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# BEHAVIOR MODIFICATION: INTRODUCTION AND IMPLICATIONS

*Myron A. Whitman\**

*The federal government's use of biomedical and psychological methods in treating institutionalized persons presents numerous ethical, philosophical and legal problems. In this article, Myron Whitman discusses one of these treatments, behavior modification, and considers some of the unique problems in protecting the rights of the individual being treated.*

WHEN B. F. Skinner began popularizing behavior modification among the members of the scientific community and the general public, he did so with great fervor and enthusiasm.<sup>1</sup> Not only did Skinner sell the merits of behavior modification as a tool for instituting, modifying, and eliminating behaviors on an individual level, he contended that it could form the basis of a technology for the smooth and efficient functioning of an entire society.<sup>2</sup> With his forceful personality, convincing arguments, and alluring promises, coupled with a growing body of research attesting to the validity of behavior modification, the movement spread rapidly.<sup>3</sup> Throughout the nineteen sixties and the first half of the nineteen seventies an exponentially increasing number of Americans participated in behavior modification programs.

There was also, however, a growing resistance to behavior modification. The forms of this resistance varied. For some individuals it consisted merely of a tempering or cooling of enthusiasm for behavioral techniques when it became evident that they did not always

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1. Among Skinner's early books are: **THE BEHAVIOR OF ORGANISMS** (1938); **SCIENCE AND HUMAN BEHAVIOR** (1953); **VERBAL BEHAVIOR** (1957); and **CUMULATIVE RECORD** (1959).

2. See B.F. SKINNER, **WALDEN TWO** (1948).

3. Much of the early research in behavior modification is presented in **CASE STUDIES IN BEHAVIOR MODIFICATION** (L. Ullmann & L. Krasner eds. 1965).

lead to the quick and dramatic behavior change promised by Skinner and the other leading behavior modifiers. Others found the practical problems involved in implementing these techniques burdensome and limiting. Perhaps the most serious objections to behavior modification were made on ethical, philosophical, or legal grounds. Some, for instance, objected to the behavioral methods of punishment. Others did not relish living in a society in which seemingly artificial and mechanical attempts were made to manipulate its citizens. They felt that these techniques lacked genuine human warmth and concern. Still others were appalled at the thought of sacrificing any personal rights, such as privacy or individual freedom, which the use of these techniques appeared to entail. And finally, some individuals were concerned about the possible amassing of unlimited power by the behavior modifier.

The federal government has reflected this unrest over the use of behavior modification. The Senate Subcommittee on Constitutional Rights recently studied the relationship between behavior modification and individual rights, as well as the role of the federal government in supporting behavior modification research and programs.<sup>4</sup> The report of the Subcommittee is an excellent indicator of current thinking about the ethical, philosophical, and legal implications of behavior modification. It would therefore serve as a good introduction for persons wishing to familiarize themselves with these issues. The first 45 pages of this 651 page report presents the findings of the Subcommittee. This section is an adequate introduction to both the implications of the use of behavior modification and the federal government's involvement in behavioral research and programs. Most readers, however, would also find informative the six articles reprinted in the last seventy pages of the report. In these articles the implications of the use of various biomedical and psychological procedures are thoroughly analyzed.

The remainder of the report consists of very detailed and specific information which could be briefly perused, or perhaps ignored, by most readers. Included is correspondence between the Subcommittee and various governmental agencies such as the Depart-

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4. SENATE COMMITTEE ON THE JUDICIARY, SUBCOMMITTEE ON CONSTITUTIONAL RIGHTS, INDIVIDUAL RIGHTS AND THE FEDERAL ROLE IN BEHAVIOR MODIFICATION, 93d Cong., 2d Sess. (1974).

ment of Health, Education and Welfare, the Justice Department, and the Veterans Administration. There is also a variety of other material, most of which relates to behavior modification projects conducted or funded by these departments. Accounts of four court cases in which individual rights were at issue are likewise included.<sup>5</sup>

The Subcommittee report, however, does not have an adequate explanation of behavior modification as it is understood in the scientific community. The assumptions upon which behavior modification are based, the learning principles essential to behavioral techniques, and the explicit elaboration of the techniques are conspicuously lacking. Perhaps it is assumed that the typical reader of this report will already have, or need not have, such knowledge. Both are dubious assumptions. An adequate understanding of behavior modification would undoubtedly help the reader digest, interpret, and draw reasonable conclusions from the report. But misinformation about behavior modification is rampant. There are even instances in the report where behavior modification is seriously misrepresented. This is bound to confuse the issues rather than lead to clarification.

One purpose of this article, therefore, will be to present the basics of behavior modification. Even a brief introduction to this area should help immeasurably in reading behavior modification literature such as the Subcommittee report.<sup>6</sup> The second purpose will be to

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5. *Id.* at 510-71. Cases cited are: *Knecht v. Gillman*, 488 F.2d 1136 (6th Cir. 1973); *Clonce v. Richardson*, 379 F. Supp. 338 (W.D. Mo. 1974); *Wyatt v. Stickney*, 344 F. Supp. 387 (M.D. Ala. 1972); *Kaimowitz v. Michigan Dep't of Mental Health*, Civil No. 73-19434-AW (Cir. Ct. Wayne County, Mich., filed July 10, 1973).

6. For recent literature in the field of behavior modification the reader is referred to: B. ASHMEN & E. POSER, *ADAPTIVE LEARNING: BEHAVIOR MODIFICATION WITH CHILDREN* (1973); *MODIFYING CHILDREN'S BEHAVIOR: A BOOK OF READINGS* (A. Brown ed. 1971); A. BRY, *A PRIMER OF BEHAVIORAL PSYCHOLOGY* (1975); *BEHAVIOR MODIFICATION IN REHABILITATION SETTINGS: APPLIED PRINCIPLES* (J. Cull & R. Hardy eds. 1974); *EVALUATION OF BEHAVIORAL PROGRAMS IN COMMUNITY, RESIDENTIAL, AND SCHOOL SETTINGS* (P. Davidson, F. Clark, & L. Hamerlynck eds. 1974); *THE BEHAVIORAL TREATMENT OF PSYCHOTIC ILLNESS* (W. DiScipio ed. 1974); C. FERSTER, S. CULBERTSON, & M. BOREN, *BEHAVIORAL PRINCIPLES* (1975); *MODIFICATION OF BEHAVIOR OF THE MENTALLY ILL: REHABILITATION APPROACHES* (R. Hardy & J. Cull eds. 1974); P. HILLS, *BEHAVIOR MOD* (1974); R. KAREN, *AN INTRODUCTION TO BEHAVIOR THEORY AND ITS APPLICATIONS* (1974); *PERSPECTIVES IN BEHAVIOR MODIFICATION WITH DEVIANT CHILDREN* (L. Lovass & B. Bucher eds. 1974); R. MARTIN, *LAW AND BEHAVIOR CHANGE* (1975); *BEHAVIOR MODIFICATION IN CHILDREN* (H. Rickard & M. Dinoff eds. 1974); R.K. SCHWITZGEBEL & D.A. KOLB, *CHANGING HUMAN BEHAVIOR* (1974); *BEHAVIOR MODIFICATION PROCEDURE: A SOURCEBOOK* (E.

use the Subcommittee report as a framework for discussing the ethical, philosophical, and legal implications of behavior modification. This discussion is not intended to present complete coverage of these issues, or to provide definitive conclusions. It will, however, hopefully stimulate thought.

#### BEHAVIOR MODIFICATION BASICS

In 1920 Watson and Rayner reported a case in which an eleven-month-old child named Albert was taught to be afraid of white rats.<sup>7</sup> Prior to the experiment it was determined that Albert responded to certain stimuli, including a sudden loud noise, with fear, whereas other stimuli, such as a white rat, did not elicit a fear reaction. Watson and Rayner's experiment involved the presentation of a white rat followed immediately by the presentation of a loud noise. After seven such pairings, the rat, by itself, elicited the fear response from Albert. Watson and Rayner then suggested four ways in which this conditioned fear could be overcome by subsequent learning experiences. In 1924 Mary Cover Jones reported her attempt to use one of these techniques with a young boy named Peter.<sup>8</sup> Peter's fear of rabbits was overcome by systematically bringing a rabbit closer to him while he was eating food that he liked. The counterconditioning of this specific fear also generalized to other previously feared objects. Behavior modification's birth has been traced by many psychological historians to these two experiments.<sup>9</sup> The practice of behavior modification remained relatively dormant until the fifties, at which time it was gradually introduced into various clinical settings, such as mental hospitals and psychologists' offices. In the last fifteen years it has shown a phenomenal growth rate.

But what, exactly, is behavior modification? It can be simply defined as the use of learning theory principles to teach adaptive be-

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Thomas ed. 1974); *ISSUES IN EVALUATING BEHAVIOR MODIFICATION: PROCEEDINGS OF THE FIRST DRAKE CONFERENCE ON PROFESSIONAL ISSUES IN BEHAVIOR ANALYSIS MARCH 1974* (W. Wood ed. 1974).

7. See Watson & Rayner, *Conditioned Emotional Reactions*, *J. EXPER. PSYCH.* 1 (1920).

8. See Jones, *A Laboratory Study of Fear: The Case of Peter*, *PEDAGOGICAL SEMINARY* 308 (1924).

9. See J. Wolpe's introduction to *BEHAVIOR THERAPY: APPRAISAL AND STATUS* (C. Franks ed. 1969).

havior or alter maladaptive behavior. The learning principles upon which behavioral techniques are based have been established and verified through the accumulated research efforts of countless scientists working with both human and animal subjects. When these learning principles are used in a systematic and a priori fashion for the purpose of teaching or altering specific and predetermined behaviors, the label "behavior modification" may be appropriately applied.

The various behavioral techniques, and the rationale and circumstances of their application, have many commonalities, most of which tend to distinguish these techniques from other means of changing human personality or behavior. Perhaps the most basic of these commonalities is the model upon which they are based. Most psychotherapies are based on a medical model in which the person's maladaptive behaviors are seen merely as a symptom of an underlying personality disturbance. This disturbance is considered to be the proper focus of treatment, and when it is rectified by the psychotherapeutic method of choice, the symptomatic maladaptive behavior is expected to concomitantly disappear. In contrast to this, behavior modification is based on a psychological model which postulates that the maladaptive behavior is the entire problem. This behavior is treated directly, with no assumptions made about underlying personality disturbances. It is believed that all behaviors, adaptive and maladaptive, are learned and maintained by the same principles, and in this sense also, no underlying pathologies are seen to exist. Thus, behavioral techniques focus on concrete, observable behaviors rather than hypothetical personality constructs.

Several other characteristics of behavior modification techniques should be briefly mentioned. They are usually simple and straightforward and are applied in a systematic and structured manner in order to achieve predetermined behavioral change. Successful application of these techniques becomes more probable when the behavior modifier has firm control over the environmental contingencies; thus, mental hospitals, prisons, and schools have served as frequent arenas for their implementation. Unlike some forms of sophisticated psychotherapies that can only be used with highly verbal, intelligent, insightful clients, behavioral techniques have been

successfully used with young children, highly regressed psychotics, and retardates. In contrast to other forms of psychotherapy where the formally trained therapist, alone, is seen as having the requisite skills and training to administer therapy, behavioral techniques have been taught to such groups as parents, teachers, hospital ward attendants, and prison guards. This significantly increases the pool of people possessing therapeutic skills.

The actual learning theory principles upon which behavior modification techniques are based are numerous and diverse. Not only have several major learning paradigms been isolated but each of these can be further subdivided into various component parts. These parts, and the relationships among them, can fluctuate along a number of parameters, such as frequency, intensity, and timing. Whereas techniques of modifying behavior are ultimately based on very simple learning principles, the subtle nuances of these principles, along with the numerous possibilities of their combination, often makes their successful application quite challenging.

Modeling, and classical and operant conditioning are the three major learning paradigms. Of these, modeling is used least often in large scale behavior modification programs. The unsystematic or inadvertent use of modeling, however, is much more prevalent. As its name may suggest, modeling involves increasing the probability of a behavior due to the observation of that behavior in another organism. Much of the pioneering research in modeling was done by Bandura and Walters.<sup>10</sup>

In the classical conditioning paradigm an unconditioned stimulus is one which automatically elicits a particular response in an organism. A conditioned stimulus does not originally elicit that response, but after one or more presentations to the organism, each just prior to the unconditioned stimulus, it will develop the potential to elicit a similar response. Little Albert, it may be remembered, learned to be afraid of rats through this process. The credit for much of the exploratory work in this field belongs to the Russian physiologist, Ivan Pavlov, who used dogs as subjects.<sup>11</sup> By pairing the sound of

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10. See A. BANDURA & R. WALTERS, *SOCIAL LEARNING AND PERSONALITY DEVELOPMENT* (1963).

11. Among Pavlov's books are: *CONDITIONED REFLEXES: AN INVESTIGATION OF THE PHYSIOLOGICAL ACTIVITY OF THE CEREBRAL CORTEX* (1927); *1 LECTURES ON*

a metronome with meat powder, Pavlov eventually conditioned the dogs to salivate upon hearing the metronome.

The learning paradigm most frequently used by behavior modifiers is operant conditioning. Responses in this paradigm are learned (conditioned) or unlearned as a function of their consequences. These responses are not automatically elicited, with little measure of voluntary control, as in classical conditioning, but voluntarily emitted by the organism. Whereas salivation, fears, and other autonomic nervous system responses are typical of behaviors classically conditioned, cooperative behavior, grooming habits, and work skills are among behaviors that have been operantly conditioned. The research and writing of B. F. Skinner has been the single most dominant force in this field.<sup>12</sup>

According to the operant conditioning paradigm, reinforcement, extinction, and punishment are three likely consequences of a response. Most behavior modification techniques involve the systematic application of one, or more, of these consequences. A reinforcement (reward) is that entity which follows a response and increases the future probability of the occurrence of that response. Primary reinforcers such as food, water, sex, and relief from pain fulfill biological needs. Secondary reinforcers, on the other hand, such as praise, attention, gold stars, and money, have acquired reinforcing properties by past association with primary reinforcers. When a goal behavior is too complex to be taught in total, then successive approximations to it may be reinforced. This process, known as shaping, has been used to teach a wide variety of complex behaviors.

Extinction occurs when a reinforcement is withheld from a response. The ultimate result of such a process is the weakening of the probability of the occurrence of that response. Extinction and reinforcement are, therefore, opposite phenomena. Reinforcement leads to response probability increment; extinction, which involves the withholding of reinforcement, leads to response probability decrement. Extinction is not to be confused with punishment which

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CONDITIONED REFLEXES (1928); *CONDITIONED REFLEXES AND PSYCHIATRY* (1941); *PSYCHOPATHOLOGY AND PSYCHIATRY: SELECTED WORKS* (1960).

12. One of Skinner's more recent books is *BEYOND FREEDOM AND DIGNITY* (1971).

involves the application of negative consequences for a response. Ignoring inappropriate behavior is an example of extinction, whereas hitting, scolding, and removing privileges are typical punishments. While reinforcement and extinction are used by almost all behavior modifiers, punishment is not. The use of punishment sometimes involves unwanted negative consequences, such as fear of the punisher, and the effects are less thoroughly understood than are those of reinforcement and extinction.

#### THE SUBCOMMITTEE REPORT AND IMPLICATIONS OF BEHAVIOR MODIFICATION

Behavior modification is often improperly defined. The Subcommittee report borrows an inadequate definition used by the Department of Health, Education and Welfare: "the systematic application of psychological and social principles to bring about desired changes in or to prevent development of certain 'problematic' behaviors and responses."<sup>13</sup> This definition is so expansive that almost any attempt to modify behavior may be included, from the most indirect attempts at persuasion to psychosurgery, which is the "surgical removal or destruction of brain tissue or the cutting of brain tissue to disconnect one part of the brain from another with the intent of altering behavior."<sup>14</sup> The Subcommittee report appears to single out psychosurgery as the technique which most threatens individual rights. This may be true, but psychosurgery is not a behavior modification technique. Electroshock, chemotherapy, and brainwashing were also incorrectly labeled as behavior modification techniques. The Subcommittee report would more appropriately have had the following title, *Individual Rights and the Federal Role in Biomedical and Psychological Interventions*. The Subcommittee clearly intended to address itself to a wide variety of techniques of modifying personality and behavior patterns, but implied that only behavior modification was the focus of attention.

Another area of confusion found throughout the Subcommittee's report involves the assumption that behavior modification technology poses a unique threat to the individual's right to his own personality,

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13. *Supra* note 4, at 1.

14. *Id.* at 11.

thoughts, feelings, values, and beliefs. How ironic this is! Traditional psychotherapies have concerned themselves, almost exclusively, with the alteration of these hypothetical, unobservable entities. Behavior modification has, in contrast, focused on specific, observable behaviors. It appears that once again, behavior modification is taking the brunt of a criticism that would be more appropriately directed to other targets.

While the report includes other misleading and erroneous statements about behavior modification, these will not be further pursued here. Rather, the ethical, philosophical, and legal issues, some of which are analyzed in the Subcommittee report, will be discussed. These issues, however, are applicable to any biomedical or psychological treatment.

Perhaps one of the most critical issues is the degree of voluntary and informed consent acquired from those persons who are receiving biomedical or psychological treatment. This is an especially sensitive issue in the case of institutionalized populations, such as prisoners and mental hospital patients. In these settings voluntary and informed consent is often not obtained and, even where it is, its validity may be suspect. If subtle institutional pressures or expectations to participate in a therapeutic program exist, can it be said that participation is really completely voluntary? Or can it be said that it is voluntary if the individual knows that non-participation will lead to rather meager and unappealing living conditions? And, how informed can the consent really be? If a person is in an institution because of an inability to conduct his own affairs, then there is a real question as to his capability of making a truly informed decision. In addition, it may be noted that part of an informed decision should include the knowledge of the possible benefits and risks of the particular treatment strategy, and the existence of alternative strategies. Such information is rarely given to institutionalized individuals.

Procedures should be established, therefore, to insure that voluntary and informed consent is obtained from all institutionalized populations asked to participate in therapeutic treatment programs. This is especially important when the programs involve risk, privation, or pain. Individual rights could be partially safeguarded through the establishment of an institutional "Bill of Rights." Advi-

sory boards which actively campaign for the rights of the institutionalized population would be helpful. Board personnel would optimally include some non-institution members interested in the preservation of individual rights.

Other issues involving the rights of institutionalized populations have also become apparent. One such issue involves the ultimate beneficiary of a therapeutic treatment program. Is it the individual or the institution? Whereas some programs are directed towards behavior changes that will allow the individual to live more comfortably with himself or society at large, others are geared towards making the individual more manageable or more productive in the institutional setting. In the latter case, individual needs have yielded to institutional needs. But what if the individual is physically dangerous? Does not the institution then have the right, or even the duty, to protect itself, even if this involves forcing the individual to participate in a therapeutic treatment program?

Another issue of great import regarding the protection of individual rights is the establishment of the boundary between accepted, validated therapies and experimental therapies. Greater safeguards against violation of individual rights need be secured for experimental procedures. But, when exactly, does an experimental procedure become an accepted, validated therapy? Usually not at once, but in stages.

If behavior modification is the proposed treatment modality, should reinforcement techniques be used in preference to punishment? Yes, if at all possible. Since the effects of punishment are not as predictable, and since its use introduces a host of ethical concerns, it should be used only in situations where no reasonable alternatives exist. Even then, a final decision may depend on a variety of related perimeters, such as the degree of aversiveness of both the punishment and the behavior to be modified, and the total time and involvement demanded by the technique. A strong justification obviously exists for mildly shocking an autistic child once, if this significantly increases the probability that he will become more responsive to positive forms of social interaction. However, prisoners who have transgressed minor prison regulations have been repeatedly injected with a drug (Apomorphine) which causes the sen-

sation of drowning or suffocation.<sup>15</sup> Such a punishment procedure has little justification.

Reinforcement techniques, themselves, may be controversial. Consider the case of token economies, in which individuals earn tokens, such as gold stars or chips, for performing specific, predetermined behaviors. These tokens are exchanged at some later date for tangible rewards or privileges. But such rewards and privileges mean little to the individual whose needs are being met. Therefore, a state of artificial need is sometimes induced. This can be accomplished by reducing the quality of the living conditions of all individuals participating in the program. Thus they are likely to become more motivated to obtain the rewards and privileges, and consequently to perform the desired behaviors. But recent court decisions have challenged the right of the institutional staff to take such action. For instance, in *Wyatt v. Stickney*<sup>16</sup> the court listed in great detail basic rights constitutionally guaranteed to hospitalized mental patients. Included were a right to a "comfortable bed,"<sup>17</sup> a right to "nutritionally adequate meals,"<sup>18</sup> and a right "to wear one's own clothes."<sup>19</sup> It becomes evident that even techniques based upon the benign principle of reinforcement may lead to ethical and legal difficulties.

### CONCLUSION

The characteristics and techniques of behavior modification must be understood and differentiated from other types of psychological and biomedical treatments currently used in our institutions in order to address correctly the ethical, philosophical, and legal issues raised. Jurists, legislators, behavior modifiers, and advocates of other psychological techniques must work together in order to formulate beneficial institutional care which does not infringe upon the rights of the individuals receiving treatment.

15. *Id.* at 8.

16. 344 F. Supp. 373 (M.D. Ala. 1972).

17. *Id.* at 381.

18. *Id.* at 383.

19. *Id.* at 380.