L2 Understanding the Impact of Human Factors on Forensic Science: Case Studies in Fingerprint and Handwriting Examination

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After attending this presentation, attendees will better understand: (1) the general themes of human factors and organizational theory; and, (2) the findings and recommendations of the Expert Working Groups on Human Factors in Latent Print and Handwriting Examinations.

This presentation will impact the forensic science community by helping forensic professionals understand the impact of human factors on every aspect of the evidence examination process.

Forensic science plays a vital role in the criminal justice system by providing scientifically based information through the analysis of physical evidence; however, several high-profile cases in the United States and abroad have highlighted the fact that human errors can occur. Human error is an inevitable part of everyday life; however, in certain endeavors, such as forensic analysis, in which errors may lead to the loss of life or liberty, error prevention is imperative. Human factors analysis can advance the understanding of the nature of errors in complex work settings. The study of human factors is the scientific discipline concerned with the understanding of interactions among humans and other elements of a system and is the profession that applies theory, principles, data, and other methods to design in order to optimize human well-being and overall system performance. The forensic science community can benefit from the application of the substantial body of human factors research to advance the understanding of the nature of errors, enhance productivity and quality in forensic examinations, and reduce the consequences and likelihood of human error in the interpretation of evidence.

The National Institute of Justice and the National Institute of Standards and Technology have partnered to sponsor a series of expert working groups to examine the effects of human factors in forensic analyses and recommend practices to reduce the likelihood of error. Each discipline-specific working group will be comprised of experts from relevant forensic disciplines, statisticians, psychologists, researchers, and other scientific experts, in addition to representatives from the legal community, professional organizations, and other identified stakeholder groups. To date, reports, including recommendations, have been published in the areas of fingerprint and handwriting examinations. The next working groups in this series will focus on DNA mixture interpretation and tool mark examinations.

This presentation will provide the general themes of human factors and organizational theory. The findings and recommendations of the Expert Working Groups on Human Factors in Latent Print and Handwriting Examinations will be presented. A range of issues affecting forensic science disciplines in the areas of work environment, training, emerging technology, and research needs will also be covered.

This presentation will further assist forensic examiners in understanding the purposes and value of reporting and documenting examinations and will provide recommendations for standardizing the content of these materials. Presenters will discuss methods to improve trial and pretrial communications between relevant parties — the experts, lawyers, judges, and juries.

Human Factors, Handwriting Examination, Latent Print Examination

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