



# Too Little or too Much? Actionable Advice in an Early Childhood Text Messaging Experiment

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## OVERVIEW

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This study analyzes whether the content and frequency of delivery affects the impact of a text-messaging program for parents of preschoolers aimed at helping them support their children’s literacy development. We find that text messaging programs can supply too little information or too much information, and, as a result, program design can benefit from consideration of frequency.

## BACKGROUND

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Because the quality of early childhood care has profound long-term consequences, a variety of programs have aimed to improve parenting practices, with the goal of enhancing the academic and economic prospects of children as they grow into adults. However, many of these programs have shown limited success, as they may place unrealistic demands on parents’ time, require that parents absorb complex information quickly, or fail to provide reinforcement and encouragement that would lead to sustained behavior change. The few parenting programs that have shown success are costly and difficult to scale.

Innovative text-message-based interventions have emerged as a promising new approach for helping parents. Due to their low cost, their ease of scalability, and the widespread use of mobile phones, these programs can reach less connected families who have limited access to other supports. Texting interventions have been shown to positively influence both student and parent outcomes in a broad array of educational settings, and have demonstrated particular impact on under-resourced families. Given these encouraging

## KEY FINDINGS

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### *Parent engagement:*

- Parents were more likely to opt-out of the intervention as the frequency of texts increased. This pattern was particularly strong for parents of the lowest performing children.
- The three-text-per-week model —with FACT, TIP and GROWTH texts — resulted in greater parent satisfaction and parent engagement in reading and literacy activities than either the TIP only program, or the five-text-per-week program, with extra activities.
- Parents who received only one TIP text message per week were the least likely to report engaging in literacy-building activities or to report feeling confident about how to build literacy skills.

### *Student literacy gains:*

- On average, no treatment group of students showed greater effects compared to the others.
- However, the effects of the program on child literacy development strongly depended on the child’s pre-intervention literacy skills. For children in the lowest quarter of baseline skills, the FACT·TIP·GROWTH three-text model resulted in greater learning than the TIP only program.
- The five-text-per-week model with additional examples of suggested activities had no effect on children’s literacy test scores compared to the three-text-per-week model.

results, the challenge for researchers is learning how to refine the design of these programs to make them most effective.

During the 2013-2014 and 2015-2016 school years, we piloted a texting intervention (now called Tips-by-Text) that targeted early literacy skills with preschool families. In this original version of our program, parents received three texts per week focused on building a variety of pre-literacy skills. On Mondays, parents received a FACT text designed to explain the importance of the week's skill. On Wednesdays, they received a TIP text describing easy-to-achieve activities parents could do with their children to build that skill. Finally, on Fridays, parents received a GROWTH text, providing them with positive reinforcement and a follow-up tip. Results of the randomized controlled trial showed that the program positively affected parenting practices and translated into student learning gains. These results were strongest for children with lower pre-program assessment scores.

In a subsequent study, we followed our first cohort of preschool families from the original trial into kindergarten. We sought to investigate whether the actual content of the texts mattered, or whether the program's benefits were driven solely by the fact that participants were receiving frequent reminders (or "nudges") about parenting. This second study found that targeting texts based on a child's skill level improved student results, and that academic effects were particularly pronounced for students further from average levels of baseline development. These positive effects for initially higher and lower performing students likely stemmed from tailored text content — more advanced students benefited from harder activities, and less advanced students from easier ones.

In this study, we continue to tease out which mechanisms drive program effectiveness. Having determined that content matters and that texts are not just parenting "nudges," we explore which specific content matters. We also analyze whether parents and children benefit only from the actionable advice in the suggested activities, or also from the context, information, and encouragement provided in the FACT and GROWTH texts. We further investigate whether sending additional TIP texts translates into better results and ask whether there is an ideal number of texts to send each week.

## THE PROGRAM

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To identify which text content drives our positive results, and assess whether sending more TIP texts is desirable, we set up a randomized controlled study in Dallas with parents of preschoolers during the 2015-2016 school year. We assigned parents into three experimental groups: the first group only received one TIP message on Wednesdays; the second group received a program analogous to the original program, with a FACT message on Mondays, TIP message on Wednesdays, and GROWTH message on Fridays; and the third group received two additional pieces of actionable advice, with the FACT message on Mondays, TIP messages on Tuesdays, Wednesdays, and Thursdays, and the GROWTH message on Fridays.

As in the original program, the text messages designed for this intervention aligned with state standards and drew from research on literacy development, parenting practices, and behavior change strategies.

## THE STUDY

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The Dallas Independent School District serves approximately 10,000 pre-kindergarten students in 132 preschools. Eighty percent of these pre-kindergartens are economically disadvantaged and the student population is both racially and linguistically diverse.

To recruit parents for our study, we built on the district's existing school registration process. When parents registered their children for preschool, they were invited to participate in the study and receive text messages in Spanish or English. 3,473 parents decided to join our study and they could choose to opt-out at any time.

Our analysis draws on extensive descriptive and demographic data about the participating parents, teachers, and children. Parent information comes from enrollment forms, our texting platform, and end-of-year surveys. Teacher information comes from administrative records and includes data about length of experience and absences. Child information also comes from administrative records, which include thrice-yearly literacy assessment scores. Because the first literacy assessment was administered to the children before the texting program began, it serves as

our baseline measure of pre-intervention skills. The third literacy assessment, conducted towards the end of the program, serves as our primary child outcome.

## CONCLUSION

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This study examines the content and frequency of a text messaging program aimed at supporting parental engagement in the literacy development of preschoolers. For parenting programs, as well as for other interventions aimed at changing adult behavior, it is easy to assume that more content and more contact is better. Yet in many cases, light-touch text messaging interventions can be more effective than intensive traditional programs, because they provide easy-to-implement suggestions over extended periods of time. Even in these light-touch programs, finding the balance between too much and too little is vital to creating the most effective intervention. This study is the first (of which we are aware) to directly examine this aspect of program design, particularly with a population of low-income adults. Our results clearly indicate that for this population, five contacts per week was simply too much for parents and showed no benefit for children. At the one-text-per-week and three-text-per-week levels, the differences between the programs were less clear, with parents favoring three texts each week, but only the lowest performing children benefiting from more than one weekly contact.

## RELATED PUBLICATIONS

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Doss, C. Fahle, E.M., Loeb, S. & York, B.N. (2019). "More than Just a Nudge: Supporting Kindergarten Parents with Differentiated and Personalized Text-Messages." *Journal of Human Resources*, 54(3), 567-603.

York, B. Loeb, S. & Doss, C. (2019). "One Step at a Time: The Effects of an Early Literacy Text Messaging Program for Parents of Preschoolers." *Journal of Human Resources*, 54(3), 537-566.