

# **Blind Collaborative Justice**

**Testing the Impact of Expert Blinding and Consensus Building on the  
Validity of Forensic Testimony**

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Safety and Justice Program

# Background

- Scientifically invalid testimony on forensic evidence is a cause of wrongful convictions
- Novel techniques needed to address this problem
  - Experimental investigations to demonstrate proof of concept
- National Institute of Justice funded study, 2013 - 2015

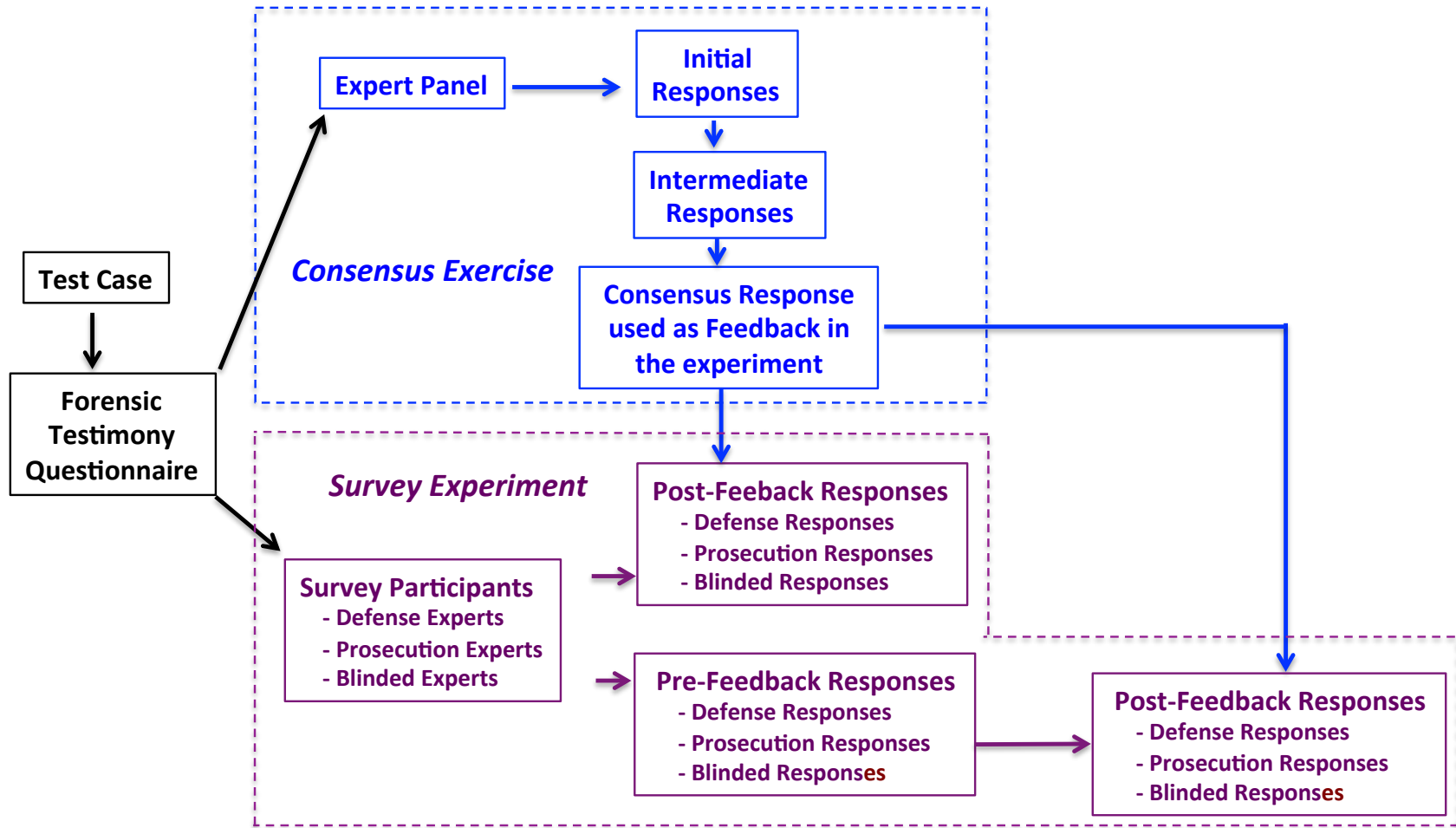
# Study Purpose and Objectives

- Examine the effects of two potential techniques improve testimony by experts
  - Blinding experts to their party representation
  - Consensus feedback from a panel of experts
- Results of study experiment to help define strategies, policies, and procedures for presentation of expert testimony
  - Reduce probability of wrongful convictions

# Approach

- Develop a hypothetical criminal case with forensic evidence
- Generate consensus interpretation of evidence with panel of relevant experts
- Conduct between-subjects survey experiment with >300 scientists in relevant fields
  - Random assignment of party representation
  - Random assignment of consensus feedback
- Analyze experiment results
- Draw conclusions, formulate recommendations, and document study

# Study Procedure



# Summary of Hypothetical Case

- **Charges:** Criminal trespass and grand theft larceny of property belonging to a private business
- **Forensic Question:** Probability defendant used the stairwell
- **Facts:**
  - Perpetrator used stairwell equipped with cameras
  - Facial recognition software places defendant in stairwell
  - Of all personnel who occupied the building, 10% of those people were estimated to have used the stairwell during the time period in question.
  - Of those personnel in the stairwell, the software correctly identifies that they were in the stairwell 99% of the time.
  - Of those personnel NOT in the stairwell, the software falsely identifies them as being in the stairwell 11% of the time.

# Eligibility Criteria

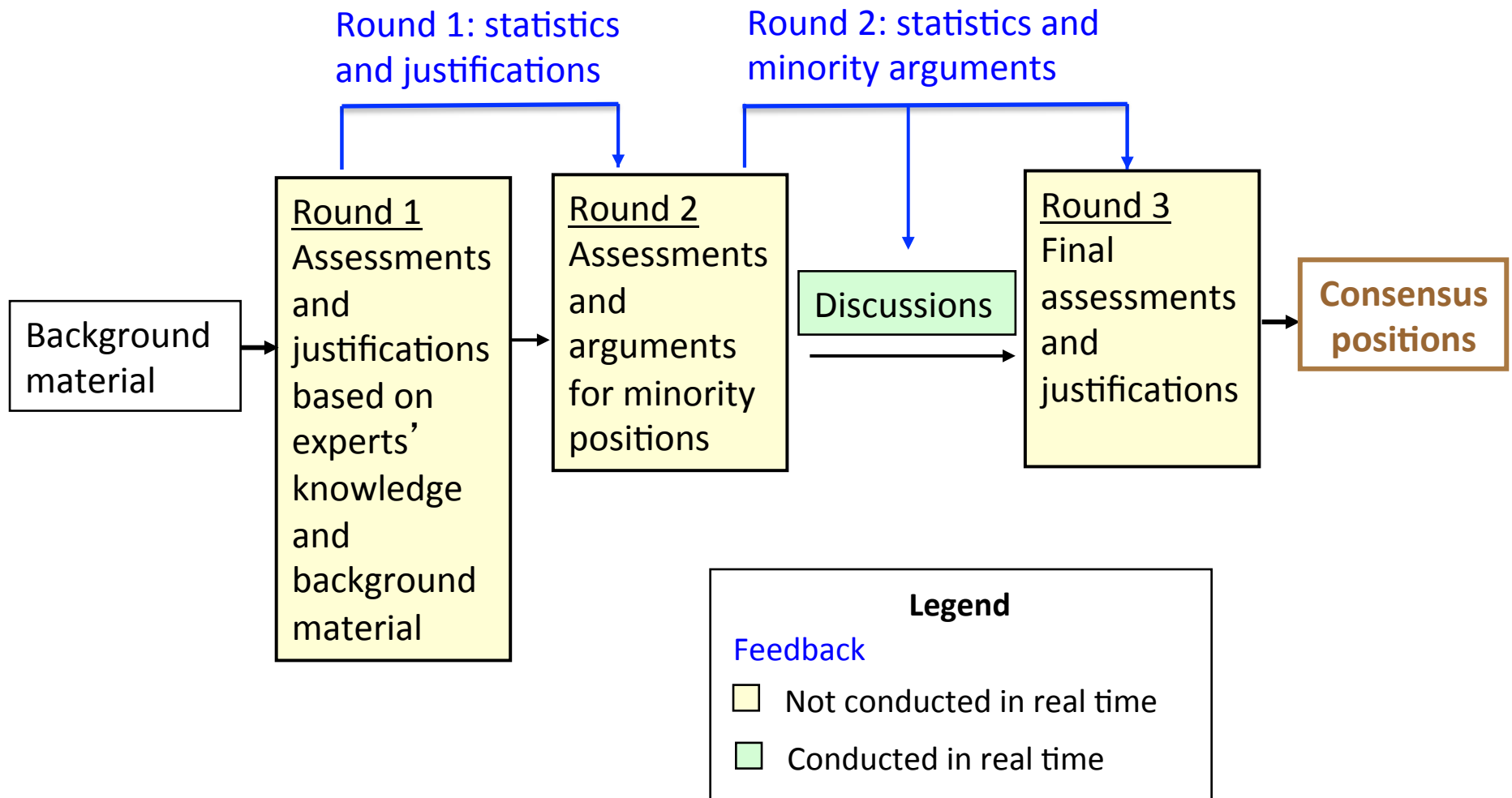
- Advanced degree or equivalent experience in a relevant scientific field
  - Examples fields in social sciences include psychology, economics, criminology, law
  - Examples fields in physical sciences include statistics, mathematics, chemistry
  - Experience in science-based analysis
  - Experience as expert witness in legal cases

# Expert Panel

- 12 RAND employees who hold doctorates in relevant scientific fields
  - Behavioral decision theory
  - Biostatistics
  - Clinical psychology
  - Criminal justice
  - Economics (2)
  - Experimental forensic psychology
  - Industrial and organizational psychology
  - Social psychology
  - Psychology
  - Statistics (2)
- Diverse areas of research
  - Criminal and civil justice
  - Economics
  - Environment
  - Defense
  - Health
  - Social communications
- Experience
  - 4 associates, 1 full, 7 senior



# Consensus Exercise Design



# Consensus Exercise

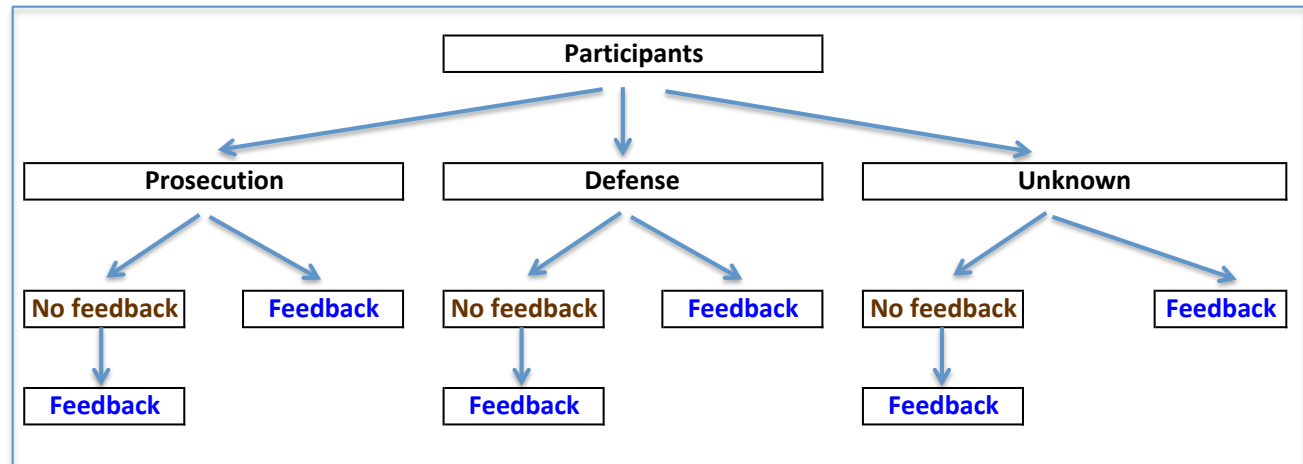
- Conducted over a ten day period
- Only two rounds required before panel arrived at unanimous response
  - Correct answer along with correct reasoning argument for answer
- Third round and oral discussion periods were not held because panel had reached a unanimous response backed by same reasoning

# Participating Professional Societies

- American Academy of Forensic Sciences
- American Association for the Advancement of Science
- American Society of Criminology
- American Statistical Association
- Association of Forensic Quality Assurance Managers
- Psychonomic Society
- Society for Judgment and Decision Making
- Society for the Psychological Study of Social Issues

# Experiment Design

Random assignment will result in  
 33.3% split in blinding conditions  
 and  
 50%/50% split between feedback conditions



## No consensus feedback condition

*Assuming the defendant has the same initial probability as the other authorized personnel of being in the stairwell, what is the percent probability that the defendant used the stairwell during the time in question?*

Please enter the best answer as a whole number between 0 and 100 in the box below.

## Consensus feedback condition

Study investigators asked a panel of 12 scientists with doctorates in relevant fields to discuss and arrive at a consensus about the best answer to the probability question above. ... The panel's final unanimous consensus response was 50%.

*Assuming the defendant has the same initial probability as the other authorized personnel of being in the stairwell, what is the percent probability that the defendant used the stairwell during the time in question?*

Please enter the best answer as a whole number between 0 and 100 in the box below.

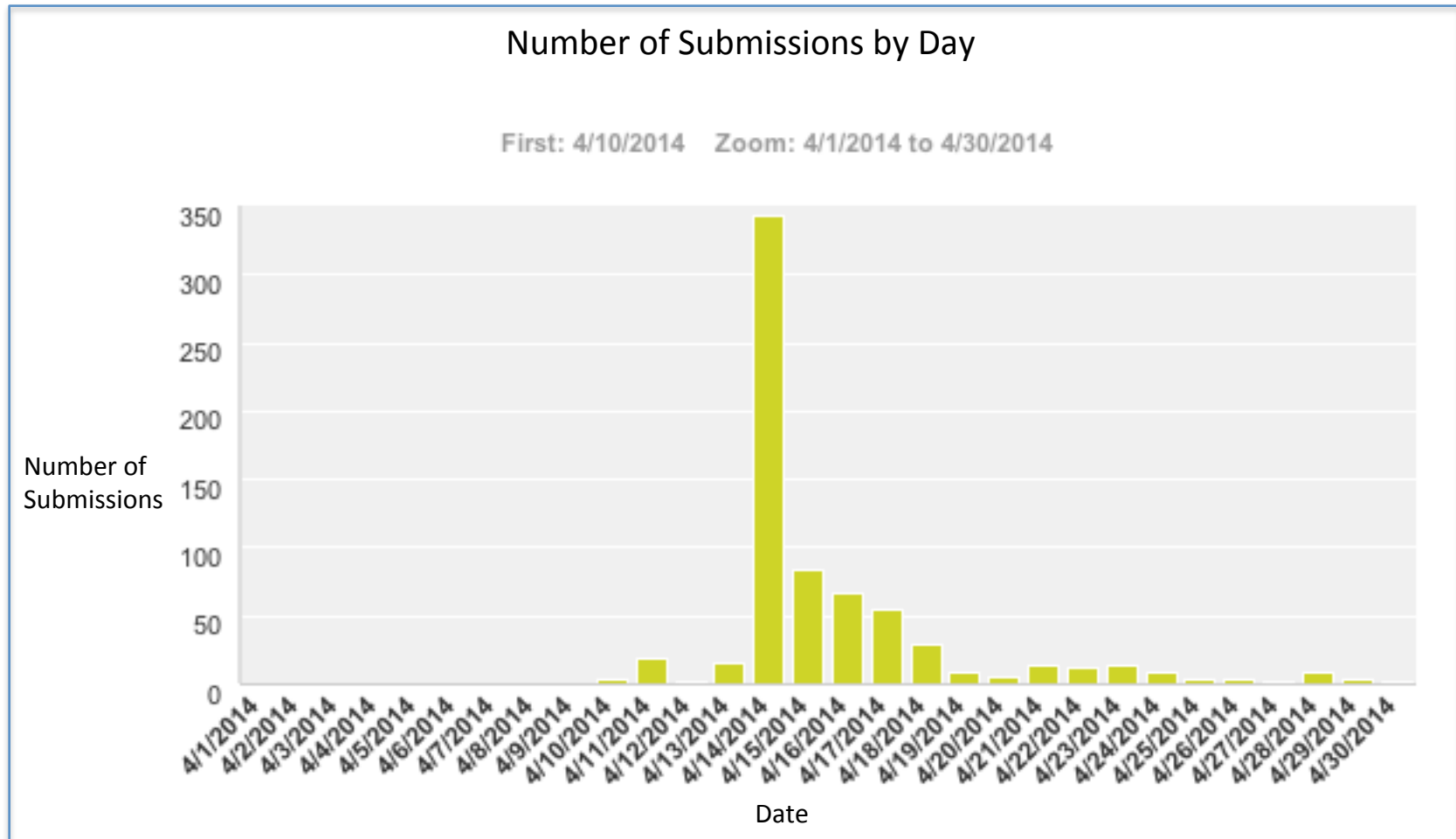
# Sample Supplemental Questions

- How confident are you in your response?
- In what field is your most advanced academic degree?
- How many times have you served as an expert consultant for the plaintiff or prosecution?
- How many times have you served as an expert consultant for defense?

# Justice Experiment Data Collection

- Justice Experiment on SurveyMonkey to collect study data
- Justice Experiment Opt-In on SelectSurvey for compensation
- Goal: Collect at least 300 usable submissions
  - Participant answers required questions
- Simultaneous activation on April 9 with formal launch on April 16
  - Continuously monitored for usable responses
  - 700 distinct accesses of Justice Experiment
  - 685 consented to take survey, 15 declined
  - 580 usable submissions

# Data Collection Progression



# Findings

- 88 percent of pre-feedback responses incorrect
- Higher education level not associated with greater accuracy
- Higher levels of consulting experience not associated with greater accuracy
  - Though more experienced responders more confident their answer was correct



# Conclusions

- Expert consensus feedback resulted in performance improvement
- No advantage due to blinding

## Conclusion

**Expert consensus feedback could potentially improve the validity of expert testimony.**

# For More Information

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