
INTERNATIONAL RESPONSE TO THE NIST/NIJ EXPERT WORKING GROUP ON HUMAN FACTORS IN FORENSIC HANDWRITING EXAMINATION REPORT

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Introduction

The NIST/NIJ Expert Working Group for Human Factors in Handwriting Examination (the Working Group) produced a report *Forensic Handwriting Examination and Human Factors: Improving the Practice Through a Systems Approach* (the HFHE Report [1]). This Report was aimed at policy makers in United States federal, state, and local government, along with forensic document examiners (FDEs) in private and public practice, however, its contents are relevant to international organizations and experts. The Working Group recognize that many of the HFHE Report's recommendations would take time to implement. Here, two years since the HFHE Report's publication, we gauge its impact within the international forensic handwriting community. This paper presents the findings of a survey seeking information about how the HFHE Report has been used globally, specifically by forensic handwriting experts (see Appendix 1). Readers should also refer to the introductory article of this special series [2].

Survey Method

We distributed an email invitation to complete the survey to members of various professional forensic document examination groups (European Network of Forensic Handwriting Experts, American Society of Questioned Document Examiners, American Board of Forensic Document Examiners, Australasian

Society of Forensic Document Examiners Inc, Asian Network Forensic Science, Association of Forensic Document Examiners and the Society of Expert Forensic Document Examiners, Greece (PEDIKGRAF), as well as via an international forensic document examination email distribution list and personal contacts. The authors determined that this selection of societies and distribution lists would capture a reasonable proportion of FDEs who should have had exposure to the HFHE Report.

The survey instrument was a Google form. The invitation email asked for only one response be provided per laboratory, but we have no way of knowing if multiple respondents represent the same laboratory. Responses were anonymous.

Survey Results

We received a total of 48 responses from 17 different countries (see Table 1). Just over a third of responses (37.5%) were from the United States. The responses were about evenly split between government laboratories (46%) and private practice (54%, including university laboratories) dealing with both criminal and civil casework.

Most respondents (79%) were aware of the HFHE Report prior to receiving the survey, and of these, all but one said they had read the HFHE Report. We note the selection bias in who was invited to partake in the survey, and that those who are aware of the report are more likely to respond to such as request.

Almost half of respondents stated that the HFHE Report confirmed their working practices, with

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Country	Number of responses	Country	Number of responses
Argentina	3	Mexico	1
Australia	4	South Africa	2
Bosnia & Herzegovina	1	Spain	2
Colombia	1	Sweden	1
France	1	Switzerland	2
Germany	3	Taiwan	1
Greece	2	United Kingdom	4
Hungary	1	United States of America	18
Israel	1		

Table 1. Respondent's country of resid

Impact	Number of responses (%)
Confirmed working practices	22 (45.84%)
Prompted a change in working practices	15 (31.25%)
Prompted a research project	2 (4.17%)
Highlighted similarities in methodologies and differences in reporting of results ("Other" option, free text response)	1 (2.08%)
Promoted consideration of changing work practices ("Other" option, free text response)	1 (2.08%)
No impact* ("Other" option, free text response)	3 (6.25%)

Table 2. Impact of the HFHE Report by response number and percentage.

* *This includes the responses 'No impact', 'No changes to policy/practices' and 'Report tended to address crime labs, some parts not relevant to and misleading regarding sole practitioners.'*

almost a third saying it prompted a change in working practices (note that a laboratory may have selected both responses). Two laboratories were prompted by the HFHE Report to engage in a research project. Table 2 provides the number and percentage of responses received for various impacts of the HFHE Report.

Table 3 provides the number and percentage of responses associated with changes prompted by the HFHE report.

Some respondents recalled having forwarded the HFHE Report to non-handwriting examiner stakeholders. These included academics (four

respondents), management (three respondents), clients (two respondents), and judiciary (one respondent). Two respondents had been asked to refer to the HFHE Report in their expert report/testimony and had complied.

Sixteen respondents recalled having seen a presentation on the HFHE Report or some aspect of it at a conference or meeting, including in the United States, Europe, Latin America, and Australia. According to respondents, the following national, international, or professional groups have considered the HFHE Report:

Impact	Number of responses (%)
Reporting terminology - no longer reporting or implying that handwriting was written by an individual (to the exclusion of all others)	16 (33.33%)
Evaluation and reporting - based on two mutually exclusive propositions	12 (25%)
Contextual Information Management	11 (22.91%)
Report format - as described in Recommendation 3.2 (see page 194 of the Report)	7 (14.58%)
Laboratory accreditation to ISO/IEC 17025 or quality system	5 (10.42%)
Training, including structure and inclusion of ground truth known materials	5 (10.42%)
Certification of examiners	3 (6.25%)
Testimony, including visual aids	3 (6.25%)
Workplace culture	3 (6.25%)
Engagement with judiciary	2 (4.17%)
Workspace ergonomics	2 (4.17%)

Table 3. Changes prompted by the HFHE Report by response number and percentage.

- American Academy of Forensic Sciences (AAFS)
- American Standards Board (ASB)
- Organization of Scientific Area Committees (OSAC) Conclusions Task Force
- South-eastern Association of Forensic Document Examiners
- European Network of Forensic Handwriting Experts (ENFHEX. See also the ENFHEX Perspective below)
- Forensic Capability Network, and Forensic Science Regulator (UK)
- Nederlands Register Gerechtelijk Deskundigen (NRGD - The Netherlands)¹
- Gesellschaft für Forensische Schriftuntersuchung (GFS - Germany).¹
- Campus Forense (Argentina);
- Colegio de Peritos del Norte, Asociación Civil (Mexico);
- Document Specialist Advisory Group (DocSAG, Australia. See also the

DocSAG Perspective below)

- Australasian Society of Forensic Document Examiners Inc

International Evaluation and Concerns

Many respondents acknowledged the quality and value of the HFHE Report, however, some respondents highlighted that some recommendations are not practical for a sole practitioner or examiners working in private practice to implement. These respondents noted that implementation of the recommendations will take a long time; some laboratories are choosing to tackle changes one at a time. There was also a request to have the HFHE Report translated into other languages, particularly Spanish.

The ENFHEX Perspective

Prior to the publication of the HFHE Report, ENFHEX, through funding from the European Union, had developed a Best Practice Manual for

Forensic Handwriting Examination (BPMFHE [3]). This manual contained a section covering laboratory requirements for running a forensic handwriting laboratory, as well as specific sections covering key knowledge requirements, training, a forensic handwriting comparison method and terminology used. This manual was extensively referenced throughout the HFHE Report.

ENFHEX recognised the significance of the HFHE Report in establishing the current international status of Forensic Handwriting Examination and has subsequently drawn on many of the recommendations to develop further the BPMFHE [4], including:

- reinforcing the importance of a solid Collaborative Exercise testing programme,
- introducing new elements to the methodology for examining digitally captured signatures (not part of the original Report but which forms part of the forensic handwriting examiners' armoury),
- developing separate appendices within the BPMFHE for the analysis, comparison and evaluation of findings, and
- developing a comprehensive training and competence assessment programme for forensic handwriting experts (in both traditional 'ink and paper' and digitally captured handwriting).

Representatives of the HFHE Report team have presented on aspects of the HFHE Report to the various ENFHEX conferences that have taken place since the publication of the HFHE Report including a comprehensive review and specific aspects of the Process Map ([1] Section 1.2). ENFHEX has demonstrated a keen interest in the HFHE Report and how it will form a vital tool in driving the scientific approach to forensic handwriting examination forward in the future.

The DocSAG Perspective

The Modular Forensic Handwriting Method [5] is the DocSAG's agreed method for handwriting examinations and was referenced throughout the

HFHE Report, particularly regarding contents of forensic reports. In turn, the HFHE Report has informed an update of this document (this update is still in development).

The DocSAG had been working on several projects prior to the publication of the HFHE Report which aligned with the HFHE Report's recommendations. These projects have been supported, and sometimes driven by, the Australia New Zealand Policing Advisory Agency National Institute of Forensic Science (ANZPAA NIFS), of which the DocSAG is an advisory group. The works include:

- education and training guidelines, providing a basis for improved cross-jurisdictional consistency in training and education in this field (published 2015),
- transition to an evaluative reporting approach, with mutually exclusive propositions set prior to the examination commencing, and
- investigation of examiner skill for certain claims, although these have mainly been focused on examinations other than handwriting.

In addition, DocSAG members have been involved in the ANZPAA NIFS Forensic Fundamentals project – a pilot in 2017 and Phase 2 currently underway. The aim of this project is to identify the underpinning science and validation requirements for forensic science disciplines. A Document Examination Working Group is mapping out and assessing discipline specific claims and searching for empirical evidence that supports each of the claims. Any gaps that the Document Examination Working Group identifies will inform priority research areas promoted by ANZPAA NIFS.

The DocSAG has discussed the HFHE Report and considered other recommendations. Presentations on various aspects of the HFHE Report delivered to an Australian audience (including DocSAG members) have been well received and generated discussion. For example, examiner certification is probably unfeasible for Australians if to be performed by an Australian certifying body (none currently exists for FDE), due to the small population of FDEs in Australia. It is

possible for Australian FDEs to be certified by an American certification body, however. Contextual Information Management (CIM) initiatives have been reviewed, with implementation dependent on individual laboratory resources, requirements, and systems (see also, [6]).

While DocSAG laboratories may not have made changes to work practices following publication of the HFHE Report, its contents confirmed the direction of much of the group’s work.

Conclusion

The HFHE Report sought to drive improvements in forensic handwriting examination practice by making a series of recommendations that could be implemented by FDEs, forensic service providers and managers, researchers, and allied communities. As summarized in this paper, the HFHE Report has reached a wide range of the international forensic handwriting examination community, with the self-reported impact generally being positive – often confirming or prompting a change to working practices. Respondent’s changes have mainly focussed on the evaluation process, reporting terminology, report format, and contextual information management. The difficulty of implementing some of the recommendations in sole practitioner or small team laboratories was highlighted. We have not yet probed the impact of the HFHE Report on a wider cohort of the intended audience (namely policy makers, members of the judiciary, academics, and researchers).

While the HFHE Report has been informed by and subsequently encouraged developments in two international publications (ENFSI Best Practice Manual for Handwriting Examination and the Modular Forensic Handwriting Method), the HFHE Report’s wider influence on research efforts and publications may only become apparent in the coming years.

Reference List

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Appendix 1: Survey Questionnaire

We want to hear about how the above-titled report ('the report') has been used globally, specifically by forensic handwriting experts. A summary of the impact of the report will be submitted for publication in a peer-reviewed journal. Your responses will remain anonymous.

*Required

Find the full report here: <https://nvlpubs.nist.gov/nistpubs/ir/2021/NIST.IR.8282r1.pdf>

This section of the questionnaire relates to you/your laboratory's experiences

1. Before receiving this questionnaire, were you aware of the report?*

Yes

No

2. If you answered yes above, have you read the report?

Yes

No *Skip to question 9*

I'm not sure

3. Did the report have any of the following impact(s) on you/your laboratory? (select all that apply)

Confirmed my/our working practices

Prompted a change in my/our working practices

Prompted a research project

Other [Free text response]

4. In what areas, if any, have you/your laboratory made changes? (select all that apply)

Contextual Information Management

Reporting terminology - no longer reporting or implying that handwriting was written by an individual (to the exclusion of all others)

Evaluation and reporting - based on two mutually exclusive propositions

Report format - as described in Recommendation 3.2 (see page 194 of the report)

Testimony, including visual aids

Laboratory accreditation to ISO/IEC 17025 or quality system

Training, including structure and inclusion of ground truth known materials

Certification of examiners

Engagement with judiciary

Workspace ergonomics

Workplace culture

Other [Free text response]

5. Please provide additional details of any impact(s) or changes if you wish.

[Free text response]

6. Have you seen a presentation on the report, or some aspect of the report, at a conference/meeting? If so, please tell us the topic of the presentation(s) and the conference name.

[Free text response]

7. Did you forward the report to any non-handwriting examiner stakeholders? If so, to what group did they belong? (select all that apply)

Judiciary

Client

Academic

Other

8. Have you been asked (by judiciary or client) to refer to the report in your expert reports/testimony?

Yes, I have been asked to, but didn't

Yes, I have been asked to, and did

No, I haven't been asked to

Other

Demographic information

9. What is your country of residence? *

[Free text response]

10. What kind of forensic handwriting laboratory do you work in (note: laboratory includes sole practitioners) *

Private practice

Government

Other

This section of the questionnaire seeks a broader view of the report's impact

11. Are you aware of any national, international or professional group active in your region that has considered the report? If yes, please provide the name of the group in full (not abbreviated) and the nature or details of any resultant activities.

[Free text response]

12. If you have any other comments on the report or its impact, please make them here.

[Free text response]

Thank you for your time!