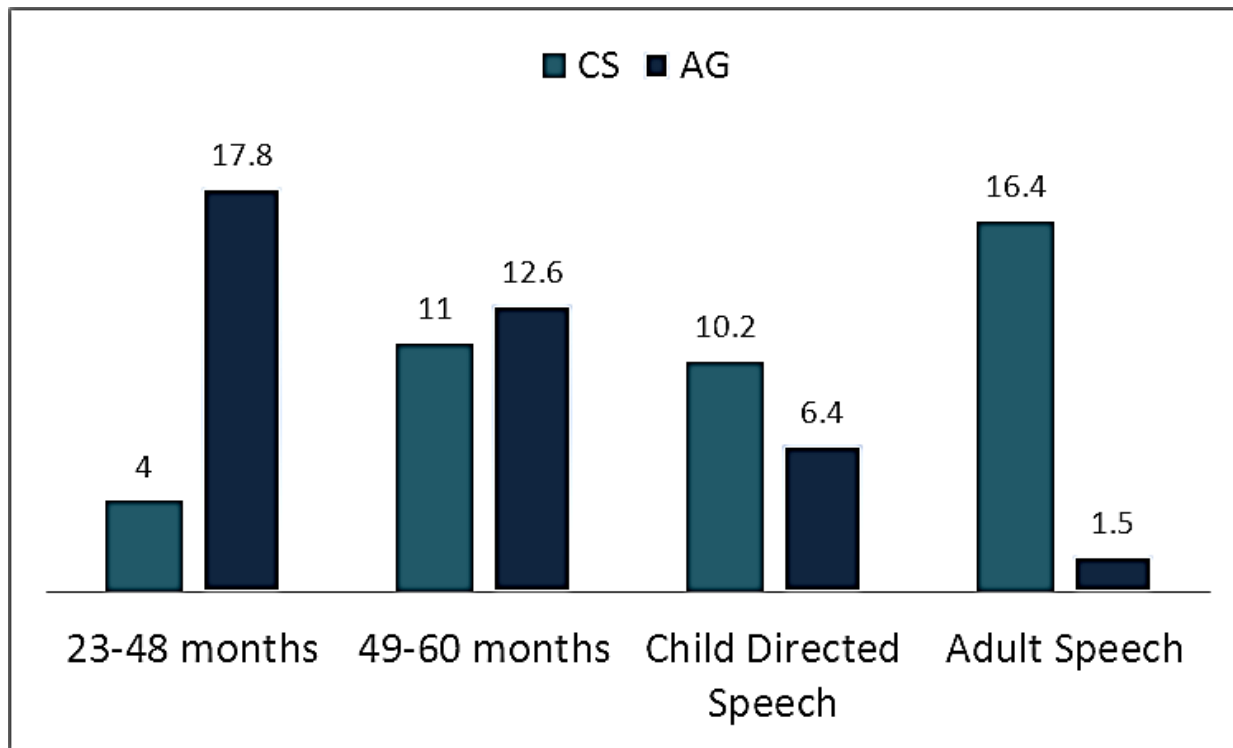


- **Graph 3:** Comparison of frequencies of Possessive Structures in children 23-48 months and 49-60 months old



# Child Language

- The following graph compares CS and AG frequencies in the first and second stage of child development, in child-directed adult speech and in adult to adult exchanges:



- Graph 4:** Comparison of frequencies of CS and AG structures in all corpora

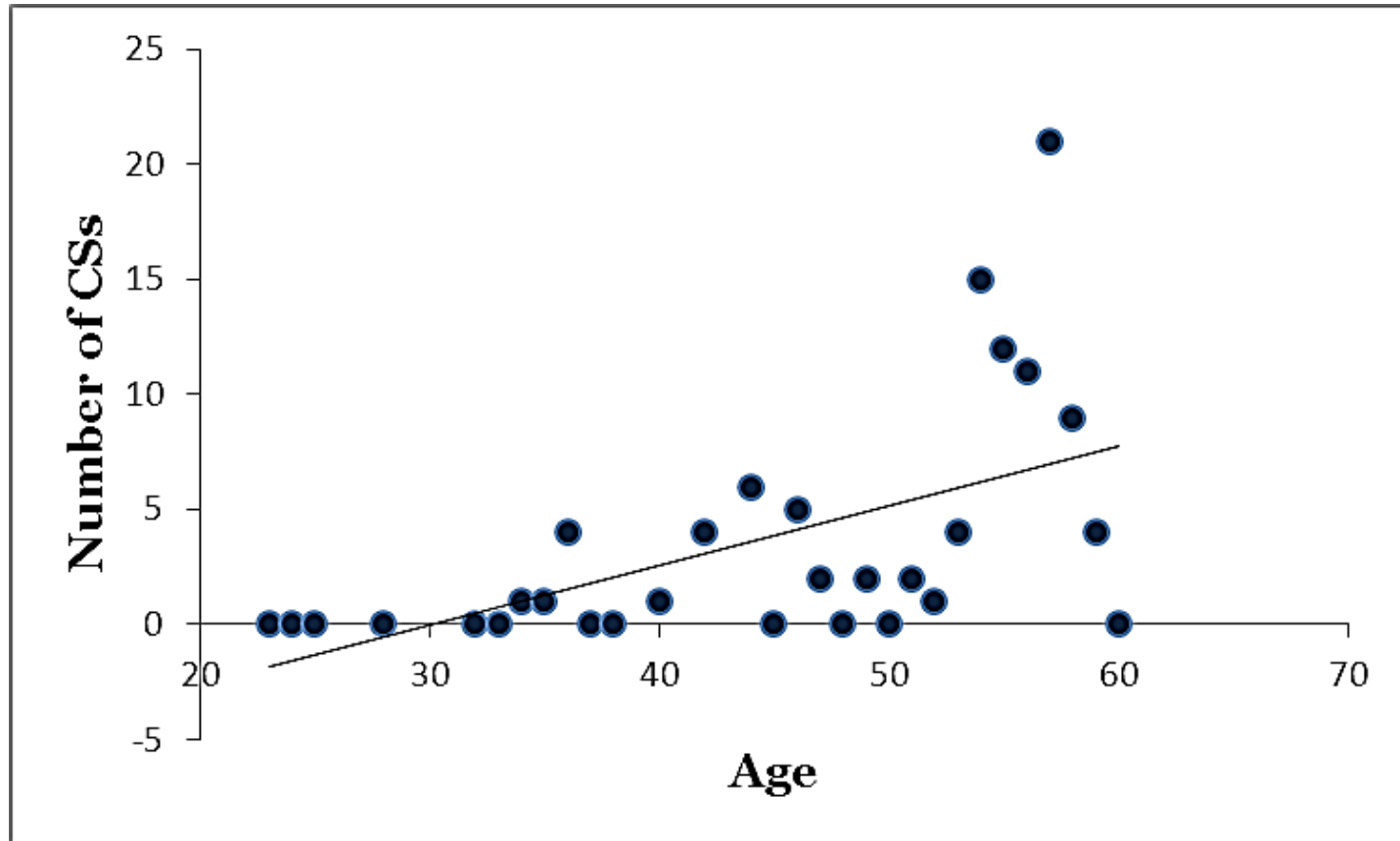
# Child Language

- CS structures appear in a much more frequent fashion than AG structures in the dialect.
- The high frequency of CS structures and the low frequency of AG structures in CDS is not matched by comparable frequencies in child language.
- A high frequency of CS structures in CDS (10.2%) corresponds to a very-low CS frequency at the first stage of acquisition (4%), reaching comparable levels only at the second stage (11%). A relatively low frequency of AG structures in CDS (6.4%) is met with an extremely high frequency in the first stage of acquisition (17.8%), lowering to around double the CDS frequency (12.6%) at the second stage.
- Therefore, frequency alone is not a reliable indicator of the acquisition path the children follow.

# Child Language

- A maturational account predicts that the CS, due to its complexity, will not be available to children at the early stages.
- The possessive relationship is expected to be realized with the much simpler AG form, explaining the higher frequency of the latter at the early stages of acquisition.
- As the children mature linguistically, they use the CS structure more frequently, reaching CDS levels by the second stage, while the AG structure drops gradually but still maintains a higher frequency than that in CDS.
- A linear regression analysis between the two variables (age/number of CSs) results in  $\beta=0.553$ ,  $F(29)=12.332$ ,  $p<0.002$ . In other words, as the children get older the number of CS increases significantly.

# Child Language



# Conclusion

- Frequency of AG structures in EA is much lower than the frequency of CS structures.
- Adults use fewer CS and more AG structures when addressing children but the frequency of CSs in CDS remains much higher.
- Children produce almost no CS structures in early stages compensating with AG structures.
- In later stages the frequency of CSs matches that of adults but AGs are still produced at higher frequencies.
- We attribute this pattern to the added complexity of the morphosyntactic structure of CSs.
- The picture will hopefully get more clear when data from later stages becomes available.

Thank  
you!



**EM**irati **A**rabic **L**anguage **A**cquisition **C**orpus

[http://faculty.uaeu.ac.ae/dimitrios\\_n/html/emirati\\_arabic\\_language\\_acquis.html](http://faculty.uaeu.ac.ae/dimitrios_n/html/emirati_arabic_language_acquis.html)