

“(2) While studies have found that children who engage in scientific activities from an early age develop positive attitudes toward science and are more likely to pursue STEM expertise and careers later on, the majority of current research focuses on increasing STEM opportunities for middle school-aged children and older.

“(3) Women remain widely underrepresented in the STEM workforce, and this disparity extends down through all levels of education.”

SUPPORTING EARLY CHILDHOOD AND ELEMENTARY
STEM EDUCATION RESEARCH

Pub. L. 116-102, §3, Dec. 24, 2019, 133 Stat. 3263, provided that: “In awarding grants under the Discovery Research PreK-12 program, the Director of the National Science Foundation shall consider the age distribution of a STEM education research and development project to improve the focus of research and development on elementary and prekindergarten education.”

DEFINITIONS

For definitions of terms used in this section, see section 2 of Pub. L. 114-329, set out as a note under section 1862s of this title.

§ 1862s-6. Presidential awards for excellence in STEM mentoring

(a) In general

The Director of the Foundation shall continue to administer awards on behalf of the Office of Science and Technology Policy to recognize outstanding mentoring in STEM fields.

(b) Annual award recipients

The Director of the Foundation shall provide Congress with a list of award recipients, including the name, institution, and a brief synopsis of the impact of the mentoring efforts.

(Pub. L. 114-329, title III, §307, Jan. 6, 2017, 130 Stat. 3010.)

CODIFICATION

Section was enacted as part of the American Innovation and Competitiveness Act, and not as part of the National Science Foundation Act of 1950 which comprises this chapter.

DEFINITIONS

For definitions of terms used in this section, see section 2 of Pub. L. 114-329, set out as a note under section 1862s of this title.

PRESIDENTIAL AWARDS FOR EDUCATORS AND MENTORS
IN FIELDS RELATING TO CYBERSECURITY

Pub. L. 116-283, div. H, title XCIV, §9405(d), Jan. 1, 2021, 134 Stat. 4812, provided that: “The Director of the National Science Foundation shall ensure that educators and mentors in fields relating to cybersecurity can be considered for—

“(1) Presidential Awards for Excellence in Mathematics and Science Teaching made under section 117 of the National Science Foundation Authorization Act of 1988 (42 U.S.C. 1881b); and

“(2) Presidential Awards for Excellence in STEM Mentoring administered under section 307 of the American Innovation and Competitiveness Act (42 U.S.C. 1862s-6).”

§ 1862s-7. Computer science education research

(a) Findings

Congress finds that as the lead Federal agency for building the research knowledge base for

computer science education, the Foundation is well positioned to make investments that will accelerate ongoing efforts to enable rigorous and engaging computer science throughout the Nation as an integral part of STEM education.

(b) Grant program

(1) In general

The Director of the Foundation shall award grants to eligible entities to research computer science and cybersecurity education and computational thinking.

(2) Research

The research described in paragraph (1) may include the development or adaptation, piloting or full implementation, and testing of—

(A) models of preservice preparation for teachers who will teach computer science and computational thinking;

(B) scalable and sustainable models of professional development and ongoing support for the teachers described in subparagraph (A);

(C) tools and models for teaching and learning aimed at supporting student success and inclusion in computing within and across diverse populations, particularly poor, rural, and tribal populations and other populations that have been historically underrepresented in computer science and STEM fields;

(D) high-quality learning opportunities for teaching computer science and, especially in poor, rural, or tribal schools at the elementary school and middle school levels, for integrating computational thinking into STEM teaching and learning; and

(E) tools and models for the integration of cybersecurity and other interdisciplinary efforts into computer science education and computational thinking at secondary and postsecondary levels of education.

(3) Uses of funds

The tools and models described in paragraph (2)(C) may include—

(A) offering training and professional development programs, including summer or academic year institutes or workshops, designed to strengthen the capabilities of prekindergarten and elementary school teachers and to familiarize such teachers with the role of bias against female students in the classroom;

(B) offering innovative pre-service and in-service programs that instruct teachers on female-inclusive practices for teaching computing concepts;

(C) developing distance learning programs for teachers or students, including developing curricular materials, play-based computing activities, and other resources for the in-service professional development of teachers that are made available to teachers through the Internet;

(D) developing or adapting prekindergarten and elementary school computer science curricular materials that incorporate contemporary research on the science of learning, particularly with respect to female inclusion;