BALANCING EFFORT AND EASE- A FORENSIC SCIENTIST PERSPECTIVE ON INTEGRATING BIAS REDUCING STEPS IN FORENSIC DNA TESTING

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Bias used to be a topic that was avoided in forensic science; it was dismissed and no one want to be labeled as having it. However, the acknowledgement that as human beings we have cognitive bias is now being embraced and being considered as part of considerations in workflow and performance in forensic testing. The framework for cognitive bias can be complex and deep in our human psyche stemming from the architecture of the brain, perceptions, beliefs, evaluations, and rules. The brain also creates shortcuts in order for us to process information and make decisions quickly which may bypass details that can affect our perspectives. While one should be aware of the trappings of bias, not all cognitive bias leads to errors in forensic testing. Therefore, it is important to balance risk with effort and resource demand when integrating bias reducing steps.

Awareness of cognitive bias, through training, can allow the forensic examiner creative potential to be a change agent for the laboratory to improve interpretation of results. Some process changes such as the use of a context manager or linear sequential unmasking have been suggested. Changes to technical review and hierarchical approaches to problem solving should also be considered towards enhancing integrity of reported outcomes. An examiner trained in cognitive bias can help determine the balance needed between creating positive change or imposing a crippling workflow.

In forensic DNA testing complete blindness to case events may negatively affect workflow and interpretation. Some information is needed in order to make informed decisions on the selection of methods and technology as well as propositions and interpretation assumptions. Documenting task relevant and irrelevant information is important for each laboratory to determine in order to ensure that exposure to case content is helpful and not impacting inherent biases.

As new approaches are implemented, for example DNA mixture interpretation from manual examination to probabilistic genotyping, the laboratory still must consider cognitive bias preventative steps. It is important to consider and understand what the new sources of bias are that may creep into decision processes, hopefully before they arise.

This presentation will highlight cognitive bias that may arise in forensic DNA casework, examine areas that may have the largest return on implementing bias reducing steps, and provide the audience with confidence to have an active discussion in their laboratories on the influence of human factors in DNA testing.