

# THE IMPORTANCE OF FORENSIC PSYCHOLOGICAL AND HANDWRITING EXPERTISE

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**Abstract.** *The article explores the possibilities of conducting handwriting analysis with due consideration of contemporary scientific advancements. The significance of this field for law enforcement agencies is highlighted, emphasizing the importance of examining handwritten texts, including letters written by individuals with malicious intent. Additionally, the article discusses the pertinent issues in forensic psychological and handwriting expertise, providing insights into matters that are relevant to expert psychologists and handwriting experts.*

**Keywords:** *graphology, court, expert, psychologist, handwriting expert, mental state, handwriting characteristics, suicide.*

Human interest in handwriting dates back to ancient times, with early philosophers like Aristotle suggesting that the appearance of one's handwriting reflects the nature of their heart. Various beliefs and theories about handwriting, grouped under the term "graphology," were later consolidated by the eminent French graphologist Jean-Hippolyte Michon (1871). Drawing on his extensive experience, Michon formulated some fundamental principles of graphology, leading to the creation of his book "The Graphological System" [1].

Historically, another significant scientific and practical field, namely graphology, has emerged [2]. In this regard, the expertise of an expert is used to directly or indirectly affect the subject's "emotional state," performing identification, diagnostic, and condition-related tasks as part of the examinations.

Forensic handwriting experts have delved into the subject of "emotional states" and expressed opinions on the performance of emotional states in a non-typical manner when performing text in text, as well as paying attention to the psychophysiological conditions of the person who writes the handwriting. Thus, psychological and forensic expertise, or text and signature psychological expertise, is a complex type of examination that involves two experts - a psychologist and a handwriting expert. Its purpose is to determine the psycho-emotional state of a person at the time when the document or signature was made. Forensic psychological and handwriting expertise is widely used not only in court proceedings but also in various stages of investigative and judicial processes, as well as in evaluating citizens and social matters.

Other types of expertise, similar to psychological and handwriting expertise, can also be structured as follows:

Court-ordered (courtless), which is carried out on the basis of the request of physical and legal persons or lawyers and subsequently forms the conclusion of a specialist (court-ordered psychological and handwriting expertise; out-of-court psychological and handwriting expertise; independent psychological and handwriting expertise).

Court-related, that is, it is determined and carried out in accordance with the decision of the court or the request of a prosecutor, plaintiff, or defendant, followed by the issuance of an expert opinion (court-related complex psychological and handwriting expertise).

Psychological and handwriting expertise, as a historical and evolving field, plays a crucial role in various legal and investigative contexts. It serves to unveil the emotional and psychological states of individuals through the examination of handwritten texts and signatures, providing valuable insights for legal proceedings and decision-making processes.

*Psychological and handwriting expertise applies to the following objects:* signatures in documents; handwritten short texts (full names); handwritten text in documents; the actual person who composed the text or signature; audio recordings, video recordings (e.g., interrogation protocols conducted with video recordings).

The purpose and tasks of psychological and handwriting expertise are as follows:

- Identifying the psychological characteristics of a person based on their handwriting.
- Evaluating a person's emotional state (fear, anger, stress, happiness, illness, etc.) at a particular time based on their handwritten text.
- Identifying changes in a person's state (e.g., confidence, depression) during text composition.
- Determining the psychological impact on a person while composing text (e.g., wills, etc.).
- Assessing the reliability/unreliability of statements made in writing.
- Determining the age of a specific text.
- Identifying the performer of the handwritten text (identification).
- Identifying the author of the handwritten text (note: the author of a text and its performer are not always the same person).
- Detecting suicidal tendencies in handwritten texts, particularly in texts written before death (suicide notes), revealing the inclination of a person to take their own life.

*Under what circumstances is psychological and handwriting examination determined and carried out?*

Independent psychological and handwriting expertise is considered a relatively new type of complex examination, but in recent times, it has become increasingly relevant. Forensic psychological and handwriting expertise is widely used not only in court proceedings but also in various stages of investigative and judicial processes. It plays a significant role in evaluating individuals in legal and social matters.

*So, what is the connection between a document and its stress condition?*

The current stage of our society's development is marked by a shift in social and ethical ideals, as well as a disruption of social stereotypes. Political, economic, and environmental factors are causing significant psychological discomfort for the population, leading to increased stress and its consequences. In particular, individuals who lack steady beliefs, attitudes, and ethical positions are more vulnerable in such situations.

Each of us has experienced stressful situations at one point or another. When subjected to a nervous state, we may fill out a document. During such times, our psyche changes, and our handwriting also evolves. Additional errors in spelling, extra letters, strokes, and various alterations can all be outcomes of a stressful condition. The changes in handwriting are closely related to physical aspects, such as the length of fingers, the movement of joints, and the development of muscles, as well as visual aspects such as the positioning of the hand, visual acuity, and viewing habits.

In modern psychology, stress is a central concept, and it is defined as the "non-specific response of the body to any demand made upon it" by Nobel laureate Hans Selye (1960, 1992).

The doctrine of stress is applied in various fields, including medicine, ecology, social issues, as well as psychophysiology, occupational psychology, career development, sports psychology, pedagogy, and military psychology. Naturally, stress regulations are also considered in legal sciences, specifically in forensic psychology and psychological expertise.

Stress, also known as "stress" in English, is a collection of protective physiological reactions that the body exhibits in response to harmful factors (stressors). The document, on the other hand, is a system of regular actions that are shaped by the motion of the hand and is primarily comprised of movements that originate from hand gestures.

The connection between a document and its stress condition lies in the fact that during periods of increased stress, individuals tend to exhibit additional handwriting traits. The changes in handwriting, such as the elongation of finger movements, changes in the shape of letters, and variations in letter size, are directly related to a person's psychological state during the document's preparation. Additional strokes, underlines, marks, and other modifications can also occur as a result of heightened stress.

Our handwriting is a reflection of our psychological state, and when we experience stress, it is often evident in our writing. Handwriting analysis can offer valuable insights into a person's mental and emotional condition at the time of writing. This information can be particularly relevant in legal proceedings, forensic psychology, and related fields.

Overall, handwriting analysis and its connection to stress conditions provide a fascinating avenue for understanding the human psyche. The document becomes a canvas upon which the individual's emotional and psychological state is displayed, offering valuable information for various applications, including forensic psychology and psychological expertise.

Psychologists argue that young children, under favorable conditions, engage in specific activities that are essential for developing their handwriting skills even before they start school, often as early as preschool (around 5-6 years of age). These activities include exercises that involve practicing with a pen and paper, which are necessary for preparing them for future handwriting tasks. These exercises often include activities like holding and controlling a pen, making strokes on paper, and shaping elements in accordance with a specific configuration.

The process of developing handwriting skills often begins early in a child's life, well before formal schooling, through various activities that prepare them for future writing tasks. These activities involve practicing with a pen, paper, and configuring elements in writing, helping children develop the necessary motor skills and coordination needed for handwriting.

The development of handwriting skills is closely related to learning to write, and this process often begins well before a child enters school, sometimes as early as preschool. Psychologists have conducted numerous experiments that demonstrate that during this period (typically around 5-6 years of age), children engage in activities that are essential for developing their handwriting skills under favorable conditions. In this way, they develop the necessary movements to manipulate a pen and apply it to paper, starting to form the elements of writing in terms of configuration.

The individuality of a person, the uniqueness of their handwriting and motor skills, play a significant role in the development of handwriting skills. Handwriting analysis often focuses on individual traits such as the shapes of letters, the elements of those letters, and unique characteristics in writing entire words. These traits can develop gradually during the process of learning to write and can be influenced by various factors.

*However, all causes can be roughly categorized into two types:*

Subjective Causes (related to an individual's anatomical, physiological, and psychological characteristics): Handwriting-habit formation depends on subjective factors since the unique handprint of each person is individual. In turn, subjective factors can be further divided into two groups:

a) An individual's anatomical characteristics, including hand structure (finger length, flexibility of joints, and development of muscles in the fingers) and visual characteristics (eye structure and visual acuity) play a crucial role in handwriting.

b) Psychophysiological characteristics, such as the state of the nervous system and the type of memory, have been proven to be related to the formation of handwriting skills. Changes in age, as well as health-related changes (emotional stress, high temperature, etc.), can also influence handwriting.

Objective Causes: These include the position of the body while writing, the quality of paper, the configuration of the written elements, non-standard writing tools, the state of the environment, and other factors. Additionally, an individual's attitude towards writing, such as carelessness or haste, can affect their handwriting. The combination of causes varies from person to person.

Repetitive and prolonged exercises result in the automatization of the handwriting process. However, automating the handwriting-motor skills to the point where they can change the document significantly and alter the document in an optimal manner, such as changing the handwriting style itself, is often challenging to achieve.

Academician I.P. Pavlov's teachings on the higher nervous activity suggest that the development of handwriting skills through repetitive exercises is due to temporary neural connections. I.P. Pavlov analyzed the relationship between temporary connections and psychological processes, emphasizing the importance of temporary connections in psychology. He pointed out that a temporary connection between two phenomena can be established when they coincide in time and space.

Both handwriting and documents, especially from a philological perspective, are closely connected with temporary connections and relationships. During the school years, temporary connections are formed during the learning process of handwriting. These temporary connections include the human voice during pronunciation, hand and finger movements, and specific movements of the fingers, hands, wrists, and elbows when manipulating the pen. These movements are incorporated into the paper in the form of letters and their combinations.

Therefore, in the process of determining whether individuals have undergone stress through handwriting analysis, it is essential to consider the following:

Changes in the manuscript can be identified in at least half of the text (subject to the condition of a highly developed manuscript), but sometimes a few words may suffice for a specific conclusion.

The number of examples of a person's handwriting samples learned for comparison should be sufficient for verification.

It may not be possible to establish a specific "disruptive" factor influencing the handwriting condition, as handwriting can vary due to abnormal conditions (such as illness or fatigue) and extraordinary conditions (stress, excitement), and in various standard ways, making a single diagnostic criterion unlikely.

Indications of the non-standard execution of the text include: discrepancies in forming and connecting letters; uneven spacing between letters in words; irregular placement of letters and words on the line or above it; additional marks or missing elements in letters; the absence of the basic connecting points in the handwriting pattern; the presence of unnecessary elements in individual letters or the occurrence of unnecessary elements in letters (repetition of individual actions).

*In addition to the above signs, in cases of stress, the following symptoms may occur:*

Writing words with various spelling errors.

Merging or adding letters to words (usually from the same words or additional ones).

Omitting or duplicating individual letters and vowels in words or sentences.

Strokes in letters that are usually executed with different movements, increasing or decreasing their number.

Lack of confidence in the correct spelling of words (multiple corrections).

Expanding the size of the manuscript.

Changing the direction of writing, reducing the size of the manuscript.

Uneven orientation of writing lines.

It should be emphasized that not all of these signs need to appear simultaneously in the text. Sometimes only one sign may be present, while in other cases, almost all of them may be observed.

Analyzing modern scientific literature reveals significant successes in research on handwriting in the context of psychology, demonstrating the achievements of various researchers' investigative positions. Establishing the scientific foundations of graphological research allows for its legal significance in important cases, as indicated by the works of Y. Chernov and V. Engalichev and other scholars. Their efforts in the field of psychological analysis of handwriting have provided valuable insights into psychodiagnostics and evaluation instruments used by forensic psychologists. Additionally, the use of mathematical algorithms and specialized software, along with the development of new methods, has significantly enhanced the study of handwriting and its product analysis in recent years.

It is worth emphasizing that to identify a person's psychological characteristics through their handwriting, one needs to examine the written texts, handwriting patterns, and, if available, the signature. However, creating an individual psychological profile or portrait of a person based on their handwriting requires access to a sufficient database of relevant personal characteristics.

For example, the examination of handwritten documents left by participants with specific intentions, as demonstrated by scholars, allows for the determination of highly precise motivations for their actions. Therefore, the study of handwriting, carried out with careful consideration of the author's individual psychological traits, can provide valuable insights into various behavioral aspects.

In this regard, research into handwritten documents written by Uzbekistan scholars suggests that analyzing these documents, while taking into account the individual psychological traits of the author, can reveal a strong motivation behind their actions. Consequently, the analysis of handwritten documents has the potential to provide valuable information about the individual's psychological motivation.

In conclusion, the research on graphology, including the psychological aspects of handwriting, has been advancing, and the recent development of innovative tools and methods, as



well as the increasing use of computational analysis, has made it possible to achieve more profound insights into human behavior through handwriting analysis. Nevertheless, it is important to note that the psychological content of handwriting examinations remains an area that requires further development and improvement. While progress has been made in forensic psychology and handwriting analysis in Uzbekistan, ongoing efforts to deepen this field of study are evident. Therefore, the future of this discipline is expected to lead to more extensive and in-depth research.

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