

Abstracts

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A Comparison of the Identifying Features in Original Signatures and Electronically Scanned Signatures

Nazia Mehrban and Ian J. Turner

Electronically scanned signatures are increasingly being used as a form of personal identification on documents such as driving licences and passports. A comparison of identifying features in 150 handwritten signatures and electronically scanned versions showed that there was a statistically significant number of differences between the 2 groups ($P > 0.01$). The pen type used to create the original signature—a ballpoint, a roller ball, or a fountain pen—was also shown to affect the number of differences observed. Electronically scanned ballpoint signatures showed the least number of differences, and the electronically scanned roller ball showed the most. Paired analysis using the Pearson χ^2 test between the groups of pens shows that they are statistically different from each other ($P > 0.01$). The types of differences observed between the signatures are categorised and vary among the pen types. The variation appears to be related to the composition of the ink within the pens.

With electronic signatures being used commonly as record of identity in databases and on security documents, the forensic document examiner may frequently be required to make examinations of their authenticity or use them as specimen samples. However, the number of observed differences and the effects of a trivial matter, such as the pen used to create the signature, will make that difficult.

Frequency of Signature Styles in San Diego County

Linton Mohammed, MFS; Bryan Found, PhD; and Doug Rogers, PhD

Signatures may be classified into 3 basic structural types: text-based (each allograph can be read clearly), mixed (at least 2 allographs are legible), and stylized (1 or no allograph is legible). The relative frequency of these signature types in the San Diego (USA) population was determined by sampling 1,500 signatures from Juror Summons forms. Of interest to this study were the relationships between type of signature, gender, and ethnicity. This survey disclosed that females more commonly wrote text-based signatures than mixed or stylized types, whereas males more commonly wrote in a mixed or stylized form than in a text-based form. The difference between the genders with respect to the extent of signature stylisation was highly significant (Chi-square = 138.1, $p < 0.0005$). No remarkable differences were found between the frequencies of the 3 signature types in the Hispanic versus the non-Hispanic populations of signers. When the signature types within each of the ethnic groups were compared according to gender, no differences were found between the Hispanic and non-Hispanic males, and only a small (questionable) difference was found between the Hispanic and non-Hispanic female writers.

The Next Wave from the Critics

Bonnie L. Beal

The defense hired Professor Denbeaux to challenge the handwriting analysis for a case going to trial. Before the hearing, Professor Denbeaux provided to the court the results of a “test” he had conducted utilizing the Collaborative Testing Services, Inc. 06-524 proficiency examination. This article will examine this “test” and review its results. In his attempt to discredit the proficiency of forensic document examiners, Denbeaux instead corroborated Dr. Kam’s research.

Left-hand Writing vs. Right-hand Writing

Marianne Conrad

Determining whether a questioned text was written by a right- or left-hand writer can provide useful investigative information. Especially early in an investigation, such information can be a useful tool for rapid screening and narrowing the pool of potential suspects. In this study the writings of 30 left-hand and 30 right-hand writers were analyzed in order to find out if there are diagnostic characteristics upon which the document examiner can rely to establish the handedness of the writer. Direction of certain horizontal strokes and, to a lesser extent, the direction in which circular structures were formed were found to be useful indicators.

A Method of Statistical Evaluation of Handwriting Characteristics Developed in Russia

Tatiana Shlafer

Document experts providing the examination of handwriting evaluate the individual characteristics according to their own experience. Deciding which characteristics are more significant presents difficulty to the examiners with limited experience.

A methodology developed in Russia is intended to assist document examiners in the stage of evaluation of similarities and differences in the handwriting. It employs tables of statistical frequency of individual characteristics derived from examination of representative handwriting samples in Russian. Although this method of evaluation of individual characteristics in the handwriting cannot substitute for personal experience of the document examiner, the values assigned to characteristics based on statistical probability of their occurrence help the examiner to evaluate significance of these characteristics. Moreover, it helps to visually illustrate the process of identification and justify the conclusion in courts.