Grant Title: DEVELOPMENT OF MATHEMATICAL COGNITION AND REASONING AND THE PREVENTION OF MATH LEARNING DISABILITIES (R01, R03, R21)

Funding Opportunity Number: PA-12-248, PA-12-247, PA-12-246. CFDA Number(s): 93.865.

Agency/Department: National Institutes of Health (NIH), Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD).

Area of Research: Stimulate innovative, multidisciplinary research on the cognitive, neuroplasticity, genetic and environmental factors involved in math learning and learning disabilities.


Application Deadline: For R01 NEW Applications: February 5, June 5, October 5. For R01 Renewal, Resubmission, or Revision: March 5, July 5, November 5. For R03 and R21 NEW Applications: February 16, June 16, October 16. For R03 and R21 Renewal, Resubmission, or Revision: March 16, July 16, November 16.

Amount: R01 - typically up to $500,000. R03 - Budgets for direct costs of up to $50,000 per year for a maximum of $100,000 direct costs over a two-year project period. R21 - $275,000 over an R21 two-year period, with no more than $200,000 in direct costs allowed in any single year.

Length of Support: R01 - up to 5 years. R03 & R21 - Up to 2 years.

Eligible Applicants: Public/State Controlled Institutions of Higher Education. See the full announcement for a complete list of eligible applicants.

Summary: This Funding Opportunity Announcement (FOA) is intended to stimulate innovative, multidisciplinary research on the cognitive, neuroplasticity, genetic and environmental factors involved in math learning and learning disabilities. This research will advance our knowledge of the factors that contribute to the development, advancement, and impairment of mathematical cognition, including the ability to apprehend and reason about magnitude, number, temporal and spatial relationships, and concomitantly provide the evidence base to inform the design of effective (i.e., efficacious in "real world" contexts) interventions for the remediation and/or prevention of mathematical learning disabilities (MLD). The overall objectives of this FOA include: 1) identify the critical (necessary and sufficient) biological, cognitive, and behavioral components and dynamic developmental sequence, including sensitive periods, necessary for the normal development of mathematical cognitive abilities and reasoning (e.g., counting, arithmetic, geometry, algebra), including early and normative milestones; 2) identify the biological, cognitive, environmental, and behavioral factors that contribute to and/or restrict the developmental plasticity of mathematical cognitive abilities, and may be used to improve prevention, identification, and classification of children with MLD (including theoretically-grounded approaches to identification and classification), 3) develop and test well-defined, evidence-based prevention interventions for populations at high risk for mathematics learning disability such as children raised in poverty, and those with predisposing genetic or medical conditions (e.g., velocardiofacial syndrome, deafness, and iatrogenic conditions such as chemotherapy-associated math learning deficits), where the intervention's effectiveness (i.e., the efficacy under "real world" adoption conditions) can be shown to be both sustainable and generalizable, and 4) develop and test well-defined, evidence-based remediating or treatment interventions, the effectiveness of which can be demonstrated to be both sustainable and generalizable. Such foundational knowledge should ultimately improve math instruction, both for typically developing and math challenged or disabled children.

http://grants.nih.gov/grants/guide/pa-files/PA-12-246.html