E28 The Scientific Process of Blind Verification

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After attending this presentation, attendees will be able to distinguish between verification and blind verification procedures, explain the purpose of blind verification as a scientific procedure, discuss the effectiveness of blind verification, discuss the capabilities and limitations of the policy, and discuss how quality measures are related to cognitive bias and error.

This presentation will impact the forensic science community by sharing an understanding of how blind verification can be used within the fingerprint discipline as well as other forensic disciplines and will assist all members of the forensic community when discussing bias and the impact on policy. A clear understanding of the capabilities and limitations of blind verification and how it relates to error and conflict resolution policy, will assist the forensic community in addressing the topic of bias and policy within the court system. Scientists can assist the legal and judicial community by clearly articulating the role quality assurance policies play.

The 2009 National Academy of Sciences Report, *Strengthening Forensic Science in the United States: A Path Forward* cited research which explores the extent to which cognitive bias may be present and may impact forensic science examinations. The roles that various psychological factors may play in forensic pattern recognition have been discussed and the importance of being aware of the potential for bias has become widely acknowledged within the forensic science community.

In 2004, the FBI incorrectly identified a latent print on an item of evidence associated with a bombing in Madrid. In the wake of the Madrid case, thorough investigations of the latent print unit were conducted, including reviews by an internal review team, an international review panel, and the Office of the Inspector General. After reviewing the documentation and procedures in place at the time of the

Madrid case, several recommendations were made as to how to improve practices within the latent print unit. One of the recommendations included the suggestion of employing blind testing, or blind verification, within the fingerprint examination process.

While the presence of bias or the potential for bias does not relate directly to error, often the topic of bias and blind verification seem to be associated by many with error.

The FBI and other laboratories have since implemented, and subsequently improved, blind verification procedures in many forensic disciplines, including fingerprints, questioned documents, firearms, and trace evidence. The procedures and protocols developed to this end are offered, as forensic disciplines strive to be clear and transparent within the legal system. As forensic disciplines continue to receive increased attention within the court system, the need to clearly articulate procedures and protocol becomes increasingly important. Both an accurate description of such policies and the role the quality assurance policies play are important to a fair and equitable criminal justice system. This discussion seeks to explain the scientific nature of blind verification, as well as the role blind verification can play, both in the fingerprint discipline as well as other forensic disciplines. Of course, for purposes of clarity of the discussion, definitions of “verification” and “blind verification” will be discussed. Procedures used in both “verification” and “blind verification” will be reviewed to give the audience an understanding of where the procedures vary, as well as an understanding of how verification fits into scientific testing methods. The capabilities, as well as the limitations, of both “verification” and

“blind verification” will be discussed.

As scientists, it is not enough to accept recommendations to improve the science. Rather, we must ask, “Has this modification in procedure resulted in improved effectiveness and outcomes?” This seemingly simple question requires a complex answer, taking into consideration several performance measures. As such, effectiveness of quality assurance policies and the specific role blind verification plays in an attempt to reduce bias will be explored. Finally, information as to how this strategy has been implemented within the FBI Laboratory, specifically the latent print unit, will be presented. **Blind Verification, Policy, Bias**

 ** Presenting Author*