

Nudging or Nagging? Conflicting Effects of Behavioral Tools

Based on BFI Working Paper 2023-02, “[Nudging or Nagging? Conflicting Effects of Behavioral Tools](#),” by Ariel Kalil, Haoxuan Liu, Susan Mayer, Derek Rury, and Rohen Shah of the Harris School of Public Policy at UChicago

Goal-setting messages led to an increase in parent reading time but had no effect on literacy skills, while reminder messages led to a decrease in literacy skills, despite no significant difference in reading time; also, technology may help boost reading skills of low-income children.

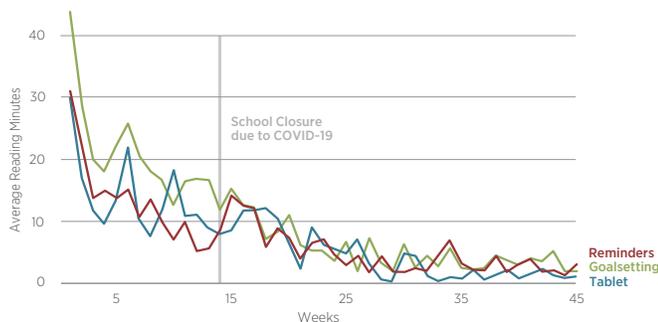
The achievement gap in literacy between advantaged and disadvantaged children emerges before formal schooling begins and persists over the school years. Given evidence that advantaged parents spend more educational time with their kids, interventions have attempted to increase parental engagement by, for example, using text messages to “nudge” parents to read with their children. The relative low cost of these programs, especially relative to in-person parental training, has encouraged their use.

However, do such interventions work? Measurement gaps persist, owing in part to self-reported results. Also, while some programs include tablets to track parent reading time, these interventions do not reveal whether increased reading time leads to improved literacy skills. Finally, text messages in these interventions reflect a bundle of behavioral tools (reminders, goal setting, peer competition), leaving it unclear which behavioral tool drives the treatment effect.

To address these and other challenges, the authors implement an 11-month RCT with 379 low-income parents in Chicago to study both parent-child reading time and child literacy skills. Parents were randomized into four groups: 1) a control group, 2) a group that received a tablet containing a digital library, 3) a digital library tablet group with reminder texts, and 4) a digital library tablet group with goal-setting texts. This design allows the authors to distinguish between two different types of behavioral tools meant to address present bias, reminders and goal setting, as well as to measure the impact of using a digital tablet. The authors find the following:

- Relative to the group that received only the digital library tablet, adding goal-setting messages increased parent reading time by

Figure 1 • Average Weekly Reading Time over 45 Weeks



Note: This figure shows the total number of minutes read by parents in each of the treatment groups over the entire 11-month duration of the authors' study. The data are from 351 retrieved tablets with reading time records. Among those, 42 children (11.97% of tablets with reading time records) never used tablets. The red dashed line at week 14 indicates the school closure because of COVID-19. Note the steady decrease in the amount of reading over time across all treatment conditions, which may be due to a “novelty” effect. Also, note that there was no significant change in reading immediately before and after COVID-19 school closures.

50%, whereas adding reminder messages had no significant impact on parent reading time.

- Behavioral tools, delivered via text messages, increase reading time.
- However, despite leading to a significant increase in reading time, the goal setting messages had no significant impact on child literacy skills relative to the digital library tablet group. Further, the reminder messages led to a significant decrease in literacy skills compared to the tablet group, despite no significant difference in reading time.

What explains this last, counterintuitive finding? The authors hypothesize that a “nag factor” scales down task quality; that is, parents who are pestered to spend time reading with their kids may not perform optimally. This unintended consequence of nudging interventions relates to the literature on intrinsic and extrinsic motivation, where monetary incentives potentially backfire if they reduce intrinsic

motivation. Nudge interventions are often described as having high benefit-cost ratios because even small benefits outweigh the nearly-zero cost of sending a text message. This work challenges that conventional wisdom by suggesting that nudges, indeed, could have a high cost.

- Finally, the authors find that deploying digital library tablets without nudging caused a significant increase in literacy skills relative to the control group, which highlights the role that technology could play in raising child skill, especially among low-income families.

This work not only challenges our current understanding of behavioral messaging and its effects, but it also suggests that future work using nudges to increase parental investments in early-childhood skills should consider the potential hidden costs or crowding-out effects of such efforts. Also, this work reveals the benefits of complementary home-based technology, like tablets, which are a relatively inexpensive intervention.

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