

HANDWRITING IN DIAGNOSTIC PERSPECTIVE

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Abstract

This article deals with applied psychology of handwriting, in particular with the use of graphology. In addition to a basic summary of contemporary approaches in the area, selected researches and foreign studies are evaluated. The article also presents results of the PORP research (Projection of Personality Traits in Handwriting, University of South Bohemia 2007) aimed at the evaluation of psychodiagnostic potential of handwriting analysis using 5-factor personality model (Big Five) and comments upon graphological methodology PORP-GRAF and possibilities of further development of the method within psychodiagnostical disciplines.

Keywords: handwriting, script, graphology, diagnostics, personality

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Introduction

Using handwriting analysis in personality assessment is one of the oldest diagnostic methods - first mentions of its usage reach the antiquity period. Massive development of the method occurred between the 19th century and the first half of the 20th century, when also the term Graphology appears for the first time (Kučera, M., 1991, p. 27, 28). It is quite surprising that despite all the interest and public attention graphology is still more or less reprobated by scientific psychology and its modern ways. Many experts claim graphology is almost an occult approach (Beyerstein, 1996) and put it on the same group as astrology and tarot cards. There is a reason - factual results of using this discipline in research studies which have been published are very inconsistent and some of them rather depressing. However, there are also few specific studies that sound more positive for graphology. In this article we will deal with some of these particular researches and their findings.

Commentary on the subject area

This paper focuses on methods based on psychologically relevant approach to handwritten material. For our purposes, these methods are called "psychology of handwriting" (PoH for short). Non-psychological disciplines, e.g. forensic handwriting expertise, grammatology, calligraphy or script semiotics, will not be concerned.

Furthermore, we should divide PoH disciplines into two groups. First group can be characterized as a "complex view" on psychological characteristics (traits) of writer (e.g. graphology, graphoanalysis or graphonomy), the second one is more focused on partial characteristics and on practical usability of its results (e.g. pragmatic graphology, medical graphology or developmental graphology).

It is necessary to remark that there is no wide agreement among different authors in terminological partition and characterization of listed disciplines (Petříková, 1998, p. 123-127). In spite of this, we consider such systematization very important. Presented division is also most common one in the relevant literature.

„Practical disciplines“ of PoH

We imply three main approaches into more practical PoH disciplines: pragmatic graphology, medical graphology and developmental graphology. These disciplines are not focused on wide description of writer's personality. The field of research is more particular and practical.

Pragmatic graphology

Pragmatic graphology is usually engaged in examination of a specific reference group. We can present a Wallner-Sandahl research as an example (Wallner, Sandahl, 1993), which studied common or typical handwriting characteristics in specifically selected group of 204 bank clerks in Sweden. For handwriting description they set up 13 basic handwriting characteristics for each participant (e.g. rake angle, symbols width or lines ascend) and afterward they processed all results using factor analysis. They identified 4 main factors, typical for the target social group (e.g. one of these factors is represented by smaller letter size and smaller letter width).

Medical graphology

Medical graphology is probably one of the most demanding PoH disciplines. Medical graphology examines anatomic and neurophysiologic conditions of handwriting process (e.g. which brain centers are involved) or influences of drugs and diseases.

The grapho-pathological aspect of studying is also very important. This means that unusual characteristics in handwriting may refer to malfunction or specific disorders (e.g. tremor, ataxia etc.) (see more in Ludewig, Dettweiler, Stein Lewinson, 1993, Teil II).

It is evident that facts and knowledge offered by medical graphology should be essential for any expert in the field of PoH.

Developmental graphology

Developmental graphology can be described as a field of study focused on psychological development of an individual and its correlation with certain features in his/her handwriting. These features can be caused by age, profession or level of psychical development. One of practical applications is assessment of scholastic maturity. Developmental graphologist Dürr (Dürr, 2004) refers to 7 main phases of development of children handwriting (in three dimensions (compaction level, characterization of stroke and its thickness)).

Dürr published also an interesting research which oscillates somewhere between developmental and pragmatic graphology. Like in previous research of Wallner-Sandahl she tried to identify common handwriting features in a selected group. This group

consisted of 26 gifted children (with IQ min. 125), 7-17 years old. After comparison of all text samples she found 4 main features, typical for the handwriting of these children. It is very early shaped handwriting, good text segmentation, volitional features in stroke and individuality expression in the whole script.

„Complex“ disciplines of PoH

Graphological disciplines classified as „complex“ can be described as methods trying to assess personality complexly through the handwriting analysis. This assessment supposedly includes general description of personality, characteristics of temperament, motivation, self, adaptation, psychical performance etc. (Kulka, 1991). Main representative of this field is certainly graphology, more or less interchangeable with hardly definable disciplines graphoanalysis and graphonomy.

„Traditional“ graphology

„Traditional“ graphology (in short just „graphology“) can be described as a prime complex PoH discipline. Graphology examines handwriting deeply and subsequently gives a full assessment of its writer, the so called personality profile.

Supposed quality and quantity of diagnostic outcomes are very different among various graphologists. Usually their descriptions of personality use temperament dimensions like extraversion/introversion, stability/instability, affectedness and habitual mode of interpersonal communication or specific way of thinking (Bahbouh, 1999). Considering all these diagnostic capabilities, graphology should be considered as one of the best psychological approaches we can find. Unfortunately these presumptions are rather theoretical and unconfirmed by trustworthy studies or researches.

Meta-analysis of Geoffreya A. Deana (Beyerstein, 1996) evaluates more than 200 published researches in this field but finds no unambiguously positive result at all. Most of analyzed studies were also very weak in methodology and lacked from scientific insufficiency.

Objections to graphology can be summarized in these points:

1) There is no reliable study that confirms validity of graphology.

Respectively there is no published research with sufficient methodology (e.g. adequate sample of persons, comparison with other diagnostic methods, full research documentation, blind or double-blind appraisal etc.) confirming assumption that graphology is able to provide reliable and complex diagnostic data (like e.g. personality profile).

2) There is no strictly defined procedure of handwriting analysis (e.g. in a manual).

This situation can be described by quoting a statement of the Czech Graphology Chamber (loose translation): „Tests of validity of graphology showed that it is not possible to test the method itself (because it includes various approaches etc.), but work of each graphologist only, with his methods and procedures.“ (ČGK, 2010). This statement is a rather controversial, if we consider that every reliable diagnostic method (even the most demanding ones, e.g. Rorschach's test) has more or less well-developed system of signing and material evaluation and does not rely on the attitude and free judgment only.

3) Disagreement in definitions and standpoints

Besides disagreement on using names of the disciplines themselves (graphology x graphoanalysis x graphonomy), we have to focus on chaotic arrangement of approaches in graphology too. Strictly speaking, graphology covers everything from very technically based metrical approach (with measurements and very high objectivity) through holistic view (using subjectivity and intuition as advantage), to completely magical approach, introduced e.g. by Rafael Schermann, in the book *Písmo nelže* (loosely translated *Handwriting Never Lies*) (1937). Of course, this variety leads not only to chaos on methodological level, but also to different and relatively inhomogeneous forms of outcomes and terminology. We can read almost spiritualistic proclamation ("darkness and light" or "mother and father" inclination) and on the other hand for example a typological interpretation (most often in old Hippocrates, Kretschmer or Jung's framework) or serious and strict psychometric definitions.

4) Graphology (and PoH in most cases) is not accepted as a scientific discipline on the academic ground

Graphology, banned from respected academic ground, is mostly in hands of different companies and instructors with no psychological education and horizons. Low level of respectability is illustrated by the book *Psychologická diagnostika dospělých* (*Psychological Diagnostics of Adults*) by professor Svoboda (Svoboda, 2005), where no remark of graphology could be find. This situation results in low interest of scientists and experts in graphology and consequently in unsatisfying quality of most publications in this field.

Possibilities of development of PoH

There are some positive indications too. For example, we can find researches and studies not focused on complex view of personality (that tries to assess everything) but searching and describing only partial connection between handwriting and psychological characteristics of a writer. This partial reciprocity means different circumstances; e.g. that only some characteristics can be inferred from handwriting or that successfulness of this process depends on writer's communication style. This approach is also supported by some interesting studies.

Research „Projection of Personality Traits in Handwriting“

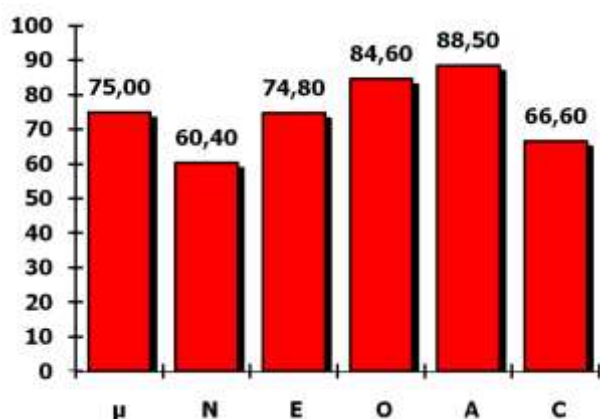
One of these researches is „Projection of Personality Traits in Handwriting“ (PORP) that was realized in 2006-2007 at the University of South Bohemia as a part of diploma thesis at the Department of Education and Psychology under supervision of professor Stuchlíková (Kučera, Stuchlíková, 2007). The main goal of this study was to develop and use original and transparent methodology of handwriting analysis, methodology PORP-GRAF. This methodology contains complex set of information and instruction usable in analysis process and results-score model. This approach combines metrical technique in gathering of information and logical procedures to identify and specify diagnostic outcomes (psychological characteristics of the writer). These outcomes were represented using the Big Five systematization in order to preserve possible compatibility with other diagnostic methods, particularly with NEO questionnaires NEO-FFI and NEO-PI-R (Hřebíčková, 2004). Analysis of handwriting was set up by large inventory of 146 graphical symbols and styles with relevant psychological interpretations, approximately 6-20 word characteristics

for each symbol or style. These interpretations were determined by semantic agreement of available graphological literature, respectively in 11 representative books by top-graphology authors (Kučera, Stuchlíková, 2007, s. 131).

The research collected data from 97 participants (students of the Faculty of Education, on average 22 years old) in the first phase and from 10 selected participants in the second phase. These participants were chosen by their temperament criteria found out by the NEO questionnaires - high and low score in the neuroticism and extraversion scale (four participants), high score in the openness to experience, conscientiousness, agreeableness scale (three participants) and three more participants with the most average score. The PORP-GRAF analysis was used with these students. Their various text samples were scored by the above-mentioned methodology and results were compared with questionnaires outcomes.

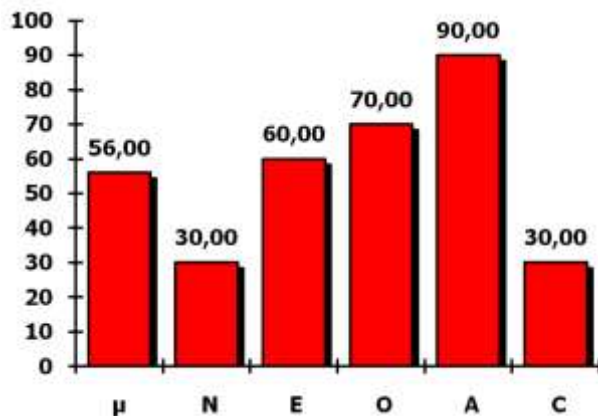
The PORP research disclosed some interesting outcomes. You can see the percentage correspondence between the NEO questionnaires and the PORP-GRAF method in the graphs bellow. This correspondence was compared with sample of all participants (n=10) but also individually, according to participants temperament polarity (N, E, O, C, A), as we can see in graphs Nr. 1 and Nr. 2. In accordance with these results we can find certain similarity between the methods - both methods were quite close in the results obtained in five of seven cases. In spite of this, in complete sample (ignoring participants temperament polarity), the results were proportionally different in the scale of neuroticism and conscientiousness. In results of scales openness to experience and agreeableness we can find a certain similarity again and somewhere between these outcomes the scale extraversion can be found (Kučera et al, 2010, p. 203). To add that these overall results do not reflect considerable dispersion of individual scores and that we worked with 10 participants only.

Graph 1: Average percentage correspondence of NEO-PI-R tests and PORP-GRAF method among all participants (n = 10, higher value = higher similarity).



Notes: μ (average correspondence), N (neuroticism), E (extraversion), O (openness to experience), A (agreeableness), C (conscientiousness)

Graph 2: Average correspondence of NEO-PI-R tests and PORP-GRAF method in separate scales in categorization „does match / doesn't match“ (divergence tolerance in match confirmation = $\pm 20\%$, higher value = higher similarity).



Notes: viz Graph 1.

After presenting raw outcomes we will focus on practical and methodological issues, that occurred during the research and should be examined.

First of all, there is a problem with different diagnostic data that were compared in the research - operational data (from the PORP-GRAF method) and respondent data (from the NEO questionnaires). Moreover, the first method uses percents and the other one percentiles. This methodological problem is described e.g. by Guthke (et al. 2002, page 172). Besides this, it is clear that the test battery should be supplemented by other projective methods too, at least as a reference.

Another question is related to the graphological method itself. In the research we worked with graphological interpretations (e.g. letter size has peculiar connotations with extraversion etc.) but these interpretations are not sufficiently reliable (they are not based on solid research). Moreover, there is an evident semantic vagueness of these characteristics and very difficult psycho-diagnostic categorization of these interpretations (viz Kučera, Stuchlíková, 2007, page 98, 99).

To conclude, the PORP research conclusions showed that graphology (at present) is not acceptable and valid psychological method for complex diagnostic assessment.

Discussion

The question whether to use handwriting analysis in (even partial) personality assessment is very hard to be answered. There are many levels and circumstances to deal with. Of course, we can surely find encouraging results in certain disciplines (such as medical graphology or pragmatic graphology) and there is evident potential of further development of these methods. On the other hand, the complex view of the analysis, represented e.g. by graphology, is much more problematic. Considering continual failures in proving its validity and insufficiency of the theoretical base itself, we have to call for

a complete revision of this discipline. It is more than evident that the declared complexity and reliability is unrealistic in these conditions. In any case, renaissance of graphology, based on elaborated theoretical foundations and research results could bring many new and promising contributions to psychodiagnostics. This "neo-graphology" could focus on various psychological areas, where solid research potential could be found - e.g. influence of social desirability, interpersonal characteristics (social and communication skills of the writer) or emotions (describing how is the handwriting process influenced by experiencing instant emotion). Indeed some encouraging studies in the field of social desirability effect description have already been published (e.g. Guthke et al, 2002). Hopefully this is promise of the handwriting analysis method for the future.

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