



July 28, 2021

Dr. Eric S. Lander
Director
Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504
Submitted via email to ScientificIntegrityRFI@ostp.eop.gov

Re: 86 FR 34064 – Request for Information to Improve Federal Scientific Integrity Policies

Dear Director Lander,

On behalf of the American Educational Research Association (AERA), thank you for the opportunity to provide feedback to the Request for Information (RFI) to Improve Federal Scientific Integrity Policies.

AERA is the major national scientific association of approximately 25,000 faculty, researchers, graduate students, and other distinguished professionals dedicated to advancing knowledge about education, encouraging scholarly inquiry related to education, and promoting the use of research to improve education and serve the public good. Founded in 1916, AERA as a scientific society has long been committed to building cumulative knowledge, disseminating sound and trustworthy research, and enhancing research transparency. The AERA Code of Ethics addresses broad principles that include integrity, as well as ethical standards on the conduct of research which education researchers are expected to adhere to in their work. These ethical standards include data sharing, conflicts of interest, and accurately reporting on and communicating research results.¹

We appreciate the ongoing efforts of the Biden administration and the White House Office of Science and Technology Policy (OSTP) to ensure that federal agencies adhere to highest standards of scientific integrity. Over the past decade, we have been pleased to see the further development of scientific integrity policies at National Science Foundation and the Institute of Education Sciences (IES) at the U.S. the Department of Education, and the progress made to implement the Foundations for Evidence-based

¹ AERA Code of Ethics: American Educational Research Association Approved by the AERA Council February 2011. (2011). Educational Researcher, 40(3), 145–156.
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Policymaking Act (Evidence Act). The Memorandum on Restoring Trust in Government Through Scientific Integrity and Evidence-Based Policymaking is an important next step in protecting federal research and statistical collections from political interference, as well as advance practices to ensure that data and publications resulting from federal funding are made available.

Integrity in research is essential to ensuring public trust in the data and scientific findings that are produced by federal agencies and from federally-funded researchers. The previous administration, in suppressing releases of data, banning the use of specific language in scientific findings produced by federal agencies, making appointments to scientific advisory boards of persons with political viewpoints rather than essential scientific expertise, and limiting participation in the research enterprise, sowed public distrust in science. Federal agencies also have a responsibility to be attentive to integrity in terms of openness to diverse methodologies and interdisciplinary collaborations that could otherwise be dismissed or ignored. We appreciate OSTP's actions to ensure that scientific integrity policies are in place and adhered to in the conduct of research and statistical collections done by or funded through federal agencies. Our comments that follow speak to specific issues raised in the RFI.

Effective policies and practices Federal agencies could adopt to improve the communication of scientific and technological information:

We have appreciated that NSF and the Institute of Education Sciences (IES) have developed policies for making publications and data available resulting from grants. In addition, both agencies have also required the submission of a data management plan in grant applications that highlight how researchers will make data available, particularly through trusted repositories. We encourage additional interagency efforts to provide resources and professional development for federally-funded researchers to share relevant data at the time of publication, to preserve and share the full study data at a specified time after the completion of a project, to invest in replication studies, and to submit registered reports to journals considering them or to pre-register research findings for enhanced research transparency, reproducibility, and replication. We also encourage consideration of providing resources to scientific publishers or to awardees to help accelerate the process of making accessible more quickly scientific content.

We acknowledge limitations in communicating research outputs, including determining appropriate ways to measure and value these scientific contributions, particularly in the cases of building multiuser data bases or sharing data and details on instrumentation and code. A second limitation is how to communicate the science residing in publications and data in ways meaningful and accessible to the public that our sciences serve. With NSF support, AERA has underway an initiative in collaboration with the Council of Graduate Schools on *Examining Impact and Fostering Academic Support for Open Science and Scholarly Products* that should be useful on these issues.

We also acknowledge and express concerns about previous attempts to limit the participation of federal scientists in scientific conferences or in the activities of scientific

societies. On this last point, we urge OSTP to provide guidance that maximizes the flexibility for federal scientists to present their own research, engage in collaborative activities, and receive professional development to continue building their methodological skills. Such participation helps to advance the scientific enterprise and the role of the federal workforce and can be done cognizant of conflict-of-interest guidance and high standards of research integrity.

Federal agencies should also encourage making accessible null or negative research findings, as they are important for science. In all fields of science, including in education research, null and negative findings can inform future studies of programs and can speak to potential issues in fidelity when implementing a promising program in different or expanded settings.

Effective policies and practices Federal agencies could adopt to address scientific issues and the scientific workforce:

Regarding equity in the scientific workforce, we applaud the administration for overturning the Executive Order on Combating Race and Sex Stereotyping. In producing this Executive Order, the previous administration failed to take into account evidence showing the benefits of exposure to diverse perspectives. We also applaud the administration in taking an evidence-based approach to developing the federal scientific workforce.

We have seen several promising initiatives supported by federal agencies to advance equity in STEM; we point to a couple of examples that can inform the development of the federal scientific workforce. The NSF INCLUDES initiative has grown to include alliances and a national coordination hub to create shared measures, develop resources that highlight evidence-based practices to increase STEM engagement for underrepresented populations, and to scale programs that have shown success to increase STEM engagement, access, and persistence. In addition, the [Pathways to the Education Science Research Training](#) program at IES provides grants for Minority Serving Institutions to provide students in undergraduate and master's degree programs education research experiences and mentorship

In addition to ensuring the independence and autonomy of the scientific integrity officials and chief science officers, we would also encourage OSTP to incorporate the Office of Management and Budget (OMB) statistical policies to ensure the independence of statistical activities that take place within federal agencies. As agencies continue to implement the Evidence Act, the independence of statistical officials and evaluation officials will be especially important in evaluating programs with sound data in the course of evidence-building activities.

Effective practices Federal agencies could adopt to improve training of scientific staff about scientific integrity and the transparency into their scientific integrity practices:

Federal agencies, institutions, and other stakeholders need to continue, if not expand, collaboration for data sharing through promoting best practices for scientific integrity in training and workshops and developing infrastructure. Several federal agencies have contributed, for example, to the development of the Inter-university Consortium for Political and Social Research (ICPSR) and the work it has accomplished progressively as a repository since 1962 to provide quality data, access (in public use and restricted data form), and training. Most recently, IES has provided grant support for the Registry of Efficacy and Effectiveness Studies in a partnership between the Society for Research on Educational Effectiveness and ICPSR. NSF has also supported workshops to explore and implement best practices on research transparency and research ethics.

We also encourage federal agencies to expand their efforts for developing resources for research grantees to engage in open science practices. We have been pleased to see the development of policies such as the Standards for Excellence in Education Research (SEER) by IES. In incorporating the SEER principles in grant applications, IES has supported the development of resources and tools to guide IES grantees meet requirements to inform cost analysis, pre-registration, and open data practices.

Other important aspects of scientific integrity and effective approaches to improving trust in Federal science:

We wish to highlight two topics that we urge OSTP to prioritize:

1. Continuing work to expand upon the 2013 memorandum on Increasing Access to the Results of Federally Funded Scientific Research

AERA provided input on several RFIs that OSTP advanced in 2020 to build upon the 2013 memorandum related to the public access of federally-funded research. We wish to echo previous comments here to ensure the availability of scientific publications resulting from federal grants and potential collaboration with publishers and scientific associations that publish research. There are options that publishers and scientific societies offer to have published articles available prior to the 12-month timeframe that also provide financial resources to scientific societies. As one example, AERA has long offered the option for authors to pay an article processing charge in order to provide ungated access to authors. AERA provides toll-free links for journalists and science writers covering education research.

We also encourage OSTP to continue building on ongoing efforts to ensure that data that inform findings from federally-funded research are made available for the purposes of further analyses, reproducibility studies, and replication research. Some individual agency efforts include supplemental guidance from the National Institutes of Health (NIH) to including allowable costs for data management and sharing and the allocation of resources to cover article-publishing costs related to data and code. IES also has noted specific guidelines in its Requests for Applications that highlight necessary elements of a data element plan. We urge OSTP to encourage agencies to support

reasonable costs for access to data sets and code from federally funded research and to encourage data sharing as part of scientific integrity policies.

2. Appointments to the National Board for Education Sciences (NBES) in response to the consideration of scientific advisory boards

As the advisory board for IES, members of the NBES provide essential stakeholder input on IES activities, including approval of the agency priorities and an annual report to Congress. NBES has not held a meeting since November 2016 due to a lack of a quorum of members. IES Director Mark Schneider released proposed priorities available for public comment in 2019, and they have not been formally approved by NBES as required under the Education Sciences Reform Act. A full NBES roster that includes experts with significant contributions in education research and users of education research and evidence-based products would provide key stakeholder feedback to IES and help preserve the integrity of the agency's work. AERA can serve as a resource to OSTP and the White House in providing potential appointees.

We appreciate the opportunity to provide input to OSTP in restoring trust in science and data produced by federal agencies. Please do not hesitate to call on AERA if you have any questions or if we can be helpful.

Sincerely,

A handwritten signature in black ink, appearing to read 'Felice J. Levine'.

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