

KOREA SMARTER HAPPIER BABY Study (KSHB)

An Investigation of the Language Environment of Young Korean Children and
the Impact of Visual Feedback on Language Development

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Korea Smarter & Happier Baby Study(KSHB)

Korean Team

Soyeong Pae
Ingyeong sung
Hyunsuk Lee
Hyojin Yoon
Yeonsun Jin
Ahyoung Seol
Gayoung Shin
Hyoryung Jang
Heejeong Shim
Jaekook Lee
Seunghyun Jo
Hyeongbae Jang



LENA Boulder Team

Jill Gilkerson
Jeff Richards
Joanna Lester
Jim Nation
& more



Korea Smarter & Happier Baby Study

From Denver to Chuncheon



Korea Smarter & Happier Baby Study

Research Sites

1. Hallym University
2. Catholic University Medical School
3. The Clinic Children's World



Research Design: Experimental & Longitudinal

Out of 428 families participated in K snapshot study
 99 participants consented for the KSHB longitudinal study

Random assignment for experimental or control group
 Two & half year observation

Every 6 month assessment other than LENA reports

	baseline	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19-23	24	25-29	30
Month	2012.10-11	2012.12	2013.01	2013.02	2013.03	2013.04	2013.05	2013.06	2013.07	2013.08	2013.09	2013.10	2013.11	2013.12	2014.01	2014.02	2014.03	2014.04	2014.05	2014.06-10	2014.11	2014.12-2015.04	2015.05
experimental group	Assess 3 rec	training meeting; distribute computers call 4 Rec	Small group meeting call 4 Rec	call 4 Rec	call 4 Rec	call 4 Rec	Assess call 4 Rec	1 Rec	call 1 Rec	1 Rec	call 1 Rec	1 Rec	call 1 Rec	Assess					Assess call 1 Rec		Assess		Assess
control group		call	call	call 1 Rec			Assess call 1 Rec	training meeting; distribute computers call 4 Rec	Small group meeting call 4 Rec	call 4 Rec	call 4 Rec	call 4 Rec	call 4 Rec	Assess	1 Rec	call 1 Rec	1 Rec	call 1 Rec	1 Rec	Assess call 1 Rec		call 1 Rec	call 1 Rec



baseline	1	2	3	4	5	6	7	8	9	10
2012.10-11	2012. 12	2013. 01	2013. 02	2013. 03	2013. 04	2013. 05	2013. 06	2013. 07	2013. 08	2013. 09
Assess 3 rec	training meeting; distribute computers 4 Rec	Small group meeting call 4 Rec	call 4 Rec	call 4 Rec	call 4 Rec	Assess call 4 Rec	1 Rec	call 1 Rec	1 Rec	call 1 Rec
	call	call	call 1 Rec			Assess call 1 Rec	training meeting; distribute computers 4 Rec	Small group meeting call 4 Rec	call 4 Rec	call 4 Rec

Participants for KSHB

99 families with 4 month-old to 16 month-old babies

Mother's education level: College graduates and beyond

KSHB 93% vs. Nationwide 90% as of 2011

SES: mostly Middle class

Working mom: 43%



EXPERIMENTAL GROUP VS. CONTROL GROUP

No differences between language skills, AWC, CT

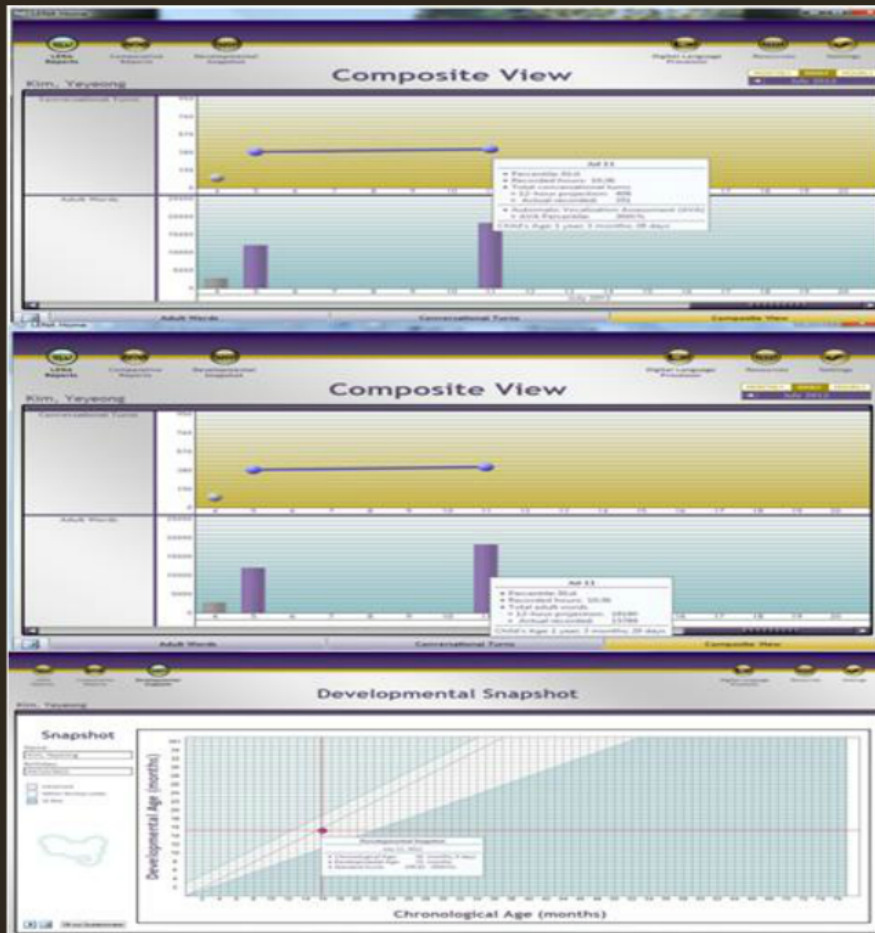
	EXPERIMENTAL			CONTROL			t	Sig.
	N	M	SD	N	M	SD		
AWC base	45	14125	6313	54	13727	4827	.355	.723
CT base	45	396	180	54	393	141	.076	.939
SNAPTOT	45	15	5	54	15	5	.004	.997
SNAP_DA	45	8	3	54	8	3	-.065	.949
SNAP_DQ	45	3	27	54	99	27	-.954	.342
EVRW	31	5	7	36	6	8	-.579	.564
EVPCTG	31	4	3	36	5	3	-.628	.532



Visual Feedback from LENA Home

LENA Home

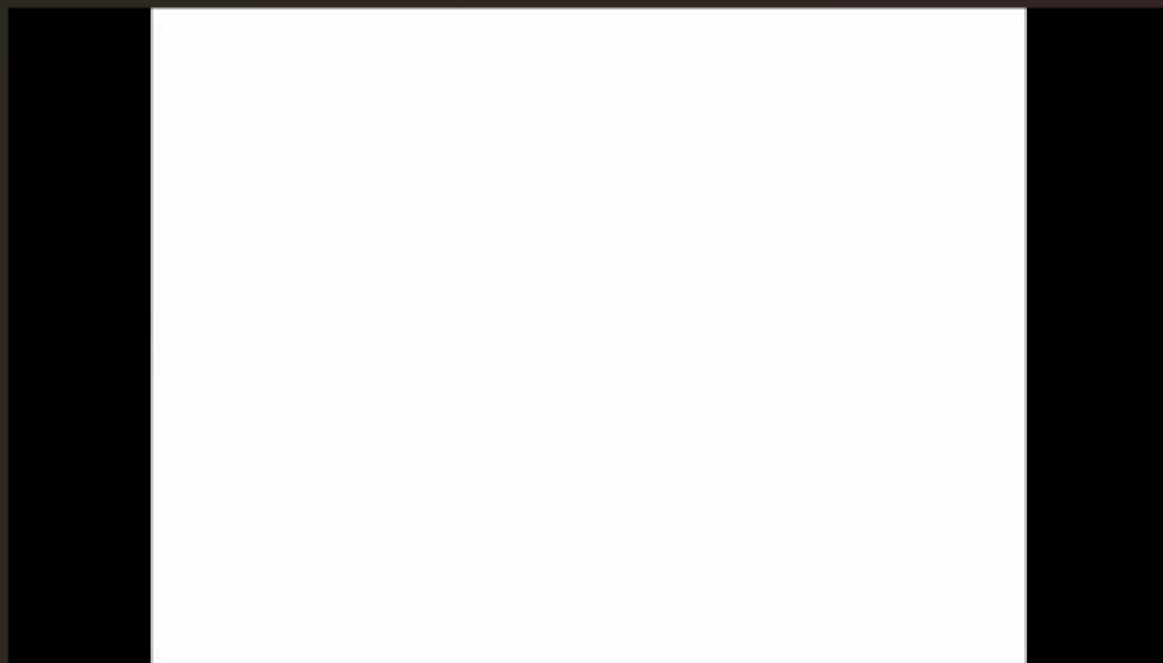
Minimal Coaching



- 2nd month small group meeting
- monthly phone call
- Internet Cafe

RECORDING

- Weekly recordings for 6 months, monthly recordings for 6 months; At least 30 recordings expected for each family
- VEDIO CLIP



Results of experimental group for 4 months

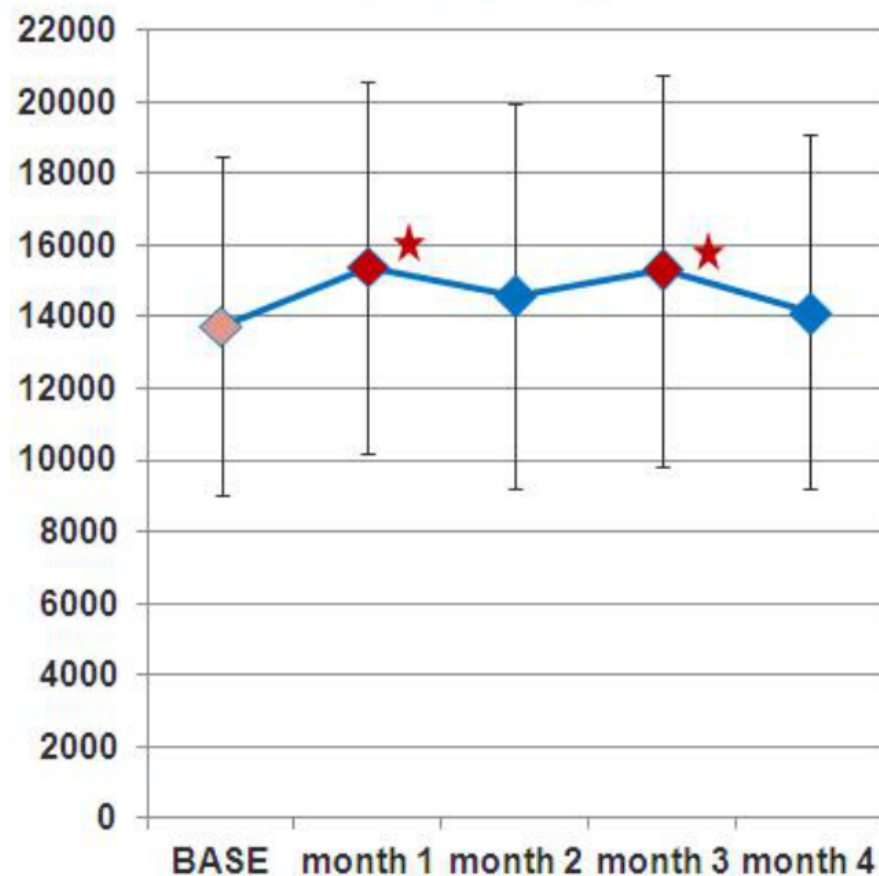


Change from baseline to Month 4

	N	Mean	SD
AWC baseline	37	13752	4745
AWC month1	37	15393	5186
AWC month2	37	14585	5353
AWC month3	37	15289	5486
AWC month4	37	14141	4953

	<i>F</i>	<i>p</i>
Month 1 vs. baseline	5.948	.020
Month 2 vs. baseline	1.570	.218
Month 3 vs. baseline	4.262	.046
Month 4 vs. baseline	.322	.574

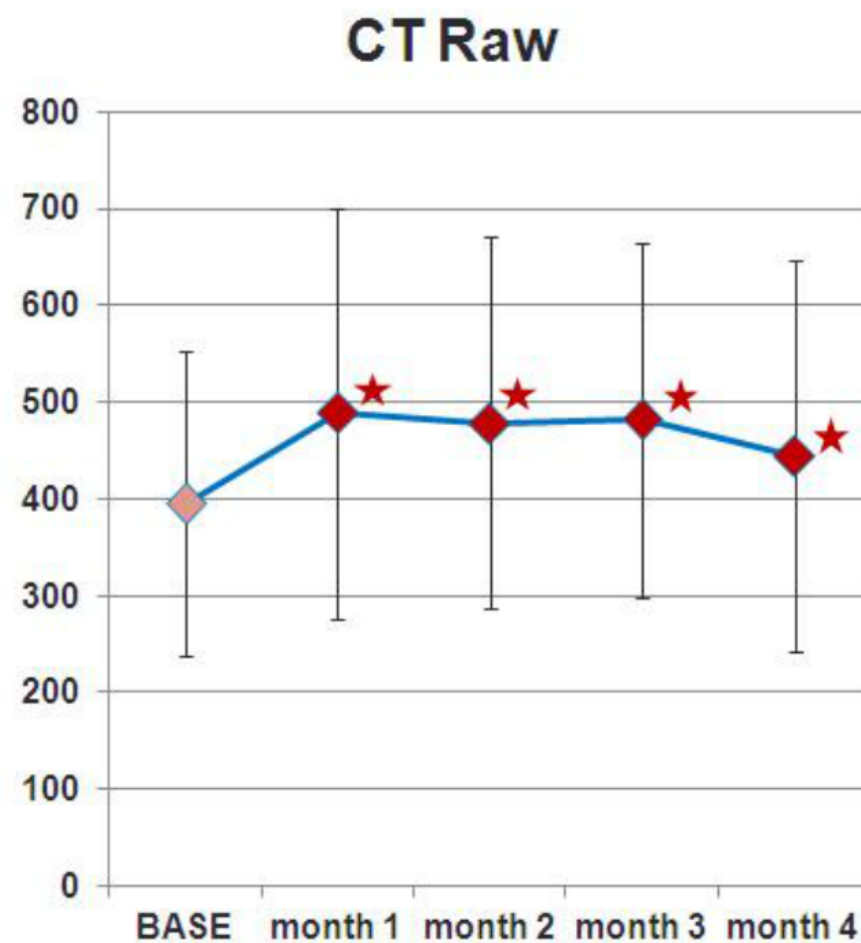
AWC Raw



Change from baseline to Month 4

	N	Mean	SD
CT baseline	37	395	158
CT month1	37	488	213
CT month2	37	478	192
CT month3	37	482	183
CT month4	37	444	202

	<i>F</i>	<i>p</i>
Month 1 vs. baseline	13.011	.001
Month 2 vs. baseline	13.048	.001
Month 3 vs. baseline	11.395	.002
Month 4 vs. baseline	4.134	.049

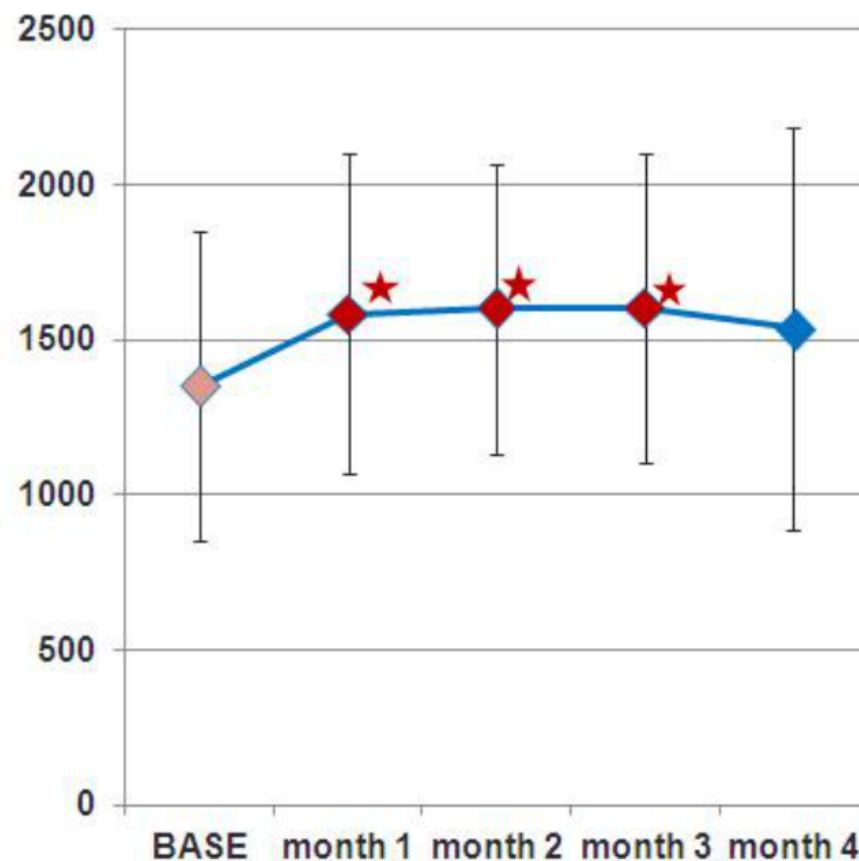


Change from baseline to Month 4

	N	Mean	SD
CVC baseline	37	1351	497
CVC month1	37	1584	516
CVC month2	37	1599	466
CVC month3	37	1604	500
CVC month4	37	1536	647

	F	p
Month 1 vs. baseline	7.496	.010
Month 2 vs. baseline	9.439	.004
Month 3 vs. baseline	10.938	.002
Month 4 vs. baseline	3.602	.066

CVC Raw



AWC Upper and lower group comparison

Upper: ≥ 50 %ile based on US norm on AWC

Lower: < 50 %ile based on US norm on AWC

- No differences between Snapshot_DQ*

Snapshot_DQ	N	M	SD	t	Sig.
Upper group	22	90.8	17.79	.220	.827
Lower group	15	89.2	25.95		



Adult Word Counts

AWC >= 50%ile

	N	M	SD
AWC baseline	22	16744.39	3479.879
AWC month1	22	17549.59	5162.671
AWC month2	22	16643.09	5699.388
AWC month3	22	17451.32	5608.478
AWC month4	22	15988.39	4730.811

	<i>F</i>	<i>p</i>
Month 1 vs. baseline	.669	.423
Month 2 vs. baseline	.010	.920
Month 3 vs. baseline	.425	.522
Month 4 vs. baseline	.789	.384

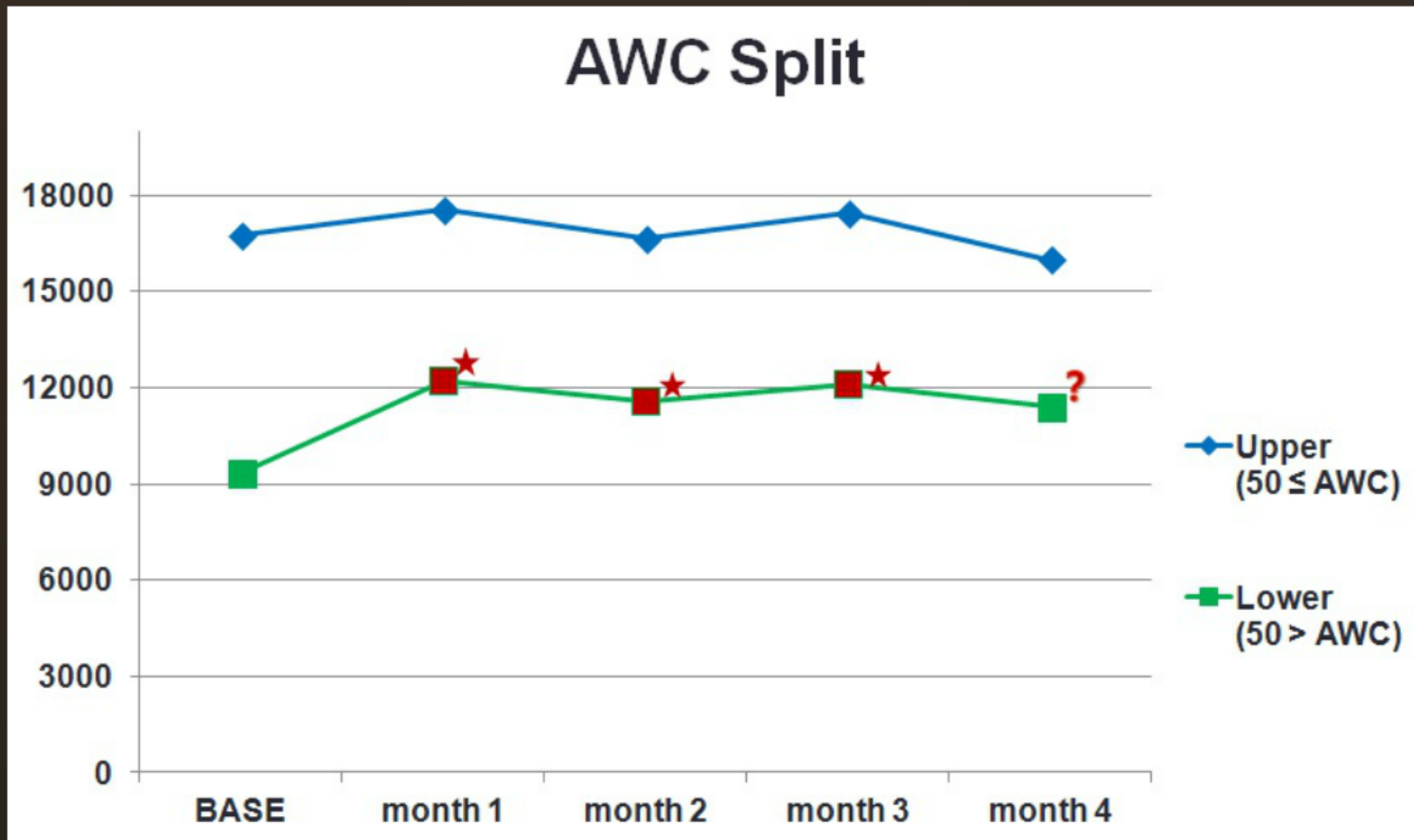
AWC < 50%ile

	N	M	SD
AWC baseline	15	9363.84	2241.794
AWC month1	15	12229.07	3338.139
AWC month2	15	11566.42	2920.022
AWC month3	15	12118.72	3478.461
AWC month4	15	11431.14	4034.541

	<i>F</i>	<i>p</i>
Month 1 vs. baseline	14.735	.002★
Month 2 vs. baseline	12.275	.004★
Month 3 vs. baseline	10.124	.007★
Month 4 vs. baseline	4.116	.062?







Adult Word Counts



Conversational Turns

AWC \geq 50%ile

	N	M	SD
CT baseline	22	443.8182	143.26720
CT month1	22	567.7273	202.95488
CT month2	22	558.8636	183.65996
CT month3	22	558.0000	172.02408
CT month4	22	516.5000	189.91370

	F	p
Month 1 vs. baseline	-3.425	.003 
Month 2 vs. baseline	-3.554	.002 
Month 3 vs. baseline	-3.132	.005 
Month 4 vs. baseline	-2.250	.035 

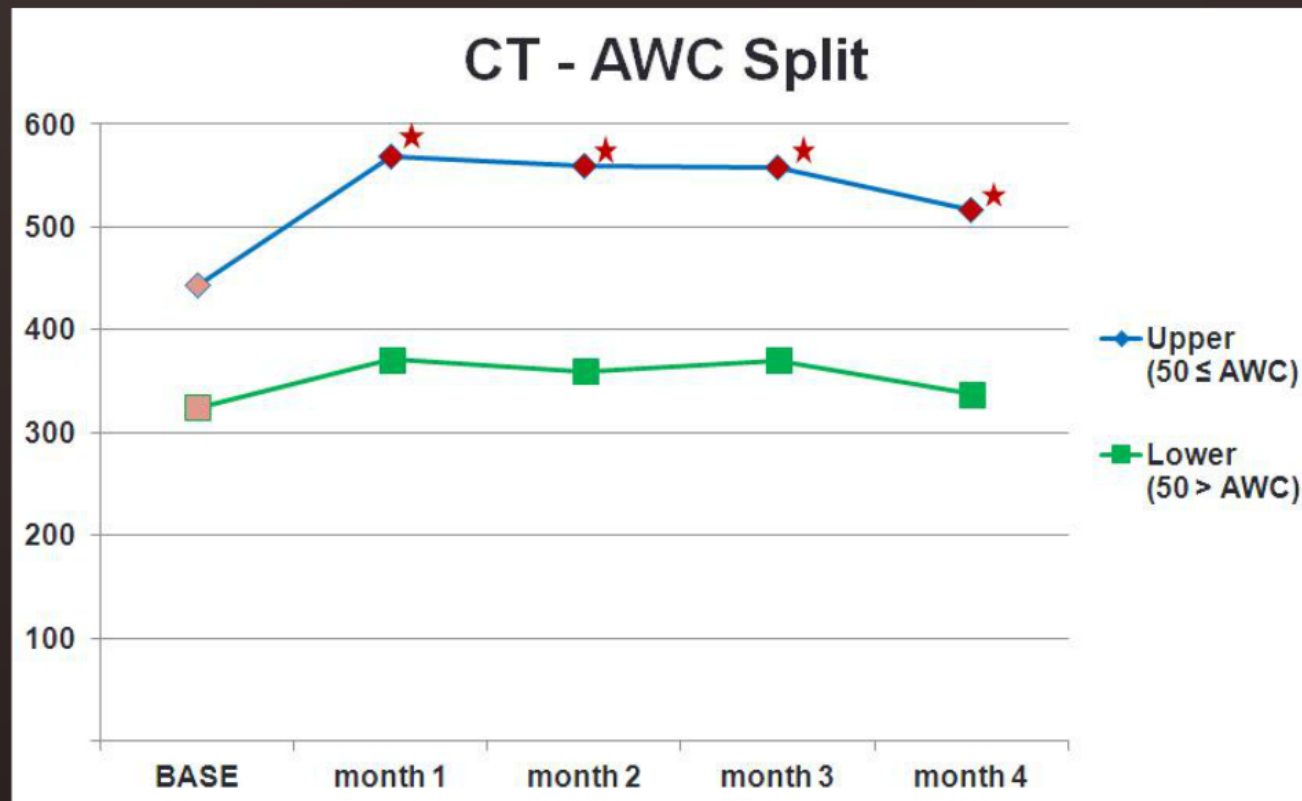
AWC $<$ 50%ile

	N	M	SD
CT baseline	15	323.4000	156.37994
CT month1	15	370.7333	172.80272
CT month2	15	359.6000	138.12562
CT month3	15	370.1333	138.05272
CT month4	15	337.7333	174.51748

	F	p
Month 1 vs. baseline	-1.438	.173
Month 2 vs. baseline	-1.292	.217
Month 3 vs. baseline	-1.423	.177
Month 4 vs. baseline	-.405	.691



Conversational Turns



Child Vocalization Counts

AWC \geq 50%ile

	N	M	SD
CVC baseline	22	1314.34	366.324
CVC month1	22	1684.92	441.083
CVC month2	22	1687.31	407.967
CVCmonth3	22	1603.62	431.871
CVC month4	22	1516.81	546.679

	F	p
Month 1 vs. baseline	15.562	.001*
Month 2 vs. baseline	18.071	.000*
Month 3 vs. baseline	14.514	.001*
Month 4 vs. baseline	3.260	.085

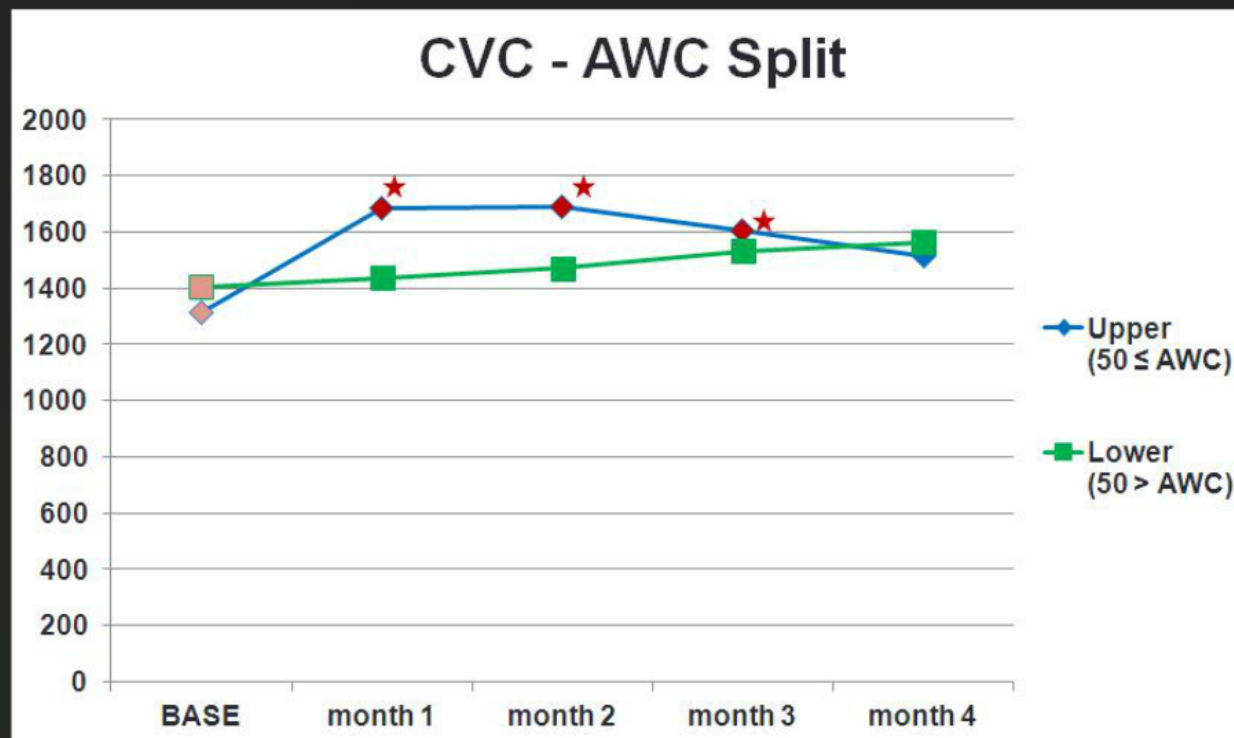
AWC < 50%ile

	N	M	SD
CVC baseline	15	1404.38	655.034
CVC month1	15	1436.99	593.888
CVC month2	15	1469.21	527.829
CVC month3	15	1604.86	602.690
CVC month4	15	1563.91	792.701

	F	p
Month 1 vs. baseline	.049	.829
Month 2 vs. baseline	.206	.657
Month 3 vs. baseline	1.662	.218
Month 4 vs. baseline	.782	.392

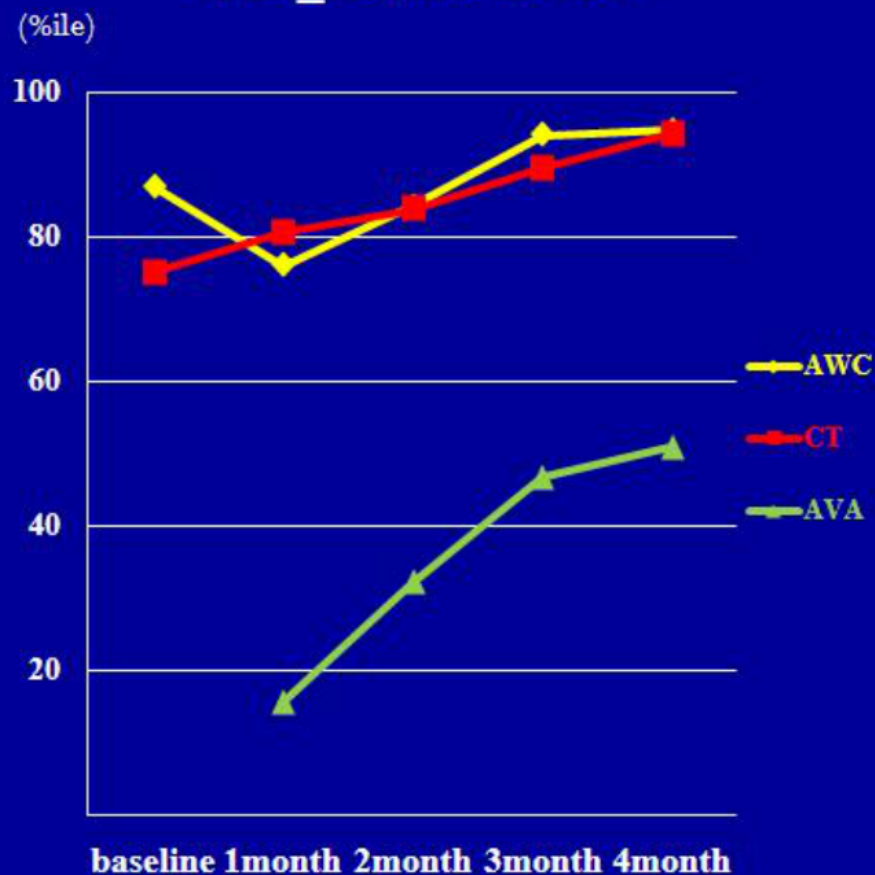


Child Vocalization Counts



At risk cases with K M-B CDI results

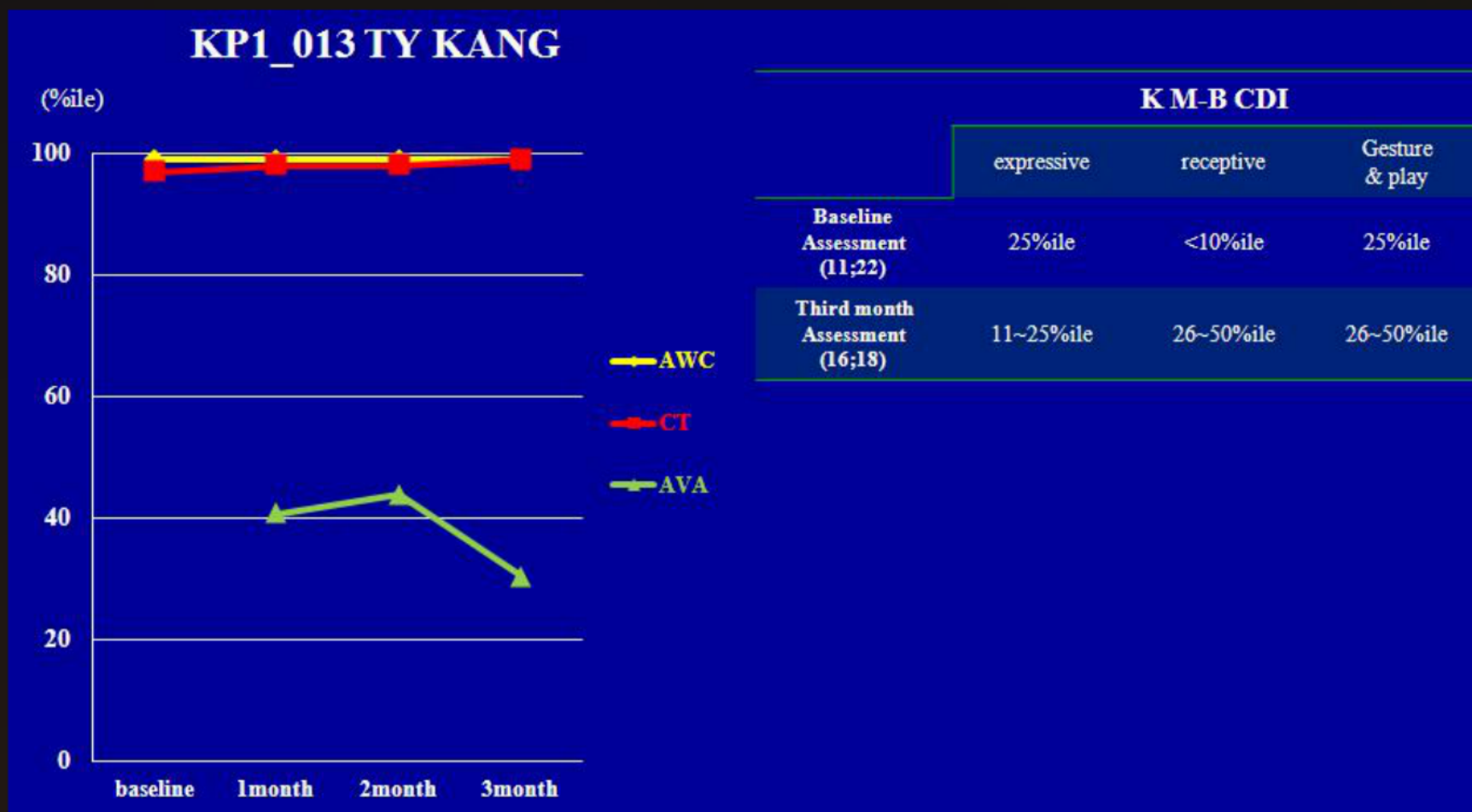
KP1_010 ES KANG



	K M-B CDI		
	expressive	receptive	Gesture & play
Baseline Assessment (11;13)	25%ile	11~25%ile	10%ile
Third month Assessment (15;19)	50%ile	11~25%ile	26~50%ile



At risk cases with K M-B CDI results

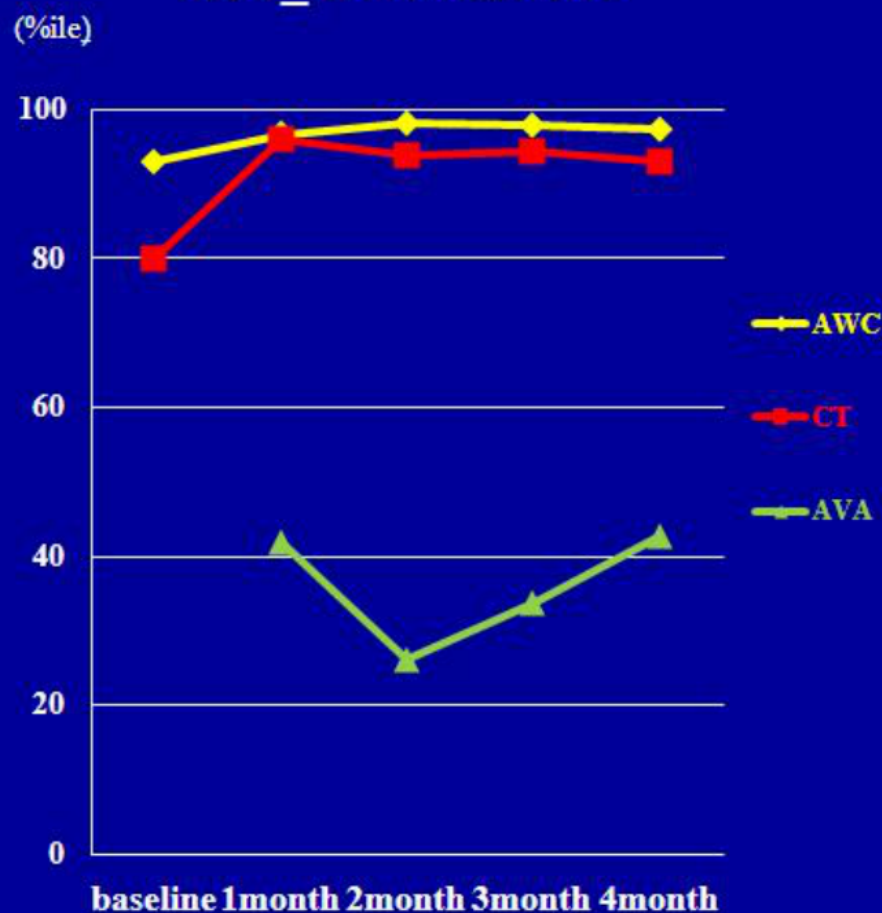


	K M-B CDI		
	expressive	receptive	Gesture & play
Baseline Assessment (11;22)	25%ile	<10%ile	25%ile
Third month Assessment (16;18)	11~25%ile	26~50%ile	26~50%ile

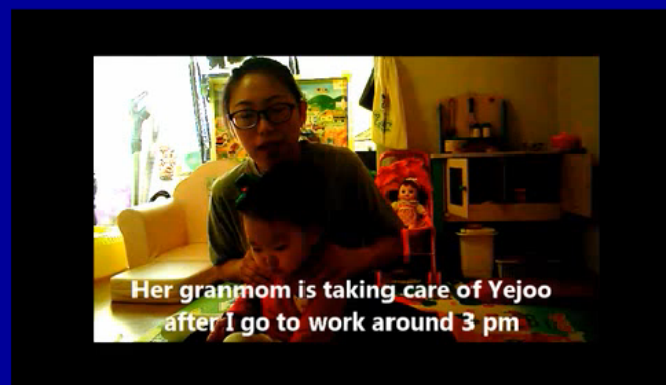


At risk cases with K M-B CDI results

KP1_193 YJ SONG



	K M-B CDI			
	expressive	Receptive	Gesture & play	grammar
Baseline Assessment (14;10)	10%ile	26~50%ile	51~75%ile	N/A
Third month Assessment (20;12)	11~25%ile	N/A	N/A	11~25%ile





**Her granmom is taking care of Yejoo
after I go to work around 3 pm**

Discussion

1. *Is Visual Feedback important in mother-child communicative interactions? YES!!!
differential effect on AWC, CT, CVC among talkative and less talkative groups*
2. *Factors to maximize and/or improve children's language development in addition to visual feedback*
3. *Longitudinal observation to go
comparison between experimental and control group in May, 2013
calibration study started
standardization of Korean Snapshot*



/Kamsahammita/ (Thank you)



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