

# EUROPEAN POLYGRAPH

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ANDRZEJ FRYCZ MODRZEWSKI KRAKOW UNIVERSITY



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*European Polygraph* is an international journal devoted to the publication of original investigations, observations, scholarly inquiries, and book reviews on the subject of polygraph examinations. These include jurisprudence, forensic sciences, psychology, forensic psychology, psychophysiology, psychopathology, and other aspects of polygraph examinations.

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## Articles





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# **Electrodermal Response Ratios: Scoring Against the Stronger of Two Comparison Questions in Search of an Optimal Minimum Threshold\***

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**Key words:** polygraph examination, electrodermal activity, galvanic skin response (GSR), electrodermal response (EDR), Bigger-Is-Better Rule (BIBR)

## **Abstract**

Previously, Krapohl (2020) evaluated the Bigger-Is-Better Rule (BIBR) on the polygraph electrodermal channel to assess whether there was a best minimum ratio between response sizes for assigning a score. Performance peaked at a minimum ratio between 10% and 20%. The ratios had been calculated by comparing the electrodermal responses for each relevant question

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against those of the immediately preceding comparison question. The analysis did not consider whether the same optimal ratio would be found if the relevant question electrodermal responses are compared to those of the stronger of two adjacent comparison questions. To investigate we analyzed responses from an independent sample of 255 laboratory cases. The data from those cases found the highest correlation between scores and ground truth occurred when the minimum difference between two electrodermal responses was 30%.

## Introduction

Many or most polygraph schools teach the Bigger-Is-Better Rule (BIBR) in scoring. In simplest of terms, the BIBR states that a polygraph score can be assigned if the scorer perceives a stronger physiological response to one question than to another. By convention, when the stronger reaction is associated with a comparison question over a relevant question a positive score is assigned. Conversely, the stronger reaction to the relevant question warrants a negative score. There is no widely accepted minimum difference before a score can be given, however. The difference needs only be observed, and consequently, the decision to score is a subjective one. As with all subjective assessments, perceived differences in reaction intensity may be influenced by training, experience, preference, and how the data are displayed. These influences may be especially pertinent when differences are subtle.

The more frequently a subjective interpretation is called upon the greater is the opportunity for individual differences among scorers to be made manifest. Factors systematically affecting scoring will aggregate as more scores are assigned. Channels that tend to receive scores more often can be expected to have a disproportional influence on the final score, and hence the polygraph results. We drew a convenience sample of polygraph scores to get an impression of the frequency of scores assigned by polygraph examiners. In a large unpublished US Government laboratory study of polygraph screening methods there were 102 examinees who underwent polygraph examinations with the Test for Espionage and Sabotage (Dollins, Senter & Pollina, 2001). Across 612 opportunities to assign scores in that sample, non-zero scores were given in the pneumograph 52% of the time, 79% in the cardiograph and 91% in the electrodermal data. In a different analysis of field criminal cases, Ansley and Krapohl (2000) found 55% of the reactions in polygraph charts came from the electrodermal channel, followed by 26% in the cardiograph and 19% in the pneumograph. In a third approach, Bell et al. (1999) concluded "...the Utah scoring rules give greater weight to electrodermal reactions than to cardiovascular, respiration, or plethysmograph reactions". Virtually all carefully conducted analyses

of polygraph data report the electrodermal channel tends to be dominant in polygraph scoring. As such the electrodermal channel has potentially more influence over the final polygraph decision than other traditional channels. If the goal is to increase polygraph decision accuracy, improving how electrodermal responses are scored offers one of the more impactful opportunities.

In a previous report Krapohl (2020) examined archival electrodermal measurements to determine whether simply being bigger is enough, or whether accuracy could be improved by requiring a minimum difference between two electrodermal responses (EDRs) to assign a score. Briefly, in that study the measurements of EDR amplitudes for 300 confirmed field Federal Zone Comparison Question Tests were systematically compared at minimum ratios between  $>1.0:1$  to  $>1.8:1$  in 0.1 increments. Correlation tests were conducted between ground truth and test results based exclusively on EDR scores. Electrodermal performance peaked when a minimum ratio difference between 10% and 20% was imposed. The findings could generalize to polygraph techniques in which the reaction of each relevant question is scored against a single designated comparison question. It was not established, however, whether they would generalize to the more common practice of scoring each relevant question against the stronger of two nearby comparison questions.

The present effort was designed to investigate this possibility. We combined the data from three laboratory studies to determine whether there was a best minimum to impose on EDR differences when scoring against the stronger response from two comparison questions.

## Method

### Data

Only the electrodermal data were used for this project. The data were collected during three separate doctoral research projects at the University of Utah (Bernhardt, 2005; Kircher, 1983; Podlesny & Raskin, 1978). The total sample size was 255 cases (128 deceptive, 127 non-deceptive). In this data set there were three relevant and three probable-lie comparison questions presented on three charts for a total of 2295 EDRs from relevant questions and the same number from comparison questions across the 255 cases.

In the three-question Utah Probable-Lie Technique (Handler, 2006) each relevant question is immediately preceded by a comparison question, but not

followed immediately by one. Therefore, relevant questions are not directly bracketed by comparison questions as they are in many other techniques. For this effort the first two relevant questions were compared to the two comparison questions that were presented closest before and after each relevant question. The third relevant question in this technique is the final test question, and therefore has no comparison question following it. The third relevant question was scored against the comparison question immediately preceding it, and to the first comparison question in the sequence. In this way the EDR of each relevant question was gauged against two comparison questions and each comparison question was used for scoring exactly two relevant questions. This approach simulated a testing technique in which each relevant question is bracketed by two adjacent comparison questions.

### Procedure

The EDR amplitude of each relevant question was compared to one of two probable-lie comparison question evoking the stronger response. This created three ratios per test chart, and nine ratios total for the three test charts per examinee. In the first assessment, any ratio greater than 1:1 was cause for assigning a score. It did not matter how much larger the EDR was. If the EDR to the relevant question was greater, a score of  $-1$  was assigned. If the EDR to one of the comparison questions was larger, a  $+1$  was given. All equal amplitudes were assigned a  $0$ . The scores were then tallied. With nine presentations of relevant questions a total score between  $-9$  and  $+9$  per case was possible. This regimen was repeated for all 255 examinations. With ground truth coded as  $-1$  for deceptive and  $+1$  for truthful, a point bi-serial correlation coefficient was calculated for the total score and the ground truth code. The point bi-serial correlation coefficient has a range of  $0.0$  to  $1.0$ . The higher the coefficient becomes, the closer the relationship is between ground truth and the test score.

These steps were then repeated for all EDR amplitude ratios between 1.1:1 and 1.8:1 in  $0.1$  increments. Said another way, scores were assigned to minimum differences in EDR amplitudes beginning with any difference and progressing stepwise in  $10\%$  increments to ratios up to an  $80\%$  difference. When the individual scores were summed in each case, the coefficients were calculated in the manner described in the previous paragraph for each of these nine minimum ratios.

## Results

Using any difference between EDR amplitudes greater than zero to assign a score produced a relatively strong correlation coefficient, in this case  $r_{pb} = 0.649$ . The coefficient did not become maximal until the minimum difference between two EDRs reached 30%, where  $r_{pb} = 0.680$ . Both before and after the 30% minimum difference in EDR amplitudes the coefficient falls. See Figure 1.

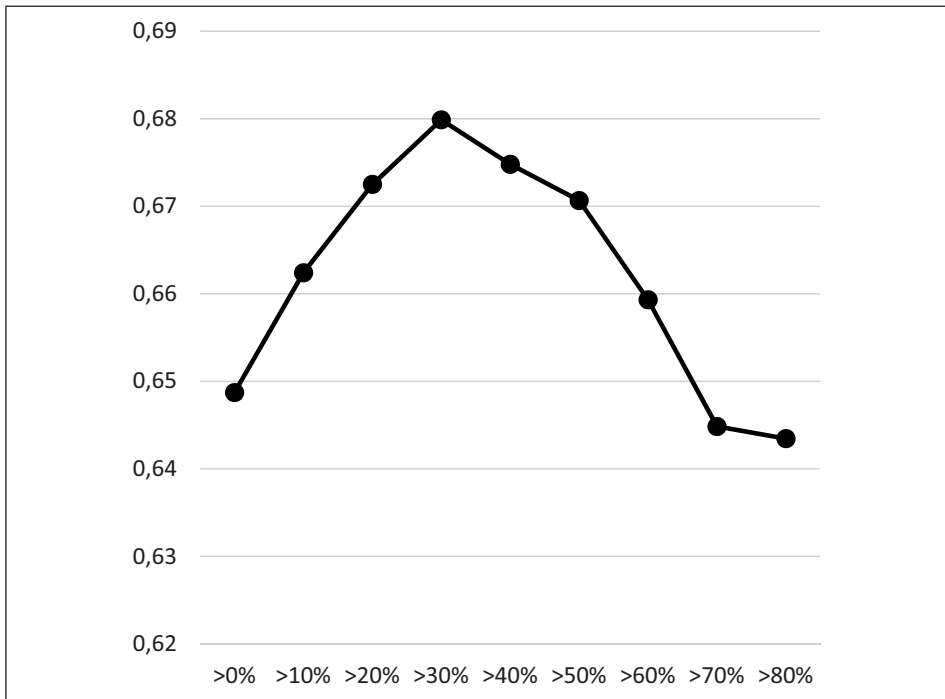


Figure 1. Point bi-serial coefficients between ground truth and EDR scores at escalating minimum differences between >0% and >80% in 10% increments for 255 laboratory cases.

As the minimum EDR differences for score assignment increases there is also a corresponding general increase in the proportion of cases in which EDR scores sum to zero. See Figure 2. As was observed with field cases in Krapohl (2020) there are virtually no cases in which EDR scores sum to zero when scores can be assigned to any difference in EDR amplitudes. There is an initial spike between >0% and >10% minimum difference in EDR amplitudes as there was in the previous Krapohl study. When requiring an 80% difference in EDR amplitudes for score assignment the proportion of cases with sums of zero is 0.094.

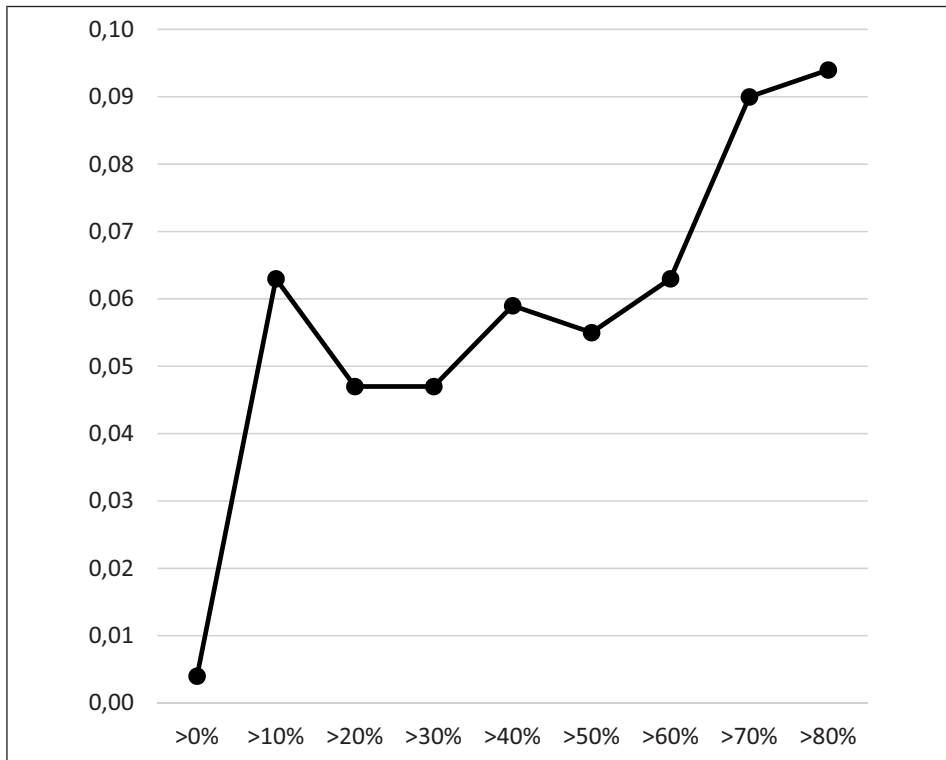


Figure 2. Proportion of cases with EDR scores summing to 0 at escalating minimum differences between >0% and >80% in 10% increments for 255 laboratory cases.

## Discussion

The present data and those of Krapohl (2020) support the hypothesis that the BIBR is an effective heuristic. Both data sets, one lab and one field, found good detection efficiency at any minimum difference in EDRs. Bigger does seem to be better.

The two data sets also suggest the best performance does not occur when there is merely any difference between one EDR and another, but rather when there were specific minimum differences. In the Krapohl (2020) study the best performance was seen when the minimum EDR difference was set at 10%–20%. The current data set points to best performance when the minimum difference is 30%. A common finding from both studies is that scoring just any difference in EDR amplitudes, as is permitted with the BIBR, is acceptable but not necessarily optimal. Establish-

ing a minimum difference seems to improve the contribution of EDA scores up to a point. The data from the present and previous study point to a minimum EDR difference between 10% and 30%.

### Limitations

As in the earlier Krapohl (2020) study, generalizations of the present results are restricted to 3-position scoring systems, including the Empirical Scoring System. No evaluation was made for 7-position or rank order scoring.

The study also used single-issue examinations. Examinations where the examinee could be truthful to some questions while deceptive to others may produce a different outcome from what we found. Because mixed-issue examinations typically have fewer presentations of each issue than do single-issue examinations, variability would be expected to be greater as it typically is in smaller samples. This feature of mixed-issue examinations may affect where the best minimum difference in EDR amplitudes will be. More work is needed before generalizing the current findings to mixed-issue examinations.

Our study also used laboratory cases. A chief criticism of laboratory polygraph data is that the experience of lab examinees is quite unlike that of examinees in the field who face significant consequences for adverse test results (Cacioppo, Tassinary & Bernston, 2000). Consistent with this assertion, Pollina et al. (2004) did find differences in the response profiles in the physiological data between lab and field cases, though not in polygraph decision accuracy.

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## Case Studies Using the Polygraph to Assist in Assessing Sexual Risk in Three Clerics

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**Key words:** polygraph, psychological assessment, risk, church safeguarding, priests and sex offenses

### Introduction

A psychological assessment is commonly used in a range of clinical, occupational and forensic settings. Increasingly, religious organisations have recognised the value of secular, independent assessments for both novices and experienced clerics, which can address areas relevant to emotional wellbeing, vocational aptitude, and possible social risk (Jack & Wilcox, 2018). Notably, when addressing risk concerns, there is often a paucity of documentation in cleric assessments compared to that accessible

in traditional forensic settings (e.g. probation, family courts, prisons). As such, it can be helpful to augment standard interview and psychometric practices with additional tools to try to achieve a more informed risk assessment, particularly when allegations of harm remain unresolved. In some such cases, the polygraph is utilised as part of that assessment process.

The polygraph is a scientific instrument which records and displays psychophysiological arousal associated with lying (Walczyk, Sewell, & DiBenedetto, 2018). Nonetheless, there is debate about the accuracy of the polygraph with noted critics, such as Ben-Shahkar (2008), and counter arguments offered by proponents like Grubin (2008). Relatedly, a comprehensive study was undertaken by the National Research Council (2003) in the United States, which found that the accuracy rate of Polygraph testing is likely to be in the region of 80%–90%. This, the authors would suggest, is considerably better than chance and even the efforts of skilled and experienced professionals (Ekman, 1985) but short of irrefutable accuracy. However, Wilcox in *The Economist*, (2019) highlighted that “(the polygraph is) more useful as a truth facilitator than a lie detector”. That is, the polygraph process can lead to fuller reporting of often key relevant information that extends beyond the simple matter of determining a ‘pass’ or ‘fail’ on the test.

In relation to the above, a review of the polygraph, conducted by the British Psychological Society (BPS; 2004) referenced concerns about the polygraph’s ethical employment, its accuracy and its usefulness. However, the review also noted that, in deviating from the original remit for employment of this tool, as a straightforward ‘lie detector’, within the context of examining sexual risk issues, the tool appeared to have some clinical utility. Specifically, it was reported that “there is growing evidence that (this technology) encourages offenders to disclose their deviant thoughts and actions and may also help them to exercise self-control”. Continuing, the BPS review also described, “It may help with relapse prevention”. However, the report added, “More research is needed to ascertain its effectiveness in practice”.

The present authors note that within a population of convicted sexual offenders (Grubin, Madsen, Parsons, Sosnowski, Warberg 2004) found that the likelihood of a polygraphed offender making disclosures relevant to their treatment and supervision was fourteen times greater than for non-polygraphed offenders. In relation to this, in the lead up to the Offender Management Act (2007) being passed, Wilcox and Donathy (2008) reviewed the voluntary use of the polygraph with convicted sex offenders, as it was employed on this basis in early studies in the

UK. Among those probation officers and other professionals employing the polygraph, 92% “opposed the withdrawal” of the polygraph from voluntary use, as they considered it a useful adjunct to the other public protection measures they had at their disposal. Further, largely through Grubin’s (2006) report on extensive polygraph trials in the UK, this technology is now included in the Offender Management Act (2007) for compulsory use in sex offender risk assessment and community supervision of serious offenders. In addition, Wilcox and Donathy (2014) noted that police in Hereford, in the UK, completed a successful pilot polygraph scheme, significantly reducing investigation time and often providing additional information relating to unreported offences amongst suspected sex offenders, who volunteered in advance of bringing charges. The efficacy of polygraph use in this context, has been further supported in a recent study that has investigated disclosure rates as a consequence of polygraph examination (Wood, Alleyne, Ó Ciardha, & Gannon, 2020). Lastly, Collins (2019) has shown the utility and reliability of this technology even with mentally disordered sex offenders.

This case-study based article is presented to demonstrate that information obtained when employing the polygraph, as part of a structured psychological sexual risk assessment, can enhance the comprehensiveness of the report, irrespective of whether the individual passes the polygraph or not (Jack & Wilcox, 2018). Three cases are presented to communicate the utility of the polygraph within this context. Notably, one priest failed the polygraph examination, and a second passed, giving indications that he was providing truthful responses about past sexual behaviour, such that, no deception was noted during examination. A third cleric withdrew from the polygraph process during a pre-polygraph interview.

We discuss how such information can inform the psychological assessment, subsequent decision-making, and safeguard the assessed individual, organisation, and members of the community. We briefly consider ethical concerns, though note that fuller implications for the use of polygraph (Heil & English, 2009) along with a detailed consideration of ethical factors are beyond the scope of the present paper. These issues are further explored elsewhere (Wilcox, 2013; 2019).

Some descriptive information about these priests, viewed as irrelevant to their risk assessment, has been altered to preserve their anonymity. Each author contributed to the psychological risk assessments of the three priests reported upon herein.

### Case Study 1 – Fr James (Failed Polygraph)

Fr James was a 62-year-old male of white European Ethnicity and Irish Nationality. He was an ordained Catholic priest, referred for a clinical psychological assessment of his continuing suitability for ministry. Reported concerns initially related to his reliability, motivation and psychological wellbeing with regard to conducting day-to-day tasks relevant to his work. However, a reference was also made to an earlier reported concern, and an associated psychological assessment, wherein Fr James had reportedly instigated sexual contact with a young male in his previous parish. Related concerns about possible grooming behaviours towards other young male parishioners had also been raised.

In relation to the above, the assessors engaged with the church safeguarding body to clarify that this potential risk element should also be pursued within the psychological evaluation. In progressing along these lines, it became apparent that Fr James' sexualised thoughts and behaviours were more pervasive, troubling and potentially illegal than had initially been judged. For this reason, the assessment progressed from having a clinical psychological focus to incorporate a key forensic / risk assessment element. Indeed, as the interview process proceeded, it was agreed with church safeguarding and Fr James' superiors that efforts to explore the earlier noted indications of sexual deviance should include specialised psychometric measures, a structured risk evaluation, tailored interviews, and an adapted polygraph examination protocol (Wilcox, 2009). The present paper will focus key attention on the polygraph element of the assessment (Sosnowski & Wilcox, 2009; Wilcox, Sosnowski, Warburg & Beech, 2005).

### Assessment Process

As the assessment progressed, on the first occasion that Fr James attended with the reported intention of engaging in a polygraph examination, he was familiarised with the instrument and the administration procedure. He was acquainted with the physiological measures of respiration, blood pressure and galvanic skin response (GSR) and how they would be recorded continuously. Fr James was asked to provide 'yes' or 'no' responses to irrelevant questions, comparison questions and relevant questions, the last of which would explore the areas of alleged sexually deviant behaviour being investigated. Whilst Fr James made some concerning disclosures during the pre-polygraph interview, he reported high level stress elevations and, as such, it was judged not to be appropriate to employ the

polygraph with him at that time. Rather, Fr James was requested to record and detail past perceived sexual transgressions or deviance and, where possible (via a sexual history disclosure form), expand upon them in preparation for his further meeting. Another appointment was scheduled to focus specifically on sexual risk and during this session, the polygraph examination was completed.

The authors note that within the assessment process a thorough review of relevant documentation was considered appropriate, though we have observed that within cleric assessments there is often little historical information, beyond medical records, to be reviewed, coupled with brief notes from the church, often referencing areas of concern or interest that are, at that stage, not well elaborated upon. As a consequence, much of the historical information gained about this cleric was derived from his self-reporting during a structured interview. After this, relevant psychometric measures were administered, and a second interview was conducted which focused upon issues particularly pertinent to the instructions given for the assessment. Although it was noted that depressed mood was identified early in the clinical evaluation, the concerns flagged up around Fr James' sexual behaviour led to a shift of focus from a clinical to a forensic evaluation over the course of his appointments. As such, the employment of the polygraph was considered appropriate to achieve a more comprehensive understanding of any concerning sexual behaviours historically (and currently) presented by Fr James. The aim, therefore, was to work towards achieving a level of transparency and openness from Fr James to reassure church superiors with regard to the judgements they would have to make in their efforts to determine his future as a Catholic priest.

## Background

Fr James reported a 'normal' upbringing though noted a lack of emotional connection and support in relation to his parents. He described adequate performance at school and transitioning into paid employment in the service industry before moving to Spain at the age of 24. Fr James said that he had converted to Catholicism and decided to join a Catholic order where he remained for several years. However, he said that after leaving, he remained in Spain, asserting that his faith had not developed whilst in the order. Subsequently, he spent five more years there before returning to the UK, where he joined a second Catholic order which he asserted was "the perfect fit for (him)".

During interview, Fr James' sexual and relationship history were explored, and he stated that he was homosexual. In early adulthood, he reported a few relationships

before moving to Spain and “some fleeting sexual flings” after leaving the Spanish order. He acknowledged that his interest in these relationships was physical, offering “sexual gratification”. However, he denied any relationship involvements subsequent to joining the further Catholic order in the UK. Relatedly, he stated, “I’ve become more aware of my sexuality, but I have made the decision not to follow those urges”. Nonetheless, given his later disclosures during the assessment process, the authors note the paucity of information he was actually describing at that time, compared with that obtained by the conclusion of the psychological assessment appointments and polygraph administration.

During his assessment, Fr James evidenced a significant self-focus noting, for example, that he had previously engaged in a psychological assessment and received extensive counselling support which he found to be helpful with regard to “learning about (him)self”. Indeed, he seemed to take the view that the current psychological assessment had a primary focus of helping him to grow and integrate his own psychological processes and deal with his personal struggle, rather than giving significant empathic consideration to the impact that his behaviour had had on others. Notably, whilst reporting feelings of shame and guilt, more often Fr James displayed a ‘victim posturing’ manner with an inclination to project accountability for his actions onto others and thereby, from the perspective of the authors, diminish his true capacity for future self-directed risk management. It was also noted that Fr James was guarded throughout when responding to questions of key significance to the risk assessment.

Psychometric measures deemed appropriate for this assessment were administered to enhance the authors’ understanding of Fr James, covering clinical, occupational and forensic domains. However, many of these tools are quite transparent and there was evidence that Fr James responded in a socially desirable manner, which was in keeping with his general approach to the assessment, preferring to dissimulate, rather than be open in responding. Nevertheless, as referenced above, these measures provided some useful information that aided in developing Fr James’ psychological formulation. This reflected him as a depressed and rather psychologically fragmented individual with a tendency to distrust emotional expression and avoid dealing with uncomfortable issues, as a general self-protective strategy. This approach was evident throughout, particularly around discussion of sexual deviancy issues.

### Polygraph Administration

The sexual history disclosure form (SHDF) was found to be a useful adjunct to the assessment of Fr James' sexual deviancy, particularly in combination with the polygraph. The SHDF was given to Fr James after his second appointment in preparation for the polygraph assessment scheduled for his follow-up meeting. Within these assessments, the SHDF is important for two reasons, firstly it is a tool that can, in itself, examine a range of sexual deviance issues, if the respondent is encouraged to be forthcoming. Secondly, it can offer important clarifying information to develop the questions that will be used in the polygraph examination. Notably, it is in the interest of the assessed individual to answer questions fully in the first instance as not doing so can result in a failed polygraph in relation to the specific question "have you provided answers on the SHDF that are completely honest" (Wilcox & Sosnowski, 2005).

The polygraph was attempted with Fr James on two occasions during the follow-up appointment, though his lack of openness on the SHDF was apparent as, during the pre-test interview when discussing his SHDF responses, he amended his self-report. Having made further disclosures, the polygraph was again abandoned during this follow-up session because of Fr James' further disclosures during which he described significant emotional distress that made the polygraph administration inadvisable at that time. However, the pre-polygraph interview and discussion around the SHDF proved to be of considerable value with Fr James disclosing sexualised behaviours that were sufficiently concerning that the authors considered that his removal from ministry was likely warranted. These areas of concern included voyeuristic behaviours and professional sexual misconduct including several situations where he had used his role in the priesthood to coerce young men into sexual acts, together with indications that he had been viewing indecent images.

When Fr James attended again, questions relating to his possible sexual risk were carefully discussed and agreed. As such, the following four questions were asked, requiring "yes" or "no" responses and interspersed with irrelevant and comparison questions.

The four questions were

*Q1. Since being an adult, have you ever touched any child under sixteen for your own sexual gratification?*



*Q2. Since you joined the priesthood, have you ever touched any child under sixteen for your own sexual gratification?*

*Q3. Apart from what you have admitted, since being an adult, have you ever involved any child under sixteen in any sexual activities?*

*Q4. Have you ever searched for any images of children that you knew or believed were under fourteen for masturbatory reasons?*

Notably, Fr James failed the polygraph. Subsequently, he disclosed that he had downloaded “hundreds” of images of teenage boys, under the age of 16. He further acknowledged that he had engaged in incidents of mutual masturbation with boys under the age of consent. Worryingly, Fr James concluded that there were “many other” behaviours that could “get [him] in trouble”, though he declined to make further disclosures.

### Case Summary

At the conclusion of this assessment, which incorporated the polygraph in the formal examination of sexual risk employing the RSVP (Hart et al, 2003), a structured professional judgement tool, along with the polygraph-obtained disclosures, Fr James’ superiors were promptly informed of the assessment findings. In addition, the police were immediately involved, as several disclosures were considered to have met criminal thresholds.

On the basis of Fr James’ early reporting it was, in the judgement of the authors, apparent that he was a psychologically conflicted man with some problematic sexual proclivities. However, the extent of his harmful behaviour and obsessional interest in young males would not, in our opinion, have been revealed without bringing the polygraph into the assessment process. Furthermore, even though Fr James failed the polygraph examination, he did report matters of key concern to the church with regard to his future in ministry and the level of risk he may pose to the public generally. In addition, he acknowledged having engaged in other past misbehaviours that, by his account, exceeded in seriousness those that he had actually disclosed, but about which he was not willing to speak.

Notably, during the post-assessment interview, Fr James reported that he had “thought (he) could beat the polygraph”. In addition, the authors gained the impression that, at times, Fr James employed shows of distress to avoid engagement,



as well as making what appeared to be rather calculated disclosures to put the assessors off-track in targeting other behaviours that were even more concerning. Nevertheless, the psychological risk assessment, supported by employment of the polygraph, served to confirm that Fr James posed a significant risk of sexual harm and produced a more thorough understanding of Fr James' threat to parishioners and the community, leading to the involvement of police and external authorities to investigate these issues further. It was only via a robust assessment strategy that an extensive range of concerning sexual behaviours were elicited from Fr James. Importantly, the polygraph played a key role, incorporating pre- and post-assessment interviews which were instrumental in gaining a fuller understanding of the risk posed by this cleric.

### Case Study 2 – Fr William (Passed Polygraph)

Fr William was a fifty-eight-year old priest who was referred for psychological assessment in relation to concerns regarding potential sexual risk posed to vulnerable male adults. From the outset, the concerns that were raised were of a sexual nature and, as such, alongside a comprehensive forensic psychological assessment, Fr William was informed that (with his consent) the polygraph would be employed. Fr William disclosed that as a homosexual man, he had engaged in sexual activity with other adult males. However, he also acknowledged, to some extent, that these men were vulnerable and that he had engaged in grooming behaviours. Fr William also reported sexual fantasy involving masochistic themes.

### Assessment Process

As with Fr James, the purpose of the polygraph and its administration were explained to Fr William. We explained that we would be exploring aspects of his past sexual history and his sexual interests/behaviours over the course of his life and, as such, he agreed to complete the SHDF. Fr William also reported, at this point, that he had transgressed boundaries in the past and he described succumbing to 'temptation'. Furthermore, he appeared to berate himself for not accessing support services during these times. Fr William consented to the polygraph examination and the questions that were to be asked. His physiological reactions to control, relevant and comparison questions were recorded.

## Background

Fr William reported close family bonds growing up and into adult life. There were no indications of adverse childhood experiences during his early years. Fr William said that he knew from quite a young age that he was homosexual, recalling a fascination with the naked male body. He did not report any professional involvement with his family during his formative years and did not consider that anyone in the family (including himself), had had any mental health challenges.

Fr William was a man of average intelligence who, nevertheless, considered himself as an underachiever in school. He also described some socialisation difficulties growing up, expressing the view that he was rather different than his peers. Despite Fr William reported difficulties with education, he went on to complete formal qualifications after leaving school and, later in life, became ordained as a priest. At the time of referral, Fr William had voluntarily withdrawn from ministry, reporting that this related to the transgressions (noted above).

Fr William described exploring his sexuality prior to joining the priesthood, though he expressed the view that emotional attraction was more important to him than sexual. He also described some limited heterosexual exploration, though expressed regret in this regard. Fr William said that he had had sexual encounters but no lasting relationships.

As with Fr James, relevant psychometric measures were administered with Fr William, though unlike Fr James, Fr William did not respond in a socially desirable manner. Rather, he appeared to overstate psychopathology, suggesting that he felt overwhelmed by his problems. There was a self-denigrating aspect to Fr William reporting and he described significant levels of emotional upset and obsessive ruminations. There was evidence of exceptionally high generalized fear during testing, though the authors formed the view that these features were largely transient in nature, and a result of the risk and safeguarding concerns that he was facing at the time of his referral.

## Polygraph Administration

Fr William said that he was endeavouring to be as open and honest as he could about his past sexually motivated behaviours, in an effort to 'pass' the polygraph. A question put to Fr William during the examination was:

*Q1. Since you became a priest, apart from the two people you have admitted to, have you had sexual activity with anyone else?*

Fr William responded, “No”. The polygraph charts were scored with the support of the latest computerised software, as well as being manually checked. At this point, based on the polygraph results, augmented by investigative interviewing, Fr William was found to be deceptive. We discussed these results with him, and he made some further disclosures of a sexual nature. He went on to disclose that he had not been open and honest during interviews and the subsequent polygraph examination, concealing important risk-related information.

Subsequently, Fr William provided what he reported to be a full disclosure and he was given the opportunity to have a second polygraph. By this stage, he had reported several further sexual transgressions than he referenced in his original account. He acknowledged sexually inappropriate behaviours, including voyeurism and frothage, and reflected that he had engaged in ‘lots of self-deception’ in the past.

Fr William completed a further polygraph examination with one question, namely:

*Q1: Since you became a priest, is there anything of a physical sexual nature that you have purposely omitted to inform (the authors) about?*

Fr William responded “No”. The result of this examination revealed ‘no deception indicated’, revealing a high probability that Fr William had made a full and frank disclosure about past sexual activity.

### Case Summary

Fr William ‘failed’ his first polygraph examination. However, it was the view of the authors that he thought he could ‘beat’ the test on the basis that he had made some (though not all) disclosures regarding his sexual history. Notably, over the course of our involvement with Fr William, we formed the view that he engaged in a great deal of self-analysis (particularly following the first polygraph), reflecting at length on his emotions and motivations that led to the various ‘transgressions’. This ultimately led to him passing the polygraph examination by disclosing his sexual interests and fantasies, as well as some sexual encounters. Fr William expressed the view during the assessment process that his behaviours and motivations were not socially appropriate, at times. Specifically, he noted that some of these people were parishioners or vulnerable individuals seeking his support at a time of personal

need. Nevertheless, by the time the assessment had concluded, the authors considered that Fr William's self-reflections had the potential for seriously damaging his sense of self-worth and thereby increasing his potential risk, in becoming so self-disparaging. The authors recommended therapeutic interventions to address his self-esteem issues and, in doing so, better manage future risk. We also recommended psycho-educational work focusing on healthy relationships. Fr William has subsequently engaged successfully with both of these interventions.

### Case Study 3 – (Withdrew from Polygraph Examination): Fr Matthew

Fr Matthew was a sixty-three-year old priest referred for a psychological risk assessment surrounding safeguarding concerns. Specifically, Fr Matthew had been accused of raping a male teenage student some fifteen years previously. Within the context of this assessment Fr Matthew was informed that, with his consent, a thorough sexual history review would be undertaken followed by a polygraph examination to explore the veracity of this serious allegation as well as any additional concerns of a sexual nature that might impact on decisions about his continuing role in the church. Fr Matthew gave his agreement to engage in this process.

### Assessment Process

As noted previously, the purpose and administration of all aspects of the polygraph were explained to Fr Matthew. It was also emphasised that the assessment would explore elements of Fr Matthew's sexual history and his behaviours/interests during his life with a particular focus on his time in the priesthood. In preparation he filled out the Sexual History Disclosure Form (SHDF), which, owing to variations in his self-reporting, he completed on three occasions in total.

### Background

Fr Matthew described fond memories of his early life and close, supportive relationships with his parents. He reported being well cared for within his family. Fr Matthew recalled a 'sheltered' childhood with no significant accidents or injuries, though said his parents' marriage came to an end during his adolescence. He did not report any professional involvement or mental health issues associated with his family. Fr Matthew did, however, describe being sexually assaulted as a boy, noting that he never reported this and had always "tried not to think about it". He

referenced oral/digital genital contact with an older male friend of the family. He asserted that no threat or coercion was involved and he did not consider that this experience had negatively impacted upon him in the longer term.

Fr Matthew noted that he had a relatively uneventful school life, though described feeling “different”, due to his perception of being from a lower socioeconomic standing within the school. Nevertheless, he stated that he did not have any academic difficulties and developed positive friendships. Fr Matthew said he then attended university and later worked in the private sector for some years, whilst becoming more involved within his local church community. He indicated that he gradually felt a ‘calling’ to the priesthood, and after completing seminary training has remained in this vocation. Fr Matthew went on to state that his current imposed withdrawal from ministry has been his only break from service to the church. Relatedly, he described experiencing high levels of anxiety and depression at the time of the assessment, as well as some suicidal thoughts.

Fr Matthew described himself as bisexual. He said that he had become interested in women during his teenage years and had a series of casual sexual encounters, as well as a few longer-term involvements. He noted that when his last relationship came to an end he was beginning to give more serious thought to joining the priesthood. Fr Matthew then referenced a homosexual encounter he had had earlier in his life, noting that he had been curious though felt a sense of ‘shame’ due to his perception of the social stigma around such behaviour at that time.

Fr Matthew completed relevant psychometric measures. He did not appear to present with socially desirable responding. He reported significant emotional upset at levels that might interfere with memory, concentration and judgement. Psychometric measures also highlighted clinically elevated symptoms of anxiety and depression, with Fr Matthew reporting feelings of hopelessness and helplessness. He further presented as a relatively introverted and private individual who has difficulties with self-disclosure and is more inclined than many to feel overwhelmed.

### Polygraph Administration

During the first pre-polygraph interview undertaken with Fr Matthew, he initially presented as confused, then visibly distressed. He denied involvement in any sexual activity such as rape and asserted that, although this had been a fabricated allegation, he would nonetheless continue with the assessment process.

Fr Matthew completed the SHDF, though reported confusion when doing so, expressing surprise that some questions reflected enquires about possible past sexual involvements with young or vulnerable individuals as well as children. Nevertheless, over the course of the two polygraph appointments, Fr Matthew's range of disclosures increased and, as such, he was given the opportunity to amend his SHDF responses on multiple occasions.

Concerning sexual behaviour while in the priesthood, Fr Matthew initially denied any public involvement in such activity, for example, going to gay clubs. However, he subsequently acknowledged, further to noted inconsistencies in his self-reporting, having done so with considerable regularity, where he would observe other males having sex. In terms of his own sexual activity with men, during his pre-polygraph interview, Fr Matthew expanded on his initial assertion of having had a single homosexual encounter, decades previously, to acknowledging "more than a hundred" such experiences, progressing through unabated, over his thirty years in the clergy.

Specifically, discussing the allegation of rape that had been made against him, Fr Matthew initially reported that the "the man fabricated the whole thing". The complainant was a late adolescent who was also attending an event organised by the church. While initially denying any sexual activity or transgressions, as the interview proceeded, Fr Matthew acknowledged that, during this religious retreat, he had accompanied the eighteen-year-old male to his room, where they engaged in consensual, 'masturbation and oral sex'. Fr Matthew denied the young person's assertion that he had been subjected to anal rape. As we discussed these issues, Fr Matthew reported that while he had 'confessed his sins' in the past, he now thought it likely that he would be required to 'leave the priesthood' suggesting to the authors that he had previously understated the seriousness of his actions during confession.

In view of his continuing disclosures and further details given regarding the principal allegation made against him, neither of the two scheduled polygraphs were achievable. This, in part, related to a polygraph question he would need to respond to "have you left anything out when completing the SHDF?" It was deemed that Fr Matthew had not shared all relevant information and the polygraph would likely indicate deception on his part, in response to this question alone.

Fr Matthew was instead asked to provide a full and frank written account of his involvement with the alleged victim. At the time of his second scheduled polygraph appointment, Fr Matthew reported some suicidal thoughts at the pre-polygraph stage describing significant reservations and distress about proceeding. He there-

fore withdrew his approval to undertake the polygraph and the session was terminated. As such the polygraph examination was not completed during Fr Matthew's psychological risk assessment.

### Case Summary

Over the course of the assessment, Fr Matthew gave varying accounts of the evening in question and his past sexual behaviour more generally. Initially, he totally denied the veracity of the alleged assault. However, through the process of investigative interviewing in preparation for polygraph examination, Fr Matthew reported that he had engaged in sexual activity with the alleged victim on the evening identified. However, in the authors' experience, individuals often provide bits of information in order to satisfy others that they are being honest, whilst withholding important and incriminating details about events in question (Blair, 2009). Ultimately, the polygraph could not be undertaken following further relevant disclosures owing to Fr Matthew's expressed suicidal thoughts.

In the opinion of the authors, Fr Matthew was not open and disclosing. Rather, he was intentionally seeking to deceive others into believing that the allegations made against him were completely fabricated. It was not however, possible to clarify whether his sexual engagement was consensual, a key point about which Fr Matthew and the complainant were in total disagreement. Nevertheless, Fr Matthew's position over the course of the assessment changed to reflect previously denied sexual involvement with this individual, as well as a great many other illicit sexual encounters while in the priesthood. Further, Fr Matthew's withdrawal from the assessment process, in the opinion of the authors, gave significant cause to believe that he had still not made a full disclosure.

It was advised that further structured pre-polygraph investigative interviewing would likely lead to additional relevant disclosures as this had occurred during each of Fr Matthew's previous interviews. He was in our opinion, pre-contemplative (Prochaska & DiClemente, 1983), regarding his willingness to adopt a mindset conducive to making needed change. Structured CBT work was recommended, focusing on improving emotional resilience and anxiety management skills necessary for enhancing his general psychological wellbeing. However, this was not considered to likely afford Fr Matthew the required motivation and commitment to demonstrate responsible safeguarding such that he could return to ministry. In particular, the authors formed the view that, Fr. Matthew's capacity for maintaining



responsible sexual boundaries was limited and that his preoccupation with sexual matters would likely continue to make him vulnerable to exploiting his position of authority at times, for his sexual gratification.

## General Discussion

In this paper, we have presented three case studies to demonstrate how the polygraph can be incorporated into the forensic assessment of clerics. In the first case, we described how the polygraph examination elicited significant information pertaining to sexual risk. In the second, it was shown that the polygraph can motivate truthful responding, while also extracting information of substantial relevance to risk concerns, and finally, the third case highlighted that the pre-polygraph interview alone can secure important risk-related information to inform risk management and safeguarding decision-making.

As demonstrated, the polygraph can enhance a level of “truth facilitation” (Wilcox, 2019) that extends beyond determination of truth or deceit. Rather, the examination process can elicit information that is more broadly relevant to safeguarding and risk management. Indeed, a key purpose of the present paper is to clarify that, whether the individual passes the polygraph or not, is not an issue of much significance, as compared with the acquisition of further relevant information, that is gained within this process, which, at best, would otherwise be exceptionally difficult and time-consuming to obtain. The authors have endeavoured to produce psychological risk assessments that were as thorough and robust as possible to help the safeguarding bodies, and their church superiors, make well informed decisions, each of very significant magnitude. These decisions would impact on the future role of the cleric as well as having public protection implications for parishioners and members of the wider community. As identified in this paper, we note that the judicious employment of the polygraph can, in a time effective way, offer further, more detailed information that can be essential to the achievement of a comprehensive report upon concerns raised by the referring bodies.

It will be noted that within the context of our assessments, some clerics have reported that they experienced the polygraph examination to be interrogative and intrusive. However, in the experience of the lead author, criticism of the polygraph more often occurs among those who do not engage openly in the process and therefore fail to produce a No Deception Indicated outcome (having also disclosed engagement in some relevant abusive or inappropriate behaviour). In these circumstances,



withdrawal or failure to pass the polygraph can precipitate the examined cleric describing the polygraph experience as having been psychologically harmful. Conversely, there is some evidence to suggest that individuals who pass the polygraph describe it as having promoted their greater honesty rather than as having been unduly harsh (Khan, Nelson & Handler, 2009; Wilcox, O'Keeffe & Oliver, 2009).

Nonetheless, the authors accept that polygraph examination will likely, in varying degrees, be an uncomfortable experience for examinees, irrespective of the outcome. Indeed, the polygraph examination is designed to create a level of stress to promote psychological focus and an acceptance of the importance of responding honestly. Relatedly, Wilcox (2000) reported that it is assumed that almost everyone is fearful of being discovered to be lying, particularly about issues of heightened personal significance. Therefore, the polygraph can be employed to monitor physiological responses associated with such fears and apprehensions during testing to establish whether the person is likely lying. However, Wilcox (2013) noted that only issues specifically connected to referral concerns are explored during the polygraph examination. In this instance, the examination would aim at assessing aspects of the perceived legal and moral acceptability of the behaviour of the referred priest. As such, as a starting point, the SHDF explores the cleric's sexual history very broadly to achieve a full and clear context within which to address current index issues of forensic concern. It is, however, the concluding view of the authors that referring bodies must, for themselves, decide whether the polygraph meets with their ethical approval, as employed in this way to evaluate sexual risk issues.

In summary, the authors consider the polygraph to be a useful adjunct to standard psychological risk assessment, particularly in its application to the population defined in this paper. We further consider that where matters of key concern are unclear or relevant information is unavailable, the polygraph examination can help to elicit responses that inform appropriate decision-making at investigative, church safeguarding and, at times, criminal justice levels.

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## Trying an Accused Serial Sexual Harasser for Libel in a US Civil Court

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**Key words:** Accuracy Detection, Barnard Test, MeToo#, Polygraph, Sexual Harassment

### Disclosure

Mr. Handler is a fulltime employee of Converus Inc. This work was entirely self-funded. Dr. Shuster does all his consultant work pro-bono and selected Converus Inc. based on its merits. Only after making the choice, did he meet Mr. Handler. While Mr. Handler works for Converus Inc., he has no conflict of interest, since we expect that cases will virtually always be settled out-of-court, meaning that most if not all accuracy detection tests will not actually be done. In 2019, Converus Inc. did over 88,000 EyeDetect tests. Incrementally, serial harassment cases will have zero measurable impact on the business volume of the company.

## Abstract

The goal of this article is to provide a class of MeToo# victims of a high-profile serial sexual harasser with a non-invasive method for civil action, when the accused publicly dismisses the victims' claims as lies. When these libelous claims do occur, the victims can be assembled into a class-action libel/defamation case, which in most US states must be mounted within two years of the claim. Because under current civil methods, the plaintiffs would be subject to intense cross-examination in a civil jury trial, class-action lawsuits with small numbers of plaintiffs (e.g. 5–8) have proven impossible to conduct. This article provides a blueprint to create a collaboration amongst the victims, credibility-assessment (lie-detector) experts, statisticians, and MeToo# attorneys to litigate libel suits, which will likely produce out-of-court settlements. Once the first case is successfully completed, precedent will be set to bring other perpetrators to justice, and act as a deterrent to future exploitation. The evidentiary basis would be based on testing the null hypothesis that all plaintiffs are lying, to compare the inferred lying rates of the plaintiffs to similar population controls, who would be known liars, to a “Yes” answer to “Did X sexually harass you?”

## Introduction

According to the website <https://www.npr.org/sections/thetwo-way/2018/02/21/587671849/a-new-survey-finds-eighty-percent-of-women-have-experienced-sexual-harassment>, about 80% of adult American women reported being a victim of sexual harassment. There are two implications of this information. First, this implies virtually every American has either been a victim or is close to a victim. Second, these numbers also imply that a substantial number of their perpetrators have committed these acts against multiple women, making them serial harassers. Mounting a criminal case against serial violators is all but impossible because they hire top notch attorneys, who put the victims on trial about their personal lives, making it rare for victims to step forward. Statutes of limitation (usually two years) adds another layer of difficulty for the victims. Very few perpetrators have ever been successfully brought to justice in the US criminal courts. Although reports in other countries, notably Australia (64%) Italy (44%), and Sweden (64%) are lower than the US 80% of adult women reporting sexual harassment, it is clear that we have a world-wide problem.

The central theme of this article is to propose a legal strategy to sue a high-profile serial sexual harasser for libel even though statutes of limitation for criminal prosecution have expired. While this paper deals with US state and federal civil courts, the concepts may well have applicability to other democracies with civil courts that have pretrial meeting requirements in advance of trying the case. At the time of this writing, several US states are attempting to remove such limitations. Such removal may or may not allow grandparenting in statutes of limitations that had already expired under the old rules.

We shall delve into the implications of this in the discussion, but our strategy would only be enhanced by such state rulings, which ultimately might have to be adjudicated in the US Supreme Court.

There are three legal levels of evidence in US law, all founded upon the principle of “Proof by Contradiction”, taught to all law students in logic classes. First, “Beyond a Reasonable Doubt” applies only to criminal cases. Second, “Preponderance of Evidence” applies to inconsequential civil cases involving purely financial disputes, where the jury must decide whether the defendant is more likely than not to have been responsible for some damage to the plaintiff. Finally, “Clear and Convincing Evidence” should apply to civil cases where there are major consequences to both sides in the verdict. Cases such as attribution of harm for drug side-effects or environmental health effects from industry should fall into this designation. Here, we argue that testing the “null hypothesis” that the defendant caused no harm at “ $P < 0.05$ ” (taking multiple jeopardy in time and dimension into account), makes the overall system equitable and uses reproducible criteria, which have thousands of precedents behind them. What the contradiction represents starts out by assuming the defendant is not responsible for damages and then using the evidence to infer whether they rise to the level needed to contradict (i.e. reject) this assumption. Clearly, we should use “Clear and Convincing Evidence” to adjudicate a serial harassment libel case. If in the actual study we reject the null hypothesis at  $P < 0.05$ , it means that if we repeated the experiment in a new population where the null hypothesis is actually true (all plaintiffs are lying), the probability of incorrectly rejecting this null hypothesis is at most 5% (Clear and Convincing Evidence).

In the next sections, we shall present our approach to suing an alleged serial sexual harasser for libel, at a time when the statutes of limitations for criminal prosecution has ended, but a verbal accusation of lying against a set of victims has been made. This can be applied to alleged pedophile priests or high-profile individuals, such as politicians or company executives, accused many years ago of multiple acts of misconduct. A libel class action by plaintiffs against the harasser is currently extremely difficult to pursue, because any trial will subject the complainants to brutal cross-examination, and this makes holding the class together virtually impossible. Real examples of terrifying experiences for those who accuse a powerful individual in non-civil venues include the following: Andrea Constand (Cosby prosecution), Karen Borel (Ghomeshi prosecution), Jessica Mann (Weinstein prosecution), Anita Hill (Thomas US supreme court nomination), and Christine Blasey Ford (Kavanaugh US supreme court nomination). For this reason, cases involving a small number of plaintiffs (5–8) have not yet been tried in a US civil court. Our approach, which will rely on credibility assessment testing of the alleged victims (plaintiffs) and a set of population-based controls, could have an

excellent chance of reaching an out-of-court settlement, thereby sparing the plaintiffs from cross-examination or even from undergoing the accuracy assessment. Jury trials are very risky for defendants in the US, and therefore there is motivation to settle once the defendant's legal team is made aware of the potential scientific investigation.

It is important to note that once the defendant calls the accusations lies, there are three key elements at play: (1) If a plaintiff's honest perception is that s/he told the truth, the defendant's allegation that s/he lied is false; (2) Because the issue at hand deals strictly with the plaintiffs' truthfulness, any credibility assessment test taken by the defendant is irrelevant; and (3) The class of plaintiffs has only to provide evidence that at least one of the plaintiffs was truthful to be entitled to a settlement. However, if the class contains non-harassed plaintiffs, the ability to reach the required level of evidence would be compromised. This approach is analogous to cases where a class of heart attack victims sues a drug maker for excess occurrences over that of a control medication. Whether or not a given individual's attack can be directly attributed to the drug, if the overall level of evidence is sufficient (usually at  $P < 0.05$ ), and there is other supportive mechanistic evidence, the entire class can get a settlement.

Based on an actual potential pro-bono case, the first author investigated a partnership with a credibility assessment (aka lie detector) provider. In this search, he was only able to find one company, Converus Inc. that had published experimental validity data on truthfulness and falseness, essential elements to our legal strategy, making it the sole source at present. These "EyeDetect" assessment tests, as described in Table 4 of Kircher & Raskin (2016), using the five-fold method, are estimated to detect truthful responses 88% of the time and deceptive responses 86% of the time. EyeDetect has the added benefit of being totally non-invasive in that while the actual test questions are being administered, there is no operator in the room with the subject. Two videos showing how this works can be found at <http://converus.com/> under the EyeDetect link. In the future, other potential products may serve the same role as Converus Inc. The only statistical impact company selection would have rests with the "power calculation", i.e. the likelihood of finding Clear and Convincing evidence when all plaintiffs are truthful, since this depends on the validity numbers. Table 1 below maps all possible outcomes into whether we have Clear and Convincing evidence vs. not. The definition as to what is Clear and Convincing evidence would be identical under any Converus competitor. Finally, a proprietary objective algorithm determines the truthfulness inference without human intervention by whether a credibility score is at least 50 (Kircher & Raskin, 2016).

The paper is organized as follows: Study Design: The study design to compare the alleged victims to a similar control group for truthfulness to the key question on harass-



ment is described; Control Selection: How controls might be selected to potentially compare outcomes to the plaintiffs. How the Case might Proceed: This covers how we envision litigation of the US civil case will proceed; and Discussion: This covers the implications and how other countries might find the recommended approach useful.

## Study Design

The basic design is a close analog of a “case-control” study, which is a widely used study design in cancer research (Breslow & Day, 1986). Consider a class action civil lawsuit with a set number of plaintiffs and a set number of like controls. As we shall discuss later, we advise against direct matching, but collectively, the controls are selected to be demographically similar to the plaintiffs and have never been in contact with the defendant. We know that controls will not be truthful to a “Yes” answer to the question, “Did X sexually harass you?”. All subjects (Plaintiffs and Controls) will be instructed to answer “Yes” to this question. Ideally, the controls and plaintiffs will be tested, blinded to the device operator by group, and randomly mixed in terms of order. Individual test results should not be released, even to the subjects. For those granting consent, anonymized audio recordings could be made for the court. If, and only if a sufficiently higher percentage of plaintiffs are inferred as truthful than controls to the question, would we infer that this aspect of the case is considered meeting the criterion of Clear and Convincing evidence. The inference from such a set of subject outcomes is that under the null hypothesis that all plaintiffs and controls are lying, the false positive rate (inferring that the subject was truthful when in fact s/he was lying) is higher in the plaintiffs than that in a similar general population of subjects. See the next subsection for how controls might be selected. Of course, this need not be the only evidence presented in the case.

In short, good design principles should include (1) randomizing the order of plaintiffs and controls and (2) blinding the operator as to group identity. If indeed the credibility assessment study is done, an agent of the court should monitor the process.

## Control Selection

We recommend that state voter rolls be used to select controls. Since these are used in most states for jury selection, the courts are very familiar with them. A large random frame should be selected from the state voter roll and the sample should be roughly frequency-matched on demographic characteristics such as age, gender, city or county, and ethnicity.

Here is a numerical example of how, before any data are collected, we can set up objective criteria to make an inference as to whether the libel claim is considered supported by the data. In this example, we presume there are Six plaintiffs and 13 controls. The six plaintiffs is the actual number of plaintiffs in the potential trial we communicated on with a MeToo# attorney, and 13 controls is the smallest number of controls that make the probability of finding Clear and Convincing evidence per Table 1 at least 95% (our desired level), when all plaintiffs are actually truthful. If four of six plaintiffs are inferred as truthful, then it takes three or fewer controls inferred as truthful to reach clear and convincing evidence. Of course, professional statisticians, guided by the methods and referenced software below can construct like tables for other sample size scenarios, beyond the 5–8 plaintiffs covered in Table 1 below.

Because of the small numbers of subjects, exact statistical methods (no large sample approximations) are required. We employed the Barnard Test (1945), which is based on exact binomial calculations. Suissa and Shuster (1985) showed that this test is much more powerful than the commonly used Fisher's Exact Conditional Test. Under the null hypothesis that all plaintiffs are lying, there is at most a 5% chance of a finding in the "Clear and Convincing" range, irrespective of the common equal false positive rates in the two groups. The calculations can readily be performed using the commercial software package StatXact, available from <https://www.cytel.com/software/statxact>.

Table 1: Clear and Convincing Evidence for Recommended Designs

Plaintiffs <sup>1</sup> (N=5)	Controls <sup>1</sup> (N=19)	
2	$\leq 1$	
3	$\leq 3$	
4	$\leq 5$	
5	$\leq 9$	
Total (Z>2.03)		95% power

Plaintiffs <sup>1</sup> (N=6)	Controls <sup>1</sup> (N=13)	
2	0	
3	$\leq 1$	
4	$\leq 3$	
5	$\leq 4$	
6	$\leq 7$	
Total (Z>1.83)		96% power

Plaintiffs <sup>1</sup> (N=7)	Controls <sup>1</sup> (N=12)	
2		
3	0	
4	$\leq 2$	
5	$\leq 3$	
6	$\leq 5$	
7	$\leq 7$	
Total ( $Z > 1.83$ )		97% power

Plaintiffs <sup>1</sup> (N=8)	Controls <sup>1</sup> (N=9))	
3	0	
4	0	
5	$\leq 1$	
6	$\leq 2$	
7	$\leq 4$	
8	$\leq 5$	
Total ( $Z > 1.83$ )		95% power

<sup>1</sup> Number of Plaintiffs or Number of Controls inferred as truthful

Z is the Z-statistic with pooled variance per Suissa and Shuster (1985)

If all plaintiffs are truthful, with all controls known liars to yes answers to the implied question, then under Converus accuracy estimates from Kircher and Raskin (2016) of 88% truthfulness and 86% deception, there is at least a 95% probability (Power) of a finding in the set of Clear and Convincing outcomes defined in Table 1 for the various designs we listed. The motivation for the number of controls in each table is that this represents the smallest number need to achieve the desired 95% power for rejection of the null hypothesis when all plaintiffs are truthful.

## How the case might proceed

### Pretrial Meeting and Motions

Before any trial is conducted, a statistician and credibility assessment expert would set up the case-control design, including the number of plaintiffs and number of controls, along with exact criteria to establish Clear and Convincing evidence, producing an objective Table, analogous to Table 1. Along with a description of the testing methods,

these will be known to both sides prior to the meeting. A power analysis will also be provided to both sides. The two sides will meet with the judge/attorneys to lay out the ground rules. At least in the very first libel case, the defense will try to argue that the accuracy testing is inadmissible. It needs to be noted that because there is never an inference that any specific subject is truthful, this challenge will likely be unsuccessful. In fact, credibility assessment testing has been allowed. Even in a minority of cases where a single polygraph has been used, polygraphs have been pivotal in verdicts. For example, in *State v. Dorsey* (1975) 88 N.M. 184 [539 P.2d 204] the court reversed a [53 Cal. App. 3d 115] criminal conviction that had held polygraph evidence to be inadmissible in US court. Next, the defense might try to make the following argument: “In the event that the plaintiffs demonstrate a higher false positive rate under the null, it can be explained by the possibility that they are just better liars”. The presentation of Honts & Thurber (2019) looked at moderators of validity in a large meta-analysis and were unable to uncover any significant ones with meaningful effect sizes. Remember that no tests have yet been conducted. At this point, the defense seems to be grasping at two straws, and the judge seems unlikely to buy in, given the published validity and error rates for these credibility assessment tests per Kircher & Raskin (2016). Since visually, the bar for Clear and Convincing Evidence in Table 1 does not seem very high, a settlement is now extremely likely, and the judge might ask both sides to negotiate one. A civil trial represents a huge financial risk to the defendant, as jury awards are typically very generous to winning plaintiffs. Should indeed the credibility assessments be done, there is no going back for either side. Many true victims want acknowledgement of harassment on the part of the defendant as opposed to a large monetary award.

### Actual Trial by Jury

If an out-of-court settlement is not reached, and if admissibility of the accuracy assessment for collective inference is established, the case-control study would proceed as designed in the previous sections. The court would supervise the selection of controls and assure blinding of the defense and plaintiffs, except for a final summary table of outcomes. A neutral statistician should do the analysis which may include secondary inference, such as comparing the estimated probabilities of untruthfulness, since most credibility assessment tests not only provide a yes/no answer but also an estimated probability of truthfulness for each subject.

### Discussion

We have provided methodology that might be applied to help MeToo# victims litigate their case against a sexual predator in US civil court, thereby avoiding the daunting ex-

pectation of being cross-examined on every aspect of their lives. This strategy may also motivate civil litigation in countries where the cases are tried before judges. Credibility assessment methodology is certainly imperfect, but even the most severe skeptic may consider that we will tend to see a higher inferred truthful rate (Yes answer) among truly self-perceived harassed women than in control women to the question: "Did X sexually harass you?"

The importance of having a control group cannot be overemphasized. Without one, we would have to rely on validity numbers for truthfulness of the accuracy assessment methods. Although they were extensively tested, they may or may not apply in the harassment context. The only place where validity figures are used is in the power analysis. The study's objective rejection region, established prior to the data collection, has its P-value calculated under equal target population proportions of truthful inferences to the "Yes" answer to the question, "Did X sexually harass you?". This would logically be true under the null hypothesis that all plaintiffs were lying to this question. To illustrate what can happen without a control group, suppose that four of six plaintiffs were inferred to be truthful. Assuming they were all in fact liars, all you could say is that the test validity for detecting falseness ranged from 22% to 96% with exact 95% confidence. This would be fodder to the defense.

There are two notes of caution we need to consider. First, there is no relevance to a defense's credibility assessment of the accused libeler. The defendant has accused all plaintiffs of lying, not whether the accused's honest perception is that s/he did not sexually harass anyone. Second, the plaintiffs' attorneys must avoid cherry-picking and should therefore refrain from selecting the set of plaintiffs on the basis of pretrial accuracy assessment tests, which would be discoverable by the defense in any case.

Ironically, the availability of a powerful tool, that can scientifically evaluate the evidence, may suggest that it will virtually never be applied. If the case goes to trial and if there is a finding for the plaintiff side, the award will be in the hands of a jury of the defendant's peers. Jury awards are generally much larger than out-of-court settlements. Rather than "roll the dice" (in our numerical examples the power is 95%), the case would almost certainly be settled out-of-court.

There are limitations to this approach. First, will there be major non-participation rates for controls selected from the voter role?. We believe that society is well in-tune with the MeToo# movement and the potential controls will be sympathetic to the investigation. Second, the plaintiffs may be reluctant to undergo a credibility assessment test. Considering an alternative that involves cross-examination, we believe plaintiffs will be highly motivated to do so. If they understand that the case is about the collective responses of the class of plaintiffs, and not about their individual responses, this should

be at most a minor issue. Third, the independent binomial distribution requires independence of the observations, which is supported by our design which can be enhanced by requiring no crosstalk among the plaintiffs or controls. Most often, the plaintiffs are strangers to each other, something that also would support independence. However, in situations where a company executive is the defendant, one might be suspicious of the independence. For this reason, we strongly recommend that attorneys meet strictly one-on-one with the plaintiffs. Yet, the key outcome is the inferred error rate of the test, and the design assures these are operationally independent. In short, lack of independence should not be a major issue even when the defendant is a company executive.

Credibility assessment tests also can provide estimates for the probability that the subject is truthful given their results. We considered, but rejected, the use of something akin to a randomization t-test to assess the overall outcome. This approach might gain somewhat in power but loses the ability to completely lay out in advance what is concluded from every possible overall outcome. This t-approach might be viable when the number of plaintiffs in the class is small (such as 3 or 4). Power analysis would require actual data from past validity studies on the distributions of the probability of truthfulness from both known truthful and lying subjects.

We also strongly advise against direct matching. This will lead to confusion at the pre-trial meeting. In the analogy to our example, with six plaintiffs and 3 matched controls directly matched to each plaintiff (18 total controls), the data would be laid as a two by four layout for each subject. Instead of one dependent variable in the unmatched (inferred truthful vs. not), the data would have eight counts for the number of positives (0 or 1 for inferred truthful Plaintiff) each matched to 0,1,2,3 inferred truthful Controls (See Table 2). Tabulating which potential outcomes represent Clear and Convincing evidence is much more complex than Table 1. Further, we do not expect a major power advantage, especially if the matching criteria are not a major factor for predicting confidence of the accuracy detection inference.

Table 2: Hypothetical Matched Design Outcomes for 3:1 Matching.

Controls + → Plaintiffs + ↓	0	1	2	3
0				
1				

Entries are number of Plaintiffs deemed lying (0) or deemed truthful (1) vs. Number of the three matched controls deemed truthful (0, 1, 2, or 3). The total counts in occurrences would be 6, one for each matched set.

Note that unlike side-effects civil lawsuits, there is no ability of serial harassment cases to cherry pick the outcome on the basis of dimension (selecting just one outcome from a collection of several, such as cancer, heart disease, liver damage, etc.), or time (repeatedly looking at the data and pouncing when they become significant).

A very encouraging new development is that several states are pushing to eliminate statutes of limitations for sexual misconduct in criminal cases. In all likelihood, this would not affect situations where the statutes of limitations could be grandparented in. But once this capability gets through the court systems, victims will have more options to sue in criminal court or civil court. The lower evidence requirement in civil could still make our approach attractive, as it is unlikely that the use of accuracy detection would be permitted in criminal actions.

### Potential Applications in Other Counties

First, Converus Inc is now available in over 40 major languages. Second, some countries have lower standards for criminal convictions than the US beyond a reasonable doubt standard, making it possible in some countries to prosecute serial harassers under the nation's criminal code. Third, in civil cases in other countries, so long as there are pre-trial meetings for mediation purposes, the procedures can likely be adopted to gain a negotiated settlement, which gives both sides a potential benefit. A guilty party might be able to offer a lower financial settlement than would be the case if it went to trial. The victims would get public recognition of wrongdoing by their perpetrators without having to undergo cross examination of their personal lives.

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## **Important Aspects of Polygraph Examinations of Islamic Faith People**

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**Key words:** polygraph examination, extremism, terrorism counteraction

### **Abstract**

In this article the author gives recommendations for running polygraph examinations of Islamic faith representatives during the Muslim fasting period of Ramadan based on his own practical experience and interactions with Muslim psychologists, and also analyzes examples of incorrect formulations of relevant questions on the subject of Islamic terrorism / extremism in the course of screening examinations.

## Polygraph examinations during the Month of Ramadan

Ramadan fasting is the abstinence from food, drinking and sexual intercourse from dawn till sunset, immediately after which all of the above become permitted. The first day of fasting in 2020 was on April 24<sup>th</sup>, the last on May 23<sup>rd</sup>. So, each day of fasting consists of two periods: abstinence from dawn till sunset (from about 3:40 to 22:50) and permissibility from sunset till dawn (from 22:50 to 3:40) [<https://umma.ru/o-poste-v-ramadan-dlya-novichkov>].

Restrictions of sleep and diet during Ramadan entails a number of psychophysiological consequences among which we can observe a decrease in attention concentration, general weakness, drowsiness, memory impairment, irritability, certain troubles with circulatory system, etc. As a result, polygraph examinations of people observing the Ramadan fast in the morning and afternoon time, which is normally considered to be optimal, after a poorly conducted pre-test interview and with a lack of proper control on the part of a polygraph examiner, can be accompanied by some psychophysiological phenomena that can serve as a basis for a suspicion of examinees' countermeasures, since they do not always volunteer they are fasting. Ideally, the polygraph examiner should clarify this fact before the test procedure begins.

Among the artifacts observed in examinees being in the state of fatigue, which usually worsens many physiological indicators, it is worth highlighting a decrease in the amplitude of electrodermal response, increased motor activity, and periodic forced (deep) breaths (see Fig. 1).

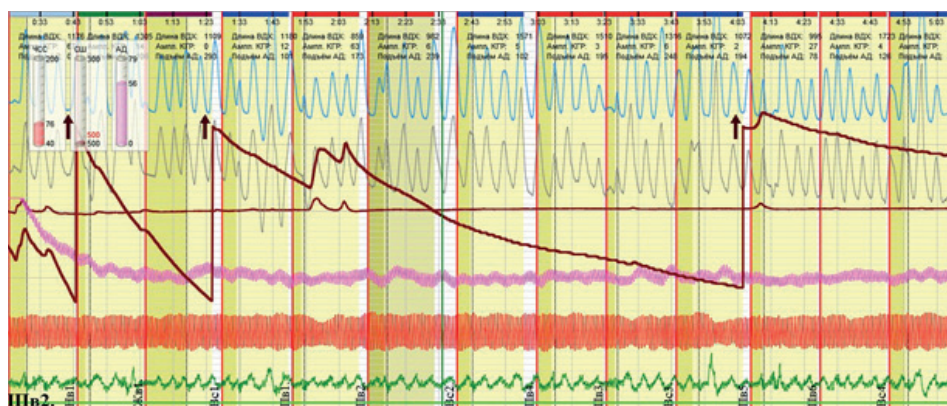


Fig. 1

In connection with everything stated above and in order to increase the quality of polygraph examinations, the author recommends that:

- the duration of testing period should not exceed 2.5 hours. Longer examinations will only lead to an increase in the above-mentioned artifacts, and deep breaths can lead to elevated blood pressure and the occurrence of spontaneous reactions in the electrodermal channel that are not related to the polygraph examiner's questions (Pelenitsyn, Kazakov, Soshnikov; 2018)
- polygraph examinations should be conducted in the first half of the day (if the examinee's occupational work involves intense physical exertion, then testing him in the afternoon, taking into account his fasting, will lessen the possibility of obtaining high-quality polygraph charts), because during the predawn meal (suhoor) they are most likely to consume food that contains a lot of fiber and protein which prevent the onset of hunger [<https://umma.ru/o-poste-v-ramadan-dlya-novichkov>]. If for some reasons it is impossible to conduct the examination in the first half of the day, it is permissible to run it half an hour or an hour after waking up (sleep is not prohibited in the month of Ramadan). It is important the polygraph examiner remember to offer the examinee the opportunity to perform the ritual of morning bathing.

The recommendations given above will not only increase an examinee's trust in the polygraph examiner, but will also improve the quality of the charts recorded during the polygraph examination.

### Test Questions on the Subject of Islamic Terrorism / Extremism

The identification of extremists, as well as individuals involved in terrorist organizations, currently poses a complicated problem for personnel departments of various organizations, primarily due to the fact that polygraph examiners lack knowledge of the specifics of different Muslim regions, as well as to the lack of their productive interaction with theologians and experts in the field of Islam. Human Resource (HR) specialists usually develop and apply tests and questionnaires aimed at identifying extremists. This approach solves some tasks relatively fruitfully, but only within those areas (personality analysis, structured interviews) for which it is developed. Since a typical screening polygraph examination usually covers multiple issues and a significant period of an examinee's life, especially if the latter is a follower of Islamic faith, polygraph examiners often face the difficult task of correctly formulating

test questions. So, in their practice polygraph examiners often find themselves in situations where a specialist formulates the questions for a polygraph test based on the questions that are used by HR-managers at structured interviews. Due to the fact that such an approach is not always productive the author suggests considering it in more detail.

In the Russian Federation, usually there are certain ethnic foundations historically formed in some separate Muslim regions, which may differ from those of neighboring Muslim regions, and therefore posing questions with double interpretation related to religious rites is unacceptable. The author, relying on the comments of Muslim psychologists and theologians, offers to critically consider some of the issues, suggested by individual polygraph examiners, the use of which in screening tests can lead to false positive errors:

“Have you publicly justified terrorist acts of banned Islamic organizations?” *Comment: “The word ‘publicly’ may not be very clear to the potential or real terrorist who thinks in Islamic terms. So, this question can be considered ineffective. The tested person may not know the list of banned organizations. Moreover, an act of terrorism can be committed by members of unknown or known, but not banned organizations, renamed organizations, etc. For example, the Hizb ut-Tahrir organization is banned, but it has a few more names that terrorists can act on behalf of.”*

“Have you committed acts aimed at overthrowing the government for religious reasons?”

*Comment: The question is too generally related to global ideology. Dry legal formulations of secular laws are far from real word usage in the Muslim environment. A person who has carried out acts of terrorism on a local scale, for example, blew up a store selling alcohol, will answer this question with a sincere “no”. He may believe that he “corrected the authorities’ deviation from the direct path” or “punished sinners”. “The reconstruction of the Caliphate” in a secular country can be conceived by adherents of such ideas without the overthrow of the government, but slowly in stages.*

Despite the fact that modern techniques for using the polygraph do not recommend the use of test questions related to opinions, intentions, judgments or wishes of the tested person (the relevant questions, whenever possible, should always relate to specific physical actions and contain the appropriate action verb) (Pelenitsyn, Soshnikov, 2016), polygraph examiners still often raise questions regarding internal social relations, which is also erroneous:

“Do you think that others should adhere to the same faith as you?”

*Comment: There is no greater happiness for a Muslim than when his close friends should practice the Islamic religion. At the same time, it is important to emphasize that a Muslim, should keep virtuous attitude towards adherents of a different faith.*

“Do you go to the cemetery to visit your relatives’ graves?”

*Comment: This question is narrowly targeted; it can be perceived differently given various ethnic features. In some regions, visiting graves and reading prayers is permissible, while radical Islamists strongly condemn such practice. However, there are also people who do not go to the cemetery, explaining their position by saying: “the living – with the living, and the dead – with the dead”, which, certainly, is not a sign of an extremist personality.*

Thus, the formulation of the above questions will not contribute to increasing the effectiveness of detecting radicals using the polygraph, but, on the contrary, it can aggravate the relationship between the person being tested and the polygraph examiner as the former may perceive it as a possible violation of his rights. As one of the ways of improving the quality of polygraph examinations the author recommends using a “route map” made in two variants:

Variant 1 is aimed at identifying an extremist personality during a job interview;

Variant 2 is constructed taking into account real circumstances and in accordance with the stated tasks.

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# Polygraph: The Use of Polygraphy in the Assessment and Treatment of Sex Offenders in the UK\*

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**Key words:** Polygraph, Sex Offenders, Offender Management Act (2007), Domestic Violence Bill (2020), Counter-Terrorism and Sentencing Bill (2019/2021)

## What is a polygraph and what does it measure?

A polygraph instrument collects physiological data from at least three systems within the human body. They generally include respiration, sweat gland activity, and

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\* This paper was adapted from a website update submitted by the authors in September 2020 to the National Organisation for the Treatment of Abuse.

blood pressure measurement. A typical polygraph examination will include a period referred to as a pre-test interview, a chart collection phase and a test data analysis phase. It works on the assumption that almost all people have a fear response associated with lying, particularly about matters of significant personal importance to them. However, in fairness, this assumption is not subject to universal agreement and there is no consensus as to the underlying basis upon which the polygraph examination can be employed to such consistently positive effect (Wilcox, 2013). As such, lying is thought to produce a natural stress reaction (Wilcox, 2000) activating the autonomic nervous system, a part of the central nervous system that is largely outside of conscious, volitional control.

In the pre-test phase, the polygraph examiner will discuss the questions to be asked and familiarise the examinee with the test procedure, as well as the questions to be asked during the polygraph examination. These will include questions of key relevance to the purpose of the examination, as well as irrelevant and comparison questions. The questions will be asked in a mixed order during the polygraph chart collection phase while the physiological indices are simultaneously recorded with 'yes' or 'no' replies given by the examinee.

When adhering to the standard protocols of polygraph training, changes in the individual's physiological responses, associated with specific questions, enables the polygraphist to conclude with considerable accuracy whether the examinee is likely being honest or deceptive when providing answers. With regard to the effectiveness of the polygraph, it is found to be consistently much better than even skilled clinicians and professionals in detecting deception, and comprehensive research on this matter undertaken by the American National Research Council (2003) determined polygraph accuracy to be in the region of 80 to 90 per cent when undertaken by properly trained polygraphists. As such, as an adjunct to assessing, treating, and supervising sexual offenders (Wilcox, 2009), its facilitative potential seems clear, though this should not lead professionals to conclude its irrefutable accuracy in determining whether an individual has lied or told the truth.

Nonetheless, the application of the polygraph in sex offender work has demonstrated significantly greater utility in promoting more broadly truthful responding. Indeed, researchers, with regard to employing the polygraph more as a truth facilitator than a lie detector (Gannon et al, 2014; Grubin, 2006; Heil & English, 2009; Wilcox et al, 2005), have all demonstrated that polygraphed individuals consistently make relevant disclosures regarding treatment and supervision issues at significantly higher rates than for non-polygraphed offenders. Such disclosures can



occur during the pre-polygraph interview when the questions are being clarified, or at the post-polygraph stage when, if the examinee fails the polygraph, he or she is provided the opportunity to explain from their perspective why this occurred and a deception indicated finding was made.

### History, legal status, and scientific acceptance

Polygraph is well established in the United States in the assessment, treatment, and management of sexual offenders, both in prison and community settings. Encouraged by the American experience, studies in the UK, have examined the utility of Post Conviction Sex Offender Testing (PCSOT) with sexual offenders in the community (Gannon et al, 2014; Grubin, 2010; Wilcox, & Sosnowski, 2005) and in a mental health setting (Collins, 2019).

Systematic reviews by Elliott & Vollm (2016) and Collins (2019) have highlighted the value polygraph adds to the management and treatment of sexual offenders. Elliott & Vollm identified polygraph as eliciting an increased amount of offence related disclosures associated with risk-related factors (number and variety of victims, risk behaviours and violations of license and treatment conditions); and an increase in crossover offence disclosures. Collins (2019) referred to the additional utility of polygraph with adults and juveniles, as well as value of polygraph to professionals and participants.

Key studies in the UK, have included a comparison group of non-polygraphed subjects (Gannon, et al., 2012 & 2014; Grubin, 2010). They reported significant increases in clinically relevant disclosures made when offenders undertook a polygraph. In Grubin's 2010 study, he reported polygraph offenders were 14 times more likely to make at least one disclosure than those not polygraphed; compared with Gannon et al's finding of the polygraph group being 3.1 times more likely than those not polygraphed to make a disclosure. In addition, 90% of probation officers in Grubin's (2010) study rated the impact of polygraph on testing and supervision, as being 'somewhat' or 'very' helpful. The results of the polygraph findings prompted the widespread enforcement of the Offender Management ACT (2007) section 28 in the UK, in which mandatory polygraph testing is arranged for sex offenders identified as high risk according to the Risk Matrix 2000 (RM2000, Thornton, 2010) and have a sentence of 12 months or longer.

Gannon et al. (2014) subsequently evaluated a mandatory pilot of polygraph in the Midlands area of UK (n= 635). This study reported significantly more clinically rel-

evant disclosure (CRD's) after controlling for length of time at risk as a result of the polygraph, when compared with a matched non-polygraphed sample. In relation to recidivism, Cook et al (2014) found that those who did not receive a polygraph, reoffended significantly more over a 5 year follow up period, compared with those who did undertake a polygraph. Other 5 year follow-up studies have shown similar results with low recidivism when comparing matched polygraphed with non-polygraphed sex offenders (McGrath et al., 2007; Konopasek & Nelson, 2015).

The reported professional views of those managing offenders receiving polygraph, include increased confidence in compliance with license conditions (Gannon et al, 2014; McGrath et al, 2003; Spruin et al., 2018), supervising officers valuing the utility of polygraph to support treatment providers (McGrath et al, 2007; and reporting that disclosures made were unlikely to have been made without a polygraph (Wilcox and Donathy, 2008) with agreement that polygraph should be part of license conditions for all sex offenders and all high risk offenders (Spruin et al, 2018). Relatedly, false admissions occur at a low rate, with less than 10% of offenders self-reporting a false admission in anonymous surveys (Grubin & Madsen, 2006; Kokish et al., 2005). Notably, with increasing evidence of the validity and utility of polygraph with sex offenders, there has been a move towards the reporting of polygraph outcomes being expressed as probability statements with confidence levels given, though this has not yet been formally introduced (Nelson et al., 2011).

### Current employment of polygraph

Numerous studies have identified polygraph eliciting fuller and more accurate information about an offender's past and present sexual behaviours and corresponding risks (Emerick & Dutton, 1993; English, Jones, Pasini-Hill, Patrick & Cooley-Towell, 2000; Heil, Ahlmeyer & Simons, 2003), therefore it is not surprising that the use of polygraph has increased substantially in adult community sex offender treatment programmes in U.S. from 29% to 70% between 1992 and 2002 (McGrath, Cumming & Burchard, 2003).

Following the mandatory polygraph pilot study the UK, all high risk sex offenders (as noted above) are required to undertake a polygraph.

In addition to polygraph use in the community, Collins (2019) reported on the utility of polygraph with mentally disordered sex offenders in a forensic setting.

Polygraph has been introduced into police services in the UK, with an evaluation of its use with convicted individuals or those suspected of committing a sexual offence (Wood et al, 2020). The results revealed that polygraph employment significantly increased investigation relevant disclosures. Notably, the successful application of polygraph in assessing, treating, and supervising sexual offenders has found favour in other safeguarding areas such as the Domestic Abuse Bill (2020) which also makes provision for a three-year pilot of mandatory polygraph examination of domestic abuse perpetrators released on license and identified as high risk offenders.

Types of examinations:

There are three principal types of polygraph examinations used in the treatment of sex offenders:

- Sexual History Examination (SHE) which obtains a fuller and more accurate account of an offender's sexual history, any unidentified paraphilia interests (including deviant sexual fantasies) and offence behaviour;
- The Instant Offence test which focusses on the elements of denial (either partial or total);
- A Maintenance test which focusses on an offender's compliance with treatment and adherence to conditions mandated by the Court.

Notably, some studies refer to a Monitoring test which focusses on specific concerns relating to new offences or possible breaches (Wilcox, 2009), though this is no longer viewed as distinct from the Maintenance test.

Polygraph tests concerning sexual offence issues should only be conducted by PC-SOT-qualified examiners. Further, administration must be video recorded in its entirety and a written report of the results produced by the polygraphist.

## Conclusions

The use of the polygraph in its various applications has continued to be described as "a lightning rod for controversy" (Craig, 2019). However, against this backdrop, it was introduced into sex offender work in the UK, in the first instance voluntarily, and then compulsorily within the context of carefully controlled government-supported research studies with convicted British sex offenders. Results have been inde-

pendsently evaluated, and have led to the inclusion of mandatory polygraph testing with high-risk sexual offenders in the UK, as set out in the Offender Management Act (2007). Since then, its perceived utility has assisted in assessment, treatment, and supervision of sexual offenders, such that polygraphy continues to hold a significant place in this area of work. Lastly, as noted above, its assistive capacity has given rise to its employment with police services, on a voluntary basis, with individuals being investigated for a sexual crime, and its inclusion in the Domestic Abuse Bill (2020). Lastly, to contextualise its further application potential, the government is currently planning to use the polygraph to assess convicted terrorists released under licence in the UK, to bolster other important public protection efforts (Counter-terrorism and Sentencing Bill 2019/2020).

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## **Book reviews**

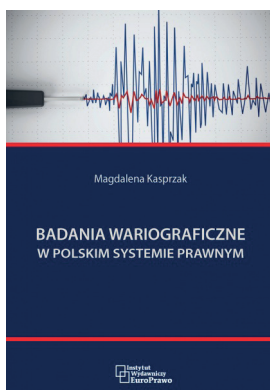




# EUROPEAN POLYGRAPH

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## **Magdalena Kasprzak: Badania wariograficzne w polskim systemie prawnym (literally: "Polygraph examination in the Polish legal system"), Instytut Wydawniczy EuroPrawo, Warszawa 2020**

Each book on polygraph examinations in the market should be welcomed, just for the fact that it promotes knowledge about such examinations. However, the value of such a book depends on satisfying two necessary conditions. The minimum condition is to report honestly on the current state of knowledge, while extending that knowledge or at least pointing to the areas that call for studies and discussion is the desired one.

Satisfaction of the minimum condition requires at least collecting literature on the subject and assessing it. Distinguishing the more important problems from the less

material ones, distinguishing the statements postulated on the grounds of the results of properly conducted empirical studies from the ones that only express individual convictions. In other words, distinguishing scientific claims from statements that could possibly, and in most cases only after certain editing, pass for mere hypotheses.

The task frequently proves too difficult for lawyers, who do not know, or even feel, the rules of the methodology of empirical sciences. Alas! It also proved too difficult for the author of the work in question. This, however, could perhaps still be forgiven. It is, however, harder to forgive evident technical shortcomings. These start with the selection of literature. Trying to account on the state-of-the-art, the author resorts to works published several decades ago, interspersed with some more contemporary ones, however, selected all but haphazardly. She fails to note of at least three Polish monographic works whose subjects overlap with hers that have been published in the last few years. Moreover, she quotes editions from the 1990s, and even the 1980s, in case of literature that was published in amended and supplemented versions in recent years.

All the comments above concern primarily the two first chapters: Chapter 1 General characteristic of polygraph examinations (which uses the word *wariograficzny* for “polygraphic”) and Chapter 2, The use of polygraph examinations in criminal trials.

However critical remarks also need to be addressed to the other parts of the book. For example, Chapter 3, in which the author counts the Internal Security Agency (ABW) and the Intelligence into the “uniformed services”.

What could have been the most valuable and innovative part of the work is section 5 of Chapter 4 entitled “Polygraph examinations in the opinion of employers and employees”. It could have been but, unfortunately, it is not. The work makes elementary mistakes in methodology. There is no exact description of the examined sample or the way it was put together. The results presented in colourful charts and diagrams available in computer applications use percentages, shunning from absolute numbers, etc.

As a consequence, another book of minimal practical value and devoid of academic ones has been published. A reason to be embarrassed, the more so as the author is a member of academic faculty.

Jan Widacki

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To publication will be accepts unpublished research papers as well as review article, case reports, book reviews and reports connected with polygraph examinations.

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- Figure files;
- Table files;
- Any extra files such as supplemental material or biographical notes.

The total length of research papers and review article should not exceed 12 pages, case reports – 6 pages, and other texts (book review, report) – 5 pages.

The first page of paper should contain: the title, the full name of the author (authors), the name of institution where the paper was written, the town and country.

Figures should be submitted both in printed form (laser print, the best) and electronic form.

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The references should be arranged in the alphabetical order according to the surnames of the authors.

The references should be after the text.

Each reference should include: the surname (surnames) of the author (authors), the first letter of author's first name, the title of the book, year and place of the publication, the name of publisher, or the title of the paper, the full title of the journal, the year, the volume, the number and the first page of the paper.

For example (in references):

Reid, J., Inbau, F. (1966), *Truth and Deception: the Polygraph ("Lie-detector") Techniques*, Baltimore: Williams & Wilkins.

Abrams, S. (1973), Polygraph Validity and Reliability – a Review, *Journal of Forensic Sciences*, 18, 4, 313.

and (Reid, Inbau, 1966), (Abrams, 1973) inside text.

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