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

Daniel T. Wilcox

Registered Clinical/Forensic Psychologist, Wilcox Psychological Associates,
(Hon) Professor of Forensic Psychology, Nottingham Trent University
danieltwilcox@wpalimited.co.uk

Nikki Collins

Registered Forensic Psychologist Polygraph Examiner
Central and North West London NHS Foudnation Trust

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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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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 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 PCSOT-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-

pendently 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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