

August 2020 • Issue #518

AMSTATNEWS

The Membership Magazine of the American Statistical Association • <http://magazine.amstat.org>

ASA 2020 **POSTER & PROJECT** COMPETITION

ALSO:

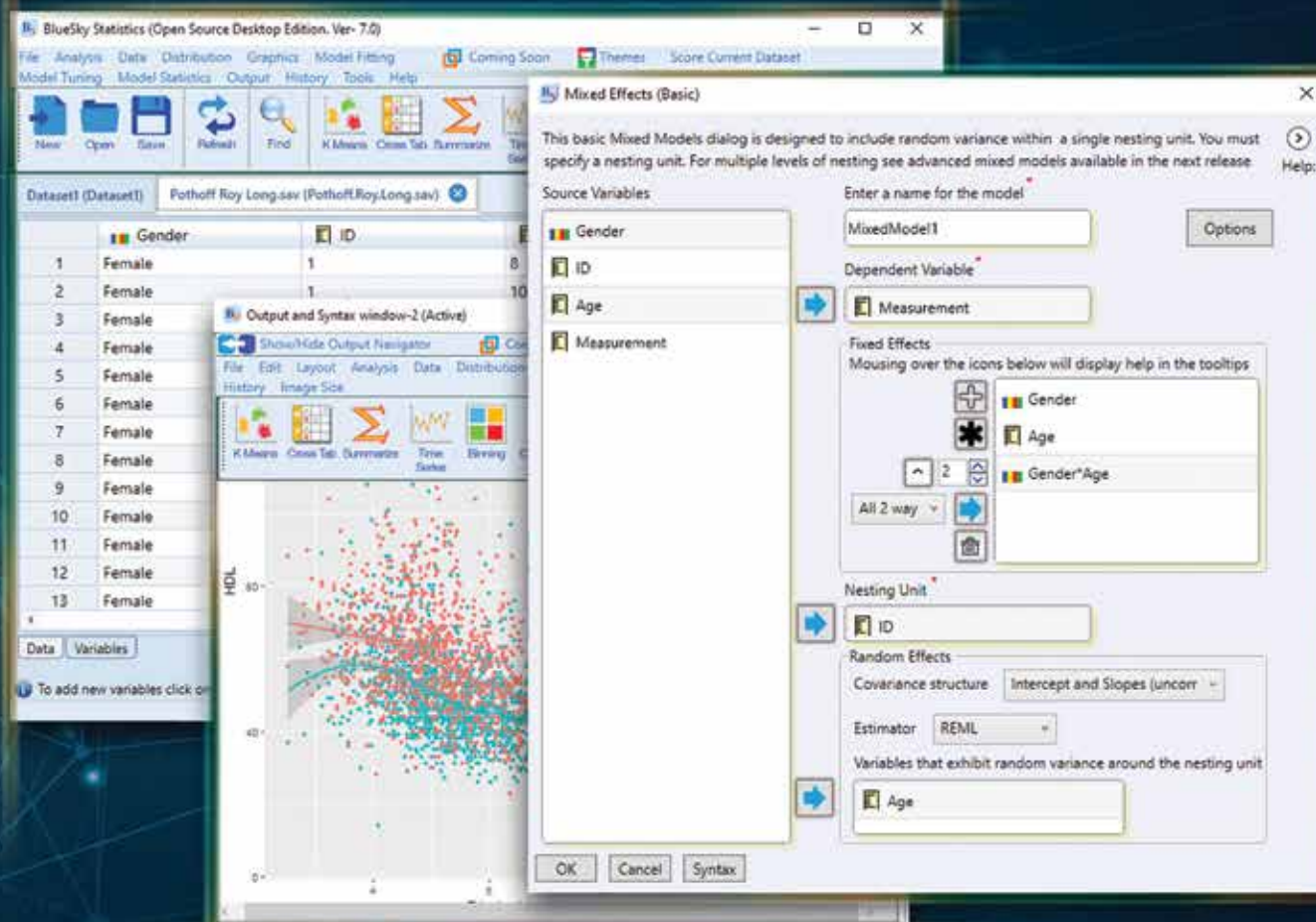
Pharma Executive Offers Thoughts About COVID-19

SDSS 2020: Different, but (Mostly) Good

Looking for an easy, comprehensive GUI for R?

You're in luck.

Join hundreds of organizations including health care, universities and more who have made the switch from expensive proprietary solutions to BlueSky Statistics.



The BlueSky Statistics Advantage

- Access advanced analytics in R
- User interface similar to proprietary statistical tools
- Ease the R learning curve
- Fully extensible, build and deploy GUIs for R code in minutes
- Reduce costs
- Open source and commercial editions



www.blueskystatistics.com

For more information,
email info@blueskystatistics.com

AMSTATNEWS

AUGUST 2020 • ISSUE #518

Executive Director

Ron Wasserstein: ron@amstat.org

Associate Executive Director and Director of Operations

Stephen Porzio: steve@amstat.org

Senior Advisor for Statistics Communication and Media Innovation

Regina Nuzzo: regina@amstat.org

Director of Science Policy

Steve Pierson: pierson@amstat.org

Director of Strategic Initiatives and Outreach

Donna LaLonde: donnal@amstat.org

Director of Education

Rebecca Nichols: rebecca@amstat.org

Managing Editor

Megan Murphy: megan@amstat.org

Editor and Content Strategist

Val Nirala: val@amstat.org

Production Coordinators/Graphic Designers

Olivia Brown: olivia@amstat.org

Megan Ruyle: meg@amstat.org

Advertising Manager

Claudine Donovan: claudine@amstat.org

Contributing Staff Members

Rebecca Nichols • Naomi Freedman • Christina Link

Amstat News welcomes news items and letters from readers on matters of interest to the association and the profession. Address correspondence to Managing Editor, *Amstat News*, American Statistical Association, 732 North Washington Street, Alexandria VA 22314-1943 USA, or email amstat@amstat.org. Items must be received by the first day of the preceding month to ensure appearance in the next issue (for example, June 1 for the July issue). Material can be sent as a Microsoft Word document, PDF, or within an email. Articles will be edited for space. Accompanying artwork will be accepted in graphics file formats only (jpg, etc.), minimum 300 dpi. No material in WordPerfect will be accepted.

Amstat News (ISSN 0163-9617) is published monthly by the American Statistical Association, 732 North Washington Street, Alexandria VA 22314-1943 USA. **Periodicals postage paid** at Alexandria, Virginia, and additional mailing offices. POSTMASTER: Send address changes to *Amstat News*, 732 North Washington Street, Alexandria VA 22314-1943 USA. Send Canadian address changes to APC, PO Box 503, RPO West Beaver Creek, Rich Hill, ON L4B 4R6. Annual subscriptions are \$50 per year for nonmembers. *Amstat News* is the member publication of the ASA. For annual membership rates, see www.amstat.org/join or contact ASA Member Services at (888) 231-3473.

American Statistical Association
732 North Washington Street
Alexandria, VA 22314-1943 USA
(703) 684-1221

ASA GENERAL: asainfo@amstat.org

ADDRESS CHANGES: addresschange@amstat.org

AMSTAT EDITORIAL: amstat@amstat.org

ADVERTISING: advertise@amstat.org

WEBSITE: <http://magazine.amstat.org>

Printed in USA © 2020
American Statistical Association



The American Statistical Association is the world's largest community of statisticians. The ASA supports excellence in the development, application, and dissemination of statistical science through meetings, publications, membership services, education, accreditation, and advocacy. Our members serve in industry, government, and academia in more than 90 countries, advancing research and promoting sound statistical practice to inform public policy and improve human welfare.

features

- 3 President's Corner
- 5 Federal Statistical Agencies Praised for Pandemic Response
- 6 ASA, SciLine Team Up on Media Fact Sheet
- 7 New Book in ASA-CRC Series Debunks Seven Terrorism Myths
- 8 ASA Issues Statement on New Political Positions at Census Bureau
- 9 Pharma Executive Offers Thoughts About COVID-19



Executive in the pharmaceutical industry discusses the role of statisticians in the COVID-19 pandemic. **Page 9**

columns

12 **STATtr@k** **Ten Tips for Making the Most of a Virtual Conference**

STATtr@k is a column in *Amstat News* and a website geared toward people who are in a statistics program, recently graduated from a statistics program, or recently entered the job world. To read more articles like this one, visit the website at <http://stattrak.amstat.org>. If you have suggestions for future articles, or would like to submit an article, please email Megan Murphy, *Amstat News* managing editor, at megan@amstat.org.

14 **STATS4GOOD** **Student Projects for the Greater Good: COVID-19 Edition**

This column is written for those interested in learning about the world of Data for Good, where statistical analysis is dedicated to good causes that benefit our lives, our communities, and our world. If you would like to know more or have ideas for articles, contact David Corliss at davidjcorliss@peace-work.org.

Women in Statistics and Data Science

virtual
conference 
September 30-October 2, 2020

WSDS 2020 Student and Early-Career Scholarships

The Women in Statistics and Data Science Conference offers scholarships to support

participation and offset the cost of conference registration. To be eligible, applicants must be either students enrolled in a terminal

degree program (bachelor's, master's, or doctoral) in biostatistics, statistics, or data science or have completed a master's or doctoral degree program in biostatistics, statistics, or data science within the last five years (2015–2020). <https://bit.ly/2Wnxjkq>



departments

16 **statistician's view**

Letter to the Editor: Recognize Professional Privilege

Statistician's View: The Right Tone Sustains Productive Dialogue

18 **meetings**

SDSS 2020: Different, but (Mostly) Good

Invited Session Proposals Sought for JSM 2021

22 **education**

ASA 2020 Poster & Project Competition



Submit your proposal for an invited session for JSM 2021 in Seattle, Washington! **Page 20**

member news

32 People News

37 Awards and Deadlines

38 Professional Opportunities



Follow us on Twitter
www.twitter.com/AmstatNews



Join the ASA Community
<http://community.amstat.org>



Like us on Facebook
www.facebook.com/AmstatNews



Follow us on Instagram
www.instagram.com/AmstatNews

Does Anyone Still Use Colored Chalk?

Prepare for the school year with K–12 education initiatives

The question in the title might seem strange for an ASA president's corner. However, at this time of year, I always think about the excitement of starting a new school year and collecting the tools needed for learning—pens, mechanical pencils, erasers, notebooks, and, yes, colored chalk for an analog version of the digital whiteboard. I know teachers, caregivers, and students will have a lot of challenges to deal with this coming school year—challenges many of us also faced in the spring. I am excited for the school year to begin so we can share the resources being curated and developed by the K–6 Education Initiative Working Group. Our hope is these resources can help enrich the educational experiences for children and educators.

When I first thought about the focus areas for the 2020 presidential initiatives, education was at the top of my list. Our mission commits us to “promoting the practice and profession of statistics.” For me, there is no doubt this mission can only be achieved if we devote time, energy, and resources to supporting education at all levels. Our track record of implementing successful programs and initiatives for graduate and undergraduate students, middle- and high-school students, and educators shows me you agree. In fact, this initiative builds on the K–12 work of previous presidents, including Jessica Utts and Barry Nussbaum.

The October 2016 column of then ASA President Jessica Utts (<https://bit.ly/3iMFGzJ>) was written by her Statistics Careers for AP Statistics and Other K–12 Classrooms Working Group and describes their efforts to implement Jessica's initiative, which was “to provide statistics career information to Advanced Placement Statistics students and other high-school students, teachers, counselors, and parents.” This working group was chaired by then ASA Board member Anna Nevius. I'm happy to note that Anna is also a member of the working group implementing the ASA 2020 initiative in K–6 education.

Anna brings a wealth of experience from her work on this 2016 initiative, which our 2020 working group is taking advantage of. The 2016 working group focused on the following:

- Creating tips for effective classroom presentations in statistics and data science
- Answering the question, “What do statisticians and data scientists do?”
- Gathering resources and activities for teachers and classroom speakers

A webpage with links to more information about each of these areas and more can be found at <https://bit.ly/3gAHZnI>.

After Jessica, Barry Nussbaum became our ASA president. Barry sponsored a K–12 initiative called House of Statistics—Explore, Engage, and Learn, which he discussed in his JSM address (<https://bit.ly/3eeuN6n>). His initiative focused on middle-school students and educators, and his working group developed a web resource (www.houseofstatistics.org) with videos, links to resources, and games. A collaborative effort with Laber Labs, this site introduces statistics and data science using fun and engaging educational videos and games. For Mathematics and Statistics Awareness Month, we highlighted the game *Zombies on Treadmills*, which teaches concepts in sequential decision-making (<https://bit.ly/3fqL1KQ>). Any game with zombies seems like it would be a lot of fun, and I'm sure we could all use more “exercise” now after being at home so much because of the pandemic.



Wendy Martinez





Stats+Stories Episode 140: Kid's Questions for a Statistician

Latoya Jennings-Lopez, Howard W. Bishop Middle School dean, hosts a special episode of Stats+Stories with the children at her school. Listen to

Alyana and Collin ask John Bailer (Stats+Stories host and International Statistical Institute president) and me questions about statistics and data science.

Tune in at <https://bit.ly/2AJ7Eey>.

I'm often asked when I decided to become a statistician. My path to my current role is definitely nonlinear, but what is true is I always liked math. Unfortunately, this is not true for a lot of students today, and our successful initiatives focused at the middle- and high-school levels are important in changing attitudes about STEM. We know the fear and even dislike of mathematics can begin in the early grades, which is the impetus for focusing the 2020 initiative on the early elementary grades. Elementary teachers are super heroes. We know they work hard, and we want to help.

Our history and track record in ASA education initiatives made Barry the logical choice to lead the 2020 K–6 education effort and, fortunately, he agreed. Those of you who know Barry will not be surprised that the working group meetings, although focused and productive, are also filled with humor. He closes every meeting with a joke, which keeps us laughing. The team collaborating with Barry includes the following super stars:

- Melinda Baham, University of Michigan
- Jessica Behrle, Johnson & Johnson
- Jeanne Holm, City of Los Angeles
- Donna LaLonde, ASA
- Amanda Malloy, ASA
- Anna Nevius, FDA (retired)
- Jennifer West, Virginia Tech

I probably should also include the names of the team members' children, because we often judge

our work by the rubric, "Would your child use this tool?" The team has been meeting biweekly and is curating resources and working on an app, Statistics Across the Curriculum, to help teachers integrate statistics into their curriculum. The team also developed a game design challenge. The original deadline for the challenge was July 1, but we received requests to extend it so the deadline is now September 4. Go to <https://bit.ly/3216617> to respond to the challenge.

My goal for presidential initiatives is to always keep in mind that they are ASA community initiatives. In that spirit, I'm once again asking for your input and help. If you have visited a K–6 classroom, taught K–6 homeschoolers or classroom children, or participated in other STEM outreach activities, please share tips, activities, and other resources with us. We want Statistics Across the Curriculum to be a dynamic app. This will only be possible with your help. Complete the form at <https://bit.ly/2Dr4gpM> to suggest resources that should be included. Please also suggest other ideas for outreach and let us know what you learn from teachers when you visit classrooms.

Finally, I want to acknowledge that we have begun important but often difficult conversations over the last few months. The ASA has affirmed its commitment to justice, equity, diversity, and inclusion. I'm writing this column in July so can only anticipate what the new school year will bring. But, I thought it was important to share some resources about which I've learned. One that focuses on K–12 is *Teaching for Black Lives* (<https://bit.ly/324ldR0>). The website provides resources to accompany the book. Another amazing resource is the website Mathematically Gifted & Black (<https://bit.ly/38FICtk>). I want to continue to learn, so please share resources with me at <https://bit.ly/3h2NUSL>.

Before closing, I want to thank Donna LaLonde for her help with writing this article and for so much more. And now, as the summer ends, I hope you find time to relax and recharge and maybe even join those zombies on the treadmill for some statistical exercising!

Federal Statistical Agencies Praised for Pandemic Response

The first half of 2020 was a busy time for the federal statistical system, requiring quick responses and nimble adaptability from agencies on several fronts. Here's a quick recap of some of the issues, courtesy of Count on Stats—the ASA public relations campaign to raise public trust and confidence in government statistics.

Statistical Agencies Find New Ways to Work

When novel coronavirus hit the US early this year, statistical agencies needed to react quickly to provide timely data in the ongoing crisis. It became clear that agencies working in isolation with past tools would not be sufficient, however, so employees across agencies worked to form new collaborations, which allowed them to produce the research needed to help the public and policymakers understand the pandemic's effects.

For example, five agencies—Bureau of Labor Statistics, Economic Research Service, Department of Housing and Urban Development, National Center for Education Statistics, and National Center for Health Statistics—worked with the Census Bureau and Office of Management and Budget to contribute COVID-19 questions on employment, health and wellness, and distance learning to the weekly household (<https://bit.ly/2ZeOTt1>) and small business (<https://bit.ly/2CplR0w>) pulse surveys. The Bureau of Transportation Statistics also began tracking the movement of people and goods (<https://bit.ly/2W6zMjo>) during the pandemic and digitized its Transportation Economic Trends (<https://bit.ly/2ZdRwv7>) with interactive tools that highlight transportation's role in the newly altered economy.

Efforts such as these have received widespread praise in the community. Paul Schroeder, executive director of the Council of Professional Associations on Federal Statistics, extolled the agencies' adaptability and innovation during challenging times following the council's quarterly meeting that featured updates from the federal statistical agency heads. The Federal Economic Statistics Advisory Committee approved a resolution applauding the diligence of those who rose to the occasion to provide accurate and timely economic statistical information.

Although additional congressional funding will be needed to sustain these types of quick turnaround surveys, the pandemic has shown the full potential of the federal statistical system to adapt and provide timely data in an ongoing crisis.

BJS Data Contributes to National Conversation on Policing

In June, nationwide protests about police violence against communities of color erupted after the deaths of Rayshard Brooks, George Floyd, and Breonna Taylor at the hands of police officers. With the protests came a nearly 10-fold spike in Google searches (<https://bit.ly/2W0OV5O>) for information about the Bureau of Justice Statistics (BJS). Journalists used BJS data to place policing-related issues into the broader context of systemic racism. BJS reports cited in media coverage include the following:

- Arrest-Related Deaths Program Redesign Study, 2015–16: Preliminary Findings, <https://bit.ly/321FIhp>
- Contacts Between Police and the Public, 2015, <https://bit.ly/2W3s09K>
- Police Use of Nonfatal Force, 2002–11, <https://bit.ly/2BU0HIc>
- Prisoners in 2018, <https://bit.ly/38G0gxb>
- Full-Time Employees in Law Enforcement Agencies, 1997–2016, <https://bit.ly/2Ze6fGj>

BJS is one of nine non-Census federal statistical agencies currently operating on an inflation-adjusted decade of underfunding. According to an ASA analysis (<https://bit.ly/3fi1eCb>), BJS is down 30 percent in purchasing power since FY09.

Economists, Journalists Address BLS Employment Misclassification

When the May jobs report from the Bureau of Labor Statistics included a supplement (<https://bit.ly/2ZSKR8K>) reporting the true unemployment rate was likely a few points higher than the reported rate of 13.3 percent—due to an error stemming from COVID-19-related methodological problems—journalists took note (<https://wapo.st/3elwkrn>). In response, economists publicly defended the integrity of BLS data and the transparency in its reporting. For example, former BLS Commissioner Erica Groshen wrote an essay for the W.E. Upjohn Institute for Employment Research titled, “Will the True Unemployment Rate Please Stand Up? Misclassification in the May 2020 Jobs Report,” and Michael Strain of the American Enterprise Institute wrote an article for the *National Review* titled, “The Jobs Numbers Weren't Fraudulent.” Groshen also presented a webinar at the National Press Foundation, Understanding the Jobs Report, organized by Count on Stats staff. ■

MORE ONLINE

View the most recent Count on Stats newsletter at <https://bit.ly/2O8pyKH>.

Learn more about Count on Stats at www.CountOnStats.org.

Join the Count on Stats LinkedIn group (<https://bit.ly/2DsEZLR>) for updates about the work of federal statistical agencies and their employees.



The SciLine briefing featured panelists (from left) Gary Langer, Langer Research Associates; Courtney Kennedy, Pew Research Center; and Trent Buskirk, Bowling Green State University, discussing election polling.

ASA, SciLine Team Up on Media Fact Sheet

Regina Nuzzo, ASA Senior Advisor for Statistics Communication and Media Innovation

It is fall in a presidential election year, which means journalists across the nation are once again wishing they had paid more attention in their statistics courses. What is margin of error again? What does 95 percent confidence mean? Why, exactly, do we need a random sample?

Many reporters enjoy “geeking out” on the technicalities of polling, of course, and some can debate the drawbacks of nonprobability sampling with the best of them. But there is a healthy portion of journalists who only need to report on public opinion research once every four years—and, boy, do they have a lot of questions.

That is why the ASA recently teamed up with SciLine, a philanthropically-funded free service for journalists that is housed at the American Association for the Advancement of Science (AAAS). SciLine helps put reporters on deadline in touch with relevant science experts, and it produces media briefings, fact sheets, and multi-day boot camps on various scientific topics. Until recently, however, it didn’t have resources on statistical survey methods and public opinion research.

ASA staff members worked with SciLine’s director, Rick Weiss—a former *Washington Post* science journalist—and his staff to create a fact sheet on polling that would be accessible to a wide audience. They also created an online media briefing on polling, co-sponsored by the ASA, which was

held live on June 17 for a large number of registered journalists and is now archived for general access on SciLine’s website (<https://bit.ly/3ecrug4>).

The stars of the briefing were the panelists, three ASA members who gave brief presentations and then answered a barrage of questions from reporters in the audience: **Trent Buskirk**, Novak Family Distinguished Professor of Data Science and chair of the applied statistics and operations research department at Bowling Green State University; **Courtney Kennedy**, director of survey research at Pew Research Center; and **Gary Langer**, president and founder of Langer Research Associates in New York.

Kennedy kicked off the briefing with a bird’s-eye view of the general polling landscape. She explained the differences between live telephone and recorded telephone polling, the differences between online probability-based panels and online opt-in polls, and why weighting poll results is so important.

“I thought it was very successful. The journalist turnout was very high for this type of event. The questions were great,” Kennedy said. “In my role at Pew Research Center, I do a good deal of media/journalist education-type events,” she continued. “I find that Rick’s SciLine events are the best organized and most effective events of that type. I’m always impressed at how many

MORE ONLINE
To view the recording of SciLine’s media briefing on polling, visit <https://bit.ly/20cNKvM>.

attendees they get from major national and state/local outlets. Polling is a very complicated topic these days. Journalists are not trained in today's polling practices, and so there is a knowledge gap that SciLine is filling."

Next up was Langer, who explained in detail why using an opt-in sample rather than a probability-based sample of respondents can be so problematic. He also illustrated principles of good question wording by showing a misleading, "triple-barreled" poll question.

"After more than 30 years as a news reporter and pollster alike, I know the pressures and demands of both fields and their importance in the public discourse," Langer said. "Rigorous, professional public opinion surveys add unique and invaluable insight into our social and political condition. Poorly done polls take us in another direction—to misinformation, even outright disinformation," he continued. "It's essential for journalists to recognize the difference. I'm always grateful for the opportunity to talk with journalists and other data consumers about these issues; the stakes are too high to let it slide. We owe it to ourselves, our professions and—above all—our audiences to bear down and get this right."

Buskirk wrapped up with advice for reporters who have to ask hard questions. He discussed potential pitfalls in question wording, target audience, survey methods, weighting and models, uncertainty quantification, and poll aggregation.

"The panel with SciLine was a great opportunity for survey researchers and statisticians to be in the same place with members of the media," Buskirk said. "Not all numbers are equal, and not all polls are the same. It takes effort to look deeper into the methods and math behind the generation of these statistics. It was so cool that members of the media wanted to learn how to delve deeper."

The media are already seeking out Buskirk as a source for expert information. "Since that briefing, I've had the privilege of serving on a panel of survey experts, including Rob Santos [vice president of the Urban Institute and ASA president-elect] and Scott Keeter [of Pew Research Center] on the show *The Source* from Texas Public Radio," said Buskirk.

Reporters followed up with questions for more than a half hour, covering topics such as what went wrong with the 2016 polling, the quality of text-based survey methodology, oversampling specific populations, and judging the value of single polls versus survey aggregates.

The ASA is looking to team up with SciLine on more topics. If you have an idea you think would make a terrific fact sheet or media briefing, send an email to Regina Nuzzo at regina@amstat.org. ■

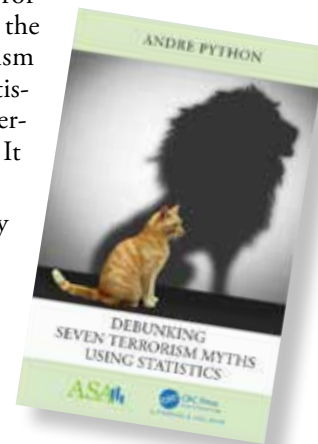
New Book in ASA-CRC Series Debunks Seven Terrorism Myths

The ninth book to be published in the ASA-CRC Series on Statistical Reasoning in Science and Society is *Debunking Seven Terrorism Myths Using Statistics* by Andre Python.

What is terrorism? What can terrorism data show us? This book translates the knowledge on global patterns of terrorism for the general public and introduces statistical reasoning tools to critically analyze terrorism data within a rigorous framework. It also does the following:

- Uses statistical reasoning to identify and address seven major misconceptions about terrorism
- Discusses the implications of major issues about terrorism data on the interpretation of its statistical analysis
- Gradually introduces the complexity of statistical methods to familiarize the non-statistician reader with important statistical concepts to analyze data
- Uses illustrated examples to help the reader develop a critical approach applied to the quantitative analysis of terrorism data
- Includes chapters focusing on major aspects of terrorism: definitional issues; lethality; geography; temporal and spatial patterns; and the predictive ability of models

For details about the book, visit the CRC Press website at <https://bit.ly/32OrRI9>. ■



Do You Have a Book Idea?

The ASA-CRC series contains short books covering the use of statistics in wide-ranging aspects of professional and everyday life, including the media, science, health, society, politics, law, education, sports, finance, climate, and national security. The books present concepts assuming minimal mathematical background and can be read by a broad audience.

For details about the aims and scope of the series and to get in touch with the editors, visit the ASA-CRC website at <https://bit.ly/2ZTFxlq>.

ASA Issues Statement on New Political Positions at Census Bureau

On June 23, the US Census Bureau announced two new political appointments (<https://bit.ly/2Dm5z9f>) in newly created leadership positions: deputy director of policy (<https://bit.ly/2DrXjEV>) and senior advisor to the deputy director for policy (<https://bit.ly/2W5eliv>). The ASA's board of directors issued the following call for the Census Bureau director, Steven Dillingham, to provide a justification for the appointments.

Statement on the June 23 US Census Bureau Appointments

The American Statistical Association (ASA) advocates for fair and objective collection and reporting of data throughout the federal government. This week's two political (versus career) appointments to the US Census Bureau are in direct conflict with the bureau's mission to ensure proper, accurate, and timely delivery of statistical information to the public. In his statement, Census Bureau Director Steven Dillingham provided no justification for the new positions, description of duties, or qualifications of the appointees. The ASA Board of Directors is deeply troubled by this development.

The US Census Bureau produces statistics that are fundamental to our democracy, government, economy, and everyday life. The committed professional staff of the Census Bureau strives to ensure the bureau's products are accurate, reliable, and timely. The Census Bureau relies on the trust of its survey and census respondents, trust earned through objectivity, protection of personal information, transparency, and production of high-quality impartial data.

The Census Bureau's addition of two political appointees to its top ranks undermines the work of the Census Bureau and federal statistical agencies because of the lack of transparency and justification, as well as the perception—if not reality—of improper political influence. We ask Director Dillingham to explain and provide rationale for the creation of the senior positions that includes their job duties in addition to the qualifications of the people appointed to the positions.

In the absence of an explanation to US taxpayers for the need for these two senior political appointments, the ASA sees no justification for them. The ASA was founded more than 180 years ago out of a desire to be supportive of and helpful to the US Census Bureau's vital work. We have continued to be loyal supporters of the Census Bureau throughout our history. We continue this role of strong support for the agency's mission by expressing our concerns and seeking explanations. ■

MORE ONLINE

News on the Appointments

"Census Bureau Adds Top-Level Political Posts, Raising Fears for 2020 Count," Michael Wines, *The New York Times*, <https://nyti.ms/3ely970>

"Trump Appointees Join Census Bureau; Democrats Concerned Over Partisan 'Games'" Hansi Lo Wang, NPR, <https://n.pr/3iOGhAP>

"Inspector General Asking Questions," www.cnn.com/2020/07/07/politics/census-inspector-general/index.html

"Director Dillingham Addresses Controversy," www.census.gov/newsroom/blogs/director/2020/07/dir_blog.html

Additional Calls

The American Economic Association called for clarity "about the role of these appointments ... as well as assurances that the core principles of credibility and independence of the US Census Bureau in its operations will be maintained in light of these appointments." <https://bit.ly/3gJrvtk>

The Population Association of America and Association of Population Centers warned "it is not clear either of the appointees have the appropriate credentials or experience for filling these high-level positions and their stated purpose" and asked the census director "to provide a rationale for the creation of these positions." <https://bit.ly/3iFUwle>

The Council of Professional Associations on Federal Statistics said: "It is troubling that there has been no explanation offered by the administration as to why a second deputy and an additional appointee position were created and what relevant functions these appointees will perform. Indeed, it appears that these appointments are aimed at politicizing the 2020 Census and could do damage to the Bureau's mission to provide the public with accurate, independent, nonpartisan, and timely information." <https://bit.ly/3fkUL9B>

Pharma Executive Offers Thoughts About COVID-19

Amrit Ray, Global President, R&D and Medical, Upjohn Division, Pfizer Inc.

The COVID-19 pandemic has created a number of challenges, including school closures, unemployment or underemployment, work-from-home policies, and social distancing requests from local governments. People are experiencing unease and looking for ways to best protect themselves and their families. It is in this light that we interviewed Dr. Amrit Ray, Global President, R&D and Medical, Upjohn Division, Pfizer Inc., about the COVID-19 pandemic.

Despite early progress in containing the SARS-CoV-2 virus, we are seeing spikes throughout the country. What can we do to protect ourselves and others? How is the SARS-CoV-2 virus transmitted?

We all must do our part to help contain this virus, and the most effective ways to do that are accessible to all of us. Based on the way the SARS-CoV-2 virus spreads (<https://bit.ly/3j1pbjl>), the World Health Organization (WHO) and Centers for Disease Control and Prevention (CDC) agree the following measures are protective:

- Maintain about 6 feet of social distance when around people.
- Cover your mouth and nose with a cloth face covering when around others.
- Wash your hands often with soap and water. If soap and water are not available, use a hand sanitizer that contains at least 60 percent alcohol.
- Routinely clean and disinfect frequently touched surfaces.

The virus that causes COVID-19 is released in respiratory droplets from infected people when they cough, sing, sneeze, or talk. These droplets can then contact the mouths or noses of anyone who is nearby, resulting in an infection. These virus-containing droplets can also be viable for some time on surfaces. Touching the infected surface and then one's face can result in infection.

People may not know they are infected—they may feel completely well—but their respiratory droplets can contain infectious virus and they can unknowingly spread the disease.



Amrit Ray of the Pfizer Inc. Upjohn Division discusses the role of statisticians in the COVID-19 pandemic.

EDITOR'S NOTE

Dr. Amrit Ray is an employee of Upjohn Division, Pfizer Inc. The views expressed are his own and do not necessarily represent those of his employer.

Are there risk factors for developing and dying from COVID-19? What is the spectrum of disease that results from SARS-CoV-2 infection?

Although all age groups are at risk for contracting COVID-19 and for severe disease, our current understanding is that the probability of dying is greatest for people age ≥ 65 and for those living in a nursing home or long-term care facility; the data is evolving. Others at higher risk for COVID-19 are people *of any age* with NCDs (noncommunicable diseases) such as hypertension, cardiovascular disease, diabetes, and chronic respiratory disease, especially if the underlying condition is not well controlled. Obesity also appears to place one at greater risk.

Emerging data (<https://bit.ly/38IXnww>) suggests a disproportionate burden of illness and death among racial and ethnic minority groups. This may be due to living conditions, work conditions, underlying health conditions, and reduced access to care.

Infection with SARS-CoV-2 can be totally asymptomatic, have a period before symptoms appear (“pre-symptomatic”), and range from very mild to critical with fulminant lung disease and respiratory failure. We are also seeing the emergence of unusual syndromes associated with COVID-19. One observed in children, called multisystem

inflammatory syndrome in children (MIS-C, <https://bit.ly/2W38wlu>), can cause the heart, lungs, kidneys, brain, skin, eyes, or gastrointestinal organs to become inflamed.

How should people manage a family member who is infected? Do you recommend they isolate the individual from as many people as possible?

Having a family member diagnosed with COVID-19 can be challenging for those in the household, but with proper precautions, families can avoid spreading the virus (<https://bit.ly/3gDO4Q4>). Most people with COVID-19 have mild symptoms and will therefore be able to recuperate at home. Recovering at home will help reduce the risk of spreading the virus to others. However, it may also increase the chance of infecting other household members. It is important for everyone to wash their hands often with soap and water for at least 20 seconds, especially before eating. Avoid touching your eyes, nose, and mouth with unwashed hands. Avoid close contact with the person who is sick. Keep a distance of at least 6 feet to help slow the spread of COVID-19. The sick person should wear a mask when around others, and the caregiver should also wear a mask when assisting the ill person. They should also cover coughs and sneezes with a tissue and discard it in a closed container. Clean frequently touched surfaces and objects. Finally, if symptoms worsen—for example the sick individual has trouble breathing, persistent pressure in the chest, or bluish lips or face—medical attention should be sought immediately. Since older adults and people of any age with serious underlying medical conditions are at higher risk for developing more severe illness from COVID-19, you should watch them closely for the warning signs that the illness is progressing.

Any advice on how we can cope with the changes resulting from the pandemic?

First, it is important to acknowledge that this is an unprecedented time with extraordinary changes in all aspects of life hitting us. It is okay and normal to feel stressed. To reduce the spread of COVID-19, people across many countries are being asked to practice social distancing and minimize physical contact. Consequently, many people are no longer participating in the social and professional activities that facilitated interaction with others. This can create a sense of isolation and overwhelm. It is worth repeating that this is a normal human reaction. However, if you find that the stress is getting in the way of your normal activities for a few days in a row, then you should reach out to your health care provider. Confidential and free resources are also available. For example, a list of resources is found on the CDC website (<https://bit.ly/2BME48f>). The

CDC also provides suggestions for healthy ways to cope with stress (<https://bit.ly/2W1wUn1>).

These suggestions include being prepared for what to do and where to go if you or family/friends get sick and need care; taking care of your emotional health; taking breaks from watching, reading, or listening to COVID-19 news stories and social media; exercising; taking deep breaths; eating healthy food; getting plenty of sleep; taking time to unwind; avoiding excessive alcohol use and drugs; and (importantly) connecting with others. Talk with people you trust about your concerns and how you are feeling.

With social distancing measures in place, connecting online, through social media, or by phone or email is crucial. This is the time to show compassion toward others and exercise resilience to deal with stress. At Pfizer Upjohn, we have been encouraging our colleagues around the world to practice the “Three Bs,” notably to “Be Smart, Be Safe, and Be Well.”

Can you share any ethical considerations raised by COVID-19?

The pandemic raises a number of ethical considerations. As a company focused on relieving the burden of NCDs, we at Pfizer Upjohn are acutely aware that this pandemic is exacerbating existing health disparities. As a result, already vulnerable patients are even more vulnerable and need our continuing attention to ensure they have fair access to health care. COVID-19 is affecting patients with NCDs more than those without chronic conditions—both in terms of disease impact and also because people with NCDs rely on an existing supply chain of medicines. As we think about the impact of COVID-19, we also must consider social determinants of health and how the downstream impact of the pandemic on, for example, unemployment and resulting economic distress can cause or amplify health disparities. These are examples, and there are numerous other ethical considerations in relation to the conduct of ongoing clinical trials and the development of new vaccines and treatments.

Ethical considerations are also important in how we care for employees during the pandemic. Over the past few months, we’ve all found ourselves in situations in which colleagues are dealing with personal health issues, loss of loved ones, financial insecurity when any family member loses their job, and loneliness as we all isolate in our homes. Additionally, we must be cognizant and sensitive that COVID-19 has had a profound impact on the mental health and well-being of individuals around the world, including frontline health care workers, essential workers, and the general population. This is reflected in recent comments from

health experts at multilateral organizations such as the United Nations and WHO. In this unique crisis, we must be even more thoughtful about how we, as managers and employers, give our employees the tools and resources to support them and minimize any strains.

Are there any positive outcomes that may result from the COVID-19 pandemic?

On a professional level, there is a renewed sense of passion and commitment in our industry that science will win, and a sense of ownership that this is a particularly important moment for science to pave the way forward for society. We are seeing an extraordinary pace in clinical trials, in part due to collaboration and coordination among companies all working toward a singular goal. While this accelerated development timeline may not have been possible under normal circumstances, I think we will continue to be able to take today's learnings to set new standards for the future on what is possible when we take transformative approaches. We hope to have new precedents for how we can bring therapies to market under the ticking clocks of urgency we all feel today.

With this ethos, the level of collaboration at every level of the health system—and across industries and broadly in society—has been truly inspiring. There is no person unaffected by this pandemic, and people in communities around the world are rolling up their sleeves to donate supplies and food, check in on their neighbors, and do their part to keep themselves and their communities safe.

On a personal level, although the pandemic is creating new challenges and overstressing families, it is also affording many loved ones more time together and opportunities to recharge.

How can statistics help advance scientific knowledge, vaccines, and treatments during a pandemic using both randomized controlled trials and real-world evidence?

I am an advocate of evidence-based medicine and therefore an advocate of statisticians! Statisticians can play critical roles and make significant contributions throughout global health emergencies, including the COVID-19 pandemic. In the face of novel viruses without established vaccines and treatments, statisticians play an important role in medical research and public health decision-making by helping to filter through troves of complex information, rigorously analyze, and draw well-founded conclusions. Statisticians can examine the burden of disease (e.g., incidence, prevalence, attack rate, years of life lost, case fatality rate, and population mortality rate) and virus transmissibility (replication and mutation). They

Statisticians can play critical roles and make significant contributions throughout global health emergencies, including the COVID-19 pandemic.

can project the spatial-temporal changes of the cases and deaths under various conditions, evaluate the accuracy of diagnostic tests (sensitivity, specificity, positive predictive value, and negative predictive value), and assess the outcomes of treatments (efficacy, effectiveness, safety, and health care resource utilization). Accurate, credible, and reliable information is needed, as well as sound statistical analysis, analytic programming, and unbiased interpretation of results. For these purposes, maintaining data integrity and ensuring data transparency are among the numerous ethical aspects to consider.

Randomized controlled trials (RCTs)—considered the gold standard of scientific evidence—are of paramount importance during the COVID-19 pandemic. RCTs are valuable in the development of vaccines, and the WHO guidelines (<https://bit.ly/3jnGyv3>) on clinical evaluation of vaccines were developed in response to requests from national regulatory authorities for assistance in the evaluation of clinical trials, both during the clinical development and regulatory reviews. Through careful protocol development and statistical analysis planning, the effect of an intervention can be evaluated and compared with no intervention as a control.

Beyond RCTs, the 21st Century Cures Act helped define and spur the use of real-world data (RWD). Such RWD can come from various sources, including electronic health records, claims and billing activities, product and disease registries, patient-generated data such as in home-use settings, and data gathered from other sources that can inform on health status, such as mobile devices. Given social distancing measures and the health risks associated with reopening, the adoption of telemedicine is being accelerated, which can yield both structured and unstructured data for timely insights. This raises the need for ever-more thoughtful analytical techniques, resulting in interesting new challenges for statisticians and all of us passionate about medical research. ■

STATtr@k

Ten Tips for Making the Most of a Virtual Conference

Because of the COVID-19 pandemic, there is a glut of opportunities to attend remote meetings from all over the world, including many of the ASA's conferences. Even the Joint Statistical Meetings are virtual this year! As we navigate this new world and new way to share our work, here are some tips to make the most of your virtual conference experience as a presenter and an attendee.



Samantha Tyner

of the Bureau of Labor Statistics is the inaugural AAAS Science & Technology Policy Fellow. She is an applied statistician with interests in data science, data visualization, forensic science, machine learning, text mining, and network analysis. She earned her PhD in statistics from Iowa State University in 2017. You can follow her on Twitter at @sctyner.

EDITOR'S NOTE

A version of this column first appeared at <https://bit.ly/3gQbdz7>.

FOUR TIPS FOR SPEAKERS

1. Get Your Tech Right in Advance.

Your computer setup is by far the most crucial key to success at a virtual conference. If your material is amazing, but you're having technical issues, your presentation *will* suffer. Here are a few steps you can take to ensure success with your tech:

- **Use a headset with a microphone.** You will sound clearer, there won't be any echoing, and you will hear better. The headphones that came with your phone will work just fine, so long as they have a microphone built in. You can also get a headset with a USB port.
- **Make your presentation full screen.** Your presentation will be shared to other small screens, not projected on a large surface, so you must make your slides full screen. See Table 1 for keyboard shortcuts to make your slides full screen on various systems and using different software.
- If you use presenter notes, you will likely need to **clone your slides**, displaying the slides to the audience while you see your notes. Some programs such as Zoom do this automatically with the most recent version of PowerPoint. If you're going to use presenter notes, make the conference staff aware in advance so they can help you set it up.

Unfortunately, there is not much you can do about your internet connection. Just do your best to connect to a network you know is reliable.

2. Have a Good Background

If you will be on video, it is best to have a neutral background with limited distractions. Avoid "fun" backgrounds, though I do like the blur background effect some services have. There should not be light coming from behind you. For attendees to best see



you, the light source should be coming from in front of you, not from directly above or behind you.

3. Look into the Webcam

Just like during an in-person presentation, you want to present to the audience, not to your computer. The audience sees you through your webcam, so look into it occasionally. This will help your audience feel more connected to you and your material.

4. Good Presentation Rules Still Apply

Some of my favorites are the following:

- Minimize text, equations, and code on the slides.
- Ensure any text you keep is large enough to be seen on a small screen. Many attendees will be watching with their laptops, phones, or tablets, all much smaller screens than a traditional desktop setup. Make the text on your slides a bit larger than you think is necessary.
- Any plots, graphs, or other visuals should also be clearly readable on a small screen and have large labels.
- Follow the rule of thirds (<https://bit.ly/38QPdaz>).
- Speak more slowly than you think you should. In the moment, your speech will almost always speed up.
- Don't forget to breathe!

Table 1: How to Enter Full-Screen/Presenter Mode When Giving a Presentation with Your Preferred System and Software (fs = full screen)

PROGRAM	MAC		WINDOWS		LINUX	
	Enter fs	Exit fs	Enter fs	Exit fs	Enter fs	Exit fs
PowerPoint	Cmd+Shift+Return	Esc	F5	Esc	F5	Esc
Keynote	Opt+Cmd+P	Esc, Q	--	--	--	--
Google Chrome	Ctrl+Cmd+F	Ctrl+Cmd+F	F11	F11	F11	F11
Firefox	Cmd+Opt+P	Esc	F11, Ctrl+Alt+P	F11, Esc	F11, Ctrl+Alt+P	F11, Esc
Preview /Document Viewer	Ctrl+Cmd+F, Shift+Cmd+F	Ctrl+Cmd+F, Esc	--	--	F5	Esc
Adobe Acrobat Reader	Cmd+L	Esc	Ctrl+L	Ctrl+L or Esc	--	--
Google Slides	Cmd+Return	Esc	Ctrl+F5	Esc	Ctrl+F5	Esc

SIX TIPS FOR ATTENDEES

1. Make a Plan

When attending a conference from home, your attention will be pulled in many directions. The virtual conference may also have many concurrent sessions, just like an in-person conference, so there will be many sessions you want to see. Navigating the online conference system without having a plan could cause unnecessary flustering, so it's best to know what sessions you'll be attending ahead of time.

2. Be Present

Do your best to be present during talks. To get the most out of them, give them your full attention. Eliminate distractions wherever possible: silence your phone, your smartwatch, and your email notifications, and inform your living companions you won't be available for a short time.

Above all, do not do other work while watching a virtual talk. It's tempting, but avoid this temptation! If you do have to work, close the conference window. It will still be there when your work is done.

3. Move!

During an in-person conference, there is usually some shuffling between rooms every 40–60 minutes or so. You should aim to keep this up during a virtual conference. Get up every 40–60 minutes and take a five-minute break. Get up from your computer. Stretch. Walk around. Do yoga. Make a cup of coffee. Do anything that gets you up from your computer and *away from screens* for five whole minutes.

4. Set Yourself Up for Success

Figure out the best setup for you ahead of time. When working from home, this can be tricky. If you like to take notes, make sure you have a comfortable space in which to write and watch the talk. If you will use headphones to listen, test the sound in advance.

5. Practice Good Virtual Etiquette

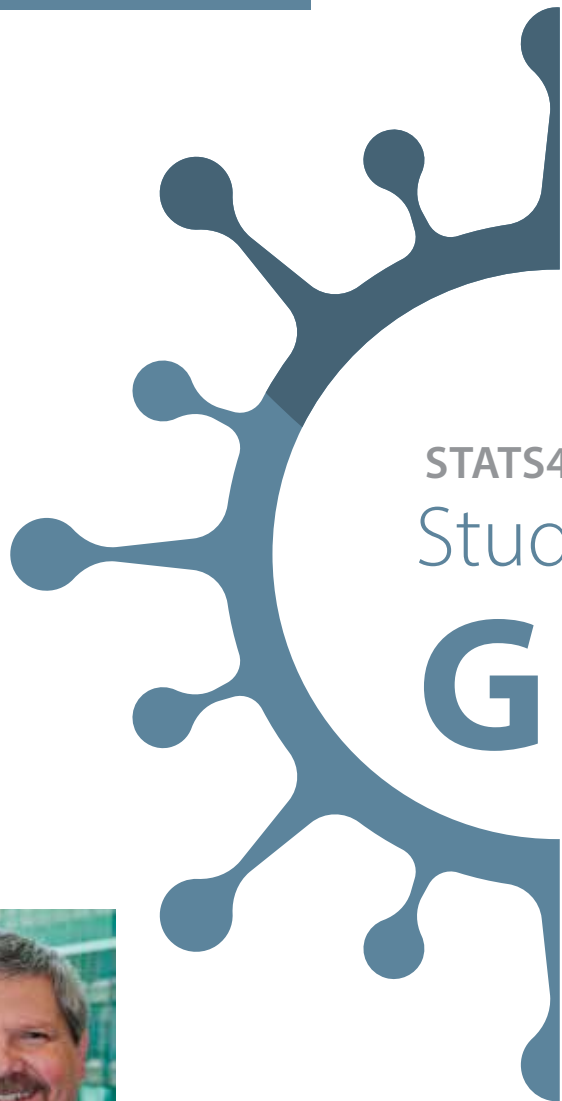
Depending on the conference system, you may be seen and heard during the conference. Unless the speaker specifically requests otherwise, *always turn your sound and video off*. At an in-person conference, it is obvious who the speaker is based on their position in the room. During a virtual conference, this cue goes away: We are all little squares on the screen. *Don't distract from the speaker by leaving your sound and video on*.

6. Protect Your Time and Health

Your time and health are incredibly valuable. Don't let attending a conference, virtual or otherwise, detract from that. If you are new to working from home, you are already adjusting to a new way of life. Don't put additional pressure on yourself to attend every virtual conference session. In addition, now you can access more conferences than ever, with no travel required and low registration fees. Don't try to attend them all. Choose wisely.

Finally, try to make sure you're getting enough sleep. Don't get up super early or stay up super late for a conference in a wildly different time zone.

Good luck, everyone! "See" you at JSM 2020! ■



STATS4GOOD
 Student Projects for the
**GREATER
 GOOD**
 COVID-19 Edition



With a PhD in statistical astrophysics, **David Corliss** leads a data science team at Fiat Chrysler. He is the founder of Peace-Work, a volunteer cooperative of statisticians and data scientists providing analytic support for charitable groups and applying statistical methods in issue-driven advocacy.

In a few weeks, the start of the new academic year will see many changes due to the pandemic. Universities are still working out details for how to teach, study, and collaborate, and COVID-19 will be on everyone's minds. Teams of researchers around the world are taking on these challenges, offering students many ways to get involved in projects.

The COVID-19 pandemic is so much more than a medical event, affecting the economy, public policy, the environment, social interaction, education—the list goes on. Data for Good student projects aren't only for academic publications; opportunities include term papers, science fair entries, conference presentations and posters, and volunteer work for community organizations. The possibilities are almost endless. With this in mind, I want to offer a few thought starters for Data for Good student projects in the year of COVID-19.

Environmental impacts from COVID-19 have been seen in many ways. While the driver has been a

pandemic, we have been given a window—perhaps a brief one—to directly observe the results of decreased human impact on the environment. Student projects can investigate decreases in carbon emissions (<https://bit.ly/2ZeN9Qk>), changes in wildlife behavior, the response of ecosystems to external changes, or the effects of reduced travel—from less acid rain to reduced disturbance to sea life from ocean noise (<https://bit.ly/2Zl55cl>). Every type of environmental impact can be evaluated for potential changes from COVID-19, with new research teams and projects forming every day.

With so many people interested in environmental activism using Data for Good, this is one of the best opportunities for a hackathon. Many people are eager to get involved now, making recruiting easier. You can find a sponsor or stay virtual and choose a question to explore. If you are having trouble finding publicly available data in your area of interest, Peace-Work (www.peace-work.org) can help. Just send an email to me at davidjcorliss@peace-work.org. If your interest is



Get Involved

The ASA's Conference on Statistical Practice, slated for Nashville, Tennessee, in February, is accepting poster submissions. This is a great way to showcase your work in Data for Good, receive feedback, and make connections in the field. Check out the latest, including any changes due to the COVID-19 pandemic, on the conference website (<https://bit.ly/2ZgestH>).

environmental advocacy with statistics but you haven't run a hackathon before, partnering with people experienced in hackathon operation will be important for your success.

The COVID-19 pandemic has affected the economy more than any event since the Great Recession. While we hear a lot about the US as a whole, there is a great need for studies focused on local areas and individual communities. However, national and global studies (e.g., <https://bit.ly/327zEUq>) can inform on ideas, data sources, and methods. Empowered by statistics and data science, Data for Good can both think globally and act locally.

COVID-19 has become a central focus for public policy, as well. This means Data for Good needs to play a central role in creating understanding of the pandemic and developing data-driven mitigation strategies. During this pandemic, policies, practices, and even legislation are being developed quickly. Sound analysis of government actions, its effects, and potential unexpected consequences are very much needed.

Student projects can investigate how the pandemic is changing how we learn, the ways we collaborate, and the tools we use every day.

Just as one example, I developed a lag model a few years back for unemployment rates by race during the Great Recession and subsequent gradual recovery. The analysis of data from the Bureau of Labor Statistics found re-employment for African Americans who lost their job lagged behind others, with the result that white persons who lost their job in the Great Recession usually found a new one before their unemployment insurance ran out, but African Americans usually didn't. Who would have thought the number of weeks of unemployment would show such a bias, resulting in devastating effects for one population group? But after years of doing these kinds of analyses, I've found a rule of thumb: *If there is a problem in the US, Black folks are getting hurt more than most.* (And—if you can find data on it—Native Americans even more!)

In the present crisis, opportunities abound for making a difference with student projects and hackathons. Whatever policy decision affects you and those you care about can be the subject of a D4G investigation. Whatever method or algorithm you use most or want to learn about has a place.

Another area where the COVID-19 pandemic is having a huge impact is education. It isn't just biological systems; science and the methods for teaching it evolve through punctuated equilibrium, as well. The COVID-19 pandemic is acting as a technological mass extinction event, rendering many old approaches and methods obsolete and opening up new paths for further change and development. Student projects can investigate how the pandemic is changing how we learn, the ways we collaborate, and the tools we use every day.

It's often said students are our future. In the world of Data for Good, students are also an important part of the here and now. Using statistics to make an impact for the greater good doesn't need to wait. Solve the equation, save the world. Now is the time, and there are limitless opportunities for everyone! ■

LETTER TO THE EDITOR

Recognize Professional Privilege

EDITOR'S NOTE: This will also appear in *Notices* of the American Mathematical Society in September.

The video of Mr. George Floyd dying on the street is too difficult to watch, yet its impact has been profound. Academia needs to reflect on this incident. Seven decades ago, universities began ramping up the research component of mathematics departments. Since then, meager handfuls of minorities have obtained doctorates from mathematical sciences and statistics (MSS) departments each year. The mathematical aspirations of countless minorities have died in silence. No video recorded these deaths. When was the last time that you advised a Native American undergraduate or discussed mathematics with a Native American mathematician? This glaring lack of contact with this one important minority group is evidence of the harm inflicted by MSS departments on the minority population in general.

The current unrest that we see on the streets is connected to white privilege. I earned a PhD in mathematics. This led me out of poverty and granted me privileges. I had a safe work environment, a

regular paycheck, health insurance, and retirement account. I traveled around the world and I own a home. Few minorities have these privileges.

There is an implicit social contract between the minority community and MSS departments. The tax dollars of minorities support the research and privileges of faculty in MSS departments, and in return, MSS departments educate minority children. That social contract has broken.

I call on our profession to recognize the professional privilege in which we live, to reformulate departmental policies, attitudes, and programs of study with a view toward producing an equitable educational system for women and minorities and all our citizens. How much longer must women and minorities call for change? Must we wait for calls to defund our MSS departments? On the other hand, will MSS departments take the lead in addressing reform?

William Yslas Vélez

*Emeritus Professor of Mathematics
University of Arizona*

Share **YOUR** Views

Do you have an opinion you would like to share with colleagues? Send us a letter. Letters should be 600 or fewer words and must include your name.

Send your letter to the editor or any other news you would like to share to Megan Murphy at megan@amstat.org.



STATISTICIAN'S VIEW

The Right Tone Sustains Productive Dialogue

George Rodriguez

Good advice is worth sharing when the objective is to improve the communities we work in, yet the manner in which feedback is given may determine if the advice affords the desired improvements or leads to polarization. The statistical community does a fantastic job of providing responsible guidance to those involved in data analysis of any kind. However, we should be vigilant of inadvertent minor condescension if we are to avoid alienating those we are trying to educate.

As a PhD chemist with a master's in statistics and extensive experience applying machine learning in materials research, I often find myself in the middle of interdisciplinary discussions in which the wrong tone can undermine the value of such discourses. My immediate team consists of chemists, physicists, and data scientists, as well as chemical and mechanical engineers using a range of data science tools. The most important lesson I've learned from working with such a diverse group is the importance of respectful dialogue. I hope this commentary will help us be more thoughtful about how we give advice to ensure both sides benefit and lead to more inclusive dialogue between diverse and interdisciplinary researchers.

I have been participating in numerous webinars during the work-from-home movement precipitated by the COVID-19 pandemic. Many of these sessions have been given by experts from the traditional statistical community who provide guidance on proper data analysis necessary for avoiding common mistakes. Most pointers are *motherhood and apple pie* of statistical analysis and certainly worth discussing. Unfortunately, some of these tongue-in-cheek comments occasionally come across with a slight tone of condescension that can short circuit further discourse between those with good advice and those who may need it. For example,

in at least three recent presentations, I've heard anecdotal evidence of *humorous* mistakes done by machine learning practitioners. Similar comments are regularly made about research involving statistical analyses by social and physical scientists. I tried to imagine how members from *those* communities felt as they listened to a talk they had attended to strengthen their statistical skills. It didn't take me long to reach that level of understanding because I am also a member of those communities.

We all need to use our extensive experience in data analysis to guide the various communities using the statistical machinery developed throughout that long history. However, that guidance should be given with the same tone we want used when we receive guidance—the Golden Rule. Second, addressing the bad habits without calling out practitioners of any specific field allows us to target the problems while preventing academic polarization. Just imagine if statisticians were specifically ridiculed every time they found a beautiful pattern that was well known to those in the fields they're supporting (i.e., manufacturing, biology, chemistry, economics, etc.). Such an approach would certainly derail potentially fruitful dialogue between people with different academic roots. These are the very same interactions we need to nurture the most in order to advance all academic communities using statistical methodologies.

I realize the irony of calling out a specific group (e.g., statisticians) while suggesting the avoidance of such call-out behavior. Yet, as generalists who work with researchers from many fields, statisticians and data scientists are in unique positions to set the correct tone for conversations between collaborators in highly interdisciplinary research. In this connection, I hope the approaches we use when giving advice about proper use of statistical machinery are as thoughtfully crafted as the advice given. ■



David Hunter, SDSS program chair, and Jeannette M. Wing of Columbia University, who gave one of the keynote addresses at SDSS 2020.

SDSS 2020: Different, but (Mostly) Good

David Hunter, SDSS 2020 Program Chair

SSDSS 2020 is in the books! The Symposium on Data Science and Statistics took place from June 3–5, and for reasons everyone knows all too well, it was hardly a typical conference.

In the end—thanks to a lot of hard work by ASA staff members, the program committee, the technical support team from BAV Services, and presenters—the virtual conference ran incredibly smoothly. Compared to SDSS 2019, which attracted nearly 650 attendees, this year’s tally of around 450 was very respectable.

Most notably from my perspective as program chair, the scientific program remained nearly entirely intact. The conference was anchored by three outstanding keynote addresses from Rebecca Nugent of Carnegie Mellon, Jeannette Wing of Columbia, and Rob Tibshirani of Stanford, who spoke about teaching data science, data science for good, and data science in public health, respectively. Obviously, those few words don’t fully capture the nuanced messages delivered by our three expert keynote speakers, and I want to remind everyone that the conference website remains intact. In particular, the online program

gives links to abstracts of all the talks along with, in many cases, the slides supplied by the presenters.

We maintained the planned conference format of six parallel sessions, which roughly corresponded to one for each of the six conference tracks: Computational Statistics, Data Visualization, Education, Machine Learning, Practice & Applications, and Software & Data Science Technologies. The sessions were a mixture of invited sessions and refereed contributed sessions, and the latter category was an innovation for SDSS 2020.

The electronic journal *Stat* has agreed to help produce a special issue consisting of work accepted onto the SDSS program. That journal’s format and editorial policies—quick review time, short articles of no more than 10 pages, and online presence so supporting materials are easy to link—is ideal to support our goal of creating a high-quality, peer-reviewed outlet for conference papers analogous to the many prestigious conference proceedings that have existed in the computing communities for many years. Helen



Rebecca Nugent, Carnegie Mellon University, gives a keynote address at SDSS 2020.



Wendy Martinez, 2020 ASA President, chats with Rob Tibshirani of Stanford, who was a keynote speaker at SDSS 2020.

Zhang from the University of Arizona, editor-in-chief of *Stat*, helped arrange this collaboration.

Moving to the online format forced some creative choices in designing the conference schedule. To cite a few examples, we shifted the start of the scientific program from June 4 to June 3, which allowed us to finish before the weekend. We moved each day's start and end times to hours of the day that were neither obscenely early for West Coast participants nor uncomfortably late for East Coasters. (Admittedly, many participants from overseas still had to endure some pretty strange conference hours, though we managed to shift a presentation time so the presenter didn't have to give his talk in the middle of the night local time in at least one case.) Nearly all the planned workshops went ahead, and by moving their time slots from the beginning of the conference to the late afternoon of days one and two, we managed to shorten the overall span of the conference. Our e-poster sessions all continued as planned, with an innovative scheduling idea meant to exploit the flexibility afforded by browsing from your own home: All posters were available throughout the conference on a site with a chat window, and groups of presenters were asked to monitor the chat during certain blocks of time to field any questions from viewers.

There were even some benefits of the online format. For one thing, a great deal of traveling was avoided—along with the concomitant carbon emissions and expense. In addition, quite a few people attended the virtual conference who would not have been able to travel to Pittsburgh to attend in

person. I learned this in informal chats during the three social events that featured random shuffling of participants into Zoom breakout rooms for brief conversations. These proved to be really interesting, much like hallway conversations with folks you happen to bump into at an in-person conference. Many people also spoke of the benefit—which admittedly also has a downside—of being able to attend a conference from the comfort of your own home.

The fact that many of the sessions were recorded meant conference participants had the chance to view sessions after they occurred, a facet of the online conference experience sure to please any conference-goer who has ever experienced the frustration of having to choose among multiple interesting talks that happen to be scheduled concurrently. And the ever-present chat window next to the presenter's video feed allowed participants in an online session to share pertinent comments or links with one another in the middle of a presentation without interrupting the speaker. Indeed, I chatted with more than one participant who said they now realize virtual conferences represent a nuanced set of tradeoffs, with various pros and cons. Some said they imagine the future of scientific conferences might include a hybrid of in-person and online meetings, even when the pandemic is behind us.

Look for announcements about next year's conference—scheduled for St. Louis, Missouri, from June 2–5—as SDSS continues to innovate to strengthen ties among the statistics, data science, and computing communities. ■



Olivia Brown/ASA

Jack Wolf, of St. Olaf College, presents his e-poster during the Opening Mixer at JSM 2019.

Invited Session Proposals Sought for JSM 2021



Nicole Lazar, JSM 2021
Program Chair

With this year's JSM just around the (virtual) corner, it's already time to start thinking about and planning for JSM 2021, which will be held August 7–12 in Seattle, Washington. If you were at JSM in 2015, which was also held in Seattle, you will remember the beauty of the location, the fine dining, the Pike Place Market, and—of course—the coffee!

ASA President-elect Rob Santos has chosen the theme “Statistics, Data, and the Stories They Tell” for the 2021 meeting. This theme emphasizes the importance of our field in understanding the world around us. Sessions relating to the theme are especially welcome.

The program committee is soliciting proposals for invited sessions to showcase some of the most innovative, impactful, and cutting-edge work in our profession. Invited sessions include invited papers, panels, and posters. Invited paper sessions consist of 2–6 speakers and discussants reporting new discoveries or advances in a common topic; invited panels include 3–6 panelists providing

commentary, discussion, and engaging debate on a particular topic of contemporary interest; and invited posters consist of up to 40 electronic posters presented during the Opening Mixer.

As JSM continues to increase in size, the number of invited sessions is limited, meaning competition is strong. The ideal session involves fresh, important work that many JSM attendees will find interesting. Many of the most stimulating sessions present diverse viewpoints and strategies on a common topic or problem, with speakers coming from different institutions or practices. Take the time to identify an appealing topic and provide a stimulating session description; if your proposal enters the selection competition, you want it to be interesting to the program committee members who will be making the final decisions.

An invited session proposal should include a session title, general description of the session, list of participants, and tentative presentation titles (these can be modified later). The invited session submission period is July 16 to September 8, 2020. When



planning an invited session, note that JSM has strict guidelines for participation. In particular, make sure none of your potential speakers is committed to multiple invited proposals.

Session proposals must be submitted via the JSM online system, indicating type of session and proposed sponsor. Even if you have communicated with a session or society representative on the program committee, you need to submit via the online system, as that is the only way to guarantee your proposal is considered. The invited session proposal form allows each proposal to select up to three sponsors in ranked order.

Choosing more than one sponsor ensures a worthy proposal is considered by other sponsors if it is not selected by its designated primary sponsor. Before submitting your proposal, you are encouraged to contact members of the program committee representing your chosen sponsors to see if they are willing to sponsor your proposal (see the program committee listing at <https://magazine.amstat.org>). If you are a member of an ASA section or another sponsoring society, going through the corresponding representative is often a good way to proceed. They may accept the session outright for one of their allocated spots, or they may enter it into the general competition in which selection is decided by a consensus vote of the entire program committee. In either case, only sessions submitted via the online system will be considered. Decisions about the invited program will be made by the end of September. It is helpful to contact program committee members well ahead of the September 8 deadline.

If you have ideas for invited papers or panels, but are unsure which sponsor to choose, you may

MORE ONLINE

Check out the complete list of JSM 2021 Program Committee members at <https://magazine.amstat.org>.

contact me at nfl5182@psu.edu. I am happy to help steer your proposal to appropriate program committee members for consideration.

An invited poster session consisting of up to 40 electronic posters will take place during the Opening Mixer on Sunday night of JSM. Presenters in this session have access to a monitor, rather than a traditional poster board, that provides a unique opportunity to interact one-on-one with other researchers. Ideas for invited posters should be sent to Ana-Maria Staicu of North Carolina State University, who is associate chair for invited and contributed posters, at astaicu@ncsu.edu.

I would also appreciate receiving suggestions for topics or speakers for introductory overview lectures (IOLs), which are high-quality introductions to timely and important statistical topics of interest to a wide range of JSM attendees. In some cases, IOLs present material from rapidly developing areas of methodology or applications. In other cases, IOLs introduce important and challenging statistical topics that are relatively mature, but may not be well-known outside of a specialist group. In all cases, IOL topics are selected because of their potential to enrich the future directions of statistical theory and practice through broader dissemination. Note that IOL speakers can also present an invited or contributed paper, panel, or poster.

Finally, there is a limited number of memorial sessions planned at each JSM. For 2021, there are five allocated slots for memorial sessions. Proposals should be submitted through the online invited session system (choose memorial session as sponsor). By doing so by the September 8 deadline, you can select other potential sponsors in case they would want to choose that session. In any case, I invite you to contact me if you are planning to submit a memorial session. Unless the session is selected by an organization or ASA section in September, decisions about memorial sessions will be made in the fall.

On behalf of all program committee members, I thank you in advance for your participation and efforts in making JSM 2021 a great success. I look forward to seeing you next summer in Seattle! ■

ASA 2020

POSTER & PROJECT COMPETITION

The American Statistical Association is pleased to announce the winners of the 2020 ASA Data Visualization Poster Competition and Statistics Project Competition. First-place winners received \$300, a plaque, a plaque for their school, and grade-appropriate graphing calculators provided by Texas Instruments. Second-place winners received \$200 and a plaque; third-place winners received \$100 and a plaque; and honorable mentions received plaques.

The poster and project competitions are directed by the ASA/NCTM Joint Committee on K–12 Education in Statistics and Probability. The 2020 ASA Data Visualization Poster Competition leader is Jennifer Broatch of Arizona State University. Nathan Kidwell of Oaxaca Christian School in Oaxaca, Mexico, served as the head project competition leader, and Michelle Larson of the University of Iowa served as the associate project competition leader.

Although K–12 posters are typically due every year on April 1, the deadline was extended to June 1 this year due to COVID-19. Also, posters were submitted digitally for the first time as either photos of physical posters or digital posters. Projects (written reports) for grades 7–12 are due every year on June 1. Visit the competitions webpage at <https://bit.ly/32cxEKK> for information, including previous winners, entry forms, instructional webinars, and the rubrics used for judging the posters and projects.

GET INVOLVED

For information about how you can start a regional poster competition or mentor students in your area, see the article appearing in the July 2011 issue of *Amstat News* at <https://bit.ly/2NN6TCZ>.

You can download a flier about the ASA poster and project competitions and other K–12 statistics education programs and resources to share with your local schools at <https://bit.ly/2zCC9S4>.

For additional information or questions regarding how to get involved in the poster or project competitions, contact ASA Director of Education Rebecca Nichols at rebecca@amstat.org.

2020 Regional Poster Competition Leaders

Students outside the regional competition areas submit their posters directly to the ASA office. The posters are then judged separately by the Washington Statistical Society as part of the Other Region. The best posters from each region are sent to the national judging. Information about regional poster competitions and winners is available on the individual regional poster competition websites.

Connecticut Chapter Statistical Poster Competition

Zhou Fan, Yale University
<https://bit.ly/3j1xr2N>

Kansas/Western Missouri Statistics Poster Contest

Ananda Jayawardhana,
Pittsburg State University
<https://bit.ly/3fGoudv>

Michigan Statistics Poster Competition

Dan Adrian, Grand Valley State
University
<https://bit.ly/38WdBkZ>

Nevada K–12 Statistics Poster Competition

Tia Price, Durango High School
<https://bit.ly/302BxPu>

Ohio Statistics Poster Competition

Jerry Moreno, John Carroll
University
<https://bit.ly/30e3rYW>

Pennsylvania Statistics Poster Competition

Pete Skoner, Saint Francis
University Science Outreach
Center
<https://bit.ly/302BjHG>

Pullman, Washington Statistics Poster Competition

Dean Johnson, Washington
State University
dean_johnson@wsu.edu

Washington Statistical Society Poster Competition (DC Metro Area)

Elizabeth Petraglia, Westat
<https://bit.ly/2WiWULI>

ASA National Data Visualization Poster Competition

Leader: Jennifer Broatch,
Arizona State University
Contact: Rebecca Nichols,
ASA Director of Education
<https://bit.ly/2WiWULI>

2020 National Project Competition Winners

Each year, the statistical project competition attracts a wide variety of submissions in which students from grades 7–12 conduct creative studies. The submission deadline for the project competition is June 1 to enable participation from high-school students who may have been preparing for the AP Statistics exam administered in mid-May. The statistical project competition is especially useful for these students because it provides them with opportunities to apply all the statistical skills they have acquired throughout the school year to solve real-world problems of interest to them. Results of the project competition, as well as a list of the judges, can be found at <http://magazine.amstat.org>.

GRADES K-3

FIRST PLACE

Saanvi Jahagirdar

Are We Safe in Our School?

Catherine Kolnaski
Magnet School
Groton, Connecticut

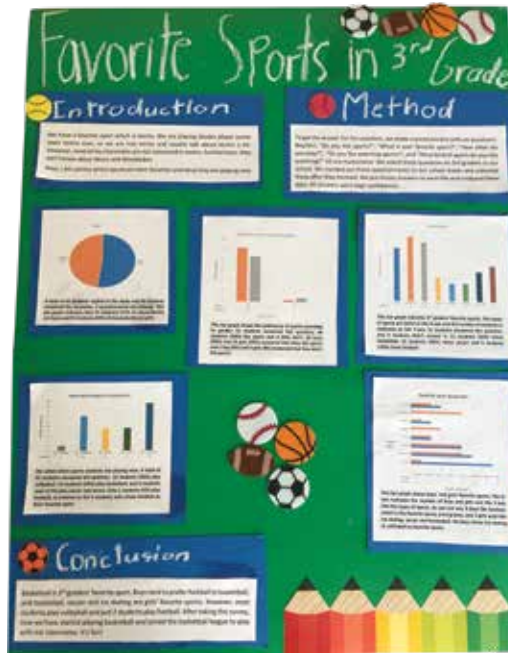


SECOND PLACE

Kevin Joowoo Park and Eden Kang

Favorite Sports in 3rd Grade

Sycamore Ridge
Elementary School
San Diego, California



THIRD PLACE

Isaac Freeman

Do NUT Eat That!

Rydal Elementary School
Abington, Pennsylvania



GRADES K-3

HONORABLE MENTIONS

Mubtasim Rafan

Exploring Pi


Dorothy C. Goodwin
Elementary School
Storrs Mansfield, Connecticut

Evelyn Kuo

Fiddle for Females?

Rydal Elementary School
Abington, Pennsylvania

Exploring Pi




π (pi) is mathematical constant. Its digits never ends.

Research Question:

- How to find the value of Pi from experiments?
- How many decimals of Pi do we need?

Method:

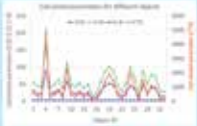
Task 1: I measured the circumference (C) and diameter (D) of 32 circular objects available at home. I cut the orange at the center and used the base as a circular object to increase the sample.



I calculated the parameters: C/D, C/O, C*O, and C/D and plotted them using MS excel. From this plot I calculated the value of Pi.

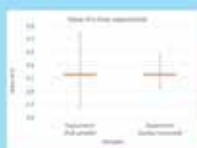
Task 2: To find out how many decimals of Pi we need, I calculated the perimeters of circular objects (Olympic track, Earth etc.), I calculated error using actual (14 decimal places, limited by Excel capacity) and an approximate (7 decimal places) value of Pi.

Results:



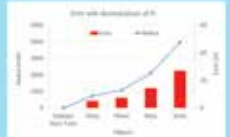
Out of the four plots, only C/D remains fairly constant, which is the value of Pi.

More results:

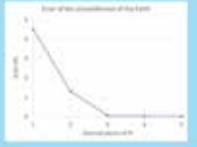


Objects with calculated π values outside of 10% of the mean was taken as outlier.

Sample (outlier removed):
Minimum value = 2.93
Maximum value = 3.47
Average value = 3.16



The error is 27 inches for the Earth, which is too low compared to the circumference of the Earth.



The percentage errors become close to zero when we use 3 decimal places of Pi.

Conclusion:

- The ratio of Circumference to Diameter is the value of Pi, that we determine from experiments.
- We need up to 3 digits for our usual calculations.

Fiddle for Females ?

Question
Are there more girls playing violin?

Purpose
I am a girl. I love playing violin. I want to know if there are more girls playing violin or more boys playing violin.

Hypothesis
My hypothesis is that more girls like and are playing violin.


Method

- I collected the data from:
 - Some public information of recreational activities and it has been submitted.
 - Local survey of school.
- I created girls' number and took number separately with different age groups.


Result

- I found in all groups there were more girls playing violin. Overall there were 28% more girls playing violin than boys playing violin. This verified my hypothesis.
- 71% year-old group I picked had a lower girl percentage (46%) compared to the other two age groups (67%). This suggests that older boys might have stopped playing violin when they are older.


TOTAL PERCENTAGE



37% (girls) / 63% (boys)




AGE GROUP: 10-12, 13-15, 16-18



AGE GROUP: 10-12, 13-15, 16-18

Gender: Girls, Boys



Conclusion

There were more girls playing violin from my results. I think it is because more boys like to do sports or play video. I will need to investigate that in the future.

GRADES 4-6

FIRST PLACE

Noah Petajisto
COVID-19 Deaths in the Nordic Countries
 Town School for Boys
 San Francisco, California

SECOND PLACE

Preston Lo
Social Distancing and Outdoor Exercise Trends in My Neighborhood During COVID-19
 Town School for Boys
 San Francisco, California

What strategy that the Nordic Countries are using to fight Covid-19 is working the best?

Background: The Nordic countries – Sweden, Denmark, Finland and Norway – are culturally, economically, politically and geographically similar countries. During the Coronavirus pandemic, Sweden stayed open while other Nordic Countries implemented lock-downs during Coronavirus pandemic. Swedish people were asked to act responsibly and social distance themselves.

Hypothesis: I believe that Sweden's strategy is not going to reach the best. I think this because all schools, restaurants and public places remained open there and it would thus be hard to control the spread of coronavirus. I think that Sweden is doing more than other Nordic countries to control the spread of the virus.

Number of Covid-19 Daily Tests the 1000 People in Denmark, Finland, Norway and Sweden

Total Covid-19 Deaths in the Nordic Countries Per Million

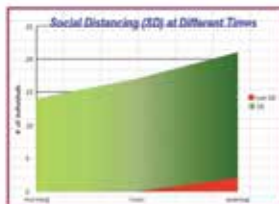
Daily New Deaths Scatter plot

Total Covid-19 Deaths in the Nordic Countries Per Million

Social Distancing and Outdoor Exercise Trends in My Neighborhood During COVID-19

By: Preston Lo

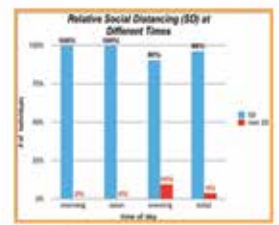
Question: What are the social distancing and outdoor exercise trends in my neighborhood during COVID-19?



- Although there was not a drastic difference on time of day, 37% exercised in the evening
- The remaining 30% exercised in the morning and 33% exercised at noon

Purpose:
 I see people exercising around my neighborhood during this time of sheltering-in-place because of the Covid-19 pandemic and wondered if these neighbors were doing the right things being asked of the public such as:
 a) Keeping a 6-foot distance from non-family members when outside and
 b) Wearing face masks?

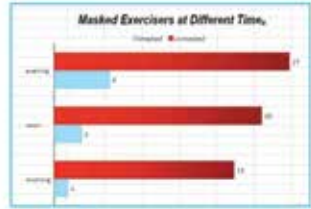
Data Collection:
 I observed people exercising from my living room window. I recorded morning, midday and evening time periods. Each observation consists of either one person or a group (2+ individuals) passing by.



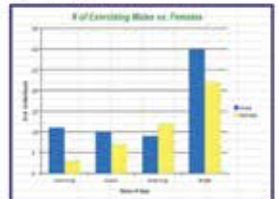
- 96% of exercisers appeared to socially distance in my neighborhood
- In the evening, the remaining 4% did not appear to socially distance



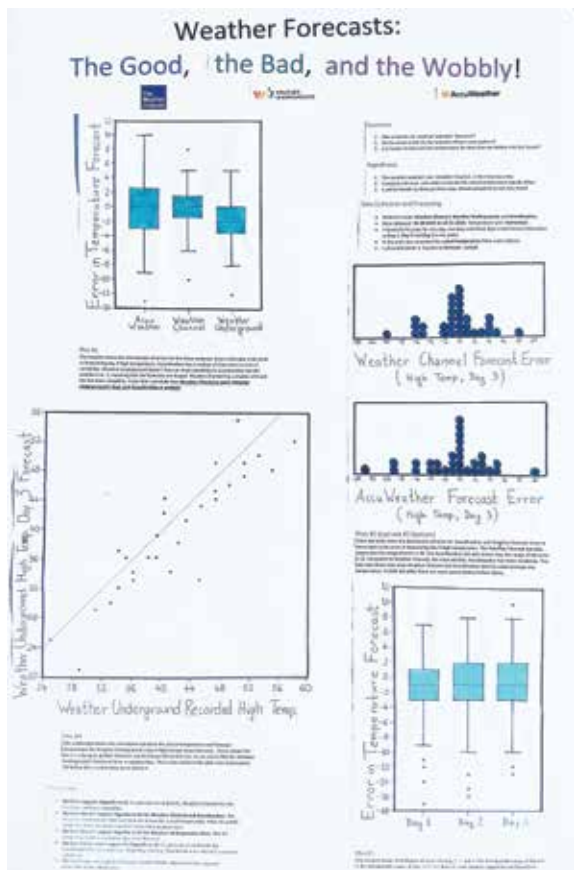
- Walking was the preferred exercise activity
- Type of exercise: 63% walkers, 13% joggers, 23% bicyclists



- The majority of my neighborhood exercisers wore face masks
- Face mask usage: 13% wore face masks, 87% did not wear face masks



- There were more male exercisers in my neighborhood
- Gender: 58% males exercisers and 42% female exercisers



GRADES 4-6

THIRD PLACE

Paavani Tewari

Weather Forecasts: The Good, the Bad, and the Wobbly!

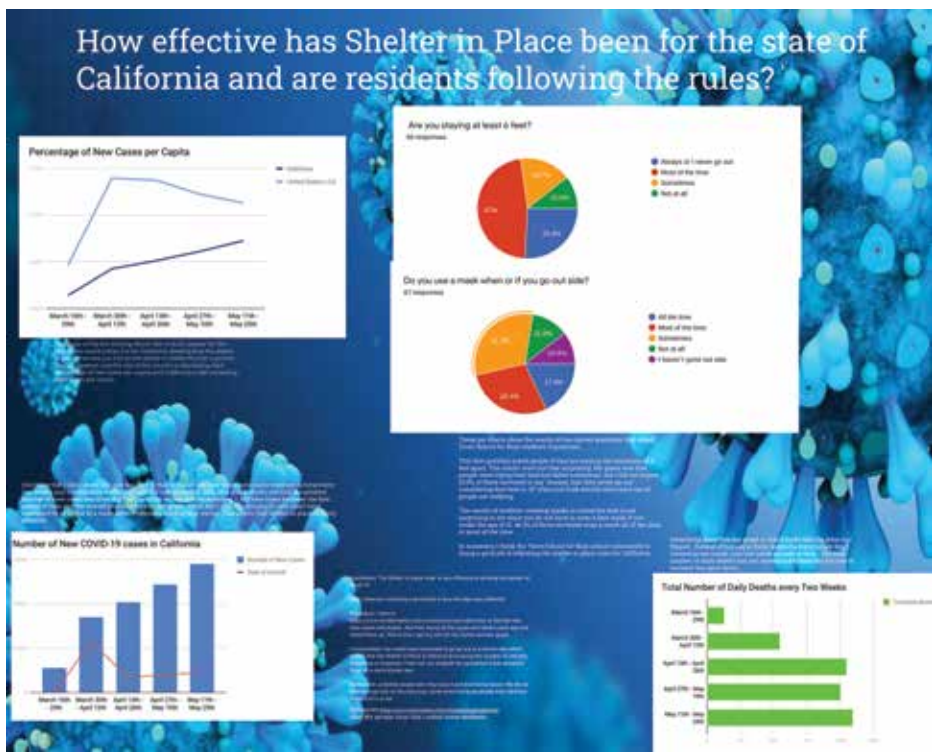
Uriah H. Lawton
Elementary School
Ann Arbor, Michigan

HONORABLE MENTION

Mason Ogborne

How Effective Is the Shelter in Place Order for California, and How Are the Residents Following the Rules?

Town School for Boys
San Francisco, California



GRADES 7-9

FIRST PLACE

Daniel Nikitin

How Has COVID-19 Impacted Online Grocery Shopping Behavior?

Roosevelt High School
Seattle, Washington

SECOND PLACE

Jacob Schwartz and Lance Hartman

Where Do You Find the Most Thrilling Roller Coasters?

Hatboro-Horsham High School
Horsham, Pennsylvania

How Has COVID-19 Impacted Online Grocery Shopping Behavior?



Hypothesis: COVID-19 has caused an increase in online grocery shopping in the US, especially in high-risk households.

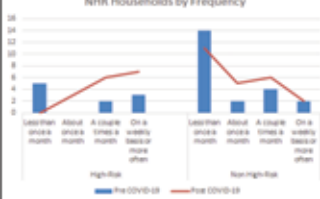
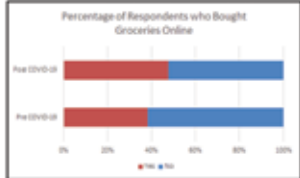
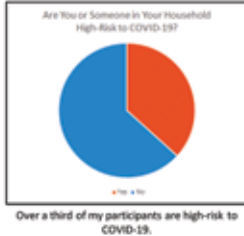


Introduction
Online grocery shopping is a very recent business. In the past decade, many new services have ventured into this novel market, such as Amazon Fresh, Instacart, and many more. For my project, I wanted to demonstrate how COVID-19 has impacted online grocery shopping and test my hypothesis through statistics.

Process
In order to test my hypothesis, I surveyed 88 staff members who work at my high school and compared data from different households.

Pre COVID-19 refers to before January 20th, 2020 (the date of the first COVID-19 case in Washington State). **Post COVID-19** refers to after.

I defined **online grocery shopping** as "ordered delivery or pickup of refrigerated/fresh goods".



This graphic concludes that COVID-19 has caused an increase in frequency of online grocery shopping. In my sample, there is an increase in people that are shopping once a month or more frequently post COVID-19.

Conclusion
It is evident from the graphics above that high-risk households online grocery shop much more often than non high-risk households. In addition, they are twice as many people who increased their shopping frequency.



Where do You Find the Most Thrilling Roller Coasters?

High, Speed, and Length
Each roller coaster is a representation of how each state's top three roller coasters compare to the country as a whole, looking at their height, top speed, and length.

The Best
The roller coaster in each state is the highest, fastest, and longest roller coaster in that state.

Does This Offer for Time Period?

Speed (ft/s)

Height (ft)

Legend: 1910-1920, 1920-1930, 1930-1940, 1940-1950, 1950-1960, 1960-1970, 1970-1980, 1980-1990, 1990-2000, 2000-2010, 2010-2020

Key Findings:
- **1910-1920:** Roller coasters were built with low heights and low speeds.
- **1920-1930:** Roller coasters were built with higher heights and higher speeds.
- **1930-1940:** Roller coasters were built with even higher heights and higher speeds.
- **1940-1950:** Roller coasters were built with even higher heights and higher speeds.
- **1950-1960:** Roller coasters were built with even higher heights and higher speeds.
- **1960-1970:** Roller coasters were built with even higher heights and higher speeds.
- **1970-1980:** Roller coasters were built with even higher heights and higher speeds.
- **1980-1990:** Roller coasters were built with even higher heights and higher speeds.
- **1990-2000:** Roller coasters were built with even higher heights and higher speeds.
- **2000-2010:** Roller coasters were built with even higher heights and higher speeds.
- **2010-2020:** Roller coasters were built with even higher heights and higher speeds.

GRADES 7-9

THIRD PLACE

Ellis Eisenberg

The Impact of Stellar Mass on Exoplanet Systems

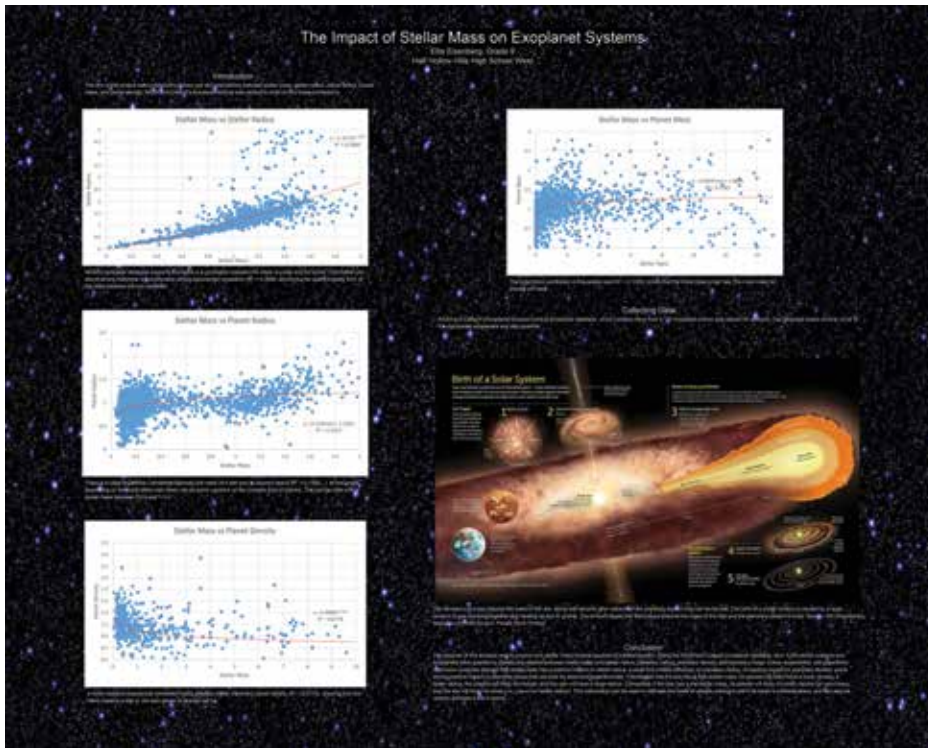
Half Hollow Hills High School West
Dix Hills, New York

HONORABLE MENTION

Mariam Hassan and Viti Chandra

GIRL POWER = WORLD POWER?

Half Hollow Hills High School West
Dix Hills, New York



GIRL POWER = WORLD POWER?

Introduction:
The goal of this project was to determine if there was any association between how educated a country's women were and how developed it was. This topic was chosen because it was hypothesized that less developed countries would have less educated women, a hypothesis made under the assumption that women would have less educational opportunities than men in developing countries. Data used to support, or fail to support the hypothesis, was gathered from the website Gapminder, which provides the public with several measures of data from different times and locations. Data was collected of the average years of schooling for women ages 25+ and scores on the human development index, for 186 countries. The human development index is a scale from 0 to 1 that measures how developed a nation is, considering many factors such as standard of living and lifespan. In addition, data of the average life expectancy for these countries was also collected. All data values were collected from the year 2009.

Question:
Does women's education have a relationship with more developed countries?

Hypothesis:
Mean years of schooling for women will have a direct correlation with a country's human development index score.

World Maps
Mean Years in School (Women 25+)

Human Development Index Score

Mean Life Expectancy

Scatterplot: Mean Years in School vs. Human Development

Means towards the right in a scatter plot to test the relationship between mean years of school and human development index scores. Located below are the calculated statistics, as well as an equation for the line of best fit.

$r^2 = 0.832$
 $r^2 = 0.636$
 $r = 0.805$
 $r = 0.797$

Scatterplot: Mean Years in School vs. Life Expectancy

To the right is a graph comparing the mean years of school against life expectancy, along with the calculated statistics, shown below.

$r^2 = 0.823$
 $r^2 = 0.680$
 $r = 0.907$
 $r = 0.826$

Further Investigation

Located below is a table comparing the data of the country with the highest mean years of education for women ages 25+, Canada, and the lowest, Afghanistan.

Country	Mean years of schooling for women (25+ in 2009)	Human Development Index Score in 2009	Mean Life Expectancy
Canada	14.2 years	0.948	84.2 years
Afghanistan	0.4 years	0.428	54.1 years

Results: Mean Years in School vs. Human Development Index

A positive correlation was found between years of women's education and the Human Development Index of a country. The r-value was 0.805 and the r-squared value was 0.636, indicating that there is a strong correlation.

Conclusion:

One can conclude from the data, that women's education has a direct relationship with human development index scores, as well as life expectancy in countries all over the world. To further evaluate the possible relationship between women's education and the development and quality of life in countries all over the world, mean life expectancy data was also collected. All three of these factors were found to have a strong, positive correlation. Though this data alone cannot suggest a causation between the factors at play, there is ample evidence to prove that there is a direct correlation between women's education and the development of countries all over the globe, and that life expectancy also seems to be a variable that shares in this relationship. Hidden variables that may be present and may perhaps be the cause of this relationship could be a nation's wealth, social justice, corruption levels, and crime. While that an additional third variable may also have a correlation, there is also uncertainty as to which variables affect the others. Regardless of all these factors, it is clear that women's education is an indicator of the quality of life and development of a nation.

GRADES 10-12

First Place

Jeremy Dumalig

*Did Stephen Curry
Deserve to Win
Unanimous MVP in 2016?*

The Nueva School
San Mateo, California

SECOND PLACE

Aissata Bah

*Beyond the Costs of
Tuition*

Phillips Academy
Andover, Massachusetts

Did Stephen Curry Deserve to Win Unanimous MVP in 2016?

Introduction

During the 2016-17 NBA Regular Season, Golden State Warriors guard Stephen Curry became the first ever unanimous MVP, receiving a perfect 100% of 107 first-place votes, the 10th time a player has the best regular season record in NBA history with 73 wins, all while accumulating unprecedented points and assisting record consistency from the rest of the league. Developing team performance, **8th** project analyzes whether or not his individual statistics warranted a unanimous MVP title. All data was scraped from NBA.com, ESPN.com, NBA.com, and Basketball Reference.com.

Field Goal Percentage by 3-Point Percentage

The colored-blue points reflect standout players who made at least 300 field goals, 80 3-pointers, and 1% free throws, and the grey dots points reflect players who failed to meet the statistical minimums above. Four goals are defined as any 3 PT or 3 FT that exceed an existing free throw.

Among standout players, Curry ranked **4th** in FG%, **2nd** in 3PT%, and **1st** in FT%, becoming the highest ever (2017-18) ever to join the 50-40-90 club of players listed, consisting of players who shot at least 50% on field goals, 40% on 3-pointers, and 90% from the free-throw line in a single season.

3-Point Makes by 3-Point Percentage

Curry made a total of **402 3-pointers**, including the previous single season record of 285, which he set in 2015, and averaging **6.48 standard deviations higher than the average NBA player**. Typically, increased volume leads to decreased efficiency, but, among qualified players (those with at least 82 3PT% indicated by the red dashed line), his 3PT% ranked **2nd** only to J.J. Redick, who made one less half of Curry's 3-point shot.

3-Point Attempts by Position

Curry's **38% 3PT%** measured **5.78 standard deviations** higher than the average guard (31.2%) and second for all-time for a single season. His 40% 3PT% from 2016-17 (27% from Carlos Hession (2016-17)) led to him attempting over **12 times more** than the median NBA player (7.2%)

Curry vs Top 10 by 3PT Shot Distance

Curry attempted **82.8% of his 3s from 26.30 feet**, compared to just 45.4% for the rest of the top 10 players combined, ranked by least 3PT (percentage A). He ranked the rest of the top 10 on **average 3PT% (65.4%)** by 8 percentage points as well as in each range by over 8 percentage points (percentage B).

True Shooting Percentage by Player Efficiency Rating

TSS weights each combined 2-point, 3-point, and free throw percentage into a single statistic that more accurately reflects a player's shooting percentage. PER aggregates offensive and defensive statistics into one metric that measures a player's per-minute productivity relative to the rest of the league. TSS% measures the percentage of a team's plays that are used by a player resulting in either a free-throw attempt, key throw, or a layup.

Curry is the **only player in NBA history to rank 1st in both TSS% and PER** in the same season, which he accomplished while leading the 4th highest (2016-17) TSS% in PER of 24.48 leads for all-time among all guards, and the **TSS% of 64.9%** was the highest by a point guard since 1985.

Conclusion

Based on individual statistics, Stephen Curry won unanimous MVP for both main reasons: **volume and efficiency**. No other player in 2016 or in NBA history compares to his 3-point volume and range, and his overall efficiency is unmatched. Excluding Curry statistically shows that both a statistical perspective, **justifying his unanimous MVP title**.

BEYOND THE COSTS OF TUITION: An Analysis of the Financial Circumstances of First-Generation Students at U.S. Undergraduate Institutions and their Implications

Source: NCEE 2016-17

Undergraduate Enrollment Faculty Income by Highest Parent Educational Attainment, 2014

Faculty income is highest for those with a graduate degree, followed by those with a bachelor's degree, and lowest for those with a high school diploma or less.

Percentage of First-Generation Students in Major Field of Undergraduate Institutions, 2015

Public 2-year institutions have the highest percentage of first-generation students, followed by Public 4-year institutions, and Private 4-year institutions have the lowest percentage.

First-Generation Students in the Withdrawal Rate by Institution Type, 2016

Public 2-year colleges have the highest median withdrawal rates for first-gen students at about 47% followed by Private For-profit (37%), Public 4-year (22%), and Private Non-profit (20%) institutions. However, there exists a moderately strong negative linear relationship between college first-gen withdrawal rates and the median amounts of debt they offer colleges with higher withdrawal rates are more likely to offer less median debt.

Parent of First-Gen Students or \$0 or Below Need to Complete Loan, 2016-2018

Public 2-year institutions have the highest percentage of first-gen students with parents who need to complete a loan, followed by Private 2-year institutions, and Public 4-year institutions have the lowest percentage.

Through Private and Public 4-year institutions grant first-gen students with higher median amounts of debt, they have higher percentages of first-gen students with \$0 in unpaid notes, implying that a greater proportion of students enrolled at these schools do not have to pay anything towards their cost of attendance or take out loans.

Percentage of First-Generation Students by Institution Type, 1990-2011

The percentage of first-gen students enrolled at institutions that are most likely to need all of their financial need has declined.

Undergraduate Enrollment with Enrolled by Highest Parent Educational Attainment, 2014

Enrollment is highest for those with a graduate degree, followed by those with a bachelor's degree, and lowest for those with a high school diploma or less.

One possible implication of first-gen students' enrollment in institutions where they incur less median debt is their employment status. They are more likely to work full-time jobs.

Conclusions

The institutions where first-gen students are more likely to enroll in—Public 2-year and Public 4-year institutions—are where they typically incur lower amounts of median debt but are also more susceptible to slipping out. This is concerning because Public and Private 4-year institutions are more likely to meet 100% of first-gen students' demonstrated need yet the percentage of first-gen enrollment at these schools has decreased in recent years. Increased enrollment while enrolling could lead to one of many consequences of first-gen students' financial circumstances.

The graphs represented by this project unfortunately do not capture all 5,000 U.S. undergraduate institutions since about half of these institutions do not publish financial specific data. More research needs to collect and publish data about first-gen students to inform future studies on the specific needs and experiences of these students.

GRADES 10-12

THIRD PLACE

Douglas Yang

Diving into the Data of Oceans and Coral Reefs

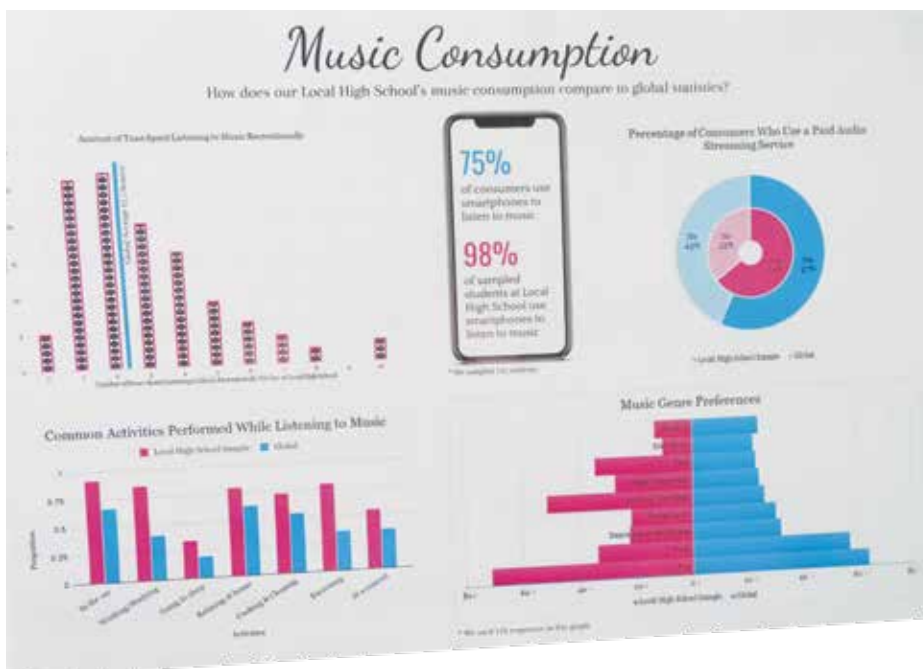
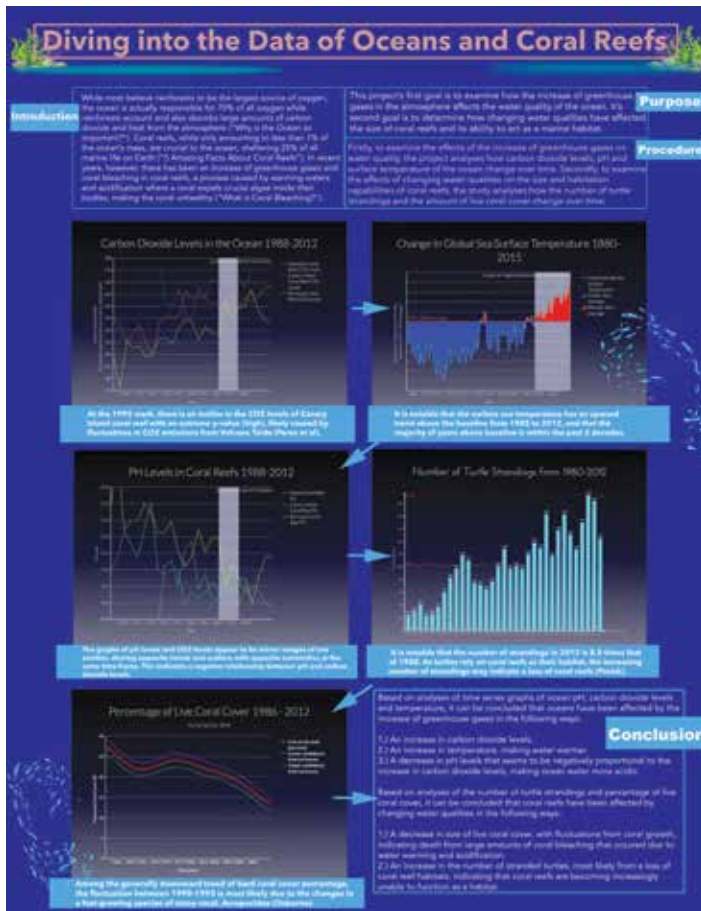
Phillips Academy
Andover, Massachusetts

HONORABLE MENTION

Sarah Crockett,
Sheldon Skobloff,
and RaeAnne Zobel

Music Consumption

Coronado High School
Las Vegas, Nevada



Sisters Collaborate on Book for Students Interested in Pharmaceutical Industry

ASA members and sisters **Olga V. Marchenko** and **Natallia V. Katenka** co-edited the book *Quantitative Methods in Pharmaceutical Research and Development: Concepts and Application*. We wanted to know more about the collaboration, so we asked them to answer the following questions.

What motivated you to collaborate on *Quantitative Methods in Pharmaceutical Research and Development: Concepts and Application*?

This book's motivation came from a discussion about how to help an individual interested in quantitative disciplines make an informed choice for a college major and future career. In the old days, if someone excelled in quantitative subjects in high school, he or she would go to college to receive a degree in mathematics or physics. Nowadays, universities offer a wide range of different concentration areas that rely on quantitative methods such as mathematics, statistics, biostatistics, pharmacometrics, genetics, computer science, and data science. Choosing a future career path may not be simple. While brainstorming ideas for the book, we decided to focus on the applications of quantitative methods in the pharmaceutical industry, where we had the most experience.

Who is the audience for this book?

We think this book will be useful to individuals starting their careers in the pharmaceutical industry. We believe it will be particularly helpful to undergraduate and graduate students interested in learning about real-world applications of quantitative methods in the pharmaceutical industry and the potential career options open to them. It may also be of interest to experts working in these areas interested in what quantitative methods different departments at a pharmaceutical company use to answer questions and how people working in these departments collaborate and build on each other's knowledge. Most chapters of the book start with the basic principles of the specific discipline, highlighting some standard methods and referencing innovative techniques and applications.



Olga V. Marchenko



Natallia V. Katenka

Is this the first time you have collaborated on a large project?

This is the first time we have collaborated on a book, which indeed was a large project. Also, this is the first time for us to write a book chapter together (Chapter 1). In the past, we coauthored an article and published it with other researchers in the *Journal of Biopharmaceutical Statistics* (<https://bit.ly/2C773nQ>). We have been consulting with each other and helped each other for many years, but mostly informally.

Can you offer any tips for creating a successful writing collaboration?

Being sisters, statisticians, and close friends, we have done many things together, but we have always been aware that we have different strengths and have appreciated our differences. We usually plan and strategize together, and then we go and work independently. One of us likes to write in her office, where her familiar quiet room and a clean desk help her focus. The other prefers to write in a more crowded and less formal environment like a coffee shop, where she can simply let her creativity flow. While working independently, we regularly check on each other's progress, keeping each other on track and on time. Once we finish our parts, we review each other's work and provide honest and constructive feedback. We are convinced that it is an essential part of the collaboration to be open-minded and avoid being defensive when cooperating with your sister or anyone else. We think our trust and respect for each other make our partnership successful. ■



WSS and RTI Select VCU Professor for 2020 Gertrude M. Cox Award

The Washington Statistical Society (WSS) and RTI International (RTI) recently announce that **Dipankar Bandyopadhyay**, a professor in the department of biostatistics at Virginia Commonwealth University, was selected as the 2020 recipient of the Gertrude M. Cox Award.

Bandyopadhyay, who earned his PhD in 2006 from the University of Georgia, has contributed substantially to the field of biostatistics, specifically Bayesian statistics, statistical methods for correlated data, survival analysis, and spatiotemporal modeling. On the substantive side, he has developed statistical methods for shedding light on topics such as oral epidemiology, sexual recidivism, cancer, substance abuse, and alcohol addiction. He has numerous publications to his credit, has received several awards, and has been active in the ASA community. He was elected an ASA Fellow in 2018.

Bandyopadhyay will deliver the Cox Award Talk, titled “Personalized Dynamic Treatment Regimes in Oral Health: A Statistical Perspective,” virtually at 11 a.m. EDT on July 15.

The Gertrude M. Cox award was established in 2003 through a joint agreement between the WSS and RTI to recognize statisticians in early to mid-career (roughly no more than 15 years after terminal degree) who have made significant contributions to statistical practice.

The award is in memory of Gertrude M. Cox (1900–1978). In 1945, Cox became director of the Institute of Statistics of the Consolidated University of North Carolina. In the 1950s, as head of the department of experimental statistics at North Carolina State College, she played

a key role in establishing mathematical statistics and biostatistics departments at The University of North Carolina. Upon her retirement from North Carolina State University in 1960, Cox became the first head of the RTI Statistical Research Division. She was a founding member of the International



Dipankar Bandyopadhyay

The Gertrude M. Cox award was established in 2003 to recognize statisticians in early to mid-career who have made significant contributions to statistical practice.

Biometric Society (IBS) and, in 1949, became the first woman elected to the International Statistical Institute. She served as president of both the American Statistical Association (1956) and IBS (1968–1969). In 1975, she was elected to the National Academy of Sciences.

This award is made possible by funding from RTI, and the honoree is chosen by a six-person committee—three each from WSS and RTI. The award includes a \$1,000 honorarium, paid travel expenses to attend the Cox Award presentation/WSS Annual Dinner, and a commemorative plaque. Past recipients include Sharon Lohr, Alan Zaslavsky, Tom Belin, Vance Berger, Francesca Domenici, Thomas Lumley, Jean Opsomer, Michael Elliott, Nilanjan Chatterjee, Amy Herring, Frauke Kreuter, Jerome Reiter, Jae Kwang Kim, Bhramar Mukherjee, Elizabeth A. Stuart, David Haziza, and Courtney Kennedy.

To learn more about Bandyopadhyay, visit <https://bit.ly/32sfHHY>. ■

Iowa State Student Wins Jackson Smith Scholarship

Submitted by David Banks

Sepideh Mosaferi, a PhD student in the department of statistics at Iowa State University, is the winner of the 2020 Wray Jackson Smith Scholarship.

After completing her BS and MS at Allameh Tabatabai University in Tehran, Iran, she earned a second MS degree at the University of Maryland College Park and then joined the department at Iowa State. She also completed a summer internship at the National Cancer Institute, working on record linkage problems associated with cancer data sets. This experience inspired her



Sepideh Mosaferi

to apply her extensive technical skills to the field of statistics with applications in public policy.

The technical strength and generality of Sepideh's research on fine stratification designs make it applicable to many federal agencies that employ complex sampling protocols. For instance, the multi-stage, one-per-stratum design has been conducted by a variety of agencies, including the US Census Bureau and Bureau of Labor Statistics in the Current Population Survey. The National Crime Victimization Survey conducted by the US Census Bureau on behalf of the Bureau of Justice Statistics and National Survey of Family Growth is also based on fine stratification designs. This breadth of impact aligns with the spirit of Wray Jackson Smith.

Sepideh's work focuses on the standard errors of point estimates from fine stratification designs, which perhaps have only one or two sampling units per stratum. This is a popular design since it permits the extensive stratification, but the standard error of its estimators can be biased or impractically large. Sepideh has successfully addressed that problem through hierarchical Bayesian modeling. Her contribution links the problem with more familiar capture-recapture methodology.

Sepideh intends to use the \$1,000 award to support her travel to the Manitoba Statistical and Health Sciences Collaborating Centre, one of the newly designated Canadian Statistical Sciences Institute's Health Science Collaborating Centres.

Members of the 2020 Wray Jackson Smith Scholarship Committee are Jenny Guarino (Chair), David Banks, and William Cecere. ■

Survey Research Methods Section News

Krista Gile, an associate professor at the University of Massachusetts, Amherst, is offering a webinar on respondent-driven sampling (RDS) in September. RDS is a link-tracing network sampling method that has been used in hundreds of studies throughout the world to sample hard-to-reach human populations.

RDS is a branching-without-replacement sampling process over an unknown irregular network, where sampling decisions are made by respondents. It is widely used because it is easy to implement in many challenging populations, but inference is necessarily based on many strong assumptions.

This webinar will describe common assumptions used for inference and highlight challenges with these approaches. It will include an introduction to respondent-driven sampling, common assumptions and inferential methods for population prevalence estimation using RDS, common approaches to estimation of population size using RDS, other inferential goals, software available for inference from RDS data, and practical challenges arising in RDS.

While a date hasn't been announced yet for the webinar, keep an eye on @srmsasa on Twitter, the SRMS Community (<https://bit.ly/2Dl1ethz>), or the SRMS website (<https://bit.ly/3h37VbP>) for updates.

If you have ideas for a webinar you would like to develop or see offered, email SRMS Education Officer James Wagner at jameswag@umich.edu.

Rajeshwari Sundaram Honored with 2020 Jeanne E. Griffith Mentoring Award

Rajeshwari (Raji) Sundaram was honored June 10 as the recipient of the 2020 Jeanne Griffith Mentoring award during a virtual ceremony hosted by the Interagency Council on Statistical Policy (ICSP). This year's ceremony marked the 18th annual presentation of this award and the 12th year the Government Statistics Section (GSS) has managed the award process.

Sundaram earned her PhD in statistics from Michigan State University and a master's in statistics (applied statistics and data analysis) from the Indian Statistical Institute, Kolkata, India. She is a senior investigator at the Eunice Kennedy Shriver National Institute of Child Health and Human Development of the National Institutes of Health (NIH). She joined the National Institute of Child Health and Human Development/Division of Intramural Population Health Research (DIPHR) in 2006 as a tenure-track investigator in the biostatistics and bioinformatics branch. In 2014, she earned a promotion to tenured senior investigator of biostatistics.

As frequently noted in her nomination letters, Sundaram has been exceptionally generous with her time spent mentoring and training staff at all levels. One of her mentees noted Sundaram has an amazing knack for inclusivity, meeting the needs of people from all backgrounds and at all levels and stages of their careers. She is known for listening carefully to questions and providing thoughtful



Rajeshwari (Raji) Sundaram recently received the Griffith Mentoring Award.

answers that respect the mentee and build self-confidence.

Sundaram has played an active role in advising NIH trainees on their options for furthering their professional trajectories. As a mentee noted, Sundaram inspired her to pursue a graduate degree in biostatistics and counseled her on everything from choosing the right university to identifying appropriate graduate mentors

and possible research areas to explore in graduate school.

Sundaram has also worked with mentees to help them develop an array of skills vital to their long-term success. One mentee credited her with significant improvements in his technical writing, adding that by the time he submitted a joint paper with her, he could defend the necessity, clarity, and truth of each sentence. In addition,

he noted these skills transferred well to grant writing, where a few unclear sentences could be the difference in getting a grant funded or not.

Those persons nominating Sundaram emphasized she is known as someone who cares about and advances the professional development of her mentees by helping them refine their skills, gain exposure, and build connections through attendance at professional conferences and NIH events. As one mentee noted, Sundaram's constant support increased her confidence in her research presentation skills and ability to communicate with those both in and out of her field.

The Award

The Jeanne E. Griffith Mentoring award honors Griffith, who died in 2001 after working for more than 25 years in the federal statistical system. The award acknowledges supervisors, technical directors, team coordinators, or other members of federal, state, or local government statistical staff who make unique efforts to mentor and encourage younger staff at all levels to learn and grow and to recognize and seize career opportunities. The award includes a plaque and \$1,000 honorarium. Nominations for the 2021 award can be submitted beginning January 2, 2021.

Questions about the award may be sent to Rick Peterson at rick@amstat.org or Bill Mockovak at Mockovak.William@bls.gov. ■

Obituary

Susan Fera Assmann

Susan Fera Assmann, 63, lost her courageous battle with cancer on Saturday, May 30, 2020, at home. She was born in Princeton, New Jersey, the daughter of the late Frederick and Mary Assmann. She is survived by her husband and soulmate of almost 32 years, Jeffrey Del Papa of Waltham, Massachusetts; her sister, Sarah Assmann of State College, Pennsylvania; her brother-in-law, Charles Rury; her nephew, Michael Rury; her mother-in-law, Gloria; other in-laws (brother, sister, and spouses), Cindy, Daniel, Ken, Johan, Laura; and three additional nephews.

Susan was the class of 1974 valedictorian at Hopewell Valley Central High School in Pennington, New Jersey. She graduated summa cum laude from Dartmouth College in 1978 and earned a PhD in mathematics (combinatorics) from the Massachusetts Institute of Technology in 1983 and an MS in biostatistics from the University of Massachusetts School of Public Health, Amherst in 1994. She has an Erdős number of two.

Susan was a principal statistician at HealthCore (formerly New England Research Institute) in Watertown, Massachusetts, where she worked for a week shy of 26 years, following a career as a



mathematics professor at the University of Massachusetts, Lowell and Regis College in Weston, Massachusetts. Susan was the co-author of more than 60 scientific publications, and her statistical analyses of data from clinical trials will aid many patients. She took a particular interest in research in the fields of transfusion medicine and hematology.

Susan was an avid reader, a student of the English art of change ringing, an enthusiastic amateur harpsichordist, and an ardent supporter of the early music community in Boston. Memorial contributions can be made to the Society for Historically Informed Performance (www.sohipboston.org) or to cancer research at Dana Farber via <https://donate.pmc.org/JJD0076>. A celebration of life will be held at a later date. Online condolences may be made at www.lastingmemories.com/susan-fera-assmann.

Travel Awards Available to Help Students Attend CSP

The Lingzi Lu, John Bartko, and Lester R. Curtin awards all offer registration and travel support to students attending the ASA Conference on Statistical Practice. The Curtin and Bartko awards provide \$1,000 in travel support, while the Lu award provides up to \$1,300 in travel support. Early registration for the conference opens September 30.

Applications for the Lu (<https://bit.ly/3j6EAiE>) and Curtin (<https://bit.ly/3fwmKDv>) awards must be submitted by October 15.

Applications for the Bartko award are due December 2 and can be found on the Bartko Award page at <https://bit.ly/3fxqi8d>.

Lester R. Curtin Award

Randy Curtin was a 38-year ASA member; an ASA Fellow; and a recognized expert for his work on childhood growth charts, longitudinal studies, standardized statistical software, vital statistics, and the design of complex sample health surveys.

To be eligible for the Curtin award, applicants must work in the field of health statistics (broadly defined as either applied, including public health policy, or clinical work) or be enrolled in a graduate program to prepare for such work. Preference will be given to those who have been working in the field for five or fewer years or who are still in graduate school.

Submissions must include the following:

- Curriculum vitae
- Personal essay (maximum of 500 words)
- Two reference letters (not to exceed two pages each)

Past chairs from the ASA Health Policy Statistics, Survey Research Methods, Biopharmaceutical, Teaching of Statistics in the Health Sciences, Mental Health Statistics, Statistics in Epidemiology, and Biometrics sections will select the award winner.

Lingzi Lu Memorial Award

The Lingzi Lu Memorial Award was created by the ASA in partnership with the International Chinese Statistical Association in remembrance of Lingzi Lu, the first-year master's student studying statistics at Boston University who lost her life in the bombing at the Boston Marathon in April 2013.

To be eligible, applicants must be enrolled in a master's degree program in statistics or biostatistics at the time of application for the award or must have completed a master's degree in statistics or biostatistics no more than two years prior to the time of application.

Submissions must include the following:

- Personal essay (maximum of 500 words)
- Two reference letters (not to exceed two pages each; academic references are preferred)
- All academic transcripts (unofficial transcripts acceptable)

John J. Bartko Scholarship Award

The John J. Bartko Scholarship Award, made possible through an endowment from John J. Bartko, was established to help promising young statisticians who are US citizens and in at least the second year of a master's degree program in statistics or biostatistics or who have completed such a program within two years prior to the award date.

Submissions must include the following:

- Personal essay that explains your career goals, what you hope to learn by attending the conference, and how you plan to contribute to real-world applications of statistics (maximum 500 words)
- Two reference letters (not to exceed two pages each; academic references are preferred)
- All academic transcripts

Contact Donna LaLonde at donnal@amstat.org with questions about these awards. ■

EDITOR'S NOTE

Due to COVID-19, dates and formats for meetings, conferences, and workshops may change. Please check event websites often for updates.

Professional Opportunity listings may not exceed 65 words, plus equal opportunity information. The deadline for their receipt is the 20th of the month two months prior to when the ad is to be published (e.g., May 20 for the July issue). Ads will be published in the next available issue following receipt.

Listings are shown alphabetically by state, followed by international listings. Vacancy listings may include the institutional name and address or be identified by number, as desired.

Professional Opportunities vacancies also will be published on the ASA's website (www.amstat.org). Vacancy listings will appear on the website for the entire calendar month. Ads may not be placed for publication in the magazine only; all ads will be published both electronically and in print.

These listings and additional information about the 65-word ads can be found at ww2.amstat.org/ads.

Employers are expected to acknowledge all responses resulting from publication of their ads. Personnel advertising is accepted with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, handicap, or sexual orientation.

Also, look for job ads on the ASA website at <https://jobs.amstat.org/jobseekers>.

Florida

■ The Health Informatics Institute at the University of South Florida invites applications for an open-rank research faculty position in biostatistics. The Institute is NIH-funded as a statistics and data coordinating center for several large clinical research networks (www.hii.usf.edu). Preferred areas of interest include longitudinal data analysis, clinical trials, and big data analytics. University benefits package, EOE. Apply to position 22377 or 24491 at Careers@USF.edu EOE ■



Improving Lives Through Research®

Statistical Career Opportunities

Westat is an employee-owned corporation headquartered in Rockville, Maryland. We provide statistical consulting and survey research to the agencies of the U.S. Government and to a broad range of business and institutional clients. With a strong technical and managerial staff and a long record of quality research, Westat is a leader in the statistical services field.

We are currently recruiting for the following position:

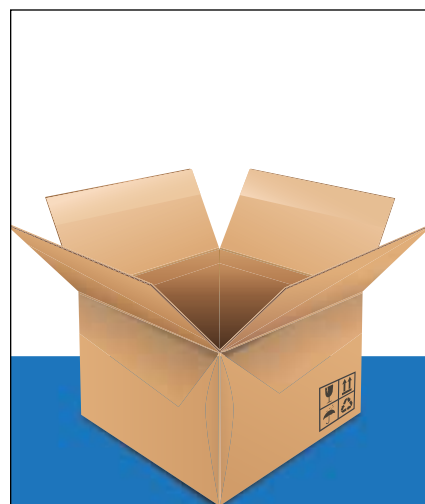
Senior Survey Sampling Statistician This position requires a master's degree or Ph.D. in statistics with coursework in survey sampling or a master's or Ph.D. in survey sampling. A Master's degree or Ph.D. in Statistics with course work in survey sampling or a Masters or Ph.D. in Survey Sampling. Candidates with a master's must have at least 15 years of experience in sample survey design, selection or weighting. Candidates with a Ph.D. must have at least 12 years of experience in sample survey design, selection or weighting. Candidates would benefit from knowing SAS, R and other statistical software packages although candidates are not required to do programming.

Westat is an Equal Opportunity Employer and does not discriminate on the basis of race, creed, color, religion, sex, age, national origin, veteran status, disability, marital status, sexual orientation, citizen status, genetic information, gender identity, or any other protected status under applicable law. To apply, go to www.westat.com/careers.

www.westat.com



An Employee-Owned Research Corporation® EOE



HAVE YOU MOVED?

Log into your ASA account and update your address at <https://goo.gl/SMJvXh>.



Strength in Numbers

Join the 300+ strong and diverse community of U.S. Census Bureau mathematical statisticians—at the heart of the statistical quality of our demographic and economic census, surveys, and research.

Your Work as a Mathematical Statistician at the Census Bureau

- Design sample surveys and analyze the data collected.
- Design and analyze experiments to improve survey questionnaires and interview procedures.
- Improve statistical methods for modeling and adjustment of seasonal time series.
- Perform research on statistical methodology that will improve the quality and value of the data collected.
- Publish research papers and technical documentation of your work.

Requirements

- U.S. citizenship
- Bachelor's, Master's, or Ph.D with at least 24 semester hours in math and statistics (see Web site for more specifics on required coursework)

Apply at www.census.gov, click on Census Careers, Type of Position, Professional/Scientific/Technical, Math Statistician

The U.S. Census Bureau is an Equal Opportunity Employer.



U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

AMSTATNEWS

ADVERTISING DIRECTORY

Listed below are our display advertisements only. If you are looking for job-placement ads, please see the professional opportunities section. For more job listings or more information about advertising, please visit www.amstat.org.

professional opportunities

US Census Bureau	p. 39
Westat	p. 38

software

BlueSky	cover 2
Stata	cover 3
JMP from SAS	cover 4

SOCIAL CHATTER

Check out #ASAFellow photos shared this month!

FOLLOW US



community.
amstat.org



www.facebook.
com/AmstatNews



@AmstatNews



www.instagram.
com/AmstatNews

There's still time to share your #ASAFellow pics! Post a photo of yourself and your family on Twitter, Instagram, or Facebook. Use the #ASAFellow and #JSM2020 tags. Make sure to share with @AmstatNews so we can celebrate together!



kelzouds

#asafellow #jsm2020 A relaxing walk-free JSM!



fsuartssciences

Congrats!

@floridastateuniversity professor Yiyuan She has been named a 2020 Fellow of the American Statistical Association. Yiyuan She is a faculty member with #fsustatistics, part of @fsuartssciences. Click the #linkinbio to get to know the new #ASA Fellow.
#fsu #floridastate #floridastateuniversity #fsucas #fsuartssciences #fsuartsandsciences #fsucollegeofartsandsciences #fsu20 #fsu21 #fsu22 #fsu23 #fsu24 #thisishowwenole #theresnoleplacelikehome #noletimelikenow #finishstrongfsu #americanstatistical association #fsuprofessor #asafellow #fsufaculty

TELL US

What statistics book are you reading right now? Share your answers with us on social media. Be sure to tag @AmstatNews.



Lucy D'Agostino McGowan

@LucyStats

This is one of my favorite photos from when my dad (not on Twitter (yet!)) became an #ASAFellow! #JSM2020



Empowering you to make a difference.

In these challenging times we are humbled to see how researchers are using Stata to analyze data in the fight against COVID-19.

stata.com/amstat-covid19

Learn more →

STATA[®]

© 2020 StataCorp LLC
Stata is a registered trademark of StataCorp LLC
4905 Lakeway Drive, College Station, TX 77845, USA.

Ed Hutchins, Cree Product Engineering Manager



Great software in the right hands
can change the world.

Cree's engineers are innovating better, more efficient LED solutions for a brighter future.
With analytics, brilliant things happen.

Read about Cree's success, and find out how JMP can help you change your world:

www.great.jmp

jmp

Statistical Discovery.™ From SAS.