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Statistical Method Used to Detect, Correct Publication Bias Can Prevent Misrepresentation, Influence Judicial Decisions

CHICAGO (August 3, 2016) – A new statistical model that detects and corrects for [legal publication bias](#) will be presented by Edward Cheng, professor of law at Vanderbilt Law School, during the 2016 Joint Statistical Meetings (JSM 2016) August 3, 2016. JSM 2016 is the largest gathering of statisticians and data scientists in the world.

Publication bias occurs when published and accessible scientific studies (or legal cases in this instance) are not representative of the general population of scientific studies or legal cases. The existence of publication bias can have enduring and perhaps damaging consequences. For example, when considering whether to allow evidence into a trial, judges may render decisions based on examinations of previous case law that have been referenced in legal publications— even if unbeknownst to judges, the landscape they see is distorted by publication bias.

“This type of selection bias has the power to inadvertently mislead judges and lawyers into thinking that courts rule one way when in fact they do not,” said Cheng. “If we don’t realize publication bias is occurring, then we might make incorrect inferences about the legal system by (erroneously) treating the published cases as a representative sample.”

In designing this study, Cheng suspected that evidentiary exclusions are more likely to be published in legal journals than evidentiary admissions, particularly in the context of false confession expert testimony. He observed that false confessions have an admissibility rate of 16%. By offering statistical evidence that the 16% is biased, he is able to correct the biased figure. His model estimates an admissibility rate closer to 28%.

“One of the most exciting aspects of this study is that the statistics were not only able to detect the presence of publication bias, but that I was able to use the statistical methods to estimate the underlying reality,” said Cheng. “I certainly think this method yields a more accurate picture of how the courts decide these cases.”

Media can attend JSM 2016 for free, but must register in advance by contacting Jill Talley, ASA public relations manager, at (703) 302-1865 or jill@amstat.org.

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About JSM 2016

Occurring annually since 1974, JSM is a joint effort of the American Statistical Association, International Biometric Society (ENAR and WNAR), Institute of Mathematical Statistics, Statistical Society of Canada, International Chinese Statistical Association, International Indian Statistical Association, Korean International Statistical Society, International Society for Bayesian Analysis, Royal Statistical Society, and International Statistical Institute. JSM activities include oral presentations, panel sessions, poster presentations, professional development courses, an exhibit hall, a career service, society and section business meetings, committee meetings, social activities and networking opportunities.

About the American Statistical Association

The ASA is the world's largest community of statisticians and the oldest continuously operating professional science society in the United States. Its 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. For additional information, please visit the ASA website at www.amstat.org.

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