



NATIONAL SCIENCE FOUNDATION  
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NSF 15-066

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

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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 stimulating 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). The results of these efforts will inform approaches to increase the access, involvement, and retention 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.

SBE and EHR will continue their partnership 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 or climate factors that impact STEM participation)

**Cultural, psychological, social, demographic and community factors** (e.g., studies of how individual, behavioral, family, school or neighborhood factors 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 organizational, 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 or workplace culture moderate the factors impacting underrepresented minorities, women, and/or persons with disabilities?

- How do attitudes and stereotypes influence decisions to pursue STEM careers?
- 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 STEM during adolescence or other critical developmental transition periods?
- What are the impacts of a diverse STEM workforce on scientific productivity, 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 web sites under each one's respective Program and Funding Opportunities section: Behavioral and Cognitive Sciences (<http://www.nsf.gov/div/index.jsp?div=BCS>), Social and Economic Sciences (<http://www.nsf.gov/div/index.jsp?div=SES>) and SBE Office of Multidisciplinary Activities (<http://www.nsf.gov/div/index.jsp?div=SMA>).

Alternately, proposals may also be submitted to any of the EHR education research programs (<http://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 ([http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=504924&org=EHR](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504924&org=EHR)). The Division of Human Resource Development (HRD) also has a Broadening Participation Research in STEM strand in the following programs: CREST, HBCU-UP, LSAMP, and TCUP. Please see the HRD homepage for links to the appropriate program solicitation: <http://www.nsf.gov/div/index.jsp?div=HRD>.

Successful research proposals will have scientifically sound research plans that are rooted in relevant theory and literature. Proposals will be evaluated on the basis of 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,

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