J11   Writing Speed and Fluidity and Accuracy of Calls in High and Low Complexity Signature Comparisons

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Learning Overview: After attending this presentation, attendees will understand the relationship between writing speed and fluidity, writing complexity, and the accuracy of decisions made by forensic document examiners about whether the signatures are genuine or simulated.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by demonstrating the importance of engaging in theoretically based, multidisciplinary research to an understanding of the nature of the methodology and expertise in forensic document examination.

The extensive scrutiny of the methods and findings of numerous areas of expert testimony has prompted acrimonious debate among academicians, forensic practitioners, and legal professionals concerning what has been referred to by the Forensic Science Committee of the National Academy of Sciences ("Committee") as "faulty forensic science analyses."[1] While acknowledging the importance and utility of the forensic disciplines, the Committee also addressed the perceived flaws in such evidence. For example, advances in technology in various forensic disciplines, especially in the field of DNA testing, show that erroneous or misleading forensic evidence has contributed to the wrongful conviction of innocent individuals.[1] The Committee called for improvements in forensic science practices, arguing that increased and demonstrated reliability and validity in forensics will help law enforcement investigations by improving the reliability of identifications, and homeland security efforts will also improve as improvements are made in the methods and procedures of the forensic disciplines.[1]

The Committee specifically identified several important issues, including practitioner certification, accreditation, and the availability of skilled, well-trained personnel.[1] Many areas of forensic science lack uniformity in training, accreditation, and practice standards. The Report stated that operational principles and procedures for many disciplines are not standardized between or within jurisdictions; attempts at standardization are not viewed favorably in many instances; and that protocols such as Scientific Working Group (SWG) standards "often are vague and not enforced in any meaningful way … These shortcomings obviously pose a continuing and serious threat to the quality and credibility of forensic science practice."[2]

The Committee also discussed the lack of demonstrated validity and reliability within the interpretation-based disciplines, stating "… no forensic method has been rigorously shown to have the capacity to consistently, and with a high degree of certainty, demonstrate a connection between evidence and a specific individual or source … The simple reality is that the interpretation of forensic evidence is not always based on scientific studies to determine its validity. This is a serious problem. Although research has been done in some disciplines, *there is a notable dearth of peer-reviewed, published studies establishing the scientific bases and validity of many forensic methods."*[3]

Among the writing characteristics identified by professional document examiners as indicators of genuine writing are the speed and fluidity of the questioned writing when compared to the known writings of an individual. This presentation reports empirical information about the accuracy of results of forensic document examiner comparisons of genuine-to-genuine and genuine-to-simulated signatures when considering the handwriting dynamic information obtained from digitizing tablets using Movalyzer® software. Results comparing high-complexity and low-complexity signature samples will also be reported.

Reference(s):

1. National Research Council. 2009. *Strengthening Forensic Science in the United States: A Path Forward.* Washington, DC: The National Academies Press. https://doi.org/10.17226/12589.
2. id.
3. *Supra* note 1.

Decision Accuracy, Writing Speed, Signature Complexity