SUMMIT, N.J. (December 4, 2018) – A longitudinal study has found that Bedtime Math, a free app already proven to boost kids’ math achievement, has long-lasting effects even after children stop using the app. The results of the study led by University of Chicago psychologists appear in the December issue of the Journal of Experimental Psychology: General, one of the premier research journals of the American Psychological Association.

Bedtime Math delivers quick, engaging math story problems for parents and children to solve together. Earlier results of the study, published in Science, found that children who used the Bedtime Math app gained an additional three months of math skills over children who didn’t use the app. Today’s results show that the gains in achievement persisted two years later, even if families decreased or ended their app usage.

The study also looked at the impact of the app on families in which the parents have math anxiety. “Math-anxious” parents – those who have a fear or discomfort about math – have been found to impede their children’s learning of math. Findings suggest that while parents’ math anxiety did not change, the app improved their expectations of their children’s math performance – and those changes in attitude translated to kids’ math gains. This indicates that apps that engage children and parents together may foster greater learning than apps children use on their own.

“Many Americans experience math anxiety – whether it’s calculating a tip on a dinner bill as your friends look on or doing math homework with your child,” said study co-author Dr. Sian Beilock, a cognitive scientist and the president of Barnard College. “When parents are apprehensive about math, their children’s math achievement in school can suffer. Bedtime Math provides a structured, fun way for families to incorporate math into their daily routine, and changes – for the better – parents’ attitudes about their children’s math ability.”

(more)
Dr. Susan Levine, a developmental psychologist at the University of Chicago and study co-author, added, “With the app, math-anxious parents have a chance to see their children engaging productively in mathematical thinking, which leads them to change the way they think about their children’s ability to achieve in math.”

“Many promising education reforms have only limited impact that fades away over time. Few are proven to move the needle,” said Laura Overdeck, founder of the nonprofit Bedtime Math. “By contrast, we’ve succeeded in giving parents a free, simple tool that stokes major lasting jumps in their children’s math skills, effectively changing their academic trajectory.”

About the University of Chicago Study
The University of Chicago study examined 587 elementary-aged children in 40 classrooms in the Chicago area. Families were given an iPad installed with a version of the Bedtime Math app in the fall of first grade. Parents and their children read stories and answered questions involving math, including topics like counting, shapes, and problem solving. A control group received a reading app that had similar stories but with reading comprehension questions instead of math questions. Children’s math and reading ability was assessed at the beginning and end of each school year through third grade. Parents completed surveys at the beginning and end of first grade, providing a measure of their nervousness around math.

The findings released today examined usage of Bedtime Math over time to determine whether the effects of the intervention on children in first grade extended through third grade. It also examined the role Bedtime Math played in improving parents’ attitudes about math itself and about math for their children.

Results showed that Bedtime Math had a sustained positive effect on children’s math achievement, despite decreased usage of the app after first grade. The effect was most notable among children of the most math-anxious parents. Specifically, the math learning gains of children of higher- and lower-math anxious parents did not differ among families who used the math version. Researchers attribute these lasting effects to changes in parents’ math attitudes, not to a reduction in their own math anxiety.

These findings indicate that educational apps that encourage high-quality parent-child interactions hold potential to accelerate children’s learning – this may be especially true compared to apps children use alone. While the study focused on Bedtime Math, more research and evaluation studies are needed on the effectiveness of math apps and their impact on children’s learning.

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About Bedtime Math Foundation
Bedtime Math Foundation is a nonprofit organization that has become a leading provider of childhood math content. Its core product is a series of playful online math problems that parents can do with their kids every day, garnering more than a quarter of a million followers. Bedtime Math is also the creator of Crazy 8s, the nation’s largest recreational after-school math club; a recent study from Johns Hopkins University found Crazy 8s significantly reduces children’s feelings of math anxiety after 8 weeks of participation in the club. For more information, visit www.bedtimemath.org.