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NATIONAL SCIENCE FOUNDATION  
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## Dear Colleague Letter: Stimulating Research Related to the Science of Broadening Participation

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September 26, 2017

Dear Colleague:

Building on previous investments, the Directorate for Social, Behavioral & Economic Sciences (SBE) and the Directorate for Education & Human Resources (EHR) announce their interest in continuing support of research related to the Science of Broadening Participation (SBP). The Science of Broadening Participation will employ the theories, methods, and analytic techniques of the social, behavioral, economic, and learning sciences to better understand the barriers that hinder and factors that enhance our ability to broaden participation in science, technology, engineering, and mathematics (STEM) and other sectors. The results of these efforts will inform approaches to increase the access and involvement of underrepresented groups in STEM and to strengthen our national STEM capabilities and competitive advantage. Ultimately, the SBP research will provide scientific evidence that STEM educators, STEM employers, and policy makers need to make informed decisions and to design effective programs and interventions.

In FY 2018, SBE and EHR will partner to support SBP research proposals that will contribute to the overall understanding of the positive and negative factors impacting the participation of underrepresented individuals in STEM education and careers. SBP research proposals may focus on factors such as the following:

**Institutional and organizational factors** (e.g., studies of organizational, structural, cultural or climate factors that impact STEM participation)

**Cultural and social factors** (e.g., studies of psychological or behavioral factors that affect STEM participation and achievement rates)

**Economic and policy-related factors** (e.g., studies of economic factors that impact STEM participation and the relationship between broader participation and social innovation).

We anticipate that many of the fields represented within SBE and EHR can contribute to the Science of Broadening Participation. Some examples of potential research questions related to the

SBP include but are not limited to:

- What are the underlying psychological and social issues affecting the different participation and graduation rates in STEM of women, men, persons with disabilities, and racial and ethnic minorities?
- Under which conditions do behavioral, economic, and socio-legal factors influence recruitment and retention in STEM education at the individual, meso, and macro levels?
- What aspects of preK-12, informal, and higher education learning environments and workplace culture moderate the factors impacting underrepresented minorities, women, and/or persons with disabilities?
- What behavioral or economic processes result in outcomes that are associated with success in STEM?
- What theoretical approaches predict success in ensuring that young people from underrepresented groups do not lose interest in science during adolescence?
- What are the impacts of a diverse STEM workforce on scientific productivity and innovation and the national economy?

Scholars with research proposals that contribute to the Science of Broadening Participation should submit proposals to the most relevant programs of the SBE Directorate and designate the proposal as SBP by including "SBP" at the beginning of the proposal title. Information concerning SBE programs may be found on the following websites under each one's respective Programs and Funding section: [Behavioral and Cognitive Sciences](#), [Social and Economic Sciences](#), and [SBE Office of Multidisciplinary Activities](#).

Alternatively, proposals may also be submitted to appropriate EHR education research programs (<https://www.nsf.gov/dir/index.jsp?org=EHR>). In particular, scholars may wish to consider the Broadening Participation in STEM strand in the EHR Core Research (ECR) program ([https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=504924](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504924)). The Division of Human Resource Development (HRD) also has a Broadening Participation Research in STEM strand in HBCU-UP and TCUP for scholars at Historically Black Colleges and Universities and Tribal Colleges and Universities. Please see the HRD homepage for links to the appropriate program solicitation: <https://www.nsf.gov/div/index.jsp?div=HRD>.

Successful research proposals will have scientifically sound research plans that are rooted in relevant theory and scientific literature. Proposals will be evaluated based on their intellectual merit and broader impacts, as well as their potential contribution to SBP.

Specific questions about an SBE or EHR program should be directed to the program director of the program. This is not a special competition or new program; proposals in response to this Dear Colleague Letter must meet the requirements and deadlines of the program to which they are submitted.

Sincerely,

Dr. Fay Lomax Cook  
Assistant Director

Directorate for Social, Behavioral, and Economic Sciences

Dr. William Lewis  
Acting Assistant Director  
Directorate for Education and Human Resources