BROADER IMPACTS:

An Analysis of Media Coverage of the National Science Foundation

(January 2025–January 2026)

Workforce Development

Analysis of Media Coverage

This analysis examines the sentiment and substance of media coverage of the National Science Foundation in over 3,800 articles published from January 2025 through January 2026. It explores how a range of media sources—magazines, newspapers, and other news outlets as well as television stations, radio stations, and university websites—have portrayed the agency's broader impacts and value amidst budget cuts and project terminations. While media coverage often focuses on the "Intellectual Merit" of scientific achievements, this analysis focuses on NSF's "Broader Impacts"—the tangible benefits to society that matter most to the public including improvements in daily life and stronger communities.

This series is organized around six key Broader Impacts dimensions:

- Economic Competitiveness and Innovation
- National Security
- STEM Education
- Workforce Development
- Societal Well-being
- Research Infrastructure

The findings illustrate that NSF remains a vital engine for maintaining America's strength, fostering innovation, and building a foundation for families to thrive across every state.

STEM Workforce Development

NSF investments span the entire talent pipeline: from graduate fellowships and faculty awards that support emerging scientific leaders to community college pathways that equip technicians with job-ready skills. Additionally, undergraduate programs provide first-generation students with critical research opportunities, reducing financial barriers to STEM degrees.

NSF's investments not only grow research careers but also generate the workforce needed right now to support and sustain local economies and national competitiveness.

More Than Degrees: NSF's Workforce Engine

The National Science Foundation is a primary engine for the "skilled technical workforce"—the 52% of STEM workers who do not possess a bachelor's degree. NSF has complementary programs that invest in technical skill development, regional capacity building and entrepreneur training.

Technical Training: The ATE "Talent Foundry". The Advanced Technological Education (ATE) program is the agency's flagship for technician education, explicitly mandated by federal statute to support associate-degree-granting institutions. Since its inception, ATE has supported almost 2,300 projects and centers nationwide. This ensures that technicians in fields like advanced manufacturing and energy systems train on the exact hardware used in industry, rather than outdated tools, directly addressing "workforce readiness".

Regional Development: The EPSCoR Legacy. Long before recent "regional engines", NSF created the Established Program to Stimulate Competitive Research (EPSCoR) in 1979 to address geographic disparities in federal funding. The program operates on a "50-state competitiveness" model, building research and workforce capacity in jurisdictions that have historically received less R&D investment. By strengthening these local ecosystems, EPSCoR prevents "brain drain," ensuring that young talent is developed and retained within their home regions to support local economies.

Entrepreneurship: The I-Corps ROI. NSF also works to transform "researchers" into "entrepreneurs" through its Innovation Corps (I-Corps) program. Since 2012, I-Corps has trained over 2,500 teams, resulting in the launch of nearly 1,400 startups. Crucially, these startups have raised $3.16 billion in subsequent private funding, demonstrating how federal workforce training catalyzes billions in private economic activity.

The National Science Foundation strengthens America's skilled technical workforce by investing in hands-on technician training, regionally balanced workforce development, and entrepreneurship programs that turn research talent into industry-ready workers and high-growth startups.

Media coverage about NSF investments in workforce development included two co-existing narratives. One narrative told the story of cuts in funding programs to community colleges and universities that would hinder meeting current workforce needs and jeopardize the next generation of STEM innovators.

In *The Kentucky Lantern*, a geoscientist warned that researchers losing funding were preparing to leave academia or move abroad. In *Newsweek* a researcher whose terminated grant examined the impact of illness, injury, disability or mental health conditions on STEM majors had already analyzed data showing that almost half of students surveyed reported one of these conditions and that it had negatively impacted their studies. The piece explained, "while the cancellation of this grant was a crushing blow to the researchers…the biggest casualty are the millions of students who suffer needless setbacks in their academic progress."

Concurrently, coverage included a second narrative describing new grants, many of which targeted technical training and advanced STEM studies. In West Virginia, for example, local news outlets reported on a new award to West Virginia University Parkersburg from NSF's Advanced Technological Education (ATE) program. This investment, in partnership with Amazon Web services, will expand cloud computing technician education with a new Associate Degree.

Similar investments were reported in other regions. In New York's Hudson Valley, regional media reported that Hudson Valley Community College received an NSF grant to expand biotechnology education and workforce pathways. The project supports hands-on training and partnerships with local employers, enabling students to enter a rapidly growing industry.

New investments extended to undergraduates at 4-year institutions as well. *Appalachian Today* reported on a new grant to Appalachian State University from NSF's S-STEM program for academically talented students with high financial need. This investment will help more than 50 undergraduates pursuing degrees in STEM, most of whom are the first in their families to go to college. *Biz New Orleans* reports that The University of New Orleans also received an S-STEM grant. Their project, 'Transitioning Low-Income Urban Students into the STEM Economy,' provides scholarships to 60 academically talented students, removing financial barriers to their degrees.

New investments have extended to graduate studies as well. Reporting on NSF's CAREER program for early-career scientists demonstrated how NSF support will ensure American innovation thrives. For example, The University of Arizona announced that Dr. Ananya Mallik received support for her groundbreaking research on the movement of nitrogen in the earth, informing future understandings of the planet's habitability. Louisiana State University announced a CAREER award for Dr. Nick Mason whose grant will not only support his research on high-altitude birds, but also establish a community of near-peer mentors to nurture his undergraduate students. And in Mississippi, Professor Saiful Islam received a CAREER award for his work developing advanced nanomaterials.

Together, NSF investments in cutting edge science researchers, high achieving undergraduates, technological training and collaborations with industry, ensure that communities across the country have access to a skilled, adaptable workforce—one capable of filling today's jobs and innovating in the future.

What Do Polls Say?

According to Science Coalition polling, 72% of American voters are concerned that recent proposed cuts at NSF might lead to "Jobs losses for research teams, lab technicians, materials and equipment manufacturers, and others who support scientific research. Meanwhile, 69% are concerned about long-term reduction in their state's skilled technical workforce. According to ASTC polling, top concerns about federal funding cuts for science research and innovation include (i) economic impacts (e.g., job losses, business closures), and (ii) fewer higher-wage job opportunities.

72%
of American voters are concerned that recent proposed cuts at NSF might lead to jobs losses.

69%
are concerned about long-term reduction in their state's skilled technical workforce.

Patient Capital: Investing in People, Not Just Projects

Since 1952, the NSF Graduate Research Fellowship Program (GRFP) has served as America's "patient capital." Launched before NSF even issued standard research grants, the program was built on a radical premise: fund the person, not the project. By providing three years of portable funding, the GRFP grants young scientists the intellectual freedom to pursue the "high-risk, high-reward" ideas that define new industries.

Sergey Brin (1993 Fellow) used his fellowship autonomy to develop the PageRank algorithm which grew into Google. Wayne Westerman (1995 Fellow) engineered the multi-touch algorithms behind the iPhone interface to solve his own hand strain. They are just two of 70,000+ alumni who have generated thousands of patents and hundreds of thousands of peer-reviewed publications.

This pipeline fuels a diverse national trust. Active at 500+ universities, including MSIs (Minority Serving Institutions) and HBCUs (Historically Black Colleges and Universities), recent cohorts comprise over 50% women and ~25% from under-represented groups. Alumni lead across sectors, including Nobel Laureate Steven Chu, former Fed Chair Ben Bernanke, Fed Governor Lisa Cook, and economist Steven Levitt. Collectively, the network boasts 40+ Nobel Prize winners and 450+ members of the National Academies (National Science Foundation, n.d.).

Yet, this engine is at risk. In 2025, the program faced a massive shock, initially offering just 1,000 awards—a 51% cut from the historical norm of ~2,200. Even with a partial restoration to 1,500, hundreds of future innovators were left unfunded. Workforce pipelines do not "average out"; a cut cohort is a permanent gap in the nation's capacity for innovation.

A Small College in Virginia Helps Launch its Students into STEM

Thanks to an NSF S-STEM grant, Eastern Mennonite University (EMU) in Virginia is providing scholarships, mentoring, and tutoring to its STEM majors. Biology professor Kristopher Schmidt explains the grant helps students transition to campus life, paving the way for STEM success.

With scholarship support and the additional guidance, these students, who otherwise may not have had access and the opportunity to be successful in college, can focus on their STEM studies and future careers.

Keeping America Competitive in Semiconductors

The semiconductor industry is vital to America's future and researchers at Boise State University (BSU) in Idaho are working to make sure our country has the workforce to support it. *Boise State News* reported on the University's new NSF grant focused on amplifying semiconductor workforce potential.

There, NSF is funding the Center for Advancing Workforce Experience through Semiconductors, Outreach and Mentoring Excellence or "AWESOME." AWESOME is leveraging institutional, state and industry investments to conduct research focused on new materials that increase computing "throughput" and reduce energy demands.

The Center's leader noted the award "provides opportunity for students to get into the semiconductor industry" and adds a layer of training previously unavailable. By partnering with industry, other agencies and local non-profits, BSU is committing to "shaping the future of engineering and workforce development in Idaho."

An NSF-funded center at Boise State University is strengthening America's semiconductor workforce by expanding hands-on training, industry partnerships, and research opportunities that prepare Idaho students for careers in this critical sector.

Raising the Red Flag on Halting the Advanced Scientific Workforce

Scientific American is raising a red flag, warning that the future of science innovation in the U.S. is at risk because budget cuts are threatening the next generation of scientific leaders. As research funds drop, young scientists just starting out in their careers are among those most impacted.

Nicholas George at Florida State University was looking forward to his graduation two weeks away and his move to Oklahoma State University for a one-year research opportunity. With one email his plans were gone. Other young people have lost their opportunity to attend graduate school at all. A July 2025 article from the *Chronicle of Higher Education* reports on Amiyah Buan who had been wanting to become a biochemist since middle school. When the funding stream changed, she went from having three graduate acceptances to none.

The *Chronicle of Higher Education* noted that by the middle of last year, NSF had awarded only half of its usual total of Graduate Research Fellowships — the lowest number in 15 years. Funding for NSF's undergraduate research program also suffered. According to a publication from the *American Institute of Physics*, by the middle of 2025, only 52 NSF grants supporting undergraduate research experiences had been awarded compared with an annual total of around 200 every year for the last decade.

Some of our country's most promising researchers are now deciding to bring their expertise abroad. As a leader at the American Association for the Advancement of Science said, "You don't know who is the next Nobel laureate we're losing today…It's what's left on the cutting room floor that we may not know we've lost."

Community Colleges Fear Further Cuts

Community College Daily reported that more than half of America's 37 million STEM workers are skilled technical workers who "power our manufacturing, healthcare, and aerospace industries and also are a bedrock of America's middle class." It explains, many of these Americans enter the workforce with affordable credentials from local community colleges and gain a big return on their investment.

In the face of NSF funding cuts, community college leaders are concerned about their STEM programs. Janet Spriggs, president of Forsyth Tech Community College in North Carolina made clear that their biotechnology program would "not be possible without NSF funding." The *Indiana Capital Chronicle* reported on a terminated grant at Ivy Tech Community College. There, an NSF grant supported a collaboration with community colleges in Illinois, Mississippi, and Kansas focused on making sure their degree and certification programs were well aligned with the needs of local business. Each institution developed cross-sector partnerships and then shared information about their successes and challenges with one another.

Given that community colleges are well positioned to develop workforce talent in some of the nation's highest need areas, including artificial intelligence, community college leaders conclude, "preserving the NSF and its budget should be a no-brainer, nonpartisan priority. The country's future looks bleaker without it."

Scaling the Science of Learning at Community Colleges

While traditional textbooks remain the norm in many classrooms, the Open Learning Initiative (OLI) at Carnegie Mellon University is demonstrating that "high-tech, interactive" courseware can dramatically accelerate workforce readiness. Rooted in learning science research, OLI courses provide students with immediate feedback and data-driven support. Early studies found that OLI students learned "about twice as much as their peers in the comparison class, and did so in about half the time".

Now, through a project called Community-Engaged Courseware for STEM Success at Two-Year Colleges (CCSS), OLI is putting these powerful tools directly into the hands of community college faculty. This initiative moves beyond a one-size-fits-all approach by empowering instructors to customize courses for their specific local economies. For example, a chemistry instructor might tailor lessons to feature nursing examples for a class of health science majors, making abstract concepts immediately relevant to their future careers.

Crucially, the project treats students and teachers as co-developers rather than just users. Through "Learner Sourcing," students suggest improvements to the course materials, deepening their own understanding while refining the tool for future learners. As OLI Director Norman Bier explains, this collaborative model creates a "community of thousands of educators" working together to solve the complex puzzle of how people learn best. By combining federal funding with open resources, OLI ensures cutting-edge learning science is accessible to all schools, helping community college students become STEM success stories.

Carnegie Mellon's Open Learning Initiative uses research-based interactive courseware to help community college students gain job-ready STEM skills faster and more effectively.

KEY TAKEAWAYS

- NSF acts as a primary engine for the skilled technical workforce, equipping community colleges with the advanced tools needed to train technicians for the modern economy.
- Targeted regional investments prevent "brain drain," ensuring that talent in rural and urban communities alike can access high-paying STEM careers without leaving home.
- NSF Graduate Research Fellowship Program funds reflect patient capital investments and fund individuals rather than projects, granting young scientists the intellectual freedom to pursue the high-risk discoveries that define new industries.
- Deep cuts and funding volatility risk creating a "lost generation" of researchers, weakening the talent pipeline essential for U.S. leadership in AI, semiconductors, and biotechnology.
- Sustaining a globally competitive economy requires robust federal support for the workforce pipeline, bridging the gap between education and the demands of national security.

Conclusion

This analysis of over 3,800 articles and broadcast segments confirms that the National Science Foundation is widely viewed not merely as a grant-maker, but as a primary architect of the nation's STEM human capital pipeline. The agency's unique "both/and" strategy ensures that federal investments build capacity at community colleges and research universities alike, connecting education directly to the immediate needs of the labor market.

However, the analysis also illuminates a flashing warning light: scaling back these programs threatens to dismantle this pipeline just as global competition intensifies. Reports warn that budget cuts and grant terminations risk creating a "lost generation" of researchers and technicians, severing the link between local talent and national opportunity. Coverage specifically notes that volatility in funding disproportionately harms rural regions and local economies that rely on NSF to build capacity and prevent "brain drain".

Coverage suggests the United States faces a stark choice: maintain the "patient capital" that fuels innovation or retreat from the stage. Workforce readiness cannot be turned on and off without lasting damage; a shortage of skilled workers directly undermines U.S. leadership in critical sectors like semiconductors and biotechnology. To secure economic competitiveness and national resilience, the coverage concludes that America must decisively invest in the human infrastructure that powers its future.

References

American Bazaar Online. (2025, September 4). Indian-American Karthik Nayani receives $500,000 NSF CAREER award. https://www.americanbazaaronline.com/2025/09/04/indian-american-karthik-nayani-receives-500000-nsf-career-award-467172/

Appalachian State University. (2025, April 24). $2 million grant funds scholarships, supports STEM education for over 50 App State students. Appalachian Today. https://today.appstate.edu/2025/04/24/stem

Association of Science-Technology Centers. (2025, May). How U.S. adults perceive science in this moment. https://www.astc.org/wp-content/uploads/2025/05/ASTC-2025-0506-How-US-Adults-Perceive-Science-in-this-Moment.pdf

Boise State University. (2025, September 26). Boise State awarded grant to lead responsible AI graduate training in Idaho. https://www.boisestate.edu/news/2025/09/26/boise-state-awarded-grant-to-lead-responsible-ai-graduate-training-in-idaho/

Callaway, E. (2025, April 8). NSF graduate fellowships cut sharply, stirring concern about future researchers. Nature. https://www.nature.com/articles/d41586-025-01098-9

Community College Daily. (2025, June 2). Gutting the NSF will undermine community college pathways to the future of work. https://www.ccdaily.com/2025/06/gutting-the-nsf-will-undermine-community-college-pathways-to-the-future-of-work/

Community College Daily. (2025, June 3). NSF funding critical to preparing students for a changing workforce. https://www.ccdaily.com/2025/06/nsf-funding-critical-to-preparing-students-for-a-changing-workforce/

EMU News. (2025, January 22). $2M NSF grant creates access, belonging for STEM majors at EMU. https://emu.edu/now/news/2025/01/22/2m-nsf-grant-creates-access-belonging-for-stem-majors-at-emu/

Hite, K. (2025, August 29). UNO wins $2M NSF grant for low-income STEM students. Biz New Orleans. https://bizneworleans.com/uno-wins-2m-nsf-grant-for-low-income-stem-students/

Hudson Valley Community College. (2025, October 1). College awarded NSF grant to support biotechnology opportunities in the region. https://www.hvcc.edu/about/news/archives/2025/10/college-awarded-nsf-grant-to-support-biotechnology-opportunities-in-the-region.html

Indiana Capital Chronicle. (2025, September 12). Canceled federal grants cost Indiana institutions millions in disrupted projects. https://indianacapitalchronicle.com/2025/09/12/canceled-federal-grants-cost-indiana-institutions-millions-in-disrupted-projects/

Jackson State University. (2025, April 2). CSET professor Islam wins prestigious NSF CAREER Award for nanomaterials research. https://www.jsums.edu/research/2025/04/02/

Kentucky Lantern. (2025, June 12). Science cuts endanger research that improves the economy, national security and your life. https://kentuckylantern.com/2025/06/12/science-cuts-endanger-research-that-improves-the-economy-national-security-and-your-life/

Louisiana State University Museum of Natural Science. (2025, March 24). Assistant Professor Nick Mason Wins Prestigious CAREER Award to Advance Ornithological Research and Student Mentorship. https://www.lsu.edu/mns/news-and-publications/news/mason_award.php

National Center for Science and Engineering Statistics. (n.d.). Skilled technical workforce. National Science Foundation. https://ncses.nsf.gov/initiatives/projects-partnerships/skilled-technical-workforce

National Science Foundation. (n.d.). About the NSF Graduate Research Fellowship Program. https://www.nsfgrfp.org/about.html

National Science Foundation. (n.d.). Advanced Technological Education (ATE) program. https://www.nsf.gov/funding/opportunities/ate-advanced-technological-education

National Science Foundation. (n.d.). EPSCoR (Established Program to Stimulate Competitive Research). https://www.nsf.gov/funding/initiatives/epscor

National Science Foundation. (n.d.). I-Corps impact data. https://www.nsf.gov/funding/initiatives/i-corps/impact-data

National Science Foundation. (n.d.). NSF's Graduate Research Fellowship Program: Launching science careers. https://www.nsf.gov/science-matters/nsfs-graduate-research-fellowship-program-launching-science

National Science Foundation. (n.d.). Origins of Google: NSF support of PageRank research. https://www.nsf.gov/news/origins-google

Newsweek. (2025, June 30). U.S. STEM students are struggling; slashing federal research funds will set them back further. https://www.newsweek.com/us-stem-students-are-struggling-slashing-federal-research-funds-will-set-them-back-further-2091230

Scientific American. (2025, June 25). Trump administration ousts National Science Foundation from headquarters. https://www.scientificamerican.com/article/trump-administration-ousts-national-science-foundation-from-headquarters/

Science Coalition. (2025, April). Key Findings from a National Survey. https://www.sciencecoalition.org/wp-content/uploads/2025/04/FTP-TSC-National-Poll-04.2025-FOR-RELEASE.pdf

University of Arizona. (2025, February 17). Ananya Mallik awarded NSF CAREER Award for groundbreaking research on nitrogen dynamics in Earth's systems. *https://science.arizona.edu/news/ananya-mallik-awarded-nsf-career-award-groundbreaking-research-nitrogen-dynamics-earths*

West Virginia University Parkersburg. (2025, January 14). WVU Parkersburg awarded $815,824 National Science Foundation grant to expand cloud computing technician education. https://www.wvnews.com/jacksonnews/wvu-parkersburg-awarded-815-824-national-science-foundation-grant-to-expand-cloud-computing-technician-education/article_406d7041-21cd-4642-9151-71bde97d526e.html

Zahneis, M. (2025, July 3). A lost generation of researchers. The Chronicle of Higher Education. https://www.chronicle.com/article/a-lost-generation-of-researchers

Zhang, C. (2025, May 2). Funding cuts hit STEM career pipelines. American Institute of Physics. https://www.aip.org/fyi/funding-cuts-hit-stem-career-pipelines

About the authors

Dr. Jeanne Century is the founder of Outlier Research & Evaluation at the University of Chicago and a Senior Research Fellow at the University's Data Science Institute. Century's work has almost exclusively focused on advancing equity in education primarily through applied research collaborations with leaders in large and small urban school districts. During her nearly 38-year career, Century has been the principal investigator of numerous federal and foundation research grants focusing on a range of topics including inquiry science instruction, computer science education, STEM schools, sustainability of reform and data science education. Century's primary research focus is on understanding, measuring, and supporting education innovation implementation, spread and endurance through implementation science and component-based research approaches. Century has also conducted numerous evaluations on out-of-school and in-school programs, district and state reform efforts, higher education, teacher preparation, and civic leadership. In addition to research, Century has developed instructional materials, supported professional learning efforts for teachers and administrators and has provided technical assistance and strategic planning for leaders at the school, district, and state levels. Century also has policy experience at all education system levels including serving on a Presidential transition team where she was responsible for STEM education as well as the U.S. Department of Education Agency Review.

Dr. Eric M. Tucker is the President and CEO of the Study Group. He has served as President of Equity by Design, Superintendent and Executive Director of Brooklyn Laboratory Charter Schools, CEO of Friends of Brooklyn LAB, Cofounder of Educating All Learners Alliance, Senior Research Scientist at UCLA Center for Research on Evaluation, Standards, and Student Testing (CRESST), Cofounder and Executive Director of InnovateEDU, director at the Federal Reserve Bank of New York, Executive Director and Chief Academic Officer of the National Association for Urban Debate Leagues, and Founder of the Rhode Island Urban Debate League. As an entrepreneurial, strategic, and impact-focused leader, Dr. Tucker has 25 years of experience building catalytic partnerships in education, securing over $300 million of investments for enterprises and initiatives that have transformed outcomes for diverse learners and educators. Dr. Tucker has expertise in measurement and assessment system innovation, inclusive and advanced R&D, analytics, and human infrastructures for improvement. Dr. Tucker co-edited The Sage Handbook of Measurement and the Handbook for Assessment in the Service of Learning, Volume I, II & III. He earned a doctorate and a masters of science in measurement sciences from the University of Oxford and bachelors degrees from Brown University.

About the Study Group

The Study Group exists to advance the best of artificial intelligence, assessment, and data practice, technology, and policy; uncover future design needs and opportunities for educational systems; and generate recommendations to better meet the needs of students, families, and educators.

Date of Publication

February 2026

Citation

Century, J. & Tucker, E. M. (2026). *Broader Impacts: An Analysis of Media Coverage about the National Science Foundation (January 2025–January 2026): Workforce Development*. The Study Group.