

Insights from Social & Behavioral Science



CLIMATE CHANGE

The Importance of Social Patterns in Planning for a Changing Climate

Social scientists have developed models to forecast the relationship between the costs of future natural disasters and potential changes in climate and patterns of future development. These models show that social forces like development are among the strongest predictor of economic losses across all scenarios of climate change, development, and damage projections. These findings suggest that decisionmakers have considerable ability to influence the nature of future economic losses from disasters by influencing development patterns in regions exposed to extreme events. »[More info](#)



EDUCATION

Impacts of Long-Term Remote Learning on STEM

Across the country, students were engaged in remote learning during the COVID-19 pandemic. The National Science Foundation partnered with researchers at different universities to improve remote learning and study its impacts on students of all ages. For some, remote learning offered opportunities to students, such as online activities intended to provide STEM learning for children at home. For others, remote learning presented new obstacles. Researchers at the University of Chicago found a digital divide between learners, citing that 1 in 6 students taking STEM courses online experienced technology difficulties, including lack of internet connectivity in their home. Researchers at Montana State University discovered other challenges beyond technology, such decreased mental health of graduate students due to food and housing insecurity. In some cases, these obstacles resulted in dropouts or changes in career path. With students back in the classroom, it is essential to understand the challenges faced during remote learning to best help them recuperate lost learning opportunities. »[More info.](#)



WORKPLACE SAFETY

The Importance of Sleep in Preventing Workplace Accidents & Injuries

According to analyses of the National Health Interview Survey, decreasing self-reported sleep hours and increasing

weekly work hours are associated with significant increases in work-related injury risk. Among commercial drivers, crashes, near crashes, and crash-relevant conflicts tend to occur when drivers are sleep deprived. Social and behavioral science research has informed industry standards that improve workers' attention and reduce workplace injuries and dangerous errors in transportation, manufacturing, health care, and protective services. »[More info](#)



INFRASTRUCTURE

The Multiplier Effect of Better Housing

Better housing saves money, makes residents healthier and more comfortable, improves air quality, decreases greenhouse gas emissions, and reduces racial disparities. Many of the more than 30 million Americans who live below the poverty line crowd into smaller, older homes. Often these dwellings have structural deficiencies like pest infestation, mold, peeling paint, and exposed wiring. Inadequate housing influences health and disproportionately affects low-income families and communities of color. Social science research suggests that retrofitting low-income housing in particular can be a high-leverage way to tackle some of our nation's most pressing health, social, and environmental challenges. »[More info](#)



ECONOMY

Social Media as an Unemployment Early Warning System

A team of researchers at the University of Michigan developed a method to use real-time data from Twitter to estimate job losses in the U.S. economy. Although official economic indicators set the standard in terms of accuracy and coverage, they can take time to collect and publish. Policymakers are left to make significant economic decisions with limited data on the current state of the economy and the labor market. The research shows the potential for using alternative data sources to provide novel measures that, when combined with official statistics, can provide policymakers, market participants, and the public with improved ability to track economic activity. »[More info](#)

BUILDING A MORE EQUITABLE & RESILIENT NATION

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DEMOCRACY

Supporting Accountable Institutions

For over 60 years, researchers have used data from the National Science Foundation-supported American National Election Studies (ANES) to clarify many important aspects of how people feel about past actions of government, and how such feelings affect their willingness to contribute to society in a range of different ways. The ANES is used by tens of thousands of scholars, teachers, journalists, and citizens around the world to not only better understand the current state of American democracy, but to compare the present to the past. The ANES help keep America's democracy accountable to its citizens by providing powerful and valid measures of the factors that affect Americans' feelings about and contributions to the nation in which they live. »[More info](#)



JUSTICE

Preventing Wrongful Convictions

Psychological research has informed best practices for avoiding biased recordings of interrogations and false confessions made under coercion, which can lead to wrongful convictions. One study showed that when the camera is focused squarely on a suspect—with the interrogator either outside of the frame or only visible from behind—viewers are more likely to believe that any self-incriminating statement is voluntary, even in cases in which the interrogator seems to be coercing the suspect. When the camera is positioned so that both the interrogator and suspect can be seen in profile, the bias toward believing that the suspect is making statements willingly is gone. These findings have been used to develop guidelines for state agencies to ensure juries see accurate representations of interrogation. »[More info](#)



DISASTERS

Understanding How People Behave During Crises

Researchers have isolated and analyzed common elements in citizen response to crisis situations. They have identified the types of beliefs that correlate with actions like evacuation, compliance with authorities, or cooperation among victims. Although the details of each crisis may vary substantially—from earthquakes to economic shocks—citizens' responses are guided by their beliefs about the crisis. In disaster situations, policymakers usually focus on providing food and shelter to survivors. However, the particular form—not just the fact—of aid can significantly

affect the willingness of these individuals to trust the government in the future. This body of work has helped federal, state and local authorities better understand decisions citizens make in times of crisis and to develop more effective policy responses. »[More info](#)



HEALTH CARE

Diagnosing and Treating PTSD

Social and behavioral science research has informed the development of diagnostic tools and treatments for post-traumatic stress disorder (PTSD). The PTSD Checklist enables researchers and clinicians to monitor how symptoms change in response to treatment, aiding development and optimization of new therapies. Researchers have also helped to develop evidence-based intervention for treating individuals both battling PTSD and substance abuse, which often occur together when traumatized people turn to alcohol or drugs to manage pain. Anti-stigma public education campaigns informed by social and behavioral science research have been proven to reduce stigma related to PTSD and increase patients' willingness to seek treatment. »[More info](#)



NATIONAL SECURITY

Social Network Analysis to Prevent Cyberattacks

Social network analysis identifies and allows people to understand the relationships among individuals, organizations, and entities. It can illuminate key characteristics of relationships, such as the frequency of communication, affiliation, and other social relationships. Social network analysis can be applied to telephone data, school records, organizational structures, or any other relationship-based data. Some National Science Foundation-supported research has combined social network analysis with automated text analysis techniques to provide valuable information about the patterns of behavior of hackers and the vulnerabilities of the nation's cyber networks. These tools analyze hacker chats and other data more efficiently than had previously been possible, with the potential to improve predictions about future threats that are based on hackers' intentions. »[More info](#)



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