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This project studies the effects of time and hand dominance on different characteristics of handwriting analysis. The handwriting characteristics that were tested are line quality, slope of writing, pen lifts, letter spacing, and word spacing. These characteristics were tested in a subject's dominant and non-dominant handwriting. Twenty-five adult human subjects participated in this experiment. The research was split into two parts. Part one analyzed the characteristics of a subject's dominant and non-handwriting during the morning, afternoon, and evening of (preferably) the same day. In the part one phase, participants were asked to write: "The quick brown fox jumps over the lazy dog." Part two analyzed the authenticity of a freehand, simulation, and tracing forgery. A ruler was used to quantify the handwriting characteristics. The line quality of the dominant and non-dominant hands does not change during the different sessions. The slope of the writing changes more with the non-dominant hand. The non-dominant hand has greater letter and word spacing. The dominant hand typically changed the pen lifts number more than the non-dominant hand. "Quick" was the word that had the most changes in pen lifts for both the dominant and non-dominant hand. The freehand forgery is easy to classify as a forged attempt. The simulation forgery can be distinguished from the genuine signature, but it can still be identified as a forgery. The traced forgery could pass off as a genuine signature.