

Implementation and Practice

Presented by: Brandon Garrett

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forensicstats.org

CSAFE 1.0 Accomplishments

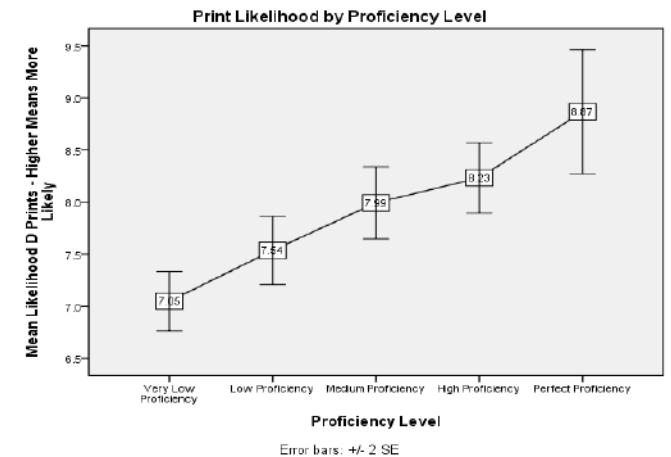
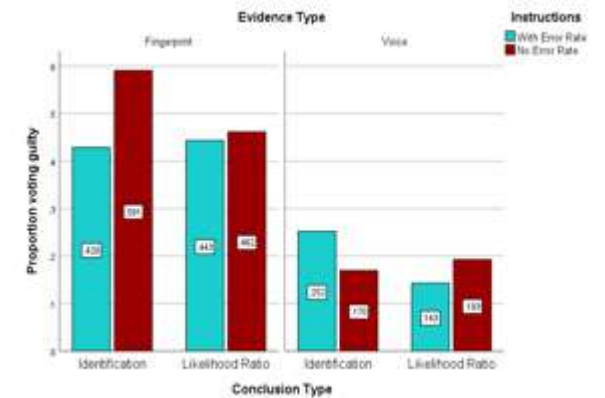
Project Title: Project U - Research on Lawyers, Jurors, and the Evaluation of Forensic Evidence

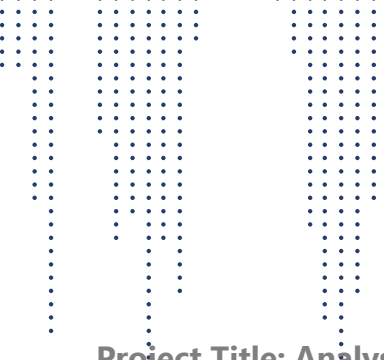
Major Accomplishments:

- Thompson, W.C.; Scurich, N. "How Cross-Examination on Subjectivity and Bias Affects Jurors' Evaluations of Forensic Science Evidence," 64 J. Forensic Sciences (2019), doi: 10.1111/1556-4029.14031.
- Thompson, W.C.; Scurich, N. "When Does Absence of Evidence Constitute Evidence of Absence," For. Sci International 291 (2018).
- Thompson, W.C.; Scurich, N.; Dioso-Villa, R., Velasquez, B. "Evaluating Negative Forensic Evidence: When Do Jurors Treat Absence of Evidence as Evidence of Absence," 14 J. Empirical Leg. Stud. 569 (2017).
- Garrett, Brandon L.; Mitchell, Gregory, "The Impact of Proficiency Testing Information and Error Aversions on the Weight Given to Fingerprint Evidence," 37 Behavioral Science and Law 1 (2019), doi: 10.1002/bsl.2402
- Mitchell, Gregory, Scurich, Nicholas, Garrett, B.L., Comparing Categorical and Probabilistic Fingerprint Evidence, J. Forensic Sciences (2018), doi: 10.1111/1556-4029.13797.
- Garrett, Brandon L.; Mitchell, Gregory, "The Proficiency of Experts," 163 University of Pennsylvania Law Review, Vol. 66, 2018.
- Garrett, Brandon L, Grady, Rebecca, & Crozier, William, *Likelihood Ratios, Error Rates, and Jury Evaluation of Forensic Evidence*, Journal of Forensic Sciences (2020)
- Garrett, Brandon L.; Mitchell, Gregory, Forensics and Fallibility: Comparing the Views of Lawyers and Jurors, 119 W.Va. L. Rev. 621 (2016)

Impact:

Unpacked how jurors respond to information about limitations of forensic techniques, including error rates, likelihood ratios, and through proficiency, as well as work on quantitative expressions of conclusions. Informed ALI Principles, training for lawyers, and standards discussions, as well as judges. Publications for forensic practitioners, judges, and in law reviews.





CSAFE 1.0 Accomplishments

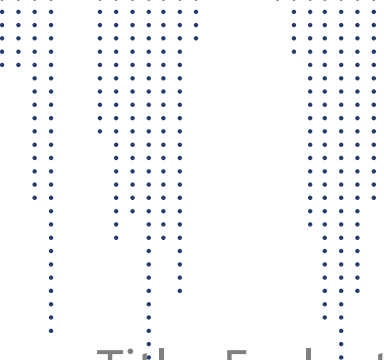
Project Title: Analysis of Forensic Testimony and Reports

Major Accomplishments:

- Completed collection and analysis of baseline of probabilistic reporting in forensic reports in 4 in-scope disciplines
- Completed survey of friction ridge examiners on attitudes toward probabilistic reporting with more than 300 responses in cooperation with the Defense Forensic Science Center.
- Completed survey of crime laboratory directors on probabilistic reporting.
- Began project of coding the cases involving forensic science contained in the National Registry of Exonerations, the nation's authoritative data repository of exonerations in cooperation with the Innocence Project.

Impact:

- Simon A. Cole & Matt Barno, "Probabilistic Reporting in Criminal Cases in the United States: A Baseline Study," revise and resubmit, *Science & Justice*
 - Presented at American Academy of Forensic Science
- Simon A. Cole, Henry Swofford & Valerie King, "'Mt. Everest--We Are Going to Lose Many': A Survey of Fingerprint Examiners Attitudes toward Probabilistic Reporting," in preparation.
- Simon A. Cole, "Individual and Collective Identification in Contemporary Forensics," *BioSocieties* (2018), <https://doi.org/10.1057/s41292-018-0142-z>.
- Simon A. Cole, "A Discouraging Omen: A Critical Evaluation of the Approved Uniform Language for Testimony and Reports for the Forensic Latent Print Discipline," *Georgia State University Law Review*, Volume 34, Number 4 (Summer 2018), pp. 1103-1128.
- Simon A. Cole & Barry C. Scheck, "Fingerprints and Miscarriages of Justice: "Other" Types of Error and a Post-Conviction Right to Database Searching," *Albany Law Review*, Volume 81, Number 3 (2017/2018), pp. 807-850.



CSAFE 1.0 Accomplishments

Title: Evaluating Lay Perceptions of Forensic Evidence (Project I)

Major Accomplishments:

Multiple peer-reviewed publications

questionnaires and jury simulation studies

participants recruited online and from jury pools

Commentaries in law reviews and professional publications for judges

This work has influenced discussions (OSAC and elsewhere) of how best to present results in reports and testimony



Research Area Objectives

As new probabilistic and statistical methods are developed they must be implemented by the forensic community.

CSAFE is focused on research to facilitate the implementation of methods and to identify best practices for their use.

Relevant research topics and goals:

Best ways to communicate statistical conclusions (both verbally and graphically),

Understanding the barriers to widespread implementation

Best practices for forensic practitioners, lawyers and judges.



CSAFE 2.0 Projects and Lead Investigators

IMPL I- Evaluating Lay Perceptions of Forensic Evidence

Lead PI: Brandon Garrett (Duke), Bill Thompson (UCI)

IMPL III- Understanding the Barriers to Accepting Probabilistic Methods

Lead PI: Simon Cole (UCI)

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Project Title: Project IMPL I - Evaluating Lay Perceptions of Forensic Evidence

Proposed Activities:

1. Efforts to better understand, as a foundational matter, how laypeople evaluate forensics

- **More realistic, ecologically valid designs. Up-to-date terminology. Deliberation studies.**

• **Work in progress:** Garrett, Brandon L, Scurich, Nicholas, & Crozier, William, How Jurors Evaluate Firearms Evidence

• Garrett, Brandon L, Kukucka, Jeff, & Crozier, William, Blinding and Jury Evaluation of Forensic Evidence

• Garrett, Brandon L.; Mitchell, Gregory, Creating Reasonable Doubt in Fingerprint Identification Cases: Substantive and Methodological Rebuttals by Defense Experts (under submission)

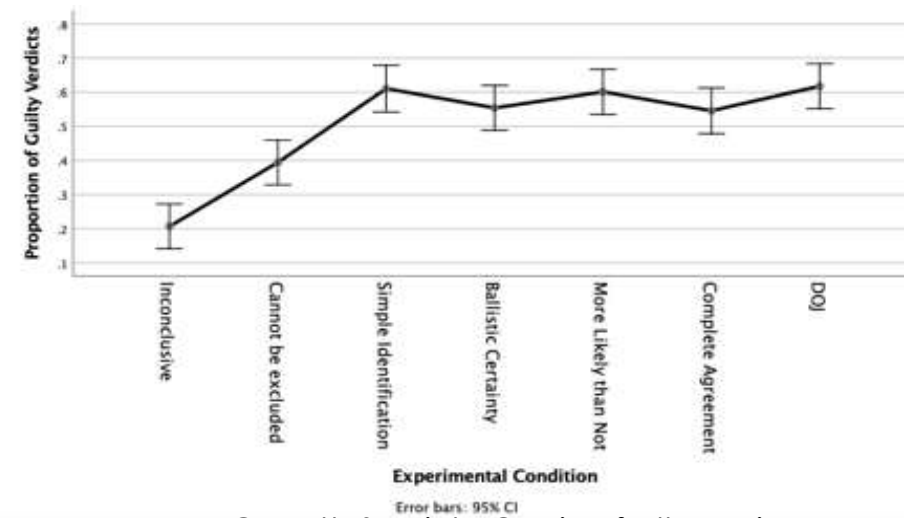
2. Testing new interventions, such as new language from OSAC, jury instructions, role of lawyers

• Thompson, assessing lay reactions to new footwear reporting language

3. Develop model recommendations for how to express forensic results in testimony, to inform standards, judicial rulings, legal approaches towards litigating forensics

Potential Impact:

Developing empirical base for standard reporting language, judicial approaches, and training for lawyers



Garrett, Scurich, Crozier, forthcoming

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Project Title: Understanding the Barriers to Accepting Probabilistic Methods

Proposed Activities:

- Undertake sociological study of forensic statistics using social scientific methods, such as interviews, participant-observation, and ethnography, and history of science, such analyses of scholarly debates conducted through published literature.
- Replicate survey of practitioner attitudes toward probabilistic reporting for other in-scope pattern disciplines.

Potential Impact:

- Facilitate the adoption of statistical applications by enabling a better understanding of the organizational cultures of the forensic service providers that will have to adopt them.
- Enhance non-statisticians' understanding of the statistics discipline and the nature of the applications it is seeking to implement with a sociological account of the discipline.

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Project Title: Evaluating Lay Perceptions of Forensic Evidence

Proposed Activities:

More elaborate and realistic studies of how communication of forensic science findings is affected by:

Characteristics of the messenger and message (e.g., nature of testimony; lawyers' arguments; graphics)

Characteristics of audience (e.g., education; numeracy)

Greater involvement practitioners in identification of research questions and preparation of experimental materials

Potential Impact: This work will be directly relevant to ongoing efforts to standardize and improve reporting practices in pattern matching disciplines.

Resources and Needs

- More outreach to lawyers, judges, forensic practitioners
- Please participate in surveys and experiments.
- Please consider starring in them!
- We look forward to your suggestions and feedback!