Analysis of Language Development of Children according to Gender Differences of Parents (with CLAN)

박영환 / 안정민 / 양은서 / 최민진

CONTENTS

🏢 TOPIC

Analysis of Language Development of Children according to Gender Differences of parents

Once upon a time...

🏢 Target

Main target: William (male child), Naima (female child) and their parents

Minor Target :Alex, Ethan, Lily, Violet and their parents

Age : 3 years old

Hypothesis 1.

Does the child have a similar TTR of parents of the same gender ?

William

Hypothesis 1. Does the child have a similar TTR of parents of the same gender ?

321 Total number of different item types used	528 Total number of different item types used	66 Total number of different item types used
1368 Total number of items (tokens)	3129 Total number of items (tokens)	102 Total number of items (tokens)
0.235 Type/Token ratio	0.169 Type/Token ratio	0.647 Type/Token ratio
432 Total number of different item types used	610 Total number of different item types used	243 Total number of different item types used
2146 Total number of items (tokens)	3558 Total number of items (tokens)	657 Total number of items (tokens)
0.201 Type/Token ratio	0.171 Type/Token ratio	0.370 Type/Token ratio
318 Total number of different item types used	510 Total number of different item types used	32 Total number of different item types used
1922 Total number of items (tokens)	3059 Total number of items (tokens)	46 Total number of items (tokens)
0.165 Type/Token ratio	0.167 Type/Token ratio	0.696 Type/Token ratio

CHI **MOT** **FAT**

Naima   **Hypothesis 1. Does the child have a similar TTR of parents of the same gender ?**

CHI	MOT	FAT
444 Total number of different item types used	668 Total number of different item types us[ed]	110 Total number of different item types used
1935 Total number of items (tokens)	2664 Total number of items (tokens)	213 Total number of items (tokens)
0.229 Type/Token ratio	0.251 Type/Token ratio	0.516 Type/Token ratio
390 Total number of different item types used	763 Total number of different item types used	68 Total number of different item types used
1786 Total number of items (tokens)	3817 Total number of items (tokens)	115 Total number of items (tokens)
0.218 Type/Token ratio	0.200 Type/Token ratio	0.591 Type/Token ratio
564 Total number of different item types used	693 Total number of different item types used	380 Total number of different item types used
3428 Total number of items (tokens)	3490 Total number of items (tokens)	1335 Total number of items (tokens)
0.165 Type/Token ratio	0.199 Type/Token ratio	0.285 Type/Token ratio

Lily

Hypothesis 1. Does the child have a similar TTR of parents of the same gender ?

	CHI		MOT		FAT
275	Total number of different item types used	427	Total number of different item types used	262	Total number of different item types used
1130	Total number of items (tokens)	1868	Total number of items (tokens)	859	Total number of items (tokens)
0.243	Type/Token ratio	0.229	Type/Token ratio	0.305	Type/Token ratio

Violet

	CHI		MOT		FAT
187	Total number of different item types used	594	Total number of different item types used	30	Total number of different item types used
641	Total number of items (tokens)	2111	Total number of items (tokens)	38	Total number of items (tokens)
0.292	Type/Token ratio	0.281	Type/Token ratio	0.789	Type/Token ratio

CHI   **MOT**   **FAT**

Found that children do not have values similar to those of parents of the same gender

→ Each Female/Male child has TTR similar to their mothers' TTR
→ Also can be interpreted that the mother tried to talk to the child's level
→ Due to the nature of a 3-year-old child, the mother's usage of language must have influenced the child's language learning because they are good at learning repetitive and simple forms of language.

Hypothesis 1-1.

Is there any relevance between morpheme and word usage between child and mother?
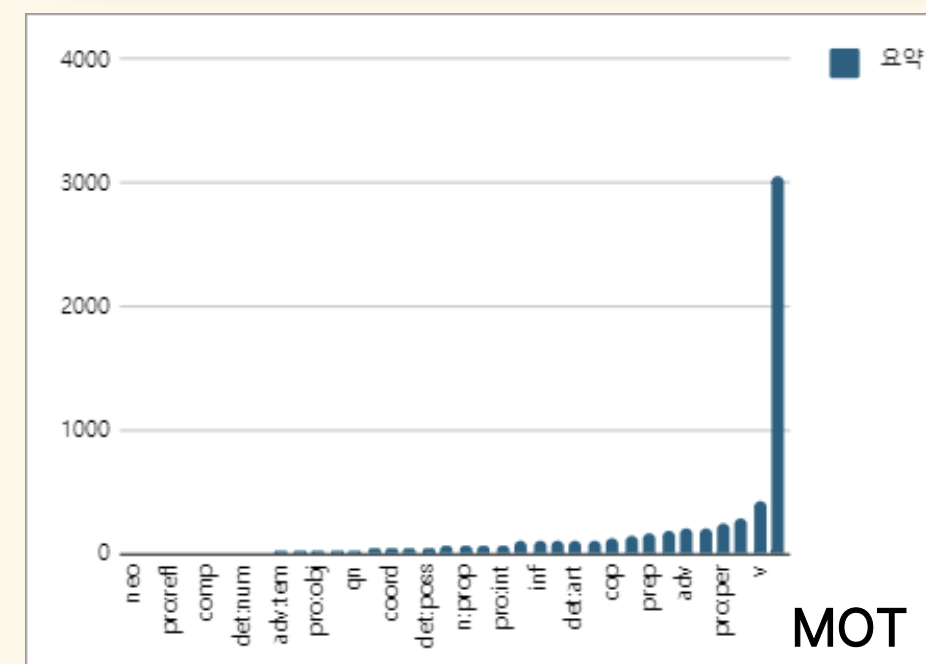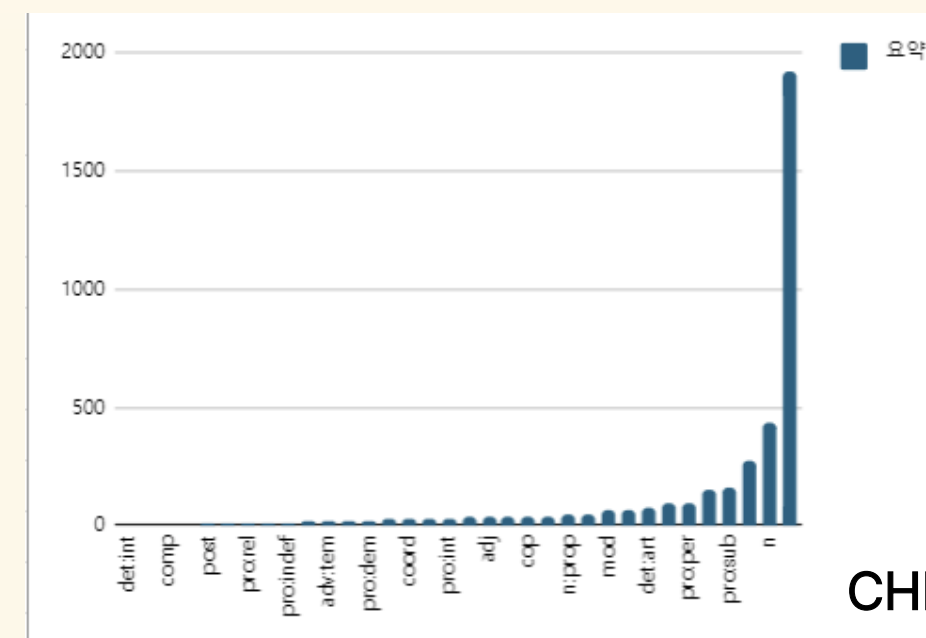
Analysis of Types of Morphemes

file	<030305.cha>	
*CHI:		
267	n	beep
47	inf	to
25	co	yeah
24	cop	be&3S
24	mod	do
23	adv	here
22	aux	be&1S
22	pro:obj	me
20	co	no
20	neg	not
20	pro:sub	we
18	co	bah

file	<030305.cha>	
*MOT:		
97	inf	to
75	cop	be&3S
70	det:art	the
61	neg	not
52	mod	do
49	aux	be&PRES
41	det:poss	your
40	co	oh
34	n:prop	William
33	adv	on
28	det:dem	this
28	co	okay

file	<030305.cha>	
*FAT:		
5	pro:sub	I
3	det:poss	your
3	pro:per	you
2	co	bye
2	mod	will
2	n:prop	Will
2	n	car
2	n	key-PL
2	v	know
1	adv	later
1	cop	be&3S
1	cop	be&PRES

CHI

MOT

FAT

CHI

MOT

Analysis of Types of Morphemes

file	<030000(1).cha>		file	<030000(1).cha>		file	<030000(1).cha>	
*CHI:			*MOT:			*FAT:		
28	det:art	a	46	coord	and	5	pro:per	it
28	n	tahini	36	co	oh	4	coord	and
27	n	name	4	det:poss	your	4	co	oh
26	coord	and	29	pro:dem	that	4	det:art	a
25	inf	to	27	co	okay	4	det:art	the
24	det:poss	his	27	neg	not	4	part	go&PRESP
22	v	go	27	pro:int	what	4	pro:sub	we
21	v	want	27	v	want	3	aux	be&3S
20	prep	in	24	n:prop	Naima	3	prep	in
19	n:prop	Pooh_Bear	22	aux	be&3S	3	pro:dem	these
18	coord	or	21	aux	be&PRES	3	pro:obj	us
18	mod	do	21	cop	be&PRES	3	pro:sub	she
18	n:prop	Grandma	21	mod	do	3	v	love
18	n:prop	Mommy	20	mod	will	3	v	say&PAST
17	n:prop	Tig	20	qn	some	3	v	want

CHI   MOT   FAT

CHI

MOT
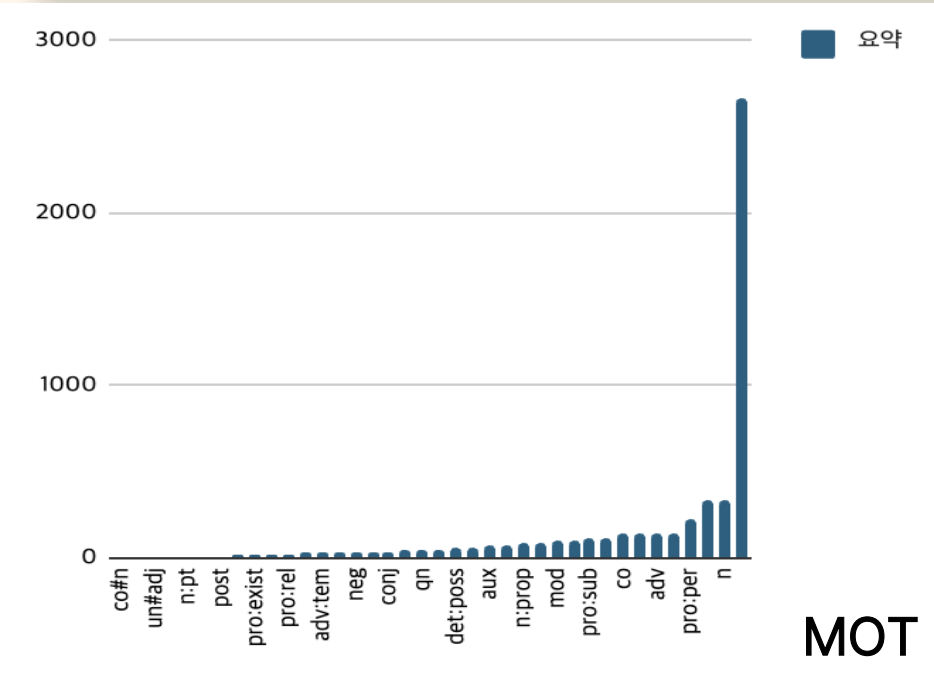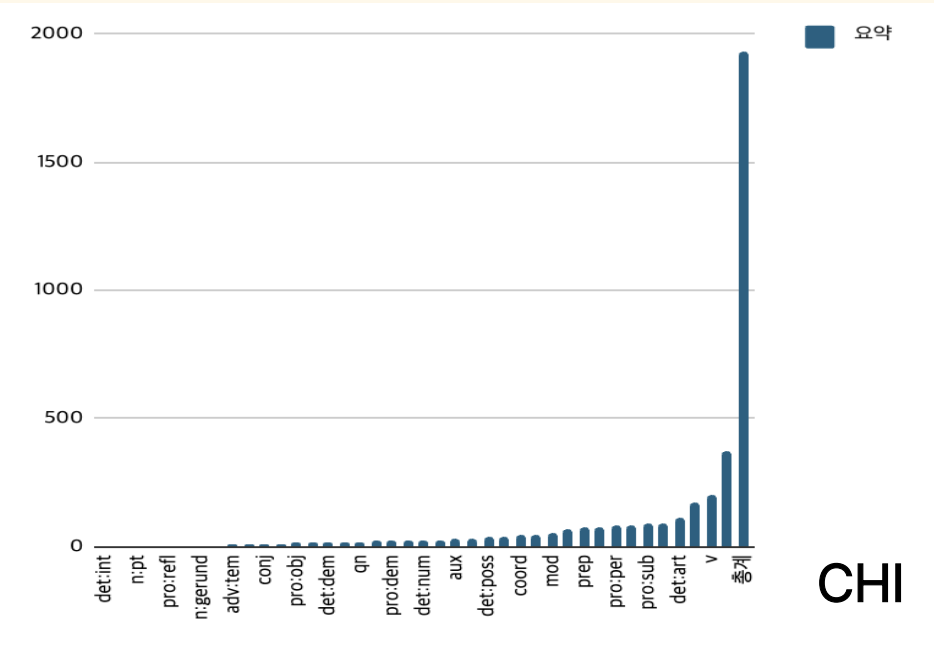
Insufficient evidence to conclude that the mother's speech has a greater impact on the child

→ It can be interpreted as the mother adjusting her conversation by making TTR similar with a child by repeating a word, but using different word, more higher level morpheme.

→ Need to take a look at MLU!

Analysis of Types

(28-Oct-2024)	is	conducting	(28-Oct-2024)	is	conduct...
72	det:art	the	170	pro:per	you
					I
					it
49	...	no	104	det:art	the
			93	cop	be&3S
42	inf	to	92	neg	not
41	pro:rel	why	90	inf	to
40	det:art	a	62	coord	and
34	neg	not	54	det:art	a

4	n:prop	Monster
4	pro:sub	I

MOT

Co

```
MOT: oh well , what +/.
CHI: cover it . ▶
MOT: wha(t) , where , and what did , what did you do (.) with it ?
CHI: I , I was +...
CHI: I was playing wild thing .
MOT: mhm .
OPE: xxx , you were ?
CHI: nose .
CHI: keep it on .
MOT: you're keeping it on , and who was , who played Max ? ▶
CHI: Alex . ▶
CHI: Alex xxx . ▶
MOT: xxx . ▶
MOT: and what happened (.) what happened when Max wanted to leave the island of the wild things ? ▶
MOT: what did the wild things say ? ▶
CHI: he's a yyy , but eat you up with light . ▶
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MOT: you're very done with what ?
CHI: yeah . ▶
MOT: with what ?
CHI: my costume and my band aid . ▶
MOT: oh .
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MOT: I said I would like to be productive this morning , so I want you to come over here . ▶
MOT: why don't you put your police xxx on , and we can put this on the police jacket . ▶
CHI: what ? ▶
MOT: why don't you put your police jacket on , and we can put this on the police jacket . ▶
CHI: where ? ▶
MOT: put it over your costume , you could be a police (.) lion . ▶
MOT: that would be +...
CHI: police lion ? ▶
MOT: yeah .
CHI: no .
CHI: I want 0to just be a lion . ▶
MOT: come here , lion .
```
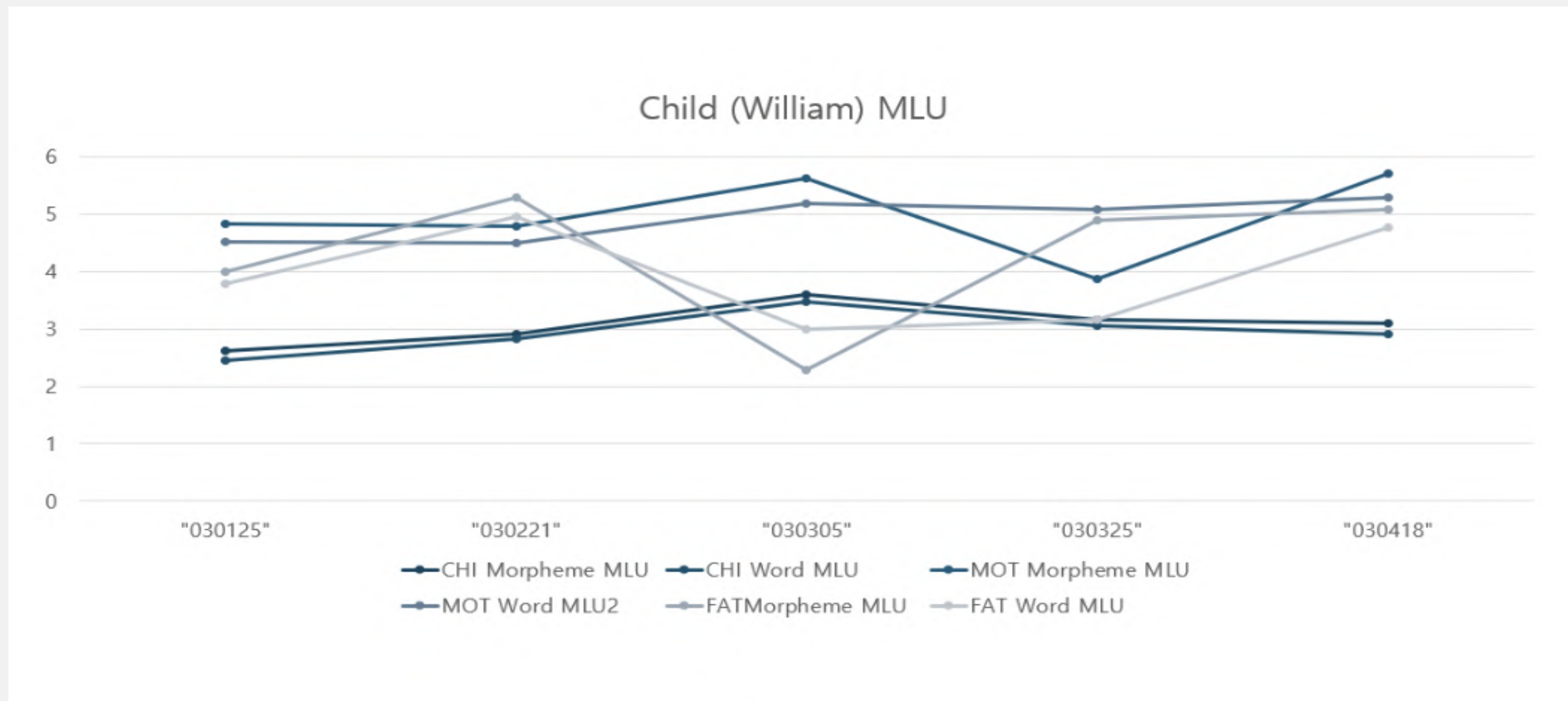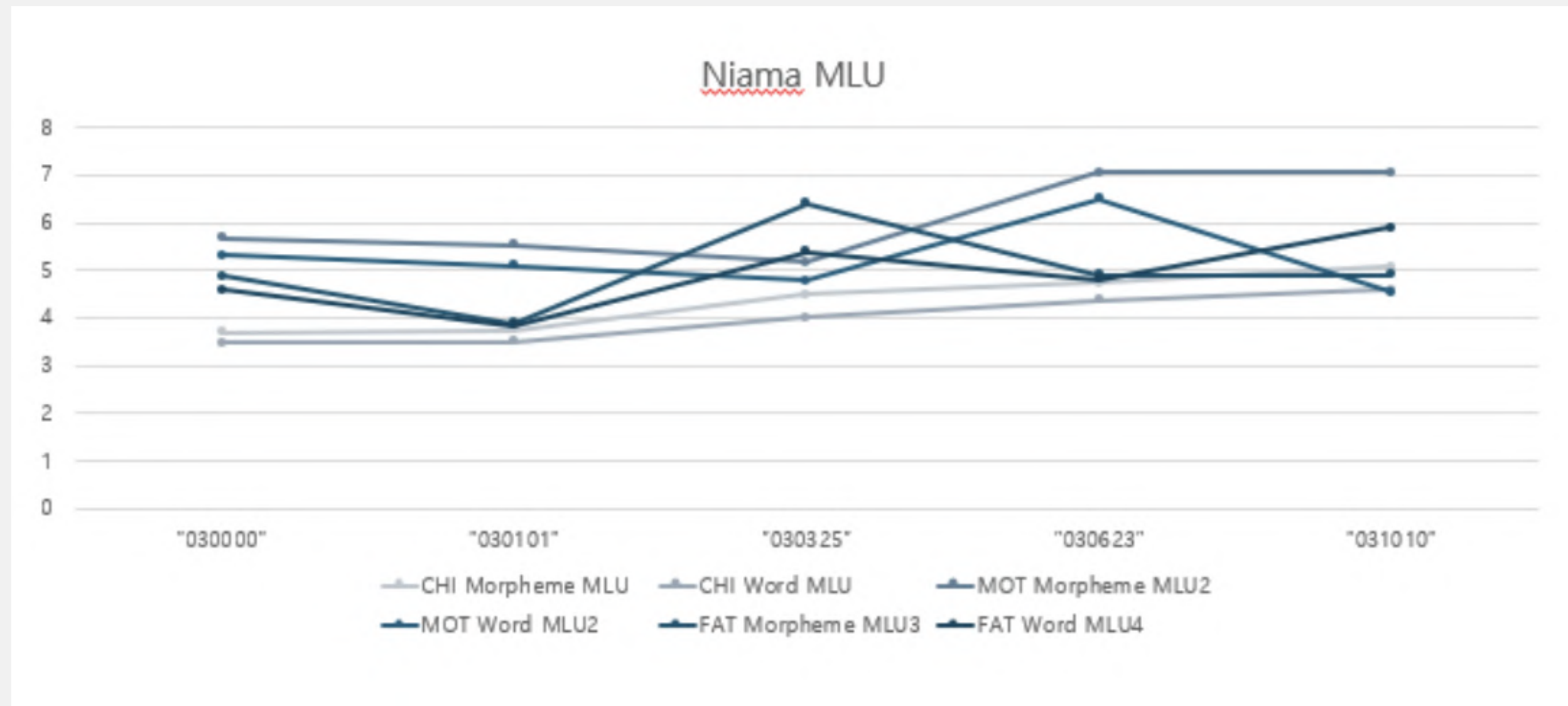
Hypothesis 2.

Does the child's MLU get influenced by the parent of the same gender?

Hypothesis 2. Does the child's MLU get influenced by the parent of the same gender?


Child (William) MLU

Legend: CHI Morpheme MLU, CHI Word MLU, MOT Morpheme MLU, MOT Word MLU2, FATMorpheme MLU, FAT Word MLU

X-axis: "030125", "030221", "030305", "030325", "030418"

Hypothesis 2. Does the child's MLU get influenced by the parent of the same gender?

Niama MLU

Hypothesis 2. Does the child's MLU get influenced by the parent of the same gender?

Niama MLU

In conclusion, it is likely that mothers have a greater influence on the child's language development than fathers
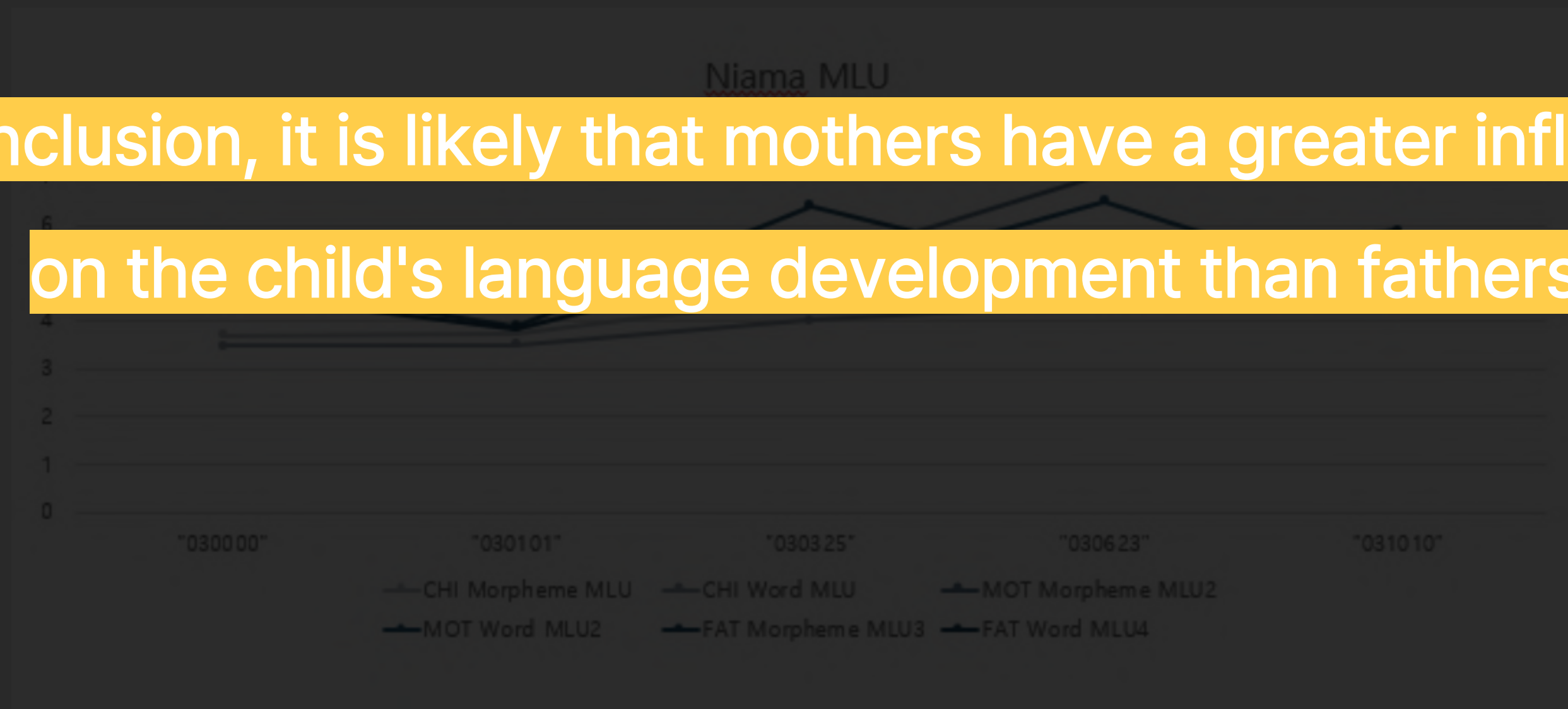
Insight

1. Gender of child and parents is not a element that influence one another.

2. Mother utterance : High quality, but similar quantity with her child

3. Child's MLU growth - may influenced by mother

Conclusion

- Children's language development is more influenced by the mother's speech than by the parent of the same gender.

- The mother's use of repetitive and familiar vocabulary likely provides a stable environment, significantly impacting the child's language development. Varied sentence structures also contribute meaningfully to language acquisition.

- While the mother's speech level is not low, she simplifies sentences to match the child's level (low TTR but high MLU, with no overlap in MOR analysis).

THANK YOU