

PSYCHOPHYSIOLOGICAL PROCEDURES AND MEDICATIONS

OVERVIEW:

The search for a means to obtain information less subject to distortion and manipulation by offenders has led to the use of procedures that by-pass the reliance on client self-report. These procedures obtain a level of “objective” information based on psychologically mediated autonomic nervous systems (ANS) responses. The ANS functions automatically and involuntarily and as such, are believed to be beyond the direct influence of conscious manipulation. Hence, the presumed “objectivity” of the measured responses.

Several psychophysiological procedures have become important components of the treatment and supervision of sexual offenders. The two main procedures are: (1) psychophysiological detection of deception (polygraphy) and (2) psychophysiological assessment of sexual arousal (phallometry and the Abel Screen). This module will describe: the practical and theoretical significance of obtaining source of “objective” information about a sexual offender’s compliance with treatment and supervisory requirements, and sexual arousal pattern; the nature of the procedures; and the strengths and limitations of the procedures in treating and supervising sexual offenders.

In treating the deviant sexual arousal patterns of offenders, a number of medications have been used and several drugs used for other purposes are being currently being applied to the issue. This module will briefly delineate these medications, how they are being used and their limitations.

OBJECTIVES:

Participants in this training module will learn

- ◆ The theoretical basis for the psychophysiological detection of deception and assessment of sexual arousal.
- ◆ The basic operating principles of the two procedures.
- ◆ The usefulness and limitations of the two procedures in treating and supervising sexual offenders.
- ◆ The medications currently used to treat deviant sexual arousal and their limitations.

Assessing Sex Offenders/Sexual Deviance

We assess sex offenders to:

- ◆ Determine risk/potential to reoffend
- ◆ Determine need for treatment
- ◆ Determine amenability and motivation for treatment
- ◆ Develop treatment issues, goals and plan -- reduce risk of reoffense

High Risk Sex Offenders

We have seen that those offenders who are highly sexually motivated in their sexual crimes are those who are the most serious offenders. They usually have many victims and are at the highest risk to reoffend. They are often the least amenable to treatment.

Sexual Motivation

As such, it is very important to get an understanding of an offender's sexual motivation. This means getting information about, among other things, the offender's past sexual experiences, attitudes and beliefs about sexuality, number of victims, and, in particular, any sexual interest in children, aggression, and other paraphilic behaviors. It is this last aspect that is the major focus of this unit. For convenience, and in accord with practice in the field, we shall call this the offender's sexual interest paraphilic behaviors "sexual deviance."

Paraphilias are:

- ◆ an impairment in the bonding function of sexuality
- ◆ an erotic form of hatred -- motivated by the need for revenging a childhood trauma
- ◆ a sexual identity disorder that makes erotic normality impossible to attain
- ◆ a disorder of self-regulation in which there is a "hunger" for a behavior that often feels uncontrollable or sick
- ◆ a disorder of the capacity to love

How do paraphilic sexual interests develop?

From a social learning perspective, several processes need to occur:

- ◆ sexual gratification is linked to the satisfaction of non-sexual needs such as anger, control, insecurity, etc.
- ◆ sexual gratification is linked to paraphilic (or "deviant") sexual thoughts and behavior; this becomes a learned association;
- ◆ these learned associations are reinforced with masturbation and behavior which is not sanctioned
- ◆ a self-reinforcing process is created in which sexual pleasure is fused with fantasies of paraphilic behavior and actual behavior as a way of coping with or managing feelings of anger, insecurity, loneliness, etc.

Models of Sexual Arousal in Sexual Abuse/Aggression

- ◆ Sexual "Preference" Hypothesis
 - ◆ Sexual preference as a stable trait of person
 - ◆ Sexual preference for sexually "deviant" stimuli
- ◆ Inhibition Hypothesis
 - ◆ Certain cues can inhibit sexual response e.g., description of aggression may inhibit arousal to sexual cues; or demand characteristics of setting, etc.
- ◆ State Disinhibition Hypothesis
 - ◆ Certain situations can disinhibit sexual arousal by reducing motivation to act prosocially e.g., being angered by a woman has been shown experimentally to disinhibit men's arousal to sexually violent cues
- ◆ Emotional Augmentation
 - ◆ Certain non-sexual emotional states can play a role in the strength of sexual response E.g., a person in love may find this emotional state augments or increases arousal in sexual interactions. Negative feelings may increase arousal to sexually aggressive thoughts and behavior

Methods for Assessing Sexual Interests

Many sex offenders are understandably reluctant to discuss their sexually “deviant” interests. Some may blatantly lie about them, others may minimize or distort their reporting of them. Still others may not be very aware of them or able to articulate them. These latter offenders are not denying or resisting when they say they do not have any deviant sexual interests. Rather, they are reflecting their lack of self-knowledge and understanding or the difficulty in expressing deeply hidden sexual feeling and fantasies. Gene Abel and his colleagues have said: “The self-report of paraphiliacs is invalid.” (G. G. Abel, M. S. Mittleman, and J. V. Becker, Sexual offenders: results of assessment and recommendations for treatment. Pp. 191-295 in M. H. Ben-Aron, S.J. Hucker, and C. Webster (eds.), *Clinical Criminology: The Assessment and Treatment of Criminal Behavior*. Toronto: M & M Graphics, 1985. At page 199.)

Here are the methods that can be used to gather information about sexual interests.

- ◆ Clinical interview
 - ◆ the least valid measure of sexual behavior, thoughts, feelings, potential
- ◆ Self-report inventories
 - ◆ must be viewed with skepticism in the absence of other confirmatory measures
- ◆ Psychological testing
 - ◆ as open to influence as self-report inventories
- ◆ Polygraph examination (Psychophysiological detection of deception)
 - ◆ attempt to determine truthfulness of self-report by measuring physiological responses
 - ◆ assumption that particular physiological responses are measures of deception -- fear is equivalent to deception
- ◆ Plethysmographic assessment (Psychophysiological measurement of sexual arousal)
 - ◆ bypass self-report by measuring physiological sexual arousal -- erection
 - ◆ penile erection response is assumed to be the best index of male sexual arousal; also assumed that sexual behavior is a function of sexual arousal and sexual fantasy
- ◆ Laboratory methods
 - ◆ analog of sexual aggression within ethical/legal limits

Use of Psychophysiological Measures of Sexual Arousal in Probation and Treatment: Penile Plethysmography

What Is a Plethysmograph?

A plethysmograph (pronounced “pleth-thiz-mo-graph”) is a device that measures and records changes in blood volume. A penile plethysmograph measures and records changes in male erectile response to various sexual stimuli that are presented to the subject.

The measurement is accomplished by two basic devices, known as transducers. The first type of transducer is a vacuum-sealed tube that fits over the genital area and detects changes in the volume of air around the penis as it becomes erect. The second type of transducer is a “strain” gauge that fits around the penis and measures increases in circumference as the penis becomes erect.

The volumetric measure has been found to be sensitive and able to measure small changes, but it is expensive and rather cumbersome. The strain gauge is more than adequate in its measurement

and is both inexpensive and easy to use. The strain gauge is commonly used in laboratories in Minnesota.

Note: For females the device is known as a vaginal plethysmograph. A vaginal plethysmograph measures and records changes in vaginal blood flow in response to various sexual stimuli that are presented to the subject. In this case, the transducer emits light and measures changes in the reflectivity of the vaginal wall as it swells with blood.

How Does It Work?

In doing an assessment, the subject and the operator are in separate rooms. The subject places the strain gauge on his penis and is presented with a variety of sexual stimuli. These stimuli are in the form of audiotaped sexual scenarios and particular sexual stimuli on videotape. The stimuli are designed to vary across age and gender categories, as well as degrees and types of aggression. Comparisons are drawn regarding the relative strength or intensity of arousal to different age ranges, gender, and aggression. The subject's subjective opinion of how aroused he is to the stimuli is also obtained and compared to the measured erection increase.

Reliability and Validity

The reliability and validity of plethysmography has been somewhat controversial. However, a number of research studies have shown to that it can measure sexual orientation quite accurately for pedophiles and fetishists, as well as homosexuals and heterosexuals. Its use in distinguishing rapists is less well established. However, the penile plethysmograph is an "objective" physiological measure that has criterion-related validity.

Why Is It Important?

When used as part of a sex offender assessment and/or treatment, these techniques can provide a profile of the offender's sexual orientation and interests. Knowing an offender's sexual orientation and arousal profile can add a significant dimension to (a) sex offender assessments, (b) measuring treatment progress, (c) refining treatment objectives, and (d) aiding supervision in the community.

The procedure can help:

- ◆ Confront denial and minimization of crime
- ◆ Identify those with high arousal to deviant sexual stimuli
- ◆ Gain information about
 - specific details of offense pattern
 - degree of comfort with sexuality -- shame and guilt
 - cognitive distortions
 - eroticization of anger
 - deeply held beliefs and "secrets"
 - personal history
- ◆ Obtain objective baseline data about arousal pattern
- ◆ Provides client with specific, objectively derived information about own sexual response patterns
- ◆ Address victimization issues
- ◆ Observe client coping responses, develop hypotheses about underlying issues
- ◆ Help define treatment goals and strategies

- ◆ Employed directly as part of behavioral interventions
- ◆ One measure of treatment progress
- ◆ Help develop reoffense prevention plan

Interpretation of results

Of course, like any information, the results must be interpreted carefully and only applied within the context of the data from other sources. In no case should the results be used in isolation or as the sole determinant of decision-making.

All data have limitations and the data obtained from physiological assessments are no different. Accurate results are not always achieved. This is more so for pre-trial assessments and less for those conducted as part of treatment. There is a lack of good normative data, but ongoing research is changing this. However, for clinical use, normative data are not always necessary.

Limitations and Challenges to Reliability and Validity

- ◆ Medications, drug/alcohol use, client anxiety, and sexual satiation prior to the assessment can affect results
- ◆ Sexual arousal not necessarily a trait -- may vary over time and across situations
- ◆ Sexual interests as motivator is too simplistic; overemphasis on paraphilias
- ◆ Responses in the laboratory may not reflect real world responses
- ◆ Responses may be subject to demand characteristics
- ◆ Not enough investigation of the nature of sexual desire and sexual motivation
- ◆ Not enough investigation of subjective sexual arousal
- ◆ Some men can "fake" or voluntarily control their erectile response -- suppress a response or increase a response
- ◆ About 20% of those assessed do not respond to the stimuli

Special Concern: Manipulation and Faking

It is possible to "beat" the machine or to fake arousal responses, and so distort the results. This can be accomplished by suppressing responses, responding to non-preferred stimuli, averting the eyes, using distracting thoughts, influencing the gauge, etc.

Fortunately, there are a number of ways to detect attempted faking. None are foolproof. But experienced interpreters can detect a high percentage of faking attempts.

What Happens if Manipulation Is Suspected?

If a subject is known to have manipulated his responses, or is suspected of manipulating his responses, the results of his assessment are at best inconclusive, and at least invalid. In other words, the results are much the same as producing an invalid MMPI profile. It is not interpretable beyond noting the known or suspected manipulation.

However, this outcome is significant in and of itself. It should start a discussion with the offender as to what is going on.

Special Concern: Lack of Response or No Differentiation in Response (No. 9 above)

A number of subjects will not respond very much to the stimuli or they may respond relatively equally to most or all of the stimuli. As sophistication in use and interpretation has increased, it has been shown that these responses are often due to inadequate design of stimulus materials. These materials are continually being upgraded and efforts at standardization are well under way.

Not a Lie Detector or Predictor of Future Behavior

This penile plethysmograph is not a lie detector and cannot be used to “prove” that an offender actually acted out a behavior in the past. It does not deal in truth or falsity - only sexual interest/arousal. Moreover, the results cannot be used to predict the probability that an offender will commit sexual crimes in the future.

Use of Psychophysiological Detection of Deception in Probation & Treatment

Introduction and Clarification of Terms

There is no such thing as a lie detector:

- ◆ only an instrument that measures psychophysiological responses that are interpreted to be an indication of truth or deception

Polygraph = the instrument that measures and records these responses

Physiological Responses Measured

- ◆ Respiration
- ◆ Galvanic Skin Response (resistance to electricity)
- ◆ Blood Pressure and Pulse Rate

Where is the “psycho” in these responses?

- ◆ Questions are presented to subject
- ◆ Subject psychologically interprets and evaluates questions
- ◆ Subjective interpretation affects the level of physiological response

Theoretical Basis

- ◆ Subjective states affect physiological responses
- ◆ Subjects know that lying is wrong, immoral
- ◆ Subjects who know that they are lying will have different (unspecified) physiological responses than those who know they are not lying
- ◆ The different physiological responses of lying are assumed to be a reflection of the subject's fear of being caught or a perceived threat to his/her well being

Psychological Set

The whole procedure depends on getting the subject to focus on the issue of greatest potential threat to his/her well being

- ◆ Creating a fear-based “mind set” means getting the subject to believe that being exposed as deceptive will have serious consequences
- ◆ Physiological arousal is greater to stimuli associated with those perceived by the subject to be the most threatening
- ◆ Necessary elements for establishing a “good” psychological set:
 - fear of detection (offense related) being guilty of something, being exposed as having done it
 - fear of exposure (exam related) -- fear of the lab and the examiner -- the procedure can't be beat; the procedure is “infallible”
 - fear of punishment (offense related) or negative impact (withdrawal of rewards, embarrassment)

Three Phases of a "Polygraph Examination"

- ◆ Pre-Test Interview: Where the examiner creates the psychological set and fear of detection; develops and discusses the test questions and prepares subject for the exam
- ◆ In-Test: Subject is attached to the polygraph and the questions are asked at least 3 times
- ◆ Post-Test Interview/Interrogation: Data is analyzed and, if the subject is deemed deceptive, he/she is confronted and interrogated about the results.

The goal is to obtain an admission of deception from the subject

Validity Issues: How accurate is the procedure?

- ◆ False Positive (F+) = the truthful subject who appears deceptive; occurs most often in pre-conviction exams and in maintenance exams while on probation
- ◆ False Negatives (F-) = deceptive subject who appears truthful; occurs most often in the disclosure of the instant offense and in the disclosure exam of the sexual history
- ◆ Nationally published studies posit accuracy as 90% to 95%
- ◆ These data are highly disputed, especially in pre-conviction specific issue exams
- ◆ The procedure is very dependent upon the skill and ability of the examiner to:
 - create the appropriate psychological set in the subject
 - utilize standardized procedures and interpret the data
 - confront and obtain admissions of deception from subjects

Types of examinations for detecting deception

Specific Issue Examination

For instant offense: used to determine if subject's denial of guilt to the offense(s) for which he she has been charged or convicted or is under supervision, is deceptive or not.

Issues and timeline: only the offense(s) resulting in being charged or convicted and the period of time involving in the offense(s).

- ◆ Relevant questions could include:
- ◆ Did you have sexual contact with (person)?
- ◆ Did (person) say no when you asked him/her to perform a sexual act?
- ◆ Did you use physical force to get (person) to perform a sexual act?
- ◆ Did you have anal intercourse with (person)?

Specific Issue Examinations are:

- ◆ The most controversial method of detecting deception because they are used in an effort to establish guilt or innocence. If done while the case is only under indictment or is pending court action, it is not a clinical examination.
- ◆ Highly criticized on theoretical, empirical, ethical, and legal grounds
- ◆ Some critics say no better than 50-50 chance of detecting actual deception
- ◆ Many false positive and false negatives
- ◆ Not admitted in court except under certain circumstances

Disclosure Examinations

A clinical examination: designed to assist therapists and corrections supervisory personnel assess the denial or honesty of the subject in disclosing historical and therapeutic material in order to enhance the effectiveness of treatment and supervision programs.

Administered at intake assessment or shortly after treatment has begun or once under

supervision.

Issues and timeline: sexual history, therapeutic issues, and sexual deviance prior to the time of conviction.

- ◆ Used to “help” client “overcome” denial of crime, past crimes, misrepresentation of facts, denial of deviant sexual interest, denial of need for treatment
- ◆ Attempt to obtain: all the deviant sexual behaviors and victims
- ◆ veracity of self-reported sexual history
- ◆ sometimes the names of the newly disclosed victims

Argued that Disclosure Examinations are:

- ◆ important to treatment providers because they need to know all the areas of sexual abuse perpetrated by the client
- ◆ without full disclosure and open discussion in treatment, clients are less able to accept themselves, to bond with the treatment group, and to attempt to find new ways of coping with life stresses
- ◆ without full disclosure, client continues his deceptive style and dishonesty
- ◆ may allow for identification of victims so help can be provided to them

Monitoring and Maintenance Examinations (Periodic)

Administered during treatment and probation supervision on a periodic bases – every 6 months for probation in some states

A clinical examination: designed to assist therapists and corrections supervisory personnel assess the denial or honesty of the subject in complying with conditions of treatment/probation in order to enhance the effectiveness of treatment and supervision programs. Seeking of disclosure of:

- ◆ violations or non-compliance with reoffense prevention plan and with treatment goals and assignments
- ◆ commission of additional offenses or probation violations, which have not yet been identified
- ◆ Issues and Timeline: compliance with treatment and/or probation from the date of conviction
- ◆ to present

Argued that Maintenance Examinations are:

- ◆ practical, cost-effective method of extending the protections to the public otherwise provided through direct supervision
- ◆ a deterrent to reoffending
- ◆ a means of apprehending those who do reoffend
- ◆ research has indicated this use is a valid and effective deterrent

What happens if the result of an examination is “deceptive?”

- ◆ “Discussion” with client to explore what he is afraid of, what the implications of this response are, etc.
- ◆ Probation officer recommends to court increasing the intensity of community sanctions, such as regular or intensive supervision, house arrest, or electronic surveillance or to revoke probation

Why would the result of an examination be “inconclusive?”

- ◆ no action can be taken regarding the issue. However, if there is a suspicion of manipulation

or faking, this may be regarded as purposeful non-cooperation.

What about purposeful non-cooperation?

- Deal with it the same as any refusal to comply or cooperate with any other required aspect or condition of the program.

What about the client's civil rights?

Is requiring a polygraph examination as a condition of probation an invasion of the client's rights?

- The offender has been convicted of a felony sex crime as such has lost a good number of rights. The court has jurisdiction over the offender's liberty and freedom. Conditions of probation can require examinations.

Medical Approaches to the Treatment of Sex Offenders

Medical interventions are used with sex offenders who:

- ◆ exhibit the characteristics of pedophilia and other paraphilias (intrusive, compulsive problem sexual arousal)
- ◆ cannot manage their arousal despite therapies directed at restructuring it
- ◆ need a period of time where their risk is reduced while they settle into appropriate psychotherapy

Main Medical Interventions

◆ Castration (orchectomy)

- Never an acceptable modality in North America
- Results over many years in Europe indicate that castration reduces recidivism rates to about 2-5%. These results, however, are subject to methodological criticisms which weaken the outcomes.

◆ Hormones

- Two main hormones – all reduce circulating testosterone levels in the blood, acting as anti-androgens. All are temporary in that their effects stop when administration stops.

Medroxyprogesterone acetate (MPA or Depo Provera)

- Reduces circulating testosterone by increasing the rate at which it is metabolized by the liver. Up to the present, the most widely used medication for sex offenders, beginning in the 1960's.
- Therapeutic effect: induces a period of sexual quiescence, reducing sex drive and energy as well as reducing sexual fantasy.
- Side effects: headaches, lethargy, sweating, thrombo-embolic disorders, increased blood pressure, raised blood sugar, gallstone, weight gain, hot flashes, irritability, temporary shrinking of prostate and seminal vesicles. Long-term effect may be related to some types of cancer.
- Outcomes: Reductions in recidivism of up to 50% compared to sex offenders who did not take the medication.

Cyproterone acetate (CPA, Androcur)

- Not approved by the FDA for use in the United States. Reduces circulating testosterone by competing with it at receptor sites in the testes and also blocks the secretion of the pituitary hormone that stimulates the testes to secrete testosterone.
- Therapeutic effect, side effects and outcomes are basically the same as MPA.

Anti-depressants

- ◆ These drugs increase the levels of the neurotransmitter serotonin in the brain. Serotonin deficiency has been shown to affect mood, impulse control, and compulsive behavior. They do not suppress the sex drive completely and are much more acceptable to prospective patients.
- ◆ Five main types of serotonin re-uptake inhibitors (SSRI's):
 - Fluoxetine (Prozac):** with offenders who have depressive symptoms.
 - Fluvoxamine (Luvox):** with offenders who have depressive symptoms.
 - Sertraline (Zoloft):** with offenders who have depressive symptoms.
 - Buspiron (Buspar):** with offenders who have obsessive-compulsive features.
 - Clomipramine (Anafranil):** with offenders who have obsessive-compulsive features.

Some anecdotal and case studies in the literature report moderate degrees of success in relieving depressive symptoms, and reducing sexual obsessiveness, compulsivity and behavior. No adequate double blind controlled trials have been conducted as yet.

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