

# Who needs baby sign?

## The effects of gesturing with infants

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# Acknowledgements

Dr. Liz Kirk PhD

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# What can baby sign offer?

- A new channel of communication?
- Happier babies (and parents)?
- Accelerated language and intellectual development?



The logo for Baby Signs, featuring the word "Baby" in a blue box and "signs" in a yellow box.[ABOUT US](#)[PRODUCTS](#)[CLASSES](#)[CAREERS](#)[PROGRAM](#)[NEWSLETTER](#)[INSTITUTE](#)[Institute Info](#)[Baby Signs Program](#)[Benefits](#)[Research](#)[FAQs](#)[Classes](#)[Careers](#)

## BENEFITS

Families who use the Baby Signs ® Program know first hand that there are many benefits to using signs with their babies. Using the Baby Signs® Program ...

- Reduces tears, tantrums, & frustration
- Allows babies to share their worlds
- Increases respect for babies
- Strengthens the parent-infant bond
- Boosts self-esteem and self-confidence
- Makes learning to talk easier
- Stimulates intellectual development

# Where's the evidence?

## **Goodwyn, Acredolo & Brown (2000):**

impact of encouraging infants to use simple symbolic gestures on verbal language development

- Found a limited and inconsistent linguistic advantage and not beyond 2nd year

# A review of the evidence:

Johnston, Durieux-Smith & Bloom (2005)

First Language, Vol. 25, No. 2, 235-251

- Reviewed 17 studies
- Most had methodological limitations
- None were random controlled trials

Concluded that the 'benefits' of teaching gestural signs to infants to advance language remain unproven

# Questions addressed by UH research:

- **What impact does encouraging infants to communicate manually have on their language development?**
- Is baby sign as effective when parents have not made a financial investment and the family background poorer?
- What are parents' motivation, expectation and experience of using baby sign with their infants?
- **What are the effects on parental stress?**

# What impact does encouraging infants to communicate manually have on their language development?

(Kirk, 2010)

## Longitudinal study

40 babies randomly allocated to 1 of 4 conditions:

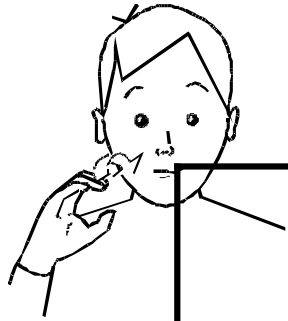
Sign  
(BSL)  
N=10

Symbolic  
Gesture  
N=10

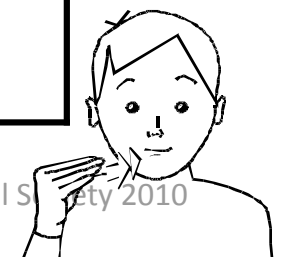
Verbal Training  
N=10

Non-  
intervention  
Control  
N=10

# Target set of signs



	Set One (8m)	Set Two (12m)
Object Concepts	Duck Flower Hat Drink Food	Dog Aeroplane Book Shoes Biscuit
Non-object concepts	All-gone Where More Hot Sleep	Pain Cuddle Dirty Sing Bath



## Assessment Measures: 1



<b>Pre-school language scale (PLS) -3 UK</b>	Auditory comprehension and expressive communication assessed in play task.	8m, 12m, 16m, 20m
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## Assessment Measures: 2

Games and Routines	U	U/S		U	U/S	
bath	0	0		no	0	0
breakfast	0	0		pat-a-cake	0	0
bye bye	0	0		peekaboo	0	0
dinner	0	0		please	0	0
don't	0	0		shh / hush / shush	0	0
hello	0	0		tea	0	0
hi	0	0		thank you	0	0
lunch	0	0		wait	0	0
nap	0	0		want to	0	0
night night	0	0		yes	0	0

### Oxford Communicative Developmental Inventory (CDI)

British adaptation of the MacArthur (CDI) (Hamilton, Plunkett & Schaffer, 2000). Parental report of receptive & productive vocabulary.

8m, 12m,  
16m, 20m

### Assessment Measures: 3

Indicating gestures	Never	Seldom	Often
Holds out an object to show you			
Offers an object to you			
Indicate a place using hand or arm			
Point with index finger to show you an interesting object or event			

<b>Gestures, Actions and Pretend Play (GAPP)</b>	parental checklist <i>communicative gestures, actions and symbolic play</i>	8m, 12m, 16m, 20m
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## Assessment Measures: 4, 5

<b>Naturalistic Observation</b>	10 minute free-play mother and infant and 10 minute meal/snack time.	10m, 12m, 16m, 20m
<b>Interview</b>	Bi-weekly interview about modeling efforts, infant comprehension and production of verbal and/or manual labels of targets	8m - 16m at bi-weekly intervals

# Results:

## No effect of baby signing on the language development of the babies in our sample

There were no significant differences between the groups on any of the language measures.

Gesture training did not result in higher scores.

		Age of Assessment			
		8 months	12 months	16 months	20 months
Receptive Vocabulary	BSL	20.25 (16.10) n = 10	68.83 (61.48) n = 9	117.17 (28.15) n = 10	146.67 (88.98) n = 9
	SG	40.43 (79.63) n = 8	76.56 (80.22) n = 10	131.22 (73.97) n = 9	110.11 (61.73) n = 9
	VT	5.60 (5.34) n = 10	42.60 (31.57) n = 10	129.10 (56.52) n = 10	131.20 (82.21) n = 10
	NC	9.11 (8.67) n = 9	37.56 (25.24) n = 10	93.89 (33.00) n = 10	99.00 (66.33) n = 10
Productive Vocabulary	BSL	0 (0) n = 10	4.50 (3.02) n = 9	38.00 (56.39) n = 10	131.83 (110.72) n = 9
	SG	.71(1.89) n = 8	3.89 (4.40) n = 10	37.89 (36.94) n = 9	178.11(98.80) n = 9
	VT	.50 (1.08) n = 10	5.40 (5.93) n = 10	48.50 (42.48) n = 10	179.80 (97.89) n = 10
	NC	.22 (.67) n = 9	3.22 (4.52) n = 10	28.67 (36.88) n = 10	164.00 (75.55) n = 10
Auditory Comprehension	BSL	6.00 (1.26) n = 10	9.83 (1.47) n = 9	13.00 (2.28) n = 10	18.83 (3.60) n = 9
	SG	5.57 (.79) n = 8	10.33 (1.66) n = 10	14.00 (1.94) n = 9	19.44 (2.40) n = 9
	VT	6.00 (1.15) n = 10	11.20 (1.14) N = 10	14.00 (2.40) n = 10	18.10 (2.88) n = 10
	NC	5.78 (.97) n = 9	9.67 (1.22) n = 10	13.11 (1.96) n = 10	19.67 (2.69) n = 10
Expressive Communication	BSL	6.83 (.98) n = 10	10.17 (1.83) n = 9	12.00 (1.55) n = 10	20.00 (6.03) n = 9
	SG	6.71 (.95) n = 8	10.00 (1.50) n = 10	12.44 (2.19) n = 9	19.67 (3.24) n = 9
	VT	5.50 (1.08) n = 10	13.20 (2.44) n = 10	13.20 (2.44) n = 10	17.80 (2.39) n = 10
	NC	6.44 (.73) n = 9	9.22 (1.39) n = 10	11.44 (1.59) n = 10	19.22 (3.07) n = 10
Gestures, Actions and Pretend Play	BSL	6.60 (4.14) n = 10	24.17 (11.36) n = 9	29.83 (6.18) n = 10	49.35 (7.77) n = 9
	SG	9.50 (6.11) n = 8	20.56 (7.18) n = 10	37.00 (12.02) n = 9	49.11 (8.46) n = 9
	VT	7.50 (4.93) n = 10	22.30 (6.20) n = 10	36.40 (11.19) n = 10	49.40 (8.29) n = 10
	NC	6.44 (4.00) n = 9	22.50 (6.36) n = 10	35.60 (7.34) n = 10	49.30 (7.67) n = 10

## Results 2:

**We found some benefit of baby signing for male infants who entered study with low scores on Expressive Communication**

Mean change in rank for expressive communication score by condition, gender and ability

Condition	Low Ability		High Ability	
	Male	Female	Male	Female
BSL	26.50 (6.36) n = 2	-	-19.17 (5.62) n = 3	-3.88 (11.59) n = 4
SG	8.50 (-) n = 1	13.67 (4.65) n = 3	-21.75 (17.32) n = 2	-1.00 ( - ) n = 1
VT	1.20 (8.07) n = 5	12.25 (9.72) n = 4	-	-25.00 (-) n = 1
NC	-6.00 (7.77) n=2	11.75 (4.60) n = 2	-.67 (10.87) n = 3	-9.75 (9.55) n = 2

## Conclusion:

- Typically developing infants with an adequate home environment do not need baby sign
- It may be useful where the infant is at risk of language delay
- Mums who used it with their infants found it a rewarding and positive experience


Kirk, Howlett, Pine & Fletcher (under review)

*To Sign or not to Sign? The Impact of Encouraging Infants to Gesture on Infant Language and Maternal Mind-Mindedness*

“Why should language development require intervention in the absence of identified developmental perturbations?”

(Johnston. et al 2001, p.245).

# Babysign may not advance language development... but what about the other benefits?



The screenshot shows the top navigation bar of the Baby Signs website. It includes a logo for 'Baby signs' and a series of icons representing different aspects of the program: a baby signing, a baby reading, a baby playing with blocks, a baby playing with a ball, a baby reading a book, a bear reading a book, and a baby wearing a graduation cap. Below the icons are buttons for 'ABOUT US', 'PRODUCTS', 'CLASSES', 'CAREERS', 'PROGRAM', 'NEWSLETTER', and 'INSTITUTE'. In the top right corner, there are links for 'Contact Us' and 'Help'.

**Institute Info**

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**Research**

**FAQs**

**Classes**

**Careers**

Perhaps it makes mums more confident, happier and less stressed?

Infant and Child Development  
*Inf. Child. Dev.* (2010)  
Published online in Wiley Online Library  
(wileyonlinelibrary.com). DOI: 10.1002/icd.705

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## Brief Report

# *Does 'Wanting the Best' Create More Stress? The Link Between Baby Sign Classes and Maternal Anxiety*

Neil Howlett\*, Elizabeth Kirk and Karen J. Pine  
*School of Psychology, University of Hertfordshire, College Lane, Hatfield,  
Hertfordshire, United Kingdom*

Parenting Stress Index (Abidin, 1995)	Gesture Group (n = 89)	Non-gesture Group (n = 89)
Sub-scale scores		
<b>Parent Domain</b>	121.9 (22.9)	116.8 (22.3)
Depression	20.2 (6.0)	18.8 (5.5)
<b>Child Domain</b>	94.4 (18.8)	88.6 (13.5)
Demandingness	16.6 (4.7)	15.2 (3.8)
<b>Total Stress Scores</b>	<b>216.2</b> (38.1)	<b>205.5</b> (33.3)*
<b>Mums who attended baby sign classes were significantly* (p = .03) more stressed than mums who attended other types of classes with their infant.</b>		

# Overall conclusions

- We find no support for claims that baby signing advances language development
- But baby signing may be a useful clinical tool for those infants at risk of language delay
- Mothers of typically developing infants find using it a positive experience
- However, we believe it is futile to try to advance the development of an infant who has no signs of delay
- Baby signing does not appear to reduce parental stress
- In fact mothers who attended baby signing classes were more stressed than mothers who went to other types of classes
- Has the commercialisation of childhood raised expectations that simply creates anxiety in the parents of today?
- Perhaps we should stop hot-housing typically developing children and just let them develop.

# Thank you

