J3   Frequency Occurrence of Handwriting and Hand Printing Characteristics

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After attending this presentation, attendees will understand the most current statistical data available for demonstrating the uniqueness of handwriting in general and specific features.

This presentation will impact the forensic science community by providing answers to some of the commonly asked questions in courts across the country regarding information on the statistical basis for the uniqueness of handwriting.

A National Institute of Justice (NIJ) -funded research project began at the University of Central Florida in 2010. The purpose of the project is to provide statistical data as to the uniqueness of numerous handwriting and hand printing characteristics. This project was initiated by a group of document examiners who noted several court rulings in which judges admitted the forensic document examiner as an expert but noted that they were troubled by the lack of statistical support for the uniqueness claims by these examiners. This group met informally and outlined a research project that would help answer those questions. Eventually, the NIJ provided funding for this project and a formal research project under the administrative umbrella of the National Center for Forensic Science (NCFS) began. NCFS is a forensic research laboratory at the University of Central Florida that was uniquely qualified to provide the support necessary for such a large-scale project.

A project team was brought together to include forensic document examiners, statisticians, and database experts. It was decided that this project must be a statistical project about handwriting as opposed to a handwriting project about statistics. As such, the statisticians were empowered to develop the methodologies used in this project and had ultimate say in any methodology decisions. It was made quite clear, as a group, that accepted standard methodology practices were to be followed and described in detail in the final product. The team developed a stratified population sampling goal for the collection of handwriting specimens and used a previously developed handwriting form for this project. Numerous collectors were engaged to collect handwriting specimens in a random-based method but with the stratified goals in mind. Very limited direction was given to the collectors for purposes of randomness.

The initial selection of handwriting and hand printing characteristics underwent strenuous testing to establish that answers were neither subjective nor open to personal interpretation. Only features that tested with 100% agreement in a pilot test were retained in the final database. Classifiers categorized the handwriting specimens which were collected and tallied by the database expert, then the handwriting specimens were submitted to the statisticians for analyses. This presentation will reveal the results of those analyses, including frequency-occurrence ratios and the issue of interdependency in handwriting.

Handwriting, Statistics, Frequency Occurrence

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