



Questioned Documents Section - 2015

J4 Natural Variation in Modern Handwriting

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After attending this presentation, attendees will have learned about the extent of natural variation in modern handwritten correspondence.

This presentation will impact the forensic science community by developing an appreciation for the range of natural variation that forensic document examiners can expect to encounter in their casework today.

Motivated by changes in modern handwriting due to more keyboarding at the computer, less cursive handwriting taught in schools, and more hand printing in general use, a study was conducted to determine the extent of the range of natural variation in modern handwriting. Natural variation results from each person's departure from the copybook handwriting system that they were taught in school. Natural variation is one of the basic principles of handwriting identification. No one writes exactly the same way twice. Appreciation for the range of natural variation in questioned and known writings helps forensic document examiners correctly identify or eliminate writers of questioned documents.

Envelopes bearing handwritten names and addresses from ten writers were collected from 2011 to 2014. The number of envelopes from the ten writers varied from two to seven. Most writers had three handwritten envelopes each. Also, the handwriting of three siblings was intercompared for the range of natural variation and the significant differences separating them. The differences proved significant even though the siblings grew up in the same house and learned to write in the same grade school. Handwriting considered from each envelope consisted of a first and last name, city name, state abbreviation, and zip code numerals. The number of times each letter of the name and additional address material appeared in the envelopes written by each writer was recorded along with the range of variation of the forms of each letter or number evaluated. Each of the 25 characters evaluated for each writer was rated N for narrow, M for moderate, or W for wide range of variation. The sample letters examined for their range of natural variation in the envelope writings of each writer revealed that these modern writers maintained a narrow to moderate range of natural variation. Only a few examples of a wide range of variation were observed.

Forensic document examiners consider many more features than basic letter construction in their typical examinations and comparisons than those considered in this study. The goal was to make an efficient assessment of natural variation in modern handwriting using limited features.

The samples are representative of everyday handwriting; however, they are possibly of a more formal writing style since they were written for clarity so that each could be delivered via the United States Postal Service system. Examples of the types of letter forms in the handwritten addresses from the ten writers will be demonstrated. This study will help forensic document examiners appreciate the degree of natural variation found in modern correspondence.

Natural, Variation, Handwriting