

Evidence Briefing

The impact of baby sign on infants and their parents



Dr Elizabeth Kirk, University of York
elizabeth.kirk@york.ac.uk

Baby sign teaches parents to use key word signs or gestures with their preverbal infant and is claimed to improve a range of outcomes for both the infant and their parents, including accelerated language acquisition, increased IQ and enhanced bonding. Baby sign is typically delivered in classes (e.g. Tiny Talk) and various supporting materials are available for purchase, including books and DVDs. The purpose of this document is to provide an objective account of the available evidence that has evaluated the impact of baby sign on infants and their parents.

How credible is the evidence cited on baby sign websites?

Most families that encounter baby sign will be familiar with the statements that are made on baby websites, many of which are claimed to be based on scientific research. Researchers have traced the source of the evidence for statements made across 33 baby sign websites and found that more than 90% were based on opinion articles, not on published peer-reviewed scientific articles¹. Claims relating to reduced tantrums, better self-esteem, or improved parent–child bonding were not supported by any evidence at all. The remaining claims that were based on evidence were concluded to be unfounded due to the methodological weaknesses of the cited studies.

Does baby sign accelerate language development?

The results of two recent reviews of published studies unequivocally concluded that there is no evidence to indicate that baby sign benefits language outcomes^{2,3}. The most recent review of the evidence was published in 2014 and included evidence from 10 studies that involved typically developing children under 36 months of age³. Only one study was rated as methodologically strong, and this was a randomised controlled trial that evaluated the impact of baby sign longitudinally, following infants from 8 to 20 months of age⁴. This study did not find any differences in language outcomes for children who received a signing intervention compared to those in control groups. It is clear from the evidence that there is no case to promote baby sign as a method to support language development. On the other hand, there is no indication that baby sign hinders spoken language either. Therefore, the current evidence indicates that baby sign neither advantages nor disadvantages spoken language development.

Does baby sign increase IQ?

Baby sign websites frequently cite improved IQ as an outcome. The source of this claim is an abstract of a conference

presentation⁵. This is an inadequate source of evidence since the quality of the research has not been subjected to the rigorous peer review process required for publication in an academic journal. The described study reports that children who participated in a baby sign intervention as infants⁶ were reported to score higher on an IQ test than children who were in a control group when followed-up at age eight. There are numerous methodological issues in this study that seriously undermine this claim. The infants were not randomly allocated to a condition in the original intervention, thus there is no way of knowing whether children in this group were more advanced to begin with. Furthermore, there was significant attrition in the sample and children who had completed a verbal-training control condition as infants were omitted from the study. No other published studies to date have reported any measures of IQ. Thus there is no adequate evidence to indicate that baby sign increases IQ.

Does baby sign have any other benefits for parents and infants?

Few studies to date have measured the impact of baby sign on more general parent-infant interaction measures. It has been reported that parents who have used baby sign with their infants were more responsive to their child's nonverbal behaviour than parents who did not receive a baby sign intervention⁴. Another study found that baby signing dyads visually engaged with one another for longer, and displayed a higher frequency of tactile interaction behaviours⁸. However, both studies failed to find effects on other measures of mother-infant synchrony, thus the findings are mixed. Further research is required before any claims are made regarding any effect of signing on parent-infant interaction.

Research has also considered whether baby sign has an impact on parental stress. One study has reported that parents who chose to attend a baby signing class had significantly higher parental stress levels than parents who attended other, non-educational classes with their baby⁷. Because stress was not measured before parents started baby sign classes, it is not



possible to judge whether baby sign increased stress or whether parents with higher pre-existing stress were attracted to baby sign classes. Because of the types of claims made about how baby sign can benefit dyads the latter interpretation is more plausible.

Conclusion

Many parents and their children gain great pleasure from learning and using baby sign together. However, parents are entitled to be fully informed about the benefits of using baby sign with their child and should not be misled into having unrealistic expectations about what this can do for their child's development. Despite the publication of critiques of the evidence attesting to the lack of empirical evidence to support claims made by baby sign companies¹⁻³, websites persist to report false claims. To date, there is no evidence to support the claim that baby signing will accelerate a child's development.

References

1. Nelson, L. H., White, K. R., & Grewe, J. (2012). Evidence for website claims about the benefits of teaching sign language to infants and toddlers with normal hearing. *Infant and Child Development*, 21(5), 474-502.
2. Johnston, J. C., Durieux-Smith, A., & Bloom, K. (2005). Teaching gestural signs to infants to advance child development: A review of the evidence. *First Language*, 25(2), 235-251.
3. Fitzpatrick, E. M., Thibert, J., Grandpierre, V., & Johnston, J. C. (2014). How HANDy are baby signs? A systematic review of the impact of gestural communication on typically developing, hearing infants under the age of 36 months. *First Language*, 34(6), 486-509.

4. Kirk, E., Howlett, N., Pine, K. J., & Fletcher, B. C. (2013). To Sign or Not to Sign? The Impact of Encouraging Infants to Gesture on Infant Language and Maternal Mind Mindedness. *Child development*, 84(2), 574-590.
5. Acredolo, L., & Goodwyn, S., The long-term impact of symbolic gesturing during infancy on IQ at age 8., in *International Conference on Infant Studies*. 2000: Brighton, UK.
6. Goodwyn, S. W., Acredolo, L. P., & Brown, C. A. (2000). Impact of symbolic gesturing on early language development. *Journal of Nonverbal behavior*, 24(2), 81-103.
7. Góngora, X., & Farkas, C. (2009). Infant sign language program effects on synchronic mother–infant interactions. *Infant behavior and development*, 32(2), 216-225.
8. Góngora, X. and C. Farkas, Infant sign language program effects on synchronic mother–infant interactions. *Infant behavior and development*, 2009. 32(2): p. 216-225.

Further Information

Read Dr Kirk's accompanying blog about baby sign:
www.lucid.ac.uk/news-and-events/blogs/sifting-the-fact-from-fiction-about-baby-sign-language

Read Dr Amy Bidgood's blog about baby classes:
www.earlylearningreview.com.au/opinion-dont-go-gaga-over-every-baby-class-claims

To find out more about LuCiD, visit:
www.lucid.ac.uk

About this evidence briefing

Dr Kirk is a lecturer at the University of York and an expert in baby sign and infant gesture. She was invited to write this evidence review by the LuCiD Centre. Please contact her directly for more information: elizabeth.kirk@york.ac.uk