IS THE SOCIOPATH TREATABLE? THE CONTRIBUTION OF PSYCHIATRY TO A LEGAL DILEMMA

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INTRODUCTION

The criminal law has had three main goals—retribution, deterrence, and rehabilitation. In the past, the punishment and deterrence principles have perhaps dominated and shaped the criminal law process. Because of the failure of the criminal law to achieve these goals through emphasis on deterrence and retribution, the current trend is to view the criminal law in its rehabilitative function. Indicative of this new emphasis on the rehabilitative function of the criminal law is the development of a right to treatment.

Historically the right to treatment is only twelve years old.[1] It was judicially defined in *Rouse v. Cameron*[2] as the right of one who has been committed to a mental institution to receive "treatment which is adequate in the light of present knowledge." Since the present statutory bases for commitment do not clearly define the right to treatment,[3] several con-

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1. The phrase "right to treatment" was originally coined by Birnbaum in 1960. Birnbaum, *The Right to Treatment*, 46 A.B.A.J. 499 (1960). The landmark decision which judicially adopted the phrase was Rouse v. Cameron, 373 F.2d 451 (D.C. Cir. 1966). The author of the opinion, Judge Bazelon, has been an active advocate of the right to treatment. *See* Bazelon, *Symposium—The Right to Treatment (Foreward)*, 57 GEO. L.J. 676 (1969); Bazelon, *Implementing the Right to Treatment*, 36 U. CHI. L. REV. 742 (1969).

2. 373 F.2d 451, 457 (D.C. Cir. 1966).

3. In some jurisdictions the right to treatment has been implied through legislation. *E.g.*, D.C. Code § 21-562 (Supp. V, 1966). *See* Rouse v. Cameron, 373 F.2d 451, 455 n.21. In 1968 the Pennsylvania legislature proposed an act which was far-reaching. S.B. 1274 & H.B. 2118, Pa. Gen. Assembly, 1968 Sess. The text of the proposed Pennsylvania statute appears in 57 GEO. L.J. 811 (1969).

stitutional arguments have been developed as a basis for this right, including due process, cruel and unusual punishment, and equal protection.[4] The objectives sought by the right to treatment doctrine are to assure adequate treatment for those presently institutionalized, to stimulate community concern with the rehabilitation process, and to spur the medical community to establish standards of care and treatment.[5] Although these objectives are laudatory, judicial implementation of a

4. A typical statement is found in Wyatt v. Stickney, 325 F. Supp. 781, 784 (M.D. Ala. 1971):

> When patients are so committed [involuntarily] for treatment purposes they unquestionably have a constitutional right to receive such individual treatment as will give each of them a realistic opportunity to be cured or to improve his or her mental condition. [Citations omitted.] Adequate and effective treatment is constitutionally required because, absent treatment, the hospital is transformed "into a penitentiary where one could be held for no convicted offense."

See Dixon v. Jacobs, 427 F.2d 589, 604 (D.C. Cir. 1970); Covington v. Harris, 419 F.2d 617, 625 (D.C. Cir. 1969); United States *ex rel.* Schuster v. Herold, 410 F.2d 1071, 1088 (2d Cir. 1969); Ragsdale v. Overholser, 281 F.2d 943 (D.C. Cir. 1960). *See generally* R. ALLEN, E. FERSTER, & J. RUBIN, READINGS IN LAW AND PSYCHIATRY (1968); S. BRAKEL & R. ROCK, THE MENTALLY DISABLED AND THE LAW (rev. ed. 1971); Bazelon, *Implementing the Right to Treatment,* 36 U. CHI. L. REV. 742 (1969); Birnbaum, *A Rationale for the Right,* 57 GEO. L.J. 752 (1969); Goodman, *Right to Treatment: The Responsibility of the Courts,* 57 GEO. L.J. 680 (1969); Note, *The Nascent Right to Treatment,* 53 VA. L. REV. 1134 (1967). Birnbaum, *supra* at 752, states:

> The constitutional basis [for the right to treatment] is due process of law—a mentally ill person should not be deprived indefinitely of his liberty in what amounts to a mental prison if he is not receiving adequate care and treatment for his illness.

In another area of the law, juveniles committed to various institutions have been basing their claims for relief on similar grounds. *See, e.g., In re* Gault, 387 U.S. 1 (1967); Creek v. Stone, 379 F.2d 106 (D.C. Cir. 1967).

5. The need for interdisciplinary cooperation in the establishment of treatment standards is obvious. Bazelon has stated the problem well:

> If psychiatric standards for adequate treatment are uncertain among experts and incomprehensible to mere judges, then perhaps we must admit, however reluctantly, that *Rouse* discovered the fabled right without a remedy.

Bazelon, *Implementing the Right to Treatment,* 36 U. CHI. L. REV. 742, 743 (1969). *See also* Birnbaum, *A Rationale for the Right,* 57 GEO. L.J. 752, 753 (1969): "Once the right to treatment is established—either through judicial interpretation of the Constitution or by means of legislative action—the first need will be for workable standards which can be used to determine whether or not the required treatment is being provided."

In response to the *Rouse* decision, the psychiatric community took an immediate stance which was far from an interdisciplinary approach. Council of the Am. Psychiatric Ass'n, *Position Statement on the Question of Adequacy of Treatment,* 123 AM. J. PSYCHIATRY 123 (1967):

> The definition of treatment and the appraisal of its adequacy are matters for medical determination. Final authority with respect to interpreting the law on the subject rests with the courts.

right to treatment presents serious problems for both the medical and legal communities.[6]

Because courts and legislatures are either unwilling or unable to formulate definitive treatment standards, the lawyer who defends the criminally accused sociopath, the legislator who drafts the statutes, and the judge who has decision-making responsibility are all in need of guidance from the psychiatric community in legally defining the scope of the right to treatment doctrine. It is virtually impossible without such assistance to make a rational disposition of a case in conformity with the legislative purpose expressed in commitment statutes.

This study endeavors to present for the judge, lawyer, legislator and doctor a relevant review of studies of treatment techniques to ascertain whether scientific and medical knowledge can provide treatment which will fulfill the mandate of the judicially created right to treatment. The study is particularly oriented toward reaching an interdisciplinary definition of "adequate treatment" and discusses the necessity for proper methodological procedures in relevant mental health research.

CONTROLLED STUDIES OF THE TREATMENT OF ANTISOCIAL PERSONALITY DISORDER

The right of a person found criminally insane[7] or involuntarily committed to adequate treatment has been established by a series of judicial decisions.[8] However, the implementation of this principle raises a new question; namely, what constitutes "adequate treatment"? Part of the difficulty in reaching consensus is due to at least two usages of the term "adequate." Among physicians, "adequate treatment" is synonymous with "effective treatment," *i.e.* treatment resulting in improvement in a patient's condition. However, a clear and useful legal definition of "adequate" in the context of the right to treatment principle has yet to emerge.

Several approaches to the problem of definition have been tried. The most direct approach is to simply allow physicians to determine

6. *E.g.*, Dixon v. James, 427 F.2d 589, 600 (D.C. Cir. 1970):
> Procedures to determine the proper disposition of the mentally ill are among the most difficult that must be faced by the courts. The decisions that must be made are difficult at the very best; without full cooperation by all parties to the proceedings, they are nearly impossible.

7. This term is used here in a general sense for purposes of the textual discussion, although the focus of this article is upon a subgroup of those called "criminally insane" who have an antisocial personality disorder.

8. Rouse v. Cameron, 373 F.2d 451 (D.C. Cir. 1967). *See* note 4 *supra.*

what is adequate treatment.[9] Definitions of adequacy resulting from application of this principle have been criticized on the ground that physicians, the individuals involved in administering treatment, have a vested interest in preserving the status quo, and therefore will tend to approve of all current treatments. Another criticism of defining adequacy by reference to medical authority alone is that such a definition does not take into account the opinions of those professionals in the disciplines of psychology and social work, who also have expertise in the area of treatment.

Another approach to defining adequacy of treatment which attempts to circumvent the above criticism of vesting the decision in one professional group involves judicial review of the internal structure and functioning of the institution providing treatment. In these cases the court may examine such factors as the staff-patient ratio, the conduct of the therapy, the qualifications of the staff, and the physical plant. This "structural" approach seems to have been utilized in *Wyatt v. Stickney*.[10] Such judicial concern with structure may clarify two important aspects of adequacy: first, a needed general humaneness of the management, helping to eliminate the deplorable conditions in some institutions; secondly, the provision of adequate resources for the treatment of patients. Regulating the structure of institutions, however, cannot assure that the treatment rendered in them will have the desired effect: the reduction in crime and the attendant suffering of both criminal and victim by treating the offender. Because of this conceptual limitation of *Wyatt*, there has been a recent tendency for legal definitions of

9. An example of this approach to defining adequacy is contained in a position statement by the American Psychiatric Association, *supra* note 5.

Malmquist has summarized the problem in stating:

> [S]ome type of criteria will be increasingly needed by courts in the future to determine if a "reasonable" degree of treatment or rehabilitation has occurred for those compulsorily detained. In my opinion this is desirable despite the difficulties it poses, since it carries with it the possibility of developing standards for agencies and courts to use as they do with respect to other professional activities. Concomitantly, it would reveal deficits in standards and facilities and offer the possibility of future improvement through public enlightenment and concern.

Malmquist, *The Delinquent and Insane: Right and Adequacy of Treatment*, 40 AM. J. ORTHOPSYCHIATRY, 388, 390 (1970). *See also* notes 5 and 6 *supra* and accompanying text.

10. 325 F. Supp. 781 (M.D. Ala. 1971). This case involved a class action brought by guardians of inmates involuntarily confined in several Alabama institutions. The court set forth specific standards (definitions) of what would constitute adequate treatment. The standards were set forth in terms of specific staff-patient ratios, quality of the physical plant, quality of food, compensation for work done by inmates, etc.

adequacy to approach the medical concept of equivalency between adequate and effective. Although a deliberate effort was made in *Rouse* to avoid the question of whether the specific method of treatment employed could be proven effective, it has become increasingly clear that effectiveness of treatment is a very important component of adequacy.[11] If there is not an effective treatment for criminality, such logically absurd questions arise as, "How high a staff-patient ratio, or how many qualified psychiatrists are required to make an *ineffective* treatment *adequate*?"

This paper deals specifically with the treatment of *antisocial personality disorder*.[12] Criminal offenders who may have such illnesses as schizophrenia, mania, epilepsy, and other psychiatric disorders which in aggregate contribute to relatively little serious crime[13] are not discussed.

Clearly, although there is disagreement within the psychiatric profession as to the most parsimonious definition of antisocial personality disorder,[14] if an effective and reliable treatment for that disorder could

11. *See, e.g.*, Birnbaum, *A Rationale for the Right*, 57 GEO. L.J. 752 (1969); Halpern, *A Practicing Lawyer Views the Right to Treatment*, 57 GEO. L.J. 782 (1969).

12. The term "antisocial personality disorder" is currently officially recognized by the American Psychiatric Association and World Health Organization. It is roughly equivalent to the older term "sociopathy" and to the still older term psychopathy." The newest term is in wide use today for purposes of hospital diagnoses and statistical information-gathering.

13. Guze et al. have determined that 79% of convicted felons in Missouri penitentiaries have "definite antisocial personality," and 43% have alcoholism; whereas 1% or less suffer from schizophrenia, epilepsy, manic-depressive illness and mental deficiency. Guze, Goodwin & Crane, *Criminality and Psychiatric Disorders*, 20 ARCH. GEN. PSYCHIATRY 583 (1969) (table 1). *See also* Guze, Tuason, Garfield, Stewart & Picken, *Psychiatric Illness and Crime with Particular Reference to Alcoholism: A Study of 223 Criminals*, 134 J. OF NERVOUS AND MENTAL DISEASE 512 (1962).

14. Among the many definitions of the term in current use, several are mentioned. The official definition in the Diagnostic and Statistical Manual published by the American Psychiatric Association is:

> [I]ndividuals who are basically unsocialized and whose behavior pattern brings them repeatedly into conflict with society. They are incapable of significant loyalty to individuals, groups or social values. They are grossly selfish, callous, irresponsible, impulsive, and unable to feel guilt or to learn from experience and punishment. Frustration tolerance is low. They tend to blame others or offer plausible rationalizations for their behavior. A mere history of repeated legal or social offenses is not sufficient to justify this diagnosis.

AMERICAN PSYCHIATRIC ASSOCIATION, DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS 43 (2d ed. 1968). This definition describes the characteristics which many psychiatrists feel typify those individuals they are willing to describe as suffering from antisocial personality disorder.

be found, enormous societal benefit would derive. It is because of this great benefit which would arise from an effective treatment of antisocial personality that much effort has been invested in attempts to treat this disorder.[15]

A second, widely recognized description is a distillate of one seasoned clinician's personal experience:

> [T]he general facts of behavior and appearances of emotion and purpose which emerge from our recorded observations [of sociopaths] and which appear to be common qualities of the group . . . [are] 1) superficial charm and good "intelligence," 2) absence of delusions and other signs of irrational thinking, 3) absence of "nervousness" or psychoneurotic manifestations, 4) unreliability, 5) untruthfulness and insincerity, 6) lack of remorse or shame, 7) inadequately motivated antisocial behavior, 8) poor judgment and failure to learn by experience, 9) pathologic egocentricity and incapacity for love, 10) general poverty in major affective reactions, 11) specific loss of insight, 12) unresponsiveness in general interpersonal relations, 13) fantastic and uninviting behavior with drink and sometimes without, 14) suicide rarely carried out, 15) sex life impersonal, trivial and poorly integrated, 16) failure to follow any life plan.

H. CLECKLEY, THE MASK OF SANITY 362-63 (4th ed. 1964).

Another definition of antisocial personality which stresses objective data from the individual's past in an attempt to make the definition reproducible from one study to another is that of Feighner et al.:

> Antisocial Personality Disorder—A chronic or recurrent disorder with the appearance of at least one of the following manifestations before age 15. A minimum of five manifestations are required for a "definite" diagnosis, and four are required for a "probable" diagnosis. A. School problem as manifested by any of the following: truancy (positive if more than once per year except for the last year in school), suspension, expulsion, or fighting that leads to trouble with teachers or principals. B. Running away from home overnight while living in parental home. C. Troubles with the police as manifested by any of the following: two or more arrests for nontraffic offenses, four or more arrests (including tickets only) for moving traffic offenses, or at least one felony conviction. D. Poor work history as manifested by being fired, quitting without another job to go to, or frequent job changes not accounted for by normal seasonal or economic fluctuations. E. Marital difficulties manifested by any of the following: deserting family, two or more divorces, frequent separations due to marital discord, recurrent infidelity, recurrent physical attacks upon spouse, or being suspected of battering a child. F. Repeated outbursts of rage or fighting not on the school premises: if prior to age 18 this must occur at least twice, and lead to difficulty with adults; after age 18 this must occur at least twice, or if a weapon (e.g., club, knife, or gun) is used, only once is enough to score this category positive. G. Sexual problems as manifested by any of the following: prostitution (includes both heterosexual and homosexual activity), pimping, more than one episode of venereal disease or flagrant promiscuity. H. Vagrancy or wanderlust, e.g., at least several months of wandering from place to place with no prearranged plans. I. Persistent and repeated lying or using an alias.

Feighner, Robins, Guze, Woodruff, Winokur & Munoz, *Diagnostic Criteria for Use in Psychiatric Research*, 26 ARCH. GEN. PSYCHIATRY 57, 60 (1972).

15. For general explanations of various therapeutic methods, the reader is referred to COMPREHENSIVE TEXTBOOK OF PSYCHIATRY 1191-1302 (A. Freedman & H. Kaplan, eds. 1967) [hereinafter cited as Freedman & Kaplan]. There will be found descrip-

It is therefore of obvious importance to consider whether any treatments now in use for antisocial personality disorder have been proven effective, and to examine the evidence of their effectiveness. Since the best scientific tool for use in assessing the effectiveness of a treatment currently is the *controlled study*,[16] the medical-psychiatric literature was examined to determine whether any current treatments for antisocial personality have been evaluated for effectiveness by means of this tool.

The definition, basic principles, and techniques of the controlled study have been elaborated by many authors.[17] Only the barest outline of the rationale and terminology of this evaluative technique is presented here, primarily to provide members of the legal profession with a fundamental awareness of the characteristics of the controlled study and to reassert the need for control principles in the evaluation of treatment for antisocial personality disorder.

According to Zubin,[18] the essential attributes of a controlled study of treatment are four-fold: first, a homogeneous group of patients; secondly, a comparable untreated control group; thirdly, a sufficient follow-up period; and fourth, specific criteria for evaluating outcome.

The need for homogeneity in the sample may be illustrated by a medical hypothetical. One could not expect a coma due to blood loss to respond to the same treatment as a coma due to diabetes. In evaluating a proposed treatment for coma, one must be certain that all cases of coma are as nearly alike as possible. Similarly, one could not expect assaultive behavior due to antisocial personality disorder to re-

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tions of individual psychoanalysis, psychoanalytic therapy, behavior therapy, group psychotherapy, various organic therapies and others. Other general references are Almond, *The Therapeutic Community*, 224 SCIENTIFIC AMERICAN 34 (March, 1971); and Bandura, *Behavioral Psychotherapy*, 216 SCIENTIFIC AMERICAN 78 (March 1967).

For discussions of various therapeutic techniques as applied specifically to antisocial personality disorder, see R. Hare, *The Modification of Psychopathic Behavior*, PSYCHOPATHY: THEORY AND RESEARCH ch. 8 (1970). For specific references to the use of drugs, electroshock therapy, lobotomy, castration, aversion therapy, and classical psychoanalysis, *see* note 32 *infra*. For a description of the therapeutic community applied to the treatment of antisocial personality, *see* Fink, Derby & Martin, *Psychiatry's New Role in Corrections*, 126 AM. J. PSYCHIATRY 542 (1969).

16. *See* note 17 *infra*.

17. For a readable review, see Zubin, *Design for the Evaluation of Therapy*, 31 PSYCHIATRIC TREATMENT 10 (1953). For a more detailed presentation, see Feinstein, *Clinical Epidemiology, III, The Clinical Design of Statistics in Therapy*, 69 ANNALS OF INTERNAL MEDICINE 1287 (1968).

18. *See* Zubin, *supra* note 17.

spond to the same treatment as similar behavior due to syphilis of the nervous system. In any study of a proposed treatment for antisocial personality disorder, one must carefully exclude individuals suffering from syphilis, mania, epilepsy, schizophrenia and other disorders. Ambiguous cases must be excluded from the study.[19] A study of a particular treatment which begins with "all inmates of such-and-such an institution" begins with one weakness in its design.

The need for a comparable untreated control group is illustrated by another medical hypothetical. If one wanted to investigate the use of toothpaste as a treatment for the common cold, he might simply give some cold-sufferers toothpaste. In three days, finding the majority of the patients well, the investigator might conclude that toothpaste cures the common cold. The use of the controlled study would eliminate this error. In the controlled study a group of cold-sufferers would be randomly divided into two groups, one group using toothpaste and the other group using nothing.[20] At the end of three days one would find an equal number of symptom-free people in both groups. Hence it is not toothpaste that cures the common cold, but rather the cold is cured with passage of time.[21] The use of the control group thus allows one to determine whether the proposed treatment is better than no treatment at all. If controls are not employed in a treatment study, it is impossible to conclusively demonstrate the effectiveness of the treatment.[22]

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19. The problem of achieving homogeneity in a sample is complicated by the current difficulties in diagnosis of the various mental disorders, including antisocial personality disorder. *See* note 14 *supra*. Improvements in diagnostic ability which are undoubtedly forthcoming will allow more effective studies of treatment by making possible more homogeneous sample selection.

20. In an ideal controlled study, the control group would receive a placebo. For example, if one were testing a new drug, the treatment group would receive the drug and the control group a pill that looked identical, but containing no active ingredient. In the toothpaste example, it is hard to conceive of what a placebo would be. More pertinently, it is difficult to construct a placebo form of psychotherapy, group therapy or vocational training. Because of this difficulty all of the treatment studies used for control groups either individuals receiving some treatment other than the one being tested, or individuals receiving no treatment.

21. In medical terminology one would say that the natural history of the common cold, in the absence of any treatment, includes a high likelihood of remission within 72 hours. *See* note 22 *infra*.

22. Studies of the natural history of untreated antisocial personality indicate that a definite percentage of sociopaths appear to "burn out" (spontaneously improve). E. Robins says: "A total of 39% [of a group of sociopaths] had shown improvement. . . . The median age at which significant improvement occurred in their antisocial behavior was 35 years. . . . The most common reasons offered by the patients

The need for follow-up of sufficient length can be illustrated by another example. If one wished to assess the effectiveness of treating cancer of the breast by surgical removal of the lump, he might simply examine the patients one week after surgery. He would observe that most patients were well and no breast lumps could be felt. He might then conclude that removal of the lump cures breast cancer. It is only if these patients were re-examined at the end of a year or more that the investigator would realize that removing the breast lump does not cure the disease in all cases, but rather that the malignant process often continues. It is important to stress that a number of treatments applied to antisocial disorder appear to be accompanied by an improvement in behavior while the patient is in the institution and under treatment. In attempting to reduce crime by the treatment of antisocial personality disorder, however, the most important measure of whether a treatment is successful can only be obtained by following those individuals treated in the controlled study for a considerable period of time after treatment ends to determine whether the treatment has had a long term effect on anti-social behavior.

The need for specific criteria for measurement of improvement can be clarified by a further example. In order to evaluate the effect of aspirin on the fever of a cold, one could take two equal groups of patients with colds and fever and give half of them aspirin and half of them nothing. If the investigator were limited to asking the patients how they felt at the end of an hour, he might conclude from the patient's report that those patients who received aspirin had a reduction in temperature. If observers were allowed to touch the patients' forehead a better estimate as to which patients had a reduction in temperature could be made. If however, observers were allowed to take the

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for their improvements were maturity, marriage, fear of imprisonment, and increased responsibilities. . . . No person named a psychiatrist, minister, social worker, parole officer, or other professional person." Freedman & Kaplan, *supra* note 15, at 958. *See also* L. ROBINS, DEVIANT CHILDREN GROWN UP 225-27 (1966).

For a discussion of spontaneous remission, see Landis (1937) and Denker (1947) as discussed in: A. BERGIN, HANDBOOK OF PSYCHOTHERAPY AND BEHAVIOR CHANGE: AN EMPIRICAL ANALYSIS 239-46 (1971); H. EYSENCK, HANDBOOK OF ABNORMAL PSYCHOLOGY (1960); Eysenck, *The Effects of Psychotherapy: An Evaluation*, 16 J. CONSULT. PSYCHOL. 319 (1952); Eysenck, *The Effects of Psychotherapy: A Reply*, 50 J. ABNORM. SOC. PSYCHOL. 147 (1955); Eysenck, *The Outcome Problem in Psychotherapy: A Reply*, 1 PSYCHOTHERAPY: THEORY, RESEARCH AND PRACTICE 97 (1964).

It is this "burning out" phenomenon of the natural history of antisocial personality disorder that necessitates the use of control groups and long follow-up periods in any study of treatment.

subject's temperature with a thermometer they would have a still better measure of the effect of aspirin on the fever. Thus, the cruder the measure of outcome, the more likely there will be an erroneous conclusion regarding the effectiveness of the treatment. In assessing treatments of antisocial personality disorder, there are no instruments as reliable and precise as a thermometer; measures that are cruder, such as recidivism rates (rearrest and reconviction), parole violations, psychological tests, and the patient's subjective feeling of well-being must therefore be utilized. The choice of which outcome measure should be used depends upon the use to which the data is to be put. If humanitarian goals are most important, how the patient subjectively feels may be the best measure of outcome. If the goal is the social treatment of the social problem of crime, recidivism rates may be the better measure for assessment of outcome.[23]

Another problem that arises in connection with rating the outcome is whether the ratings are blind; that is, whether the rater knows which subjects receive the treatment and which receive no treatment. In the example of treating fever with aspirin, it is clear that if the rater knew which patients received the aspirin and which the placebo (inert medicine), his ratings of improvement, particularly if he had to rely upon feeling the patient's forehead as the only index, are subject to biased reporting. By not allowing the rater to know which patient received the treatment and which was the control, this possibility is eliminated. The requirements of the ideal controlled study are exceedingly difficult to fulfill, and it is not surprising that an ideal study has not been conducted for any method of treatment. Yet the controlled study is the best instrument available today for the objective assessment of whether a given treatment is either better than no treatment at all, or better than an existing treatment.

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23. The use of recidivism rates as a measure of treatment outcome has been widely criticized on the ground that certain individuals (poor, black, inner-city residents, and those with prior criminal records) have a higher-than-average likelihood of arrest. It should be noted that this bias can be eliminated in a treatment study if the investigators use a control group which closely resembles the treatment group in age, race, sex, social class, educational level, prior criminal record, etc.

In addition to the articles in note 17 *supra*, see Frank, *Evaluation of Psychiatric Treatment*, in Friedman & Kaplan, note 15 *supra*, at 1305-09, for particular attention to problems relating to measurement of outcome. For a study using recidivism as an outcome measure, the "treatment" being incarceration in a penitentiary, see Guze, *A Study of Recidivism Based upon a Follow-up of 217 Consecutive Criminals*, 138 J. NERVOUS & MENTAL DISEASE 575 (1964).

REVIEW OF THE LITERATURE

In order to assess the evidence for the effectiveness of various treatments used for antisocial personality disorder, the medical literature was surveyed for controlled studies of treatment methods.

With the assistance of a MEDLARS[24] computer literature search, 228 citations were retrieved. In addition, sixty-seven other references were located by use of the *Index Medicus*,[25] reviews of textbooks and lists of references from the above articles. A total of 295 citations were reviewed. Three criteria were used for inclusion of a study in the undertaken survey. First, a study had to be one of some method of treatment; secondly, it had to have control subjects; and thirdly, it must have reported some period of post-treatment follow-up. Because none of the studies met the most stringent criteria for an adequate evaluation of a treatment, several studies with methodological variations from the study design were analyzed.[26] Only ten studies, comprised of thirteen citations, concerned with the treatment of antisocial personality disorder met these minimal criteria for an evaluation of any proposed treatment. These represented 4.4 percent of all the citations reviewed. However, the 282 citations excluded from detailed consideration in this report deserve further comment.

These papers, many of which are valuable contributions to the field of psychiatry, dealt with a variety of aspects of antisocial personality. Some reported on the historical background and development of current concepts and trends[27] and others elaborated the various psychia-

24. MEDLARS (Medical Literature Analysis and Retrieval System). The authors wish to express their thanks to Miss K. Gallagher, the Washington University Medical School Library, and the National Library of Medicine for their assistance.

25. The *Cumulative Index Medicus* is published monthly and yearly by the National Library of Medicine under the auspices of the Department of Health, Education and Welfare. It is a bibliographic listing of references to current articles from approximately 2200 biomedical journals. Each issue contains subject and author sections, and a separate bibliography for medical reviews.

26. Some of the variations were: 1) any definition of antisocial personality, no matter how vaguely recorded, was accepted; 2) no study was excluded from this report because of the ages of the experimental subjects; 3) any therapeutic technique that claimed to be a treatment for antisocial personality, regardless of how vaguely defined or explained and regardless of its current popularity, was included; 4) any criteria for measurement of outcome used by the authors were accepted; 5) all results, favorable and unfavorable, were accepted; 6) any length of follow-up after the end of treatment, no matter how brief, was accepted.

27. For reviews of the historical development and general concepts of antisocial personality disorder, see Barocas, *Some Problems in the Conception of Sociopathy,*

tric, psychological, sociological, genetic, or medical features of antisocial personality.[28] Some studies dealt with the natural history of the disorder[29] while other sources gave general descriptions of the disorder, including psychogenesis.[30]

Of those studies which described a treatment of antisocial personality, the majority usually lacked controls and/or follow-up. It is noteworthy that several types of treatments which have been described and are in use are not represented in this survey because there was no study which met the criteria for inclusion.[31] It seems particularly remarkable that the "organic" therapies, which are more amenable to investigation by means of the controlled study, are missing from this report.[32]

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44 PSYCHIATRY 674 (1970); Maughs, *A Concept of Psychopathy and Psychopathic Personality: Its Evolution and Historical Development*, 3 J. CRIM. PSYCHOPATHOLOGY pt. I, 494, pt. II, 664 (1941); Maughs, *Psychopathic Personality: Review of the Literature 1940-1947*, in 10 J. CLINICAL PSYCHOPATHOLOGY 247 (1949); Maughs, *Psychopathic Personality: Review of the Literature 1947-1954*, in 1 ARCH. CRIM. PSYCHODYNAMICS 291 (1955); Robins, *The Adult Development of the Antisocial Child*, 2 SEMINARS IN PSYCHIATRY 420 (1970).

28. For a sociologic overview of antisocial personality, see L. ROBINS, DEVIANT CHILDREN GROWN UP (1966). For psychiatric, psychological, genetic and medical features of antisocial personality, see M. CRAFT, PSYCHOPATHIC DISORDERS AND THEIR ASSESSMENT (1967); A.V.S. DE REUCK & R. PORTER, THE MENTALLY ABNORMAL OFFENDER (1968); Guze, Goodwin & Crane, *Criminality and Psychiatric Disorders*, 20 ARCH. GEN. PSYCHIATRY 583 (1969); Woodruff, Guze & Clayton, *The Medical and Psychiatric Implications of Antisocial Personality (Sociopathy)*, 32 DISEASES OF THE NERVOUS SYSTEM 712 (1971).

29. The natural history of antisocial personality is described in W. MCCORD & J. MCCORD, THE PSYCHOPATH: AN ESSAY ON THE CRIMINAL MIND (1964); Craft, *The Natural History of Psychopathic Disorder*, 115 BRIT. J. PSYCHIATRY 39 (1969); Gibbens, *Treatment of Psychopaths*, 107 J. MENT. SCIENCE 181 (1961); Maddock, *A Five-Year Follow-Up of Untreated Psychopaths*, 116 BRIT. J. PSYCHIATRY 511 (1970); Tong & McKay, *A Statistical Follow-Up of Mental Defectives of Dangerous and Violent Propensities*, 9 BRIT. J. DELINQ. 276 (1959).

30. For general discussions of antisocial personality, including psychogenesis, see Gibbens, Briscoe & Dell, *Psychopathic and Neurotic Offenders in Mental Hospitals*, in A.V.S. DE REUCK & R. PORTER, THE MENTALLY ABNORMAL OFFENDER 143 (1968); Glueck, *Concerning Prisoners*, 2 MENTAL HYGIENE 177 (1918); Heaton-Ward, *Psychopathic Disorder*, LANCET No. 7273, at 121 (1963); Merskey, *The Routine Treatment of Offenders in the National Health Service*, 9 MED. SCI. LAW 19 (1969); O'Neal, Robins, King, Schaeffer, *Parental Deviance and the Genesis of Sociopathic Personality*, 118 AM. J. PSYCHIATRY 1114 (1962); Scott, *Treatment of Psychopaths*, 5186 BRIT. MED. J. 1641 (1960).

31. *See* notes 32-34 *infra*.

32. Studies of "organic" therapies which do not meet criteria for inclusion in this report but are of interest: *drugs*: Darling, *Haloperidol in 60 Criminal Psychotics*, 32 DISORDER NERV. SYST. 31 (1971); Field & Williams, *The Hormonal Treatment of Sexual Offenders*, 10 MED. SCI. LAW 27 (1970); Korey, *The Effects of Benzedrine*

It should also be noted that there are no controlled studies regarding the use of classical psychoanalysis[33] or "aversion" therapy[34] which met our criteria.

Also of note are the reports of comprehensive, institutional treatment programs in Holland,[35] Denmark,[36] Maryland,[37] and Great Britain.[38] Only the programs in Maryland and Great Britain have been reported upon in the form of controlled studies with follow-up. These comprehensive programs[39] represent a tremendous investment of effort directed toward the humane management and rehabilitation of the antisocial criminal recidivist. Although definitive controlled studies are yet to be employed in comprehensive programs, those programs are of heuristic value in providing directions for further research.

Results of this review of the literature are summarized in the accompanying table. Of the ten studies reported,[40] five dealt with variations

Sulfate on the Behavior of Psychopathic and Neurotic Delinquents, 18 PSYCHIATRIC QUARTERLY 127 (1944); *electroconvulsive therapy*: Darling, *Shock Treatment in Psychopathic Personality,* 101 J. NERVOUS & MENTAL DISEASE 247 (1945). Green, *Petit Mal Electro-Shock Therapy of Criminal Psychopaths,* 5 J. CRIM. PSYCHOTHERAPY 667 (1944); Silverman, *Electroencephalograph and Therapy of Criminal Psychopaths,* 5 J. CRIM. PSYCHOPATHOLOGY 439 (1944); *leucotomy (or lobotomy)*: Whalen & Darley, *Treatment of Psychopathic Personality by Transorbital Leucotomy,* 13 DISORDER NERV. SYST. 136 (1952); *castration of sexual offenders*: Stürup, *Treatment of Sexual Offenders in Herstedvester Denmark: The Rapists,* 44 ACTA PSYCHIATRICA SCANDINAVICA 204 (Supp. 1968).

33. For a discussion of classical psychoanalysis of antisocial personalities, see Schmideberg, *The Treatment of Criminals,* 36 PSYCHOANALYTIC REV. 403 (1949).

34. For a discussion of aversion therapy, see Feldman, *Aversion Therapy for Sexual Deviations: A Critical Review,* 65 PSYCHOLOGICAL BULL. 65 (1966).

35. Roosenburg, *The Treatment of Criminals in Institutions,* 25 BULL. MENNINGER CLINIC 186 (1961).

36. Stürup, *The Management and Treatment of Psychopaths in a Special Institution in Denmark,* 41 PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE 765 (1948).

37. Boslow & Kohlmeyer, *The Maryland Defective Delinquency Law: An Eight Year Follow-Up,* 120 AM. J. PSYCHIATRY 118 (1963).

38. Craft, *A Controlled Study of Authoritarian and Self-Governing Regimes with Adolescent Psychopaths,* 34 AM. J. ORTHOPSYCHIATRY 543 (1964).

39. The term "comprehensive program" as used here refers to a multi-dimensional approach in which the patient is offered psychotherapy, education, job training, and counseling by a team of professionals who begin working with the patient while in an institution and who follow him up with job placement, counseling and other services after his release. Examples of these are the programs at Patuxent, *see* Boslow & Kohlmeyer, note 37 *supra*; and at Herstedvester, *see* Stürup, note 36 *supra.*

40. The ten controlled studies with follow-up are reported in thirteen publications: W. MCCORD, J. MCCORD & K. ZOLA, ORIGINS OF CRIME: A NEW EVALUATION OF THE CAMBRIDGE-SOMERVILLE YOUTH STUDY 61 (1959); Adams, *Interaction Between Individual Interview Therapy and Treatment Amenability in Older Youth Authority*

of individual and/or group psychotherapy, three dealt with variations of the therapeutic community concept, one dealt with a token economy, and one dealt with the results of a comprehensive, intensive, multidimensional treatment program (basically "milieu" therapy). Eight of the ten studies described "positive" results.[41] In one study the results were said to be "inconclusive";[42] and in one the results were "negative."[43] In eight of the studies, treatment took place within an institution. Teuber and Powers[44] and Shore and Massimo[45] treated their subjects in the community. Follow-up in all studies took place outside the treating institution.

In general it was encouraging to find some positive results[46] in this small number of fairly adequate studies. The results of this literature review suggest that the treatment methods studied may have some beneficial effect in ameliorating some antisocial traits. These results, however, must be interpreted with some caution. First, caution is required because of the negative results achieved in the massive delin-

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Wards, in BOARD OF CORRECTIONS, STATE OF CALIFORNIA, MONOGRAPH NO. 2, at 27 (1961), cited in J. METZOFF & M. KORNREICH, RESEARCH IN PSYCHOTHERAPY 86 (1970); Colman & Baker, *Utilization of an Operant Conditioning Model for the Treatment of Character and Behavior Disorders in a Military Setting*, 125 AM. J. PSYCHIATRY 1395 (1969); Craft, *A Controlled Study of Authoritarian and Self-Governing Regimes with Adolescent Psychopaths*, 34 AM. J. ORTHOPSYCHIATRY 543 (1964); Craft, *Psychopathic Disorders: A Second Trial of Treatment*, 114 BRIT. J. PSYCHIATRY 813 (1968); Fink, Derby & Martin, *Psychiatry's New Role in Corrections*, 126 AM. J. PSYCHIATRY 542 (1969); Hodges, *Crime Prevention by the Indeterminate Sentence Law*, 128 AM. J. PSYCHIATRY 291 (1971); Massimo & Shore, *The Effectiveness of a Comprehensive, Vocational Oriented Psychotherapeutic Program for Adolescent Delinquent Boys*, 33 AM. J. ORTHOPSYCHIATRY 634 (1963); Persons, *Psychological and Behavioral Change in Delinquents Following Psychotherapy*, 22 J. CLIN. PSYCHOL. 337 (1966); Persons, *Relationship Between Psychotherapy with Institutionalized Boys and Subsequent Community Adjustment*, 31 J. CONSULT. PSYCHOL. 137 (1967); Peters, *Group Psychotherapy and The Sex Offender*, 32 FED. PROBATION 41 (1968); Shore & Massimo, *Five Years Later: A Follow-Up Study of Comprehensive Vocationally Oriented Psychotherapy*, 39 AM. J. ORTHOPSYCHIATRY 769 (1969); Teuber & Powers, *Evaluating Therapy in a Delinquency Prevention Program*, 31 PSYCHIATRIC TREATMENT 138 (1953).

41. "Positive results" are defined as claims by the authors of a study that the therapy described benefited the treated group more than the controls.

42. *See* Fink, Derby & Martin, note 40 *supra*.

43. W. MCCORD, J. MCCORD & K. ZOLA, note 40 *supra*. "Negative results" are defined as claims by the authors of the study that the therapy did not benefit the treated subjects more than the controls.

44. Teuber & Powers, *supra* note 40.

45. Shore & Massimo, *supra* note 40.

46. *See* note 41 *supra* for definition.

quency prevention program described by Teuber and Powers[47] and followed up by McCord and McCord.[48] A second, more important reason for caution in the interpretation of the results reported here is the number of methodological deficiencies encountered in all of these studies. A third reason for caution is the general problem of describing and evaluating psychotherapy.

There were several significant methodological deficiencies encountered in these studies. The first related to the definition of antisocial personality disorder. The various authors used different criteria for inclusion of subjects into their respective treatment and control groups. Since none of the authors used the specific definitions of "antisocial personality" given earlier,[49] it is difficult to make a comparison between the results of any of these studies.[50]

The age of the subjects merits some attention.[51] In most of the studies[52] the subjects were juveniles. In view of the short follow-up in most of the studies (many of the subjects were still in their teens at the time of follow-up), one must be extremely cautious in generalizing from the results to the problem of treating adults with antisocial personality disorder.

Another common methodological weakness in this series of studies was an inadequate follow-up period. In only two studies was the fol-

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47. Teuber & Powers, *supra* note 40.

48. In 1959 McCord and McCord followed up 253 treated and 253 control subjects from the Cambridge-Somerville delinquency prevention study. They found that, "the . . . study, on the whole, failed to prevent either delinquency or adult criminality. Neither in the number of crimes committed nor in number of boys who became criminal did the 253 treated boys differ significantly from the 253 untreated boys. . . . [T]he treatment program did not prevent crimes of violence, sexual offenses or drunkenness. Approximately equal number of children went to reform school and equally high proportions from both groups committed crimes after release." W. McCord, J. McCord & K. Zola, Origins of Crime: A New Evaluation of the Cambridge-Somerville Youth Study 40 (1959). For an excellent review of the original study, see *id.* at 1-8. *See also* E. Powers & H. Witmer, An Experiment in the Prevention of Delinquency (1951).

49. *See* note 14 *supra.*

50. The studies by Craft, Persons, and Fink, cited in note 40 *supra,* used sufficiently specific criteria to allow attempts at replication. For an explanation of replication, *see* note 64 *infra.*

51. *See* note 22 *supra.*

52. Exceptions are the studies of Colman, *supra* note 40, and Fink, *supra* note 40, who studied adult offenders. The ages of the subjects in the study by Hodges, *supra* note 40, were not noted. *See* criticism of Hodges's study by Stone, *A Critique,* 128 Am. J. Psychiatry 295 (1971).

low-up five years or longer.[53] In three studies the follow-up was three years.[54] In the remainder, the length of follow-up varied from three to twenty-four months.[55] Thus, in none of the studies did the follow-up period encompass that period of time in which natural improvement is known to occur.[56] Various authors recognized the need for long follow-ups. Several of them mentioned in their publications plans for conducting follow-up studies of their samples and controls at more extended periods.[57] The fact that follow-up data has not appeared gives testimony to the enormous difficulty entailed in carrying out these studies adequately.

A further shortcoming of all the studies cited is a deficiency in the criteria for evaluation of outcome. This is due in part to the fact that at the present time there is not a universally satisfactory measure for beneficial outcome in the treatment of antisocial personality. The most common measure, recidivism, has been mentioned.[58] Other outcome measures used in these studies were stability in employment, marital stability, improved academic functioning, and certain measures of internal well being, as estimated by psychological tests.[59] If one accepts these measures as indices of effective treatment, then all the studies have measured success to some degree. It must be kept in mind, however, that the measurements are crude at best. One must constantly be on the lookout for more meaningful measures of treatment success which will improve upon the existing capability to discriminate between the more effective treatments and those which are less effective.

Little has been said about the process or technique of treatment employed in these studies. This is because all forms of psychotherapy are difficult to describe. Until recently, few therapists were willing to expose themselves and the therapeutic process to any kind of formal study or analysis. One investigator who did attempt to evaluate psychotherapy as a therapeutic tool has raised genuine doubt as to whether psy-

53. Massimo & Shore, *supra* note 40; and W. McCord, J. McCord, & K. Zola, *supra* note 40.

54. *See* the studies by Adams, Hodges, and Teuber & Powers, cited note 40 *supra.*

55. For example, the subjects in the Cambridge-Somerville Study would have been, at most, 30 or 31 by the time they were followed up by McCord and McCord.

56. *See* note 22 *supra.*

57. *See* the studies by Fink, Craft, and Peters, cited note 40 *supra.*

58. *See* note 23 *supra.*

59. *See* table *infra,* following page 711.

chotherapy is better than no treatment at all.[60] The need for objective scrutiny is illustrated by the problems encountered in the analysis of data derived from the Teuber and Powers Study. They describe their efforts to find out exactly *what* was occurring in therapy. Over 22,000 pages of single-spaced typewritten data, reflecting the verbal interchange between therapist and subject, were examined. Although in the end most therapists and subjects expressed the opinion that beneficial results were derived from the interaction, the follow-up data did not support these feelings.[61]

CONCLUSION

The problem of defining adequate treatment has been approached in the report from what was described as the medical point of view; that is, adequate equals effective. Legal definitions which deal exclusively with the structure of the institution involved in treatment may not lead to socially desirable ends, *i.e.* reduction of criminality. In concert with legal definitions[62] various aspects of the medical definition of adequacy must be taken into consideration. Although the data from these controlled studies of treatment are meager, they are by no means discourag-

60. Eysenck, *The Effects of Psychotherapy,* 1 INT'L J. PSYCHIATRY 99 (1965).

61. Teuber & Powers, *supra* note 40, at 146:

> To some of the counselors, the whole control group idea, and our insistence on an objective description of the counseling process, seemed slightly blasphemous, as if we were attempting a statistical test of the efficacy of prayer. Theirs was an "ethics of sentiments" rather than an "ethics of consequences." They insisted that the relationships established had their value in themselves, irrespective of their possible effect on the boy's behavior, and they were not perturbed when the seemingly negative results of the delinquency prevention program became known. Other counselors reacted differently; they felt that research was superfluous, since all the necessary rules of conduct in therapy were already known. When they were informed of the outcome of the Study, they reacted in a characteristic fashion; those who were analytically trained and oriented asserted that the results would have been positive, had analytic principles been applied by all staff members consistently, throughout the course of the treatment period. Conversely, those counselors who were followers of Carl Rogers' non-directive approach averred that a systematic use of non-directive methods would have produced more definite success.
>
> Patently, our data do not bear on any of these questions. The varied and eclectic approach to treatment in the Study precluded a fair test of any specific form of therapy. We submit, however, that the data yield one definite conclusion: that the burden of proof is on anyone who claims specific results for a given form of therapy. It is admittedly difficult to provide for expensive control settings similar to that of the Cambridge-Somerville Youth Study. But the objective evaluation of therapeutic processes is of such importance that similar studies, in many areas of therapy, are indicated.

62. *See* notes 8 and 10 *supra.*

ing. The data indicate that some techniques may be effective in the treatment of antisocial personality in juvenile offenders and possibly in some adults.[63] However, the evidence from the studies reported does not permit a conclusion as to whether any one of the treatments is more effective than any other, or whether any treatment is better than none. Comparisons cannot be drawn between the results of the different methods of treatment because of the different criteria for evaluation of outcome, the vagueness of the descriptions of the therapies,[64] and the heterogeneity of the populations studied.

Since eight of the ten controlled studies reported positive results,[65] it might be reasonable to infer that all these therapies have some unknown common denominator, a fundamental manipulation which leads to improvement of antisocial personality disorder. This tentative conclusion gives rise to the question, "What is that common denominator, if any, of these therapies, the active principle that accounts for the improvement described?" This question provides important directions for future research. If that hypothetical "active principle" exists and could be discovered, it might be utilized more extensively.

It has been noted in this review that an enormous amount of research into the treatment of antisocial personality fails to meet even minimal criteria for scientific adequacy. It is clear that there exists a potent methodology for the evaluation of current and future proposed treatments of this disorder. The authors feel it is imperative that future studies be carried out with attention to the principles of the scientific method described here and elsewhere.[66] Without this painstaking attention to detail, adequate, reliable data upon which to predicate de-

63. It is not implied that adults are less amenable to treatment, but rather that most of the data presented here is derived from studies on young individuals. *See* table *infra* following page 711. It is because of the paucity of data on treatment of adults that one is even less certain that any treatment is beneficial.

64. The treatments evaluated were, in most of the studies, rather vaguely described so that the reader could not be sure precisely what transpired between the patient and the therapeutic team. Exceptions are the studies by Colman, *supra* note 40, which contains a good description of operant conditioning with a token economy; and Fink, *supra* note 40, which contains a good description of a therapeutic community. The result of vaguely described treatment regimens is an inability on the part of other investigators to replicate the results. Replication of a study by another investigator; that is, repetition of the experiment leading to the same results, lends credibility to the results. If the sample is not clearly defined, *see* note 50 *supra*, or the treatment regimen not clearly described, replication is impossible.

65. *See* note 41 *supra*, and table *infra* following page 711.

66. *See* note 17 *supra*.

cisions as to which treatments are effective (*i.e.* adequate) will not be forthcoming.[67] Much more careful research must be done if the implied mandate of *Rouse v. Cameron* and subsequent decisions is to have any effect upon society through the reduction of crime, and upon the individuals who are suffering from the syndrome currently called "antisocial personality disorder."

67. An interesting consequence of the right to treatment principle is the possibility that the application of this principle may foreclose the opportunity to perform scientifically sound research into the treatment of antisocial personality by rendering it impossible to include matched, untreated controls as part of a study. Some writers have suggested that this problem can be circumvented by comparing a new treatment with an established "standard treatment." Zubin, *supra* note 17. This is a methodologically unsound, and in one sense, impossible, since there is no known effective "standard treatment" for antisocial personality disorder. An interesting observation is that of Craft, *supra* note 40, at 533, who states, "Boys in both regimes received treatment. Both treatments may have been better than nothing; both, of course may have worsened the boys—we do not know and could not have found out, unless the courts had agreed to another control group who were neither treated nor punished."

CONTROLLED STUDIES OF THE TREATMENT OF ANTISOCIAL PERSONALITY DISORDER WITH FOLLOW-UP*

Authors	Treatment	Description of Subjects	No. Subjects	Controls	Length of Follow-up (in months)	Criteria for Evaluation	Results Claimed by Authors	Comments
Adams (1961)	Psychotherapy group and individual	•Juvenile offenders "apt to be amenable to treatment"	200	200	36 after release	•"Less likely to return to prison" •"Less lock-up time"	•Therapy can help those who are amenable •Therapy may be harmful to some individuals, *i.e.* worsen the outcome	•Criteria for "amenability" vague •Randomization to treated and control groups not specified •Criteria for evaluation of outcome vague •Exactly what transpired in therapy is unclear
Craft (1964)	Therapeutic community with group therapy ("permissive") compared with "authoritarian," both with work training program	•Youths with "psychopathic traits" •IQ over 59 •Indeterminate sentence •Age 13-15	25	25	14 (mean)	•Offenses after release •Improvement in IQ •Psychological tests •Work record •"Absconsions" from institution	•". . . the authoritarian ward provided the more effective treatment of the psychopathic delinquent" •Treated group had fewer offenses than controls •Treated "improved" clinical well being	•No untreated control group •Short follow-up •"Five referrals who were outstandingly aggressive, and some ten offenders referred but not requiring psychiatric treatment were not admitted" p. 545 One quarter of the authoritarian boys and more than one-half of the group therapy boys still needed institutional care at follow-up

Craft (1968)	Therapeutic community with group therapy ("permissive") compared with "authoritarian," both with work training program	•Age 13 and over •Offended against criminal code (listed) •Personality disorder severe enough to induce community officials to request psychiatric hospitalization •IQ over 55 •No psychosis on admission •Indeterminate sentence	100	100	15	•Offenses upon release •Employment •Social well being •Mortality •Suicide attempts	•The authoritarian regimen was superior in less reconvictions, less mortality and increased employment and social well being. However, the author states "the results favour a long term plan for those subjects with psychopathic disorder who need institutional admission, since overall the treatment success of each system seems to be remarkably similar." p. 820	•No untreated control group •Short follow-up •Assumes that both institutions were identical except for treatment regime but author states ". . . the permissive unit . . . acquired higher prestige value, its standards subtly permeated the authoritarian unit, and indeed the whole hospital" p. 817-18 Part of the difference in the reconviction rate is explained by the availability of readmission to hospital as soon as early signs of community failure appear
Colman (1969)	Token economy (Behavior therapy operant conditioning)	•Character behavior disorders on an experimental ward in a military hospital •Homosexuals, alcoholics, and drug addicts excluded •Average age 20	46	48	3	•Functioning in military unit or completing military obligation •Administrative discharges •AWOL •Confinement in stockade	•Treated group did better in all measures	•Criteria for "character-behavior disorders" unclear; therefore may not be homogeneous •Random assignment of subjects to treatment and control groups •Short follow-up •Treatment very clearly defined •No statistical measurements on results •Excellent design — bears replication

* Although the phrase "antisocial personality disorder" appears in the title to the table, the reader should note that the usage of this phrase is for identification purposes only and that this mental illness is not clearly defined. *See* note 14 *supra* and text accompanying note 49 *supra.*

Authors	Treatment	Description of Subjects	No. of Subjects	Controls	Follow-up (in months)	Criteria for Evaluation	Results Claimed by Authors	Comments
Fink (1969)	Therapeutic community	•Prison inmates New York State •Average or above IQ •25 or older •Persistent record of offenses and imprisonments 6-18 months remaining prior to appearance before parole board •Prior history of chronic alcoholism or mental disorder excluded	41	37	6	•Reincarcerations for parole violation •Commission of misdemeanors •Commission of felonies •Mortality •Psychological tests	•None of treatment group arrested for felonies (compared with 3/37 controls) •One of control group murdered •More misdemeanors in treatment group (8/41 compared with 3/37) •"Results are not conclusive"	•Treatment and control groups differed in ways other than the presence of treatment •Short follow-up •Particularly good description of therapeutic community •No statistical measurements on results
Hodges (1971)	"Therapeutic milieu" Group therapy	•"Defective delinquents" (Adjudicated) •Serving indeterminate sentences at Patuxent, Maryland	740	156	36 (at least)	•Recidivism (commission of felonies/ misdemeanors)	•Treated group had lower recidivism rate than "partially treated controls," and the untreated control group had the highest recidivism rate of all	•Homogeneity of treatment group is good •Control group was not well matched to treatment group •Control group was made of subjects who had committed crimes but were not adjudicated "defective delinquent" *i.e.* not completely comparable •Ages of both groups not specified. Differences in age might account for results as well as treatment, *i.e.* results claimed might not be due to treatment •Treatment provided not clearly defined •Largest number of subjects (in the treated group) in this series of studies

Persons (1966) (1967)	Psychotherapy combined group and individual	•Inmates of state reformatory for boys age 15-19 •*Mean* 4 offenses •Average incarceration 11 months •Indeterminate sentence	41	41	9½	•Time passes received •Delinquency reports •Psychological tests •Academic functioning •Convictions •Parole violations •Employment history	•Treated group did better on all measures tested •Those judged "successfully treated" at time of release did the best of all •Authors state ". . . from these results it should not be construed that psychotherapy is a rehabilitative panacea. For maximum results it seems that a boy needs to have a successful therapy experience, a reasonably adequate community replacement, and employment." p. 141	•Sample not clearly homogeneous •Short follow-up •Exactly what transpired in psychotherapy is not specified •Excellent description of post discharge program •Excellent experimental design
Peters (1968)	Group psychotherapy	•Sex offenders	92	75	24	•Criminal recidivism—reconviction •Rearrest—any type offense	•Treated group had lower rate of conviction for new offenses and lower rate of rearrests for any crimes including sex offenses	•Treatment and control groups heterogeneous for type of sex offense and psychiatric diagnosis •Control group was on average 6 years younger, although matched on other variables •Control group had higher percentage of forcible rapists •No data on how treatment and control groups were selected •No untreated control group •Retrospective study

Authors	Treatment	Description of Subjects	No. of Subjects	Controls	Length of Follow-up (in months)	Criteria for Evaluation	Results Claimed by Authors	Comments
Massimo & Shore (1963) Shore & Massimo (1969)	Vocationally oriented psychotherapy	•Adolescent boys ages 15-17 with "records of antisocial behavior" •Repeated truancy •Longstanding problems in school adjustment •Overt aggression towards peers and authority •Suspension from school or dropouts •Known to court, police or attendance officer •No observable psychosis •IQ 85-110 •No previous psychotherapy for boy or his family	10	10	60	•Psychological tests •Academic performance on standard tests •Employment •Pay per hour •Formal schooling •Legal status including arrests and incarcerations •Marital status	•Treated group did better than controls on all variables measured	•Homogeneous group of patients •Well matched, randomly assigned, untreated control group •Excellent design •Long follow-up period •Elements of psychotherapeutic process evaluated •Results noted for each subject •Number of subjects too small to allow conclusion to be drawn as to efficacy of "vocationally oriented psychotherapy"
Teuber & Powers (1951)	Psychotherapy which varied from analytically oriented psychotherapy to "big-brother" counselling	•Boys age 6-10 judged "likely to become delinquent" by school teachers, policemen "on the beat" and settlement worker	325	325	36	•Court appearances •Offenses •Appearances before a crime prevention bureau	•Treated group did not do better than the control group in any area •"Study should be considered as a paradigm for research in the effects of therapy"	•Exact criteria for inclusion in study vague, *i.e.* homogeneity of group unclear •Comparable group of randomly assigned, untreated controls •Follow-up period clearly short in view of the natural history of antisocial personality and age of

McCord & McCord (1959) [see note 40 and accompanying text]			253 (from 325 above)	253 (from 325 above)	120 (total including above)	subjects at beginning of study •Both the boys and their counsellors feel the therapy was of some value but this could not be proven by the follow-up figures •Different types of therapy were considered together •Evaluation of records of therapy provided no real clues as to relationship or therapy to outcome •World War II interfered somewhat in the implementation of the design •Perhaps the best designed and executed study of the group