June 2020, Vol 1, Issue 2

The Official Quarterly Newsletter
of the Applied Public Health Statistics Section

THE P-VALUE

In This Issue

The Mode

STATS on COVID

Wenjun Li, PhD MS

of University of Massachusetts Medical School has been actively working with local community organizations. He assisted Chinese American Association of Sudbury (CAAS) with donating personal protection equipment to local safe-net hospitals and clinics serving disadvantaged populations. As a member of CAAS, he assisted with donating urgently needed food items to Sudbury Food Pantry. Wenjun is also contributing his statistical expertise to analysis of COVID-19 burdens among Massachusetts neighborhoods, and attempting to develop new methods to identify neighborhoods and population segments with the highest burdens.

Sri Banerjee, MD, PhD, MPH, MS, CPH, MCHES

of Walden University has led a team of multidisciplinary researchers to understand the increasing trend of loneliness as a result of COVID-19 and social distancing. The social distancing practices from the COVID-19 pandemic is causing social disruption on a grand scale, potentially causing poor health outcomes. Through Google Trends analysis, we found a COVID-19-related surge in interest surrounding "loneliness." We assessed if social isolation and loneliness increase the risk for all-cause and cardiovascular disease (CVD) mortality and used the data to create a conceptual framework. Using the 10-year overall and CVD mortality follow-up data from the NHANES, we conducted survival analyses and found that individuals who experience loneliness have a significantly higher likelihood of CVD mortality than those without support.

KUDOS CORNER *by Wenjun Li*

Wei Yang, PhD MD MS

Professor of Biostatistics and Community Health of University of Nevada Reno, is named as Associate Dean for this college, and a foundation endowed professor of public health. This is a significant accomplishment. Wei has a very broad experiences in being a government public health statistician, educator and researcher. His exciting career path may inspire many young statisticians of our section. The section membership committee invited Dr. Yang to share his life stories in a future section webinar, as an open mentoring session for students and early stage professionals.

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The Variable

by Paris "AJ" Adkins-Jackson

Get to Know John Robert Zagar PhD MPH

Assistant Professor
Calumet College of St. Joseph

1. How long have you been a member of APHA? *Since 1981.*

2. You're a school psychologist, you have a clinical practice, you have interdisciplinary degrees in psychology, public health, and basic medical sciences; AND you use machine learning to study violence and other social phenomena. Name one amazing moment in your life?

I testified before U.S. House of Representatives Judiciary Subcommittee on Crime, Terrorism and Homeland Security.

3. How do you know your work has made an impact?

Few APHA members can say that 4 presidents, 3 popes, 5 US House speakers, and others know their research.

The Poisson

Statistical Inconsistency of COVID-19 P-values

by Lynn A. Agre, MPH, PhD
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Since the onset of COVID-19 pandemic, the morbidity and mortality reports have confounded epidemiological and statistical projection models. The reporting of positive cases that advance to symptomatic severity differs across sources ranging from the Centers for Disease Control to the World Health Organization. Further, the discrepancy in frequency counts of positive versus fatal cases also questions the virus screening detection and recording methods. To date, COVID-19 reporting has not included any differentiation between those who have been exposed and asymptomatic versus those who are exposed and symptomatic. The selection criterion for testing has been limited to only those that are symptomatic leading to severity bias of relative risk and attributable risk ratios. Tracking and accounting for those that have been exposed is not included in the prediction curves for the current outbreak or a potential resurgence. Thus, test statistic p-values are statistically inconsistent, and will continue to vary until reliable data are available for analysis.

Under the Curve: Protecting the Mental Wellbeing of Statistician Scientists in the COVID-19 Public Health Response

by Shana D. Stites, PsyD MS MA
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The 2019 novel severe acute respiratory syndrome coronavirus 2 (COVID-19) has resulted in statisticians and other scientists taking on the extraordinary challenge of rapidly characterizing COVID-19, prioritizing mitigation strategies, and identifying potential therapeutic targets. The stress of both the pandemic and its mitigation can take a toll scientists' wellbeing. In the week following inception of one online forum, epidemiologists and other scientists expressed anxiety, exhaustion, overburden, and fear of ineffectiveness. Similar psychological concerns were seen after 9/11.

Though specific guidance for scientists is still needed, self-care can generally help mitigate fatigue and other psychological problems precipitated by national disasters. Self-care is defined as a practice done deliberately to protect one's well-being. Practices that promote mental wellbeing include physical exercise, relaxation, daily routines with reasonable expectations, and engaging meaningful personal relationships. Assertive and consistent self-care practices may help scientists limit poor mental wellbeing and sustain an extended response to COVID-19.

To contribute to *The P-Value*, please email the Editor: AJ at pb.adkinsjackson@gmail.com

The P-Value Newsletter serves as a resource for disseminating information regarding member activities and events for the American Public Health Association's Applied Public Health Statistics Section. In addition, the newsletter is a forum to discuss current issues in the fields of public health and statistics, and provide space for the exchange ideas between members.