

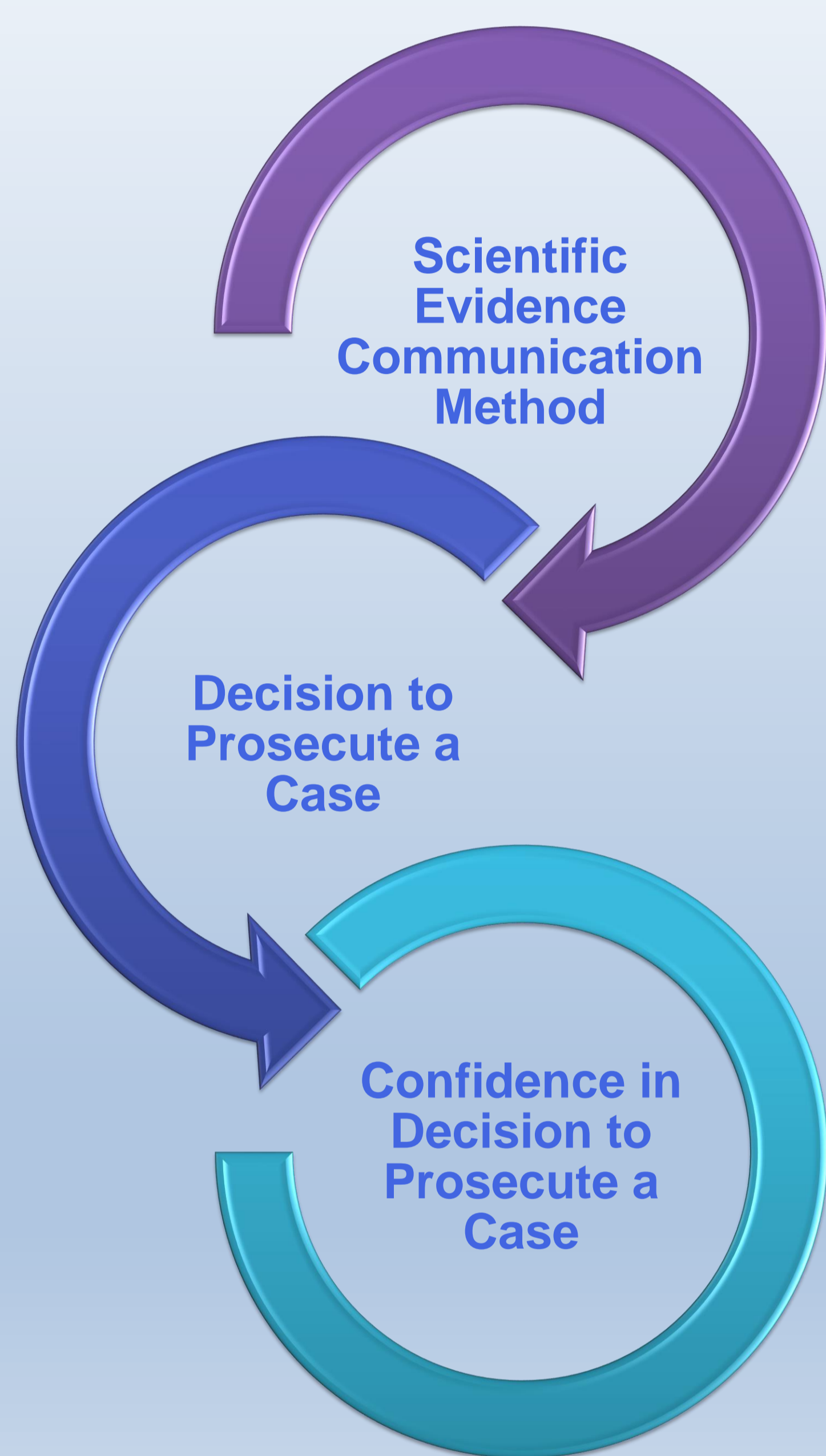
Decision-Making: The Role of Scientific Evidence Communication on Prosecutorial Decision-Making

Abstract

The decision to prosecute a criminal case and the confidence in making that decision may appear as simple binary choices at first, the truth is, however, far more complicated. Previous research indicates that language and communication method modification can affect the decision-making process by criminal justice officials (Howes, 2019; Howes, 2017). The same has been found in the communications and decision-making processes of subject matter experts to non-subject matter experts (Howes, 2016; Howes, 2015a; Howes, 2015b). For anyone attempting to interpret the probative value of scientific evidence, it can be difficult to comprehend what is meant by categorical verbal indicators and probability statements (Arscott et al, 2017; Martire, 2018; Martire & Watkins, 2015; Martire et al, 2014; Metcalf, 2019). There remains a gap in the literature examining these issues in the distinctive Scottish Criminal Justice system. Much research has been devoted to juror decision-making and verdict probability (Curley et al, 2020; Curley et al, 2019a; Curley et al, 2019b; Curley et al, 2017). There also is a gap in the decision-making process and probability assessment in terms of the decision to prosecute a case and the confidence in that decision. The current study seeks to determine if there is a relationship between the way in which scientific evidence is communicated and decision-making and the decision to prosecute a case. It will also consider how demographic factors such as age, gender, education level, and previous jury service can be used as predictive factors in that process.

Introduction

- Case decision-makers at the Crown Office Procurator Fiscal Service are not scientific experts yet make decisions to prosecute a case or not based on science.
- Several legislative changes in scientific evidence communication in criminal justice in both sexual and non-sexual violent crime in Scotland.
- Lack of research examining impact of scientific evidence communication and prosecutorial decision-making in Scotland.



Methodology

Participants

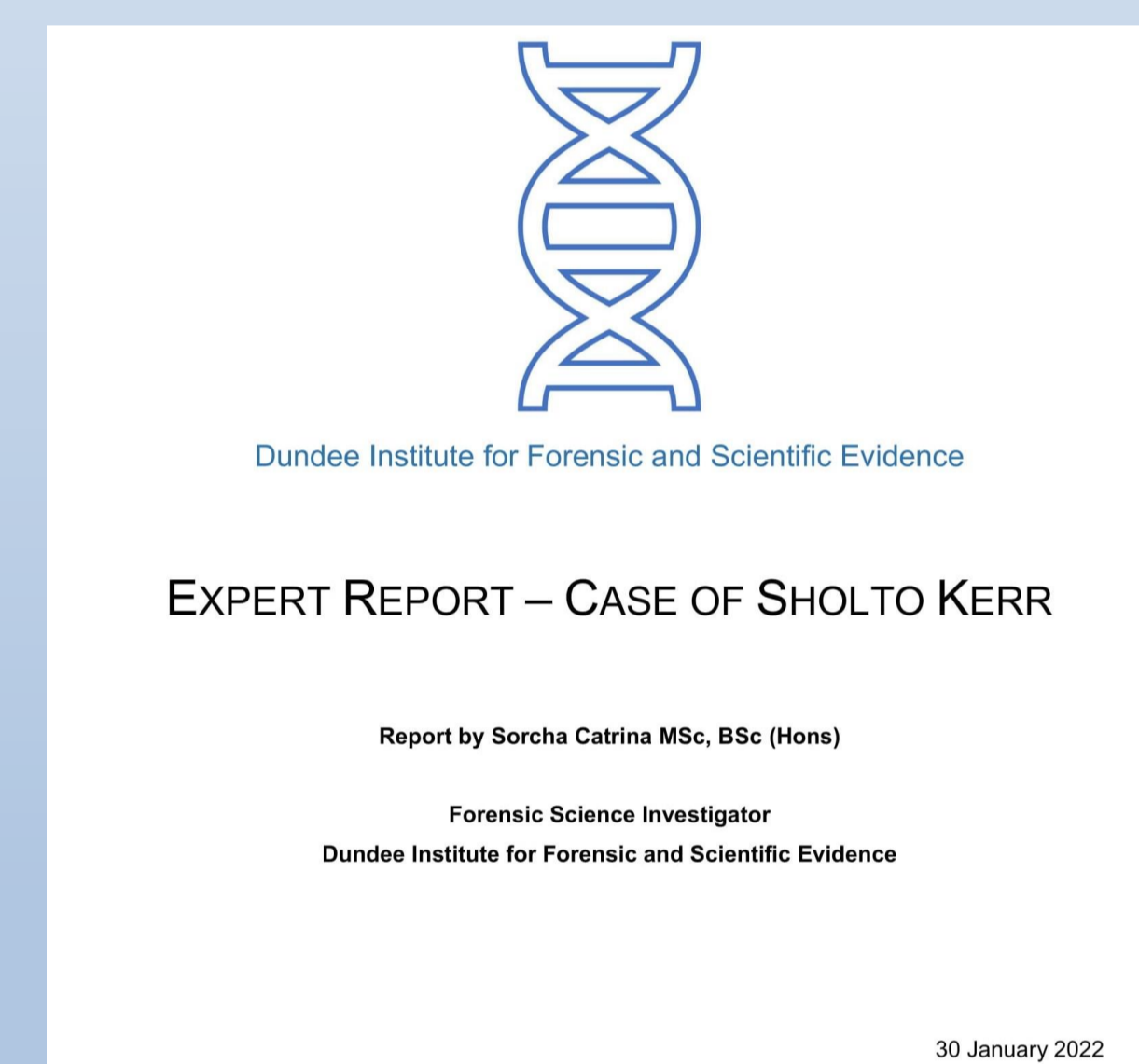
- N=130 members of the public.
- Age, Gender Identity, Education Level, Employment Sector, and Previous Jury Service data collected.

Procedure

- Participants were asked to read each report then decide whether they would proceed to prosecute a case based on the report and confidence in decision.

Materials

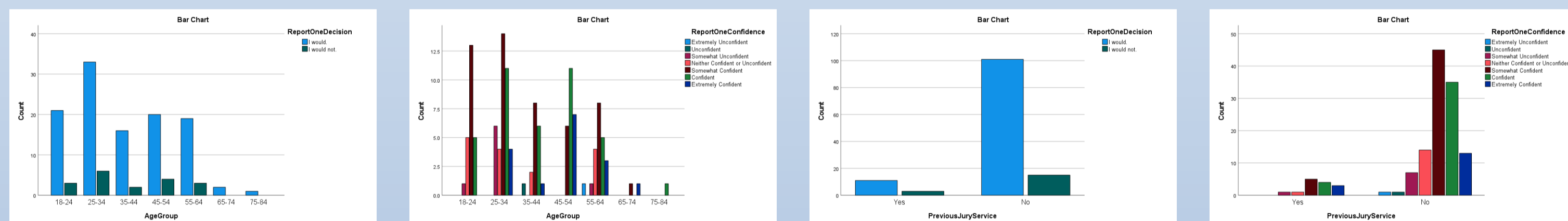
- Two DNA reports used based on the Forensic Science Regulator Code of Practice for the Development of Evaluative Opinions.
- One used categorical conclusion and the other used probability.



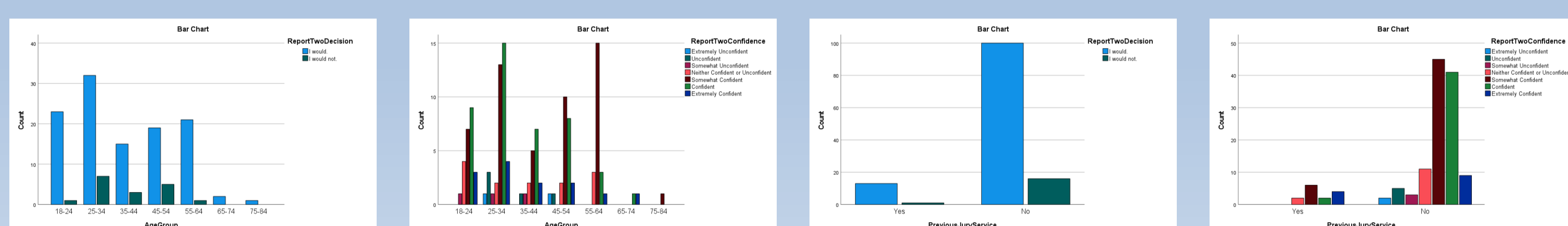
- True or false attention test questions used throughout to add scientific rigour.

Key Results

- Clear majorities across all variables for intention to prosecute the case for both reports.
- Gender, Education Level, and Employment Sector did not have significance in either decision or decision confidence.
- Noteworthy of significant confidence changes in age variable in comparison of both reports.



- Noteworthy of significant confidence changes in those that have previous jury experience in comparison of both reports.



Discussion

Results seem to indicate that when probability statements are used confidence in the decision increased in age groups.

Results also seem to indicate the same in terms of the previous jury service variable.

However with limited sample size of general public.

Other variables inconclusive due to biases toward female participants and those employed outside the criminal justice system.

Despite limitations, this study yielded new insight in prosecutorial decision-making in Scotland by varying the method of scientific evidence communication.

Establishes the need for further research into scientific evidence communication and prosecutorial decision making in the Scottish Criminal Justice System and beyond.

References

- Arscott, E., Morgan, R., Meakin, G. & French, J. (2017). Understanding forensic expert evaluative evidence: A study of the perception of verbal expressions of the strength of evidence. *Science and Justice*, 57(3), 221-227.
- Curley, L. J., Maclean, R., Murray, J. & Laybourn, P. (2019a). Decision science: a new hope. *Psychological Reports*, 122(6), 2417-2439.
- Curley, L. J., Maclean, R., Murray, J., Pollock, A. C. & Laybourn, P. (2019b). Threshold point utilization in juror decision-making. *Psychiatry, Psychology and Law*, 26(1), 110-128.
- Curley, L. J., Munro, J., Lages, M., Maclean, R. & Murray, J. (2020). Assessing cognitive bias in forensic decisions: A review and outlook. *Journal of Forensic Sciences*, 65(2), 354-360.
- Curley, L. J., Murray, J., Maclean, R. & Laybourn, P. (2017). Are consistent juror decisions related to fast and frugal decision making? Investigating the relationship between juror consistency, decision speed and cue utilisation. *Medicine, Science, and the Law*, 57(4), 211-219.
- Howes, L. M. (2015a). The communication of forensic science in the criminal justice system: A review of theory and proposed directions for research. *Science and Justice*, 55(2), 145-154.
- Howes, L. M. (2015b). A step towards increased understanding by non-scientists of expert reports: Recommendations for readability. *Australian Journal of Forensic Sciences*, 47(4), 456-468.
- Howes, L. M. (2017). 'Sometimes I give up on the report and ring the scientist': bridging the gap between what forensic scientists write and what police investigators read. *Policing and Society*, 27(5), 541-559.
- Howes, L. M. (2019). Trends and issues in the communication of forensic science. *Forensic Science International*, 304.
- Howes, L. M. & Kemp, N. (2016). Discord in the Communication of Forensic Science: Can the Science of Language Help Foster Shared Understanding? *Journal of Language and Social Psychology*, 36(1), 96-111.
- Martire, K. A. (2018). Clear communication through clear purpose: understanding statistical statements made by forensic scientists. *Australian Journal of Forensic Sciences*, 50(6), 619-627.
- Martire, K. A., Kemp, R. I., Sayle, M. & Newell, B. R. (2014). On the interpretation of likelihood ratios in forensic science evidence: Presentation formats and the weak evidence effect. *Forensic Science International*, 240, 61-68.
- Martire, K. A. & Watkins, I. (2015). Perception problems of the verbal scale: A reanalysis and application of a membership function approach. *Science and Justice*, 55(4), 264-273.
- Metcalf, J. (2019). Comparing science communication theory with practice: An assessment and critique using Australian data. *Public Understanding of Science*, 28(4), 382-400.

Contact Information



Researcher Profile



Researcher Email



Researcher Postcard