It's Too Annoying: Who Drops Out of Educational Text Messaging Programs and Why

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OVERVIEW

Text-messaging programs aimed at the parents of young children can increase parental involvement at home and school and positively affect child development, particularly for initially lower-performing children. Yet participants can easily opt-out of these programs and fail to realize their beneficial effects. Therefore, understanding how to maximize continued participation is crucial. With the goal of refining and improving our methods, this study aims to describe who drops out of educational text-messaging programs and why. Using extensive data from eight different text-messaging programs geared towards fostering parent engagement and improving school readiness, we examine which factors influence the likelihood that participants will opt-out. We find that program design matters, that text messaging programs reach the parents of traditionally under-resourced children, and that those parents are less likely to opt-out of the interventions.

BACKGROUND

Text-messaging programs are increasingly popular as low-cost interventions aimed at improving a variety of health and education outcomes. Such programs, given the widespread use of cell phones, are a promising tool for impacting behavior change over time, and may be particularly effective at reaching less connected families who have limited access to other supports. However, participants can opt-out of these programs simply by texting "STOP," and may do so after a single annoying text. Afterwards, the programs cannot reach back out to these parents, who may have generally welcomed the texts and found them helpful. Thus, it is important to identify the factors that lead participants to opt-out and to design more effective programs with better retention rates.

KEY FINDINGS

- Racial/ethnic minority parents are less likely to opt-out of a text-messaging intervention.

- Black and Hispanic parents and parents who receive the texts in Spanish are less likely to opt-out than White parents and parents who receive the texts in English.

- Programs that provide context and encouragement along with easy-to-achieve activities have lower opt-out rates than programs that suggest activities alone.

- A high quantity of texts and more complex texts lead recipients to opt-out significantly more.

In the 2013-2014 school year, we piloted a texting intervention (now called Tips·by·Text) that targeted early literacy skills with preschool families in San Francisco. Results of the randomized controlled trial showed that the program positively affected parenting practices and translated into student learning gains, and that these results were strongest for children with lower pre-program assessment scores. Given the success of this intervention and the suggestion that it may have helped reduce achievement gaps, we thought it important to explore the mechanisms underlying the program's results in order to further refine its design.

In this follow-up study, we investigate which types of participants opt-out of text-messaging interventions, which program formats increase opt-outs, and which text characteristics increase opt-outs. Specifically, we are interested in whether under-resourced participants opt-out more, whether programs that provide context and encouragement in addition to suggested activities

decrease opt-outs, whether more or less variation in topic affects opt-outs, and whether the number and complexity of texts makes a difference.

THE PROGRAM

In the original 2013-2014 intervention, treatment group families in San Francisco received three texts per week focused on building a variety of pre-literacy skills. On Mondays, parents received a FACT text designed to explain and highlight the importance of the week's skill. On Wednesdays, they received a TIP text describing easy-to-achieve and highly specific 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.

In this expanded study, we modified the original program in order to investigate which aspects of a texting intervention promote program adherence and which are more likely to lead to participant opt-outs. During the 2015-2016 school year, we implemented eight different text-messaging programs for parents of preschoolers in the Dallas and Miami-Dade County school districts, varying the content and format of the programs and randomizing participating parents into different groups. With regard to content, programs targeted literacy development, socio-emotional learning, or a combination of literacy, math and socio-emotional skills. As for format, programs retained the original FACT/TIP/GROWTH model, expanded to five texts per week by adding two extra midweek TIP texts, or delivered three TIP texts each week, omitting the introductory FACT and reinforcing GROWTH texts. The individual texts in each program varied in subject, topic, and linguistic complexity. Our research assistants coded the texts to reflect both these variations and other characteristics such as whether a text required a prop, presented a choice, or assumed prior knowledge.

THE STUDY

Our analysis draws on data from three primary sources: the texting platforms that we use to deliver the programs, administrative student records from Dallas and Miami-Dade County, and our coded texts. The texting platforms provide opt-out information; the student records contain information on gender, ethnicity, age, home language, treatment site, text-language and student literacy assessment scores; and the texts are coded for multiple variations in topic and complexity.

In our models predicting the probability of opting-out, we factor in much of this information, looking closely at

parent characteristics, program type and format, and program site. We also look at which specific text characteristics prompt parents to opt-out.

CONCLUSION

This study describes opt-out behavior in text-message interventions with parents of young children, and concludes that program design matters. Programs that only deliver TIPS for suggested activities, without the added context and encouragement from the FACT and GROWTH texts have higher dropout rates, perhaps because parents benefit from understanding the relevance of a particular skill. Programs that burden participants with too many texts also lead to higher dropout rates, reducing parent engagement without leading to additional academic improvement for students whose parents remain in the program. Programs with texts that are too complex are similarly burdensome and lead to higher dropout rates, with one caveat: texts that suggest activities with props do not appear to burden parents —in fact, recipients of these texts opt-out less, possibly because the use of props reduces ambiguity and helps delineate a concrete task. We further find that while participants are less likely to opt-out of programs that focus solely on literacy skills, opt-out rates are otherwise not affected by a program's focus on a single topic or a combination of topics.

Texting interventions have demonstrated positive effects, particularly for initially lower-performing children, so decreasing opt-outs is desirable. Our results show that Black and Hispanic parents and parents who receive the texts in Spanish are less likely to opt-out than White parents and parents who receive the texts in English. Though baseline scores, race, and preferred language are only broad proxies for educational disadvantage, and other factors may certainly be at play, our study provides tentative evidence that parents of more disadvantaged students, who may benefit more from the texts, are more likely to remain in the programs. This result gives additional evidence that text-messaging programs — with their low costs, ease of implementation and widespread accessibility —have the potential to reach at-risk populations and should be designed with care.

RELATED PUBLICATIONS

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.