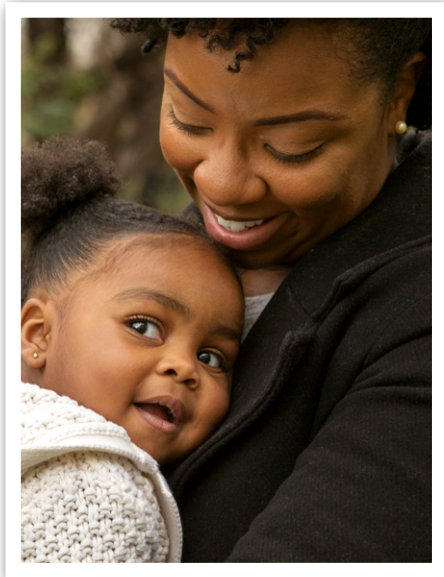


# A Possible Way to Reduce the Risk of a Communication Disorder in Baby Brothers and Sisters of Children with Autism Spectrum Disorder

## A Research Report for Families

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## Introduction

Thirty-three percent of infant siblings of children with autism spectrum disorders (ASD) are likely to have a language delay or social communication disorder by 36 months of age. This study shows that a relatively cost-effective parent-implemented treatment improved babies' expressive language ability and helped the infants use some types of communication that children with ASD often find difficult (e.g., sharing positive affect, combining gestures, using vocalizations, and directing eye contact to their communicative partner).

In the study, investigators compared a group of children who received a therapy that had not yet been used with baby siblings of children with ASD to a group of children who received no therapy through this study (i.e., a treatment control group). The therapy is called Improving Parents As Communication Teachers (ImPACT). For parents assigned to the ImPACT group, research staff provided parent instruction and coaching in the parents' homes twice per week for 3 months. The ImPACT training helps parents learn ways to help their child interact in a turn-taking manner, which provides the context for explicitly teaching children to use gestures, vocalizations, words, and looks to the parent to communicate and to imitate the parent's actions.

In addition to having an older brother or sister with ASD, past research suggests that there are some "additional risk factors" associated with communication disorder in these babies: the baby's sex, the number of brothers or sisters with ASD in the home, and whether the babies score in the "at-risk" range on a screening instrument at 12-18 mos. We added up these 3 risk factors to identify "cumulative risk" for communication disorder.



## Predictions

- ❑ We predicted that parents assigned to the ImPACT group, compared with parents in the control group, would use the teaching techniques we showed them more often, which would help the infants learn to imitate others' actions, and expressively communicate with and without words, which would then improve babies' expressive language ability and help the infants use the types of communication that children with ASD find difficult.
- ❑ Additionally, we predicted that the subgroup of babies for whom ImPACT would be most effective would be related to their cumulative risk for communication disorder, which was measured at the beginning of the study.

## Who Took Part

Ninety-seven 12-18 month olds (average of 14 mos) who had brothers or sisters with ASD participated. The parent who spent the most time with the baby also participated. Because our staff only spoke English, we limited the study to families who primarily spoke English in the home.

## Study Design

Forty-nine infant-parent pairs were randomly assigned to the ImPACT group. The rest were assigned to a non-treatment control group. Parents in the ImPACT group were trained by a speech-language pathologist or by research staff who were trained by the speech-language pathologist. Families in both groups were free to seek treatment of their choice outside of the study.

Before the ImPACT treatment was delivered, we counted the number of additional risk factors children showed and measured all of the variables (described below). Three months

after entry into the study, the frequency with which parents used the ImPACT strategies was measured in both groups of parents. Six months after entry, children's motor imitation, expressive communication, and expressive vocabulary level were measured. Nine months after entry, children's expressive language and social communication were measured.

## Findings

Study findings confirmed predictions that ImPACT training increased parents' use of ImPACT strategies, which in turn increased children's motor imitation, which in turn improved children's expressive language ability and increased children's use of the types of communication that children with ASD often find difficult. In children with no additional risk for communication disorders, ImPACT training also worked by increasing children's intentional communication and by increasing their expressive vocabulary, compared to the control group.

## Conclusion

We found that the ImPACT strategies were successful in managing the risk for communication disorders in infant brothers and sisters of children with ASD during a period in development when it is not yet clear whether they will develop a communication disorder.

## Heartfelt Thanks

We are grateful to the families who took part in this study. They are our partners in discovery. Without families taking part in research, we would not advance our society's understanding of how children with and without disabilities grow and learn.

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