

Some Thoughts About Treatment Efficacy and the Polygraph

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The Limitations of Sex Offender Treatment. Methodological problems abound with treatment efficacy studies. Consequently it is difficult to determine whether problems with treatment or problems with measurement have resulted in statistics reflecting a minimal impact (Hall, 1995; Hanson et al., 2002; Berliner, 2002; Hanson and Morton-Bourgon, 2004; Craig and Brown, 2003; Rice and Harris, 2003a). Miner (1997) summarized the methodological problems associated with treatment outcome research. In addition, Barbaree (1997) identified statistical challenges associated with establishing treatment effectiveness. These are important articles.

Recently, two meta-analyses reported treatment effects. Gallagher et al. (1999) reviewed 25 studies and found a moderate reduction in recidivism, and Hanson et al. (2002) followed over 9,000 offenders in 43 studies and reported an 8 percent reduction in recidivism. While the findings from the two studies are important, meta-analysis remains a controversial analytical approach. This method is vulnerable to the analysts' selection of the original studies and the statistical methods employed are open to subjective bias.¹ In fact, in a careful review of Hanson et al. (2002), Rice and Harris (2003a) found that most of the 43 studies had significant methodological problems, most commonly the lack of an adequate or appropriate comparison group. Rice and Harris (2003a: 436-437) identified only six of the 43 studies as meeting their criteria of a "minimally useful evaluation" and these studies indicated a "trend toward treatment having been detrimental." They conclude that the impact of treatment remains unknown.

Inappropriate Treatment? Perhaps research is unable to consistently identify treatment effects because treatment plans are not based on an accurate account of the offender's problems. Most therapists understand that clients generally present incomplete pictures of themselves and their lives. The widespread and accepted use of phallometric testing reflects professionals' need for objective information about the offender's sexual preferences. Indeed, the need to obtain accurate information about sex offenders has been recognized for many years:

Therapists evaluating and/or treating sexual assaulters need valid, reliable information from the sex offender. Without this, the therapist is less able to identify the precise treatment needs of the patient, to evaluate precisely the impact of treatment interventions, and to quantify treatment's long-term effects (Abel and Rouleau, 1990:10).

These comments from Abel and Rouleau accompanied their analysis of data from over 561 male adults who self-reported committing a wide variety of paraphilic behaviors against multiple victims over the span of many years. The findings were remarkable: ninety-percent reported a history of multiple paraphilic behaviors; half of the subjects who reported involvement with non-familial boys also reported involvement with non-familial girls; and half of the incest perpetrators (with female victims) reported molesting girls outside the home. These men reported a range of deviant behaviors with many types of victims. It is interesting to

remember that the response by sex offender treatment professionals to the publication of these data was generally dismissive. Many professionals were critical of the study because the subjects were not apprehended by the criminal justice system and therefore the findings were not generalizable to men convicted of sex crimes. Rather, the men in the study were voluntarily seeking evaluation or treatment and so were considered to be more compulsive and were perhaps more troubled than convicted rapists and other pedophiliacs. They *had* to be different: the ratio of arrest to self-reported crimes of rape and child molesting were estimated to be 1:30 and the ratio of arrest to self-report of exhibitionism and voyeurism was 1:150 (Abel et al., 1988).

Our early field research in the area of sex offender management, first described in English et al. (1996), found that probation and parole officers thought the findings from Abel and his colleagues resonated with their experiences. Our subsequent work (in particular English et al., 2003) confirmed what many supervising officers were learning from offenders who were serving sentences in the community: this population had many undetected sex crimes and most had a variety of victims.

Can treatment be effective without accurate information about the offender's sexual deviancy? Is this one reason researchers are unable to consistently detect significant differences between treatment and non-treatment groups?

Polygraph Accuracy. Opponents of the use of the polygraph in sex offender management rightly question the accuracy of the instrument. All instruments used in the process of major decision-making should be analyzed for accuracy. The National Academy of Sciences (2003:4) explored the use of the polygraph in the detection of espionage and, despite criticizing the paucity of well-controlled research on the instrument, concluded "specific incident polygraph tests can discriminate lying from truth-telling at rates well above chance, though well below perfection. Because the studies of acceptable quality all focus on specific incidents, generalization from them to uses for screening is not justified." But the polygraph is not used for screening in sex offender testing.

As noted by the NAS, research on polygraph accuracy is difficult to conduct.² Validity can be checked under two conditions: a mock crime scenario or field tests that are cleared by a confession. Field tests are considered to be more accurate because they occur under "real life" situations where the stakes are high, as compared to mock crimes where participants have nothing at stake and physiological measures are less reactive because fear of detection is difficult to manufacture. The error rate is expected to be higher in these studies compared to field studies.

Forensic Research, Inc., of Severna Park, Maryland reviewed polygraph reliability and validity studies for the American Polygraph Association in 1997. Validity reviews of 12 field studies involving 2,174 charts indicated that between 96 and 98 percent of exams correctly identified deception. Specifically, accuracy for the truthful person averaged 96 percent and accuracy for the deceptive person averaged 98 percent.

Reliability assessments require re-testing or reanalysis of field charts by quality control examiners. The Department of Defense regularly employs retesting or reviewing of charts as a method of quality control. A review of test-retest reliability in 11 field examination studies that involved 1,609 charts averaged 92 percent. The reliability rates were 90 percent for non-deceptive charts and 95 percent for those scored deceptive. However, for nearly all studies, inconclusive results—meaning insufficient information was available to score the exam—is excluded from the averages, and this may inflate accuracy rates.

Krapohl and Stern (2003), officials at the Department of Defense Polygraph Institute, prepared an important paper that compared counterintelligence testing with post conviction sex offender testing. In espionage testing, the assumption is that there may be 1 out of 1,000 or 10,000 engaged in the activity. In sex offender testing, it is likely that between 50 to 95 offenders out of 100 are hiding important information.³ When the base rate is 95 percent, and accuracy is calculated conservatively at 80 percent, for every 1,000 offenders tested, 40 will be correctly found to be truthful. Most sex offenders are reluctant to disclose secret abusive behavior, and unfortunately 190 deceptive offenders will be called truthful and 10 truthful individuals will be called deceptive. These errors reflect the need for ongoing intensive supervision and vigilance on the part of the treatment provider and supervising officer.

The most important aspect of this exercise, however, is the identification of 760 deceptive sex offenders. Most of the examinees will provide extremely important information to the polygraph examiner during the course of the examination and the post-test interview. This information is simply not available in jurisdictions where efforts to implement the polygraph have stalled or were never pursued. **The value of the post conviction polygraph is obtaining information about dangerous behavior that otherwise would remain unknown, and then acting on this information before a new sex crime is committed.**

A final note about accuracy: The field is changing. “Accuracy versus utility” is a phrase used to explain that the polygraph examination is very useful, if not always accurate. However, accuracy concerns have begun to trump the value of utility examinations. Utility exams often include question sets that target a general area. Common practice in many jurisdictions, however, is leading to the use of focused specific issue examinations so that accuracy is at its highest levels. Deceptive exam results should be followed by another examination that is risk-specific (at the offender’s expense). This trend toward increasing the use of specific-issue exams is intended to increase accuracy in post-conviction sex offender testing because frequently case management decisions are based on polygraph examination results.

Remember, it is not difficult to pass a polygraph examination. And, controversial as its use may be, it is under continual investigation by the Department of Defense Polygraph Institute. Given the growing use of the post-conviction exam (the last Safer Society survey found 60 percent of programs using the polygraph), empirical studies may eventually conclude that public safety is significantly improved

by long-term sex offender treatment integrated with the polygraph exam. *Portions of this article are excerpted from a forthcoming chapter in The Sexual Predator, Vol. III, edited by Anita Schlank and published by Civic Research Institute (Summer, 2005).*

(Footnotes)

1 For example, denial of the offense has been found to lack predictive power in meta-analyses (Hanson and Bussiere, 1998, and Hanson and Morton-Bourgon, 2004). Lund (2000) questioned the 1998 study findings and reviewed the eight studies in the meta-analysis that included denial as a dependent variable. The subsequent 2004 meta-analysis dropped five of the original eight studies from inclusion in the analysis. Perhaps measurement problems explain why denial has not been found to be associated with recidivism (see Lund, 2000). A study by English, Retzlaff and Kleinsasser (2000) found an explicit and reliable measure of denial at the onset of treatment to correlate with treatment/supervision failure. See Schneider and Wright (2004) and Levenson and MacGowan (2004) for recent discussions of this treatment complication.

2 One of the major criticisms of the polygraph is the lack of theoretical basis for instrument. There is nothing to substantiate that lying is, in fact, linked to responses in the autonomic nervous system. Despite this theoretical problem, the Department of Defense Polygraph Institute continues to conduct research that can clarify and improve the practice of polygraph testing.

3 The base rate will depend on many factors, e.g., whether the exam is focused on the sex history versus monitoring the last six months in treatment, if the treatment provider believes the polygraph examination is useful (Heil, Simons and English, 2004), and the use of positive and negative sanctions for the polygraph outcomes.

REFERENCES:

- Abel, G.G., Becker, J.V., Mittelman, M.S., Cunningham-Rathner, J., Rouleau, J.-L. and Murphy, W.D. (1987). Self-reported sex crimes of nonincarcerated paraphiliacs. *Journal of Interpersonal Violence*, 2, 3-25.
- Abel, G.G. and Rouleau, J.-L. (1990). The nature and extent of sexual assault. In *Handbook of Sexual Assault: Issues, Theories and Treatment of the Offender*. In. W. L. Marshall, D. R. Laws, and H.E. Barbaree (Eds.). New York: Plenum Press, 9-22.
- Abel, G.G., Becker, J.V., Cunningham-Rathner, J., Mittelman, M.S., and Rouleau, J.-L. (1988). Multiple paraphilic diagnoses among sex offenders. *Bulletin of the American Academy of Psychiatry and Law*, Vol. 16, 153-168.
- Barbaree, H. E. (1997). Evaluating treatment efficacy with sex offenders: The insensitivity of recidivism studies to treatment effects. *Sex Abuse: A Journal of Research and Treatment*, 9, 111-128.
- Craig, L. A., Browne, K.D., and Stringer, I. (2003). Treatment and Sexual Recidivism. *Trauma, Violence and Abuse*, Vol. 4, 70-89.
- English, K., Jones, L., Patrick, D., and Pasini-Hill, D. (2003). Sex Offender Containment: Use of the Post-Conviction Polygraph. In R. A. Prentky, E. Janus, & M. Seto (Eds.), *Sexually Coercive Behavior: Understanding and Management*. New York, NY: National Academy of Sciences.
- English, K., Pullen, S. and Jones, L. (1996). *Managing Adult Sex Offender: A Containment Approach*. Lexington, KY: American Probation and Parole Association.
- English, K., Retzlaff, P., and Kleinsasser, D. (2002). The Colorado Sex Offender Risk Scale. *Journal of Child Sexual Abuse*, Vol. 11, 77-96.
- Forensic Research, Inc. (1997). *Polygraph Reliability and Validity: A Review of the Research*. Chattanooga, Tennessee: American Polygraph Association National Office.

Gallagher, C.A., Watson, D.B, Hirschfield, P., Coggenshall, M.B. and MacKenzie, D.L. (1999). A quantitative review of the effects of sex offender treatment on sexual reoffending. *Corrections Management Quarterly*, 3, 19-29.

Hall, G. C. N. (1995). Sexual offender recidivism revisited: A meta-analysis of recent treatment studies. *Journal of Consulting and Clinical Psychology*, Vol. 63, 802-809.

Hanson, R. K., and Bussiere, M. T. (1996). *Predictors of sexual offender recidivism: A meta-analysis*. (No. 1996-04). Ottawa: Department of the Solicitor General of Canada.

Hanson, R.K, Gordon, A., Harris, A. J. R., Marques, J.K., Murphy, W., Quinsey, V.L., and Seto, M.C. (2002). First report of the collaborative outcome data project on the effectiveness of psychological treatment for sex offenders. *Sexual Abuse: Journal of Research and Treatment*, Volume 14, 169-195.

Hanson, R. K., & Morton-Bourgon, K. (2004). Predictors of sexual recidivism: An updated meta-analysis. Ottawa, CA: Public Works and Government Services.

Heil, P., Simons, D., and English, K. (2004). *The polygraph and risk assessment*. Presentation to the annual conference of the Association for the Treatment of Sexual Abusers, Albuquerque, NM.

Krapohl, D.J. and Stern, B.A. (2003). Principles of multiple-issue polygraph screening: A model for applicant, post-conviction offender, and counterintelligence testing. *Polygraph*, Vol. 30, pp. 201-210.

Levenson, J. S., & Macgowan, M. J. (2004). Engagement, denial, and treatment progress among sex offenders in group therapy. *Sexual Abuse: A Journal of Research and Treatment*, 16, 49-63.

Lund, C. A. (2000). Predictors of sexual recidivism: Did meta-analysis clarify the role and relevance of denial? *Sexual Abuse: A Journal of Research & Treatment*, 12, 275-288.

Minor, 1997 . *Sex Abuse: A Journal of Research and Treatment*, 9

National Research Council (2003). The Polygraph and Lie Detection. Committee to Review the Scientific Evidence on the Polygraph. Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

Prentky, R.A., Janus E., and Seto, M.E. (2003). Sexually Coercive Behavior: Understanding and Management, (Eds.) *Annals of the New York Academy of Sciences*, Volume 989, New York, NY.

Rice, M.E. and Harris, G.T. (2003a). The size and sign of treatment effects in sex offender therapy. In R. A. Prentky, E.S. Janus and M.C. Seto (Eds.) Sexually Coercive Behavior: Understanding and Management, *Annals of the New York Academy of Sciences*, Volume 989. New York, NY: New York Academy of Sciences, 428-440.

Schneider, S. L., and Wright, R.C. (2004) Understanding denial in sexual offenders: A review of cognitive and motivational processes to avoid responsibility. *Trauma, Violence and Abuse*, Vol. 5, 3-20.