

116<sup>TH</sup> CONGRESS  
1<sup>ST</sup> SESSION

# H. R. 1665

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## AN ACT

To direct the National Science Foundation to support STEM education research focused on early childhood.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the “Building Blocks of  
3 STEM Act”.

4 **SEC. 2. FINDINGS.**

5 Congress finds the following:

6 (1) The National Science Foundation is a large  
7 investor in STEM education and plays a key role in  
8 setting research and policy agendas.

9 (2) While studies have found that children who  
10 engage in scientific activities from an early age de-  
11 velop positive attitudes toward science and are more  
12 likely to pursue STEM expertise and careers later  
13 on, the majority of current research focuses on in-  
14 creasing STEM opportunities for middle school-aged  
15 children and older.

16 (3) Women remain widely underrepresented in  
17 the STEM workforce, and this gender disparity ex-  
18 tends down through all levels of education.

19 **SEC. 3. SUPPORTING EARLY CHILDHOOD STEM EDUCATION**  
20 **RESEARCH.**

21 In awarding grants under the Discovery Research  
22 PreK–12 program, the Director of the National Science  
23 Foundation shall consider the age distribution of a STEM  
24 education research and development project to improve the  
25 focus of research and development on early childhood edu-  
26 cation.

1 **SEC. 4. SUPPORTING FEMALE STUDENTS IN PREKINDER-**  
2 **GARTEN THROUGH ELEMENTARY SCHOOL IN**  
3 **STEM EDUCATION.**

4 Section 305(d) of the American Innovation and Com-  
5 petitiveness Act (42 U.S.C. 1862s-5(d)) is amended by  
6 adding at the end the following:

7 “(3) RESEARCH.—As a component of improving  
8 participation of women in STEM fields, research  
9 funded by a grant under this subsection may include  
10 research on—

11 “(A) the role of teacher training and pro-  
12 fessional development, including effective incen-  
13 tive structures to encourage teachers to partici-  
14 pate in such training and professional develop-  
15 ment, in encouraging or discouraging female  
16 students in prekindergarten through elementary  
17 school from participating in STEM activities;

18 “(B) the role of teachers in shaping per-  
19 ceptions of STEM in female students in pre-  
20 kindergarten through elementary school and  
21 discouraging such students from participating  
22 in STEM activities;

23 “(C) the role of other facets of the learn-  
24 ing environment on the willingness of female  
25 students in prekindergarten through elementary  
26 school to participate in STEM activities, includ-

1 ing learning materials and textbooks, classroom  
2 decorations, seating arrangements, use of media  
3 and technology, classroom culture, and gender  
4 composition of students during group work;

5 “(D) the role of parents and other care-  
6 givers in encouraging or discouraging female  
7 students in prekindergarten through elementary  
8 school from participating in STEM activities;

9 “(E) the types of STEM activities that en-  
10 courage greater participation by female stu-  
11 dents in prekindergarten through elementary  
12 school;

13 “(F) the role of mentorship and best prac-  
14 tices in finding and utilizing mentors;

15 “(G) the role of informal and out-of-school  
16 STEM learning opportunities on the perception  
17 of and participation in STEM activities of fe-  
18 male students in prekindergarten through ele-  
19 mentary school; and

20 “(H) any other area the Director deter-  
21 mines will carry out the goal described in para-  
22 graph (1).”.

1 **SEC. 5. SUPPORTING FEMALE STUDENTS IN PREKINDER-**  
2 **GARTEN THROUGH ELEMENTARY SCHOOL IN**  
3 **COMPUTER SCIENCE EDUCATION.**

4 Section 310(b) of the American Innovation and Com-  
5 petitiveness Act (42 U.S.C. 1862s-7(b)) is amended by  
6 adding at the end the following:

7 “(3) USES OF FUNDS.—The tools and models  
8 described in paragraph (2)(C) may include—

9 “(A) offering training and professional de-  
10 velopment programs, including summer or aca-  
11 demic year institutes or workshops, designed to  
12 strengthen the capabilities of prekindergarten  
13 and elementary school teachers and to famil-  
14 iarize such teachers with the role of gender bias  
15 in the classroom;

16 “(B) offering innovative pre-service and in-  
17 service programs that instruct teachers on gen-  
18 der-inclusive practices for teaching computing  
19 concepts;

20 “(C) developing distance learning pro-  
21 grams for teachers or students, including devel-  
22 oping curricular materials, play-based com-  
23 puting activities, and other resources for the in-  
24 service professional development of teachers  
25 that are made available to teachers through the  
26 Internet;

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

3           “(E) developing and offering gender-inclusive computer science enrichment programs for  
4           students, including after-school and summer programs;

5           “(F) providing mentors for female students  
6           in prekindergarten through elementary school in person and through the Internet to support  
7           such students in participating in computer science activities;

8           “(G) engaging female students in prekindergarten through elementary school and  
9           their guardians about the difficulties faced by such students to maintain an interest in participating in computer science activities;

10           “(H) acquainting female students in prekindergarten through elementary school with  
11           careers in computer science and encouraging such students to consider careers in such field;

12           “(I) developing tools to evaluate activities conducted under this subsection; and

1                   “(J) any other tools or models the Director  
2                   determines will accomplish the aim described in  
3                   paragraph (2)(C).”.

Passed the House of Representatives July 23, 2019.

Attest:

*Clerk.*

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