

Reviewing the Family Math Literature

RECOMMENDATIONS FOR RESEARCH

Efforts to promote family math have been gaining momentum. To lay a firm foundation for the growth of this movement, we took a critical look at both what the research says and what practitioners observe about family math engagement. Based on our review of empirical literature and our interviews with educators and professionals working in community settings, we present recommendations for research.

SUMMARY OF FINDINGS

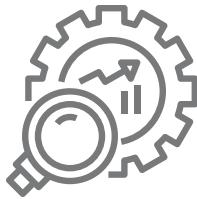
- Family math needs to go beyond counting and number to include spatial reasoning and patterning.
- Family math efforts need to address families' attitudes and beliefs about math.
- Families who can most benefit from support—those with limited resources, math anxiety, or other barriers to engagement—are often underserved.
- Family engagement efforts must recognize sociocultural differences in how families engage in math.
- Research primarily linked achievement to structured math activities, while practitioners recommend embedding math into everyday life. However, it may be possible for practitioners to help parents include elements of structured math in informal activities.
- Research on family math interventions shows promising avenues to promote family math engagement, but this line of research is in its infancy and has yet to address some challenges practitioners describe.

This work was funded by the
Family Math Roadmap Implementation Project, supported by the Heising-Simons Foundation.

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RESEARCH

RECOMMENDATIONS



ENSURE RESEARCH SAMPLES ARE REPRESENTATIVE AND INCLUSIVE

Include more heterogeneous families in both exploratory studies and intervention studies to expand knowledge beyond highly-educated, middle class White families. This will provide critical information about how to support family math engagement across a wide range of life circumstances and cultural differences.

DEVELOP ASSET-BASED FAMILY ENGAGEMENT MODELS

Utilize open-ended methodologies to examine children's opportunities to participate in family- or community-centered math activities in addition to child-centered activities. Consider work focusing on particular cultural contexts to develop asset-based models of family engagement and ensure that comparative studies do not frame differences as deficits.

Build on research indicating that culture and SES have qualitative impacts on parents' school involvement. Consider how context may impact the best ways to reach and connect with families, including examining potential pathways for reaching families outside of school.

EVALUATE APPROACHES TO REACH FAMILIES BEYOND SCHOOL

Since expectations and attitudes are some of the most robust predictors of math achievement, research should examine the impact of interventions on these aspects of family math. Approaches should attempt to address math attitudes and beliefs directly, or indirectly through interventions aimed at increasing the quantity or quality of family math engagement.

ADDRESS ATTITUDES AS PART OF INTERVENTION WORK

Conduct studies that evaluate the long-term outcomes and sustainability of family math interventions, as well as the feasibility of implementing programs on a large scale. Examine how to design interventions that are flexible in building on the strengths of diverse families.

EXAMINE SUSTAINABILITY AND GENERALIZABILITY OF INTERVENTIONS

Continue to examine the characteristics of family math engagement that are most predictive of children's math learning, and whether these vary across sociocultural contexts. Research has often linked formal math activities—where children's math learning is the focal point of the activity—to math achievement. In order to identify general principles across diverse family contexts, it is critical to examine what features of these activities or family practices during these activities most effectively support children's learning.

EXPLORE ASPECTS OF MATH THAT ARE MOST CRITICAL AND FEASIBLE TO TARGET