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The validity of graphology in personnel assessment



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Introduction

Psychologists are trained to base their judgements about the effectiveness of selection methods on evidence. This usually means published evidence of studies carried out under specific conditions, that control against spurious or artificial effects, and can be repeated by other researchers. From this point of view, the evidence about the effectiveness of hand-writing analysis is not very plentiful.

The evidence

The British Psychological Society's booklet, *Psychological Testing: A User's Guide* (Committee on Test Standards), lists a typical rank order of validity for a variety of procedures used in personnel decision-making. The list as presented ranges from 'Job simulations (*high validities*)' to 'Graphology/astrology (*zero validity*)'.

Validity is defined elsewhere in the same booklet as 'the extent to which a test measures what it claims to be measuring, the extent to which it is possible to make appropriate inferences from the test-scores'. By extension, validity is applied to any procedure – not just a psychological test – that is used as the basis for making such inferences. The precise form of validity calculation referred to in rank-ordering is known as 'predictive validity', and refers to the extent to which aspects of future performance in the workplace can be predicted by utilising the procedure concerned (Robertson & Smith, 1989).

Robertson and Smith point out that 'Decades of research into selection methods have provided a data base that, in the case of some predictors, can be used to provide a clear, quantifiable estimate of validity coefficients based on a large number of studies.' They go on to say that 'it is possible to categorise selection methods on the basis of their predictive accuracy. Work sample tests and ... 'an ability composite' ... produce the best validity coefficients. Supervisor/peer assessments, assessment centres, biodata and general mental ability are the best of the remaining methods. References, interviews, personality assessment and interest inventories provide very low, but positive validity coefficients. For self-assessments and handwriting, the evidence does not provide any support for their use as predictors of work performance.'

Then there is a quantity of research material that addresses the validity of graphology-based predictions more directly. In an abstract to their paper, Klimoski and Rafaeli (1983) state:

'Handwriting analysis has been of interest to many areas of psychology, as well as to the general public. While the popular interest in this topic has been growing over the years, scientific research is limited. This article is intended to familiarise the reader with the essential features and the present status of handwriting analysis. The procedure of analysing scripts is outlined, as are the different methods of integrating graphological inferences. Information on the ability to infer personal qualities through handwriting analysis is reviewed in light of the two basic psychometric questions: reliability and validity. Issues unique to the study of graphology are examined namely, the effects of the content of a script sample and the professional skill required to analyse script. The present state of knowledge on this topic can best be described by saying its use in applied settings is premature. Although the literature on this topic suffers from significant methodological negligence, the general trend of findings is to suggest that graphology is not a viable assessment method.'

The paper, in reviewing the state of the evidence, makes reference in one way or another to 45 other articles or publications. In the summary they refer to a 1961 review paper by Fluckinger *et al.* pointing out that these latter came to the conclusion that ‘there was indeed consistency in people’s handwriting’, but that they ‘raised real questions of the reliability of inferences made from handwriting’. Further, they had noted that the evidence ‘for the relationship of graphological inferences with criteria of interest remained fragmentary’ to which Klimoski and Rafaeli add that ‘after 20 years many of these conclusions must remain the same’. They also summarise their findings with regard to weaknesses in the methodology of research, but go on to point out that ‘when researchers are more rigorous in these areas... the results have not been supportive of the usefulness of inferences based on the script’ (Ben-Shakhar, Bar-Hillel, Bilu, Ben-Abba & Flug, 1986, with 20 references to other work).

The results of their first empirical study (an attempt to predict supervisor ratings of performance on job-related criteria) ‘lead to the conclusion, shared with previous studies, that when graphologists base their judgements on spontaneously produced text, such as autobiographical sketches, they can achieve positive, if small, validities. However, when non-graphologists analyse the same data, they achieve similar validities. So does a naive and clearly non-optimal linear model of the information used in these texts.’

In the second study (predicting, or identifying, the writer’s profession from his or her script), they conclude that ‘none of the graphologists who participated ... was able to predict a writer’s profession from a standard handwritten script to a significant degree’.

Rounding off their ‘ruminations’, they say ‘Graphological predictions thus would seem to play a role akin to that played by placebos in medicine: not completely ineffective, but for reasons other than those that make the real thing effective’ (Bayne & O’Neill, 1988).

Another study made an empirical attempt to assess personality in terms of the Myers-Briggs Type Indicator (MBTI), using graphological analysis. The authors – one a psychologist, one a graphologist – conclude that the results of the study ‘show very clearly that none of the judges were able to judge accurately though they were very confident of being able to do so, both before and after making their judgements’ (Cox & Tapsell, 1991).

In this much more extensive empirical study, the focus is on ‘criterion measures relevant to the world of work’. Cox and Tapsell examine the relationships between two forms of assessment – one a full-scale, ‘live’ assessment centre procedure being used for personnel selection purposes, and the other a graphological analyses carried out on 50 of the assessment centre participants. The validity of the Assessment Centre Method is well established (see the Robertson & Smith reference on page 3).

The criteria involved were:

- planning, organising and goal orientation;
- analysis and decision-making;
- stress management;
- oral communication;
- written communication;
- interpersonal communication and team membership;
- learning and self-development;
- developing and leading subordinates;
- financial awareness;
- drive, ambition and enthusiasm.

There was some measure of agreement found between the two graphologists, working independently of each other. But, 'without exception the correlation coefficients between the ratings provided by the individual graphologists on each dimension and those supplied by the assessors (on the assessment centre) are small and in half of the cases they are negative. A simple additive combination of the graphological dimension ratings failed to predict the overall selection decision.'

Cox and Tapsell explore some of the possible reasons for findings of this sort, and go on to recommend future research directions. However, they conclude:

'In the meantime, we have tried our utmost but have failed to provide evidence to support the use of graphology for personnel assessment. Indeed, our work adds to a gradual accumulation of negative research findings in this area.'

'No doubt, some graphologists will maintain that our efforts, although rigorous from a scientific point of view, were unfair to graphology by trying to shoe-horn it into a test validation paradigm to which it is ill-suited. If this is the case, the onus now falls upon such critics to design and carry out alternative research that will support the validity of graphology in personnel assessment.'

Conclusion

This brief summary is, of course, open to amendment. The model of knowledge acquisition outlined in the introduction leaves it open that evidence may be produced in the future that will change this current conclusion.

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