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An Empirical Study of the Ethics of
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Glenn Louis DeBiasi

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ATTITUDINAL BY-PRODUCTS OF BEHAVIOR MODIFICATION: AN EMPIRICAL STUDY OF THE ETHICS OF BEHAVIOR MODIFICATION

By

Glenn Louis DeBiasi

A DISSERTATION

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ABSTRACT

ATTITUDINAL BY-PRODUCTS OF BEHAVIOR MODIFICATION: AN EMPIRICAL STUDY OF THE ETHICS OF BEHAVIOR MODIFICATION

By

Glenn Louis DeBiasi

Behavior modification has been criticized as being a freedom-destroying tool. However, the basic principles of learning which it rests upon have received considerable empirical support from research with animals, clinical populations, and in the schools. Practitioners are beginning to use behavior modification in the work setting as another organization development tool. The fact that behavior modification changes overt behavior is well-established. But do internal, psychological changes also take place? And if so, with what effect? If it can be established that internal, psychological changes do occur, and that under certain conditions these changes enhance the individual's well-being, then behavior modification applied to an individual at work can be demonstrated to be a humane, ethical approach.

In this study seventy-five college students were assigned randomly to one of three conditions: a behavior self-modification intervention (group 1), a consciousness raising intervention (group 2), and a no-treatment control (group 3). For groups 1 and 2 a parallel was drawn between jobs in the outside world and the job of student. Groups 1 and 2 then employed their respective techniques to improve some aspect of their job. All groups completed a survey instrument of

six scales: self-concept, locus of control, machiavellianism, job motivation, job satisfaction, and quality of work life.

The general hypothesis was that behavior modification produces beneficial attitudinal by-products on the six scales mentioned.

Multivariate and univariate analyses of variance showed that 15 of 22 scales and subscales changed in a positive direction for group 1 and group 2 and 7 of 22 changed in a positive direction for group 3. However, the results were not statistically significant, and thus the hypothesis did not receive empirical confirmation.

Directions for future research were discussed and interesting scale intercorrelations were highlighted.

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operationalize the study in such a manner as to get an unambiguous answer, and (4) a graduate student learn to reinforce himself (in this case). His guidance was invaluable particularly in the "final days." His support and friendship was more than welcomed, especially prior to orals, a most traumatic event in many respects.

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CHAPTER I

BACKGROUND FOR THE STUDY

Introduction

Within the past decade the theory and practice of organization development (OD) has grown. The number of people practicing the art as well as the nature and range of the techniques employed has increased tremendously from the days when OD was synonymous with sensitivity training. New approaches include survey feedback (Hausser, Pecorella, and Wissler, 1975), management by objectives (MBO) (Raia, 1974), process consultation (Schein, 1969), job enrichment (Ford, 1969; Rush, 1971; Foulkes, 1969; Maher, 1971), grid OD (Blake and Mouton, 1969), interpersonal conflict resolution (Filey, 1975), job expectation technique (Dayal and Thomas, 1968), transactional analysis (Jongeward and contributors, 1973), as well as organization-wide OD such as the Scanlon Plan (Frost, Wakeley, and Ruh, 1974) and System 4 (Likert, 1967). This does not exhaust the list, but gives a sample of the variety and scope of interventions.

Within the last few years a new approach has been suggested as an OD tool. This new approach is called Organizational Behavior Modification (OBMod) (Luthans and Kreitner, 1975). The learning principles upon which it is based have received substantial empirical support in the animal laboratory through the work of behavioral psychologists (e.g., Ferster and Perrott, 1968), with people traditionally thought

of as neurotic and psychotic through the work of clinical psychologists (e.g., Paul, 1966), and in the field of education through the use of teaching machines and behavior modification in the classroom (e.g., McReynolds and Church, 1973). But effort is beginning on the adaptation of principles of learning (via behavior modification) to the work setting (e.g., Brown and Presbie, 1976; Brethower, 1972; Feeney, 1972).

Since considerable empirical research has established the validity of the principles of behavior modification (e.g., Bandura, 1969; Honig, 1966; Krasner and Ullman, 1965; Ullman and Krasner, 1965), the research focus has shifted to a concern for the range of behaviors to which they can be applied, how to adapt the learning principles to the work setting, and the ethics involved (Luthans and Kreitner, 1975). This dissertation addresses itself primarily to the last concern, ethical issues.

Behavior modification is a generic term which, in its broadest sense, refers to anything which "modifies" or changes the behavior of a living being. The possible techniques which serve this purpose range from psychosurgery and chemotherapy to everyday interpersonal interactions where reciprocal behavioral influence is manifest. For purposes of this study, however, behavior modification is defined as the deliberate application of Skinnerian principles of operant learning by one person to another or by a person to oneself.

The use of behavior modification has raised the issue of free will versus determinism. On a less philosophical level O'Leary and Wilson (1975) have this to say:

> Behavior modification is sometimes construed as a Machiavellian, freedom-destroying enterprise in which arbitrary therapeutic goals and values are imposed on relatively helpless clients. . . .

> Behavior modification is often indicted for supposedly denying individual freedom and for being a mechanistic, manipulative, and impersonal approach which deliberately sets out to control behavior.

The critical view is that, yes, behavior can be changed, but at a tremendous price. That price is the manipulation, coercion, and loss of individual freedom. The very dignity of the individual is threatened whenever behavior modification is used.

The question raised in this dissertation is: what are the internal, psychological by-products which accompany the use of behavior modification? Are people subjected to manipulation, coercion, and a loss of freedom? Is the dignity of the individual somehow threatened? Or, as Albert Bandura (1969) argues, is behavior modification the most effective means of promoting personal freedom and emotional growth because of its efficacy in enhancing the freedom of choice? The question is an extremely important one, and one that bears some resemblance to the issue of nuclear energy. Both are tools which can be used for the benefit of our culture or for tremendous wrongdoing. Both have large areas of gray, where we are uncertain whether the benefits outweigh the costs. ✓Behavior modification is essentially, a tool; a technology of behavior. From this perspective its use is ethically neutral; that is, it is neither good or bad in and of itself. It has the potential to destroy freedom or to enhance the freedom of the individual by providing the skills necessary for personal and professional growth.

While the critics and proponents of behavior modification contest each other in the freewill/determinism arena there are those who are actively engaged in its promotion and use in work organizations. The resultant behavioral changes are promising. But, critics would

ask, does this benefit the individual? Or are we unwittingly promoting the loss of our own freedom? Worse yet, does behavior modification deliberately maintain the status quo by providing a powerful tool which turns people into mindless automatons? Proponents would suggest that not using behavior modification deliberately retards emotional, personal, and professional growth by not providing people with the necessary behavioral tools.

This dissertation provides an exploration of these issues. Section I summarizes some meaning of freedom from a philosophical point of view, looks at the meaning of freedom proposed by behaviorist B. F. Skinner, and explores both criticism as well as support for the use of behavior modification. Section II operationalizes the concepts discussed in Section I and provides a rational for the dependent variables discussed in Section III. Section III reviews the literature on six areas: self-concept, locus of control, machiavellianism, job satisfaction, job motivation, and quality of work life.

The argument is made that behavior modification, as operationalized in this study, produces attitudinal by-products which are beneficial to the individual(s) involved and which support humanistic conceptions about the growth of the individual. If the approach is as harmful as its critics maintain, these benefits would not occur. Instead, there would be detrimental consequences. A behavior self-modification group will be compared with a consciousness-raising group, and a no-treatment control.

Section I: Freedom and Behavior Modification

"Behavior is a function of its consequences." This simple, and seemingly innocuous statement has raised a storm of controversy transcending the field of psychology. It directly contradicts previously cherished concepts explaining "why people do things." For years psychoanalytic tenets dominated not only the conceptions about human nature held by mental health professionals, but those held by the lay public as well. The psychoanalytic view held that our observations of people are merely outward manifestations of an inner nature. Behaviors are symptoms which give rough indications of what is going on inside the psyche. This inner nature, being largely unknown and unknowable is the true cause of behavior (O'Leary and Wilson, 1975). "Free will" was thought to exist to the extent that these underlying dynamics "motivate" or "influence" behavior, but do not "cause" or determine it.

B. F. Skinner, conceptualizing behavior from a different frame of reference, asserts that events external to the individual (e.g., rewards, threats, and punishments) shape the patterns of behavior that make up human personality. He gives no weight to "human nature" or the "inner man" as a scientific approach to the study of human behavior. Simple acts, such as getting a drink of water, can be broken into a chain of component behaviors (e.g., approaching a drinking fountain, lowering one's head, turning the handle, etc.) which lead to desired consequences (e.g., getting water in order to relieve one's thirst). Attaining this desired consequence increases the probability that under the same or similar circumstances the response will occur again. These behavioral concepts can be applied to more complex human behaviors, such as getting a job, developing an "attitude" and the like.

Abstractions such as needs, motives, and attitudes, are not a part of Skinner's approach because they do not lend themselves to investigation via the scientific method (i.e., they are not directly observable, quantifiable, and manipulable). Behavior and environment, however, are directly observable, quantifiable, and manipulable. Attributing the cause of human behavior to abstractions leads to obfuscation; it reduces the applicability of the scientific method; it ignores the voluminous amount of data which demonstrates that behavior brings consequences that, in turn change behavior. These consequences arise from events external to the individual (i.e., the environment); hence the environment controls behavior (Skinner, 1971).

Closely related to the idea of environmental determinants of behavior, and equally important, is the concept of "contingency"--the idea that a reward can occur only if some act preceeds it (Ferster and Perrott, 1968). Since people and animals continually do (i.e., behave) something (e.g., see, listen, feel, etc.), these behaviors produce a reaction from the environment, which in turn, influences the behavior. People learn many patterns of response which are instrumental in producing rewards. Those which produce no rewards or produce aversive consequences are discontinued. Only those consequences which are "contingent upon" the behavior influence that behavior.

Skinner's approach to the study of human behavior caused a storm of protest, for it directly challenges the idea that people are "free."

> "The chief source of man's dignity," Reinhold Niebuhr wrote, "is man's essential freedom and capacity for self-determination." Carl Rogers has asserted that "over and above the circumstances which control all of us there exists an inner experience of choice which is very important. This is the kind of thing Skinner has never been willing to recognize" (Time Magazine, September 20, 1971).

However, the issues raised by operant behaviorism (Skinner's term for his system) are not about the existence of freedom, but rather the meaning of freedom. "Is the person autonomous; that is, can he act independently of outside influences? What is the nature of choice? Is the person a helpless pawn among environmental forces? Can a full account of human behavior be cast within deterministic principles?" (Carpenter, 1974) as radical behaviorists like Skinner say? (Skinner, 1971); or is one to believe Platt (1973) when he states "Skinnerian objective determinism, like the determinism of most scientists today, does not and cannot include the total existential and subjective framework within which it has its validity." To help clarify the controversy the following is a summary of the various meanings of the concept of freedom and a brief critique.

Meanings of Freedom

I. Self-autonomy. The following six statements provide specific examples: Freedom is:

1. the exercise of choice without coercion.
2. doing whatever one wants to do regardless of consequences.
3. a feeling that arises from recognition of self-control.
4. an existential condition of a person who realizes one's true uniqueness and essential loneliness.
5. the ability to express dissent no matter how strong the coercion to do otherwise.
6. a conscious assumption that one makes about oneself in relation to one's aspirations within some context. The self-autonomy

definition of freedom assumes that one can carry out one's feasible plans if one so desires.

There are some problems with this definition of freedom. Those who advocate the free-will position offer no clear evidence that choice itself is undetermined by outer events. The argument that autonomy is a property of the self or the mind is made on intuitive grounds. Likewise, the determinists are not able to offer the final proof. They cannot describe the process of decision-making in objective terms with a satisfactory degree of completeness. What is going on inside the person is still a matter of conjecture.

II. Indeterminacy inherent in the universe. The following three statements provide specific examples: Freedom is:

1. the absence of determinism.
2. something necessarily implied by the fact that human behavior cannot be fully predicted.
3. the degree of latitude that one can exercise within the structure of natural and social laws.

When using the "indeterminancy inherent in the universe" definition of freedom the basic question becomes whether indeterminancy pervades all reality. For years determinism was unquestioned for classical physicists. Given all relevant variables they could predict the path of any particle during its entire future. Then the discovery of subatomic particles was made and determinacy was brought into serious question. Heisenberg came up with his now-famous theory of uncertainty which states that the future path of a particle cannot be predicted because one cannot know both the velocity and position at the same time.

The very act of observation alters the behavior of the particle so that it cannot be observed independent of the system of observation.

Everyone agrees on these facts--it is the interpretation which raises the controversy. The determinists say that uncertaintly is inherent in the methods of observation, not in nature. The opposition claims that because we have no way of knowing if position and velocity exist at the same instant we have no ground for actually believing that they both exist as simultaneous phenomena. The evidence does not and cannot support determinism.

The net result of the argument is that no solid ground exists which either supports or undermines the determinacy-indeterminacy argument. Because the problem extends beyond existing science the issue is basically philosophical.

III. Human growth function. The following are specific examples of this conception of freedom: Freedom is:

1. the act of avoidance of or escape from aversive situations.
2. the product of learning. The more knowledge and skills one has that can be used effectively the more freedom one has.
3. a derivative of power. The more power one has the greater their freedom, because as one's power increases the more personal desires they can translate into action.

Freedom as a human growth function is usually associated with learning and certain kinds of maturation. Freedom is thought of as any act that allows the person to surmount obstacles or that permits one to escape from or avoid unpleasant situations. In this view, problem-solving is a freedom-making process.

To gain freedom one must gain skills and apply them in appropriate fashion. If freedom depends upon learning and if learning is itself determined, then freedom is not autonomous. Many of the behaviorists, including Skinner, describe all learning as a determinist process. According to Carpenter (1974) this is its main weakness: some kinds of learning cannot be accounted for in such a manner; for example, creative thinking and problem-solving that require the integration of concepts to form general principles. One must therefore conclude at this point that in the evolution of the science of behavior, freedom and determinism are essentially areas of speculation.

IV. Basic trait of human cognition. This definition refers to a mode of awareness or state of mind. It is one of the natural ways we interpret personal experience.

Freedom as a basic trait of human cognition says that freedom is inherent in our perceptual apparatus, as a survival mechanism. We perceive ourselves as having control over the environment, rather than vice versa. A major problem with this version of freedom is that it is purely speculative and is probably impossible to test (Carpenter, 1974).

The four definitions just discussed are threaded through popular conceptions of freedom. In the following section Skinner's concept of freedom is clarified by pointing out the flaws in popular conceptions of freedom.

Skinner's Concept of Freedom

Skinner provides a well-thought-out criticism of popular notions of freedom. One of the most often cited definitions is "doing what one wants to do," the implication being that an expression of free

will is inherent in the statement. However, "wants," according to Skinner, are externally determined, as is obvious in cases such as "wanting a drink of water" (one "wants" it because one is thirsty) or "wanting a new car" (the old car is worn out, new cars have better features, etc.). The point is that the environment gives rise to "wants." Thus, "doing what one wants to do" is determined.

Another popular notion of freedom is the absence of controls on human behavior. To Skinner, the data simply do not support the position that controls on our behavior are "bad"--laws regulate society, parents restrain their children from engaging in dangerous practices, education is made compulsory. To Skinner people are a product of their environment. The problem is not to free people from control, but to free them from certain kinds of control. Control is not wrong; it is inevitable. The goal is to make the environment as free as possible from aversive control. Freedom can be attained, not by destroying the environment, but by redesigning it. For example, even the seemingly ultimate act of free will, suicide, is viewed as controlled by the existence of extremely aversive conditions without which it would not occur. If one accepts this determinist view, then, control should not be left to chance. It should be designed to get desired behaviors.

A third popular idea of freedom is that it is essentially a feeling. Skinner points out that the literature on freedom talks about "freedom from" something: "freedom from" slavery, "freedom from" oppression, "freedom from" painful events. The emphasis has been on how the condition "feels." Essentially it states that it "feels" good to behave under nonaversive situations, and it "feels" bad to behave under

aversive arrangements. Freedom is associated with a nonaversive situation in which the person feels good.

But is the person not being "controlled" under nonaversive situations? Skinner observes that feelings (accompaniments of aversive and pleasant contingencies) become unreliable when more subtle techniques of control (such as positive reinforcement) are employed. The freedom literature has never come to grips with this issue. The relevant dimension is not how one "feels." Feelings do not cause behavior. They can be thought of as by-products of behavior, perceptions, and cognitions. Freedom is best thought of as a matter of contingencies of reinforcement because it is able to account for nonaversive as well as aversive contingencies. The example Skinner uses to demonstrate how nonaversive contingencies also control behavior occurred in the 1930s when farmers were given payment for not producing. It was unlawful to compel them to stop producing as much, but it was acceptable to invite them to do so. However, the Supreme Court realized the control implicit in this act and ruled that "the power to confer or withhold unlimited benefit is the power to coerce or destroy" (p. 35). (As we are now aware this decision was later reversed because "to hold that motive or temptation is equivalent to coercion is to plunge the law into endless difficulties" (p. 36)).

As Skinner sees it human behavior is strengthened, maintained, or weakened by its consequences. While this is obvious with the use of aversive contingencies, it is less obvious but equally true with the use of nonaversive contingencies. Consider examples such as state run lotteries, prison inmates who "volunteer" to be subjects in dangerous

experiments in return for a quicker parole, or this one from Jean-Jacques Rousseau:

> Let the child believe that he is always in control, though it is always you (the teacher) who really controls. There is no subjugation so perfect as that which keeps the appearance of freedom, for in that way one captures volition itself. The poor baby, knowing nothing, able to do nothing, having learned nothing, is he not at your mercy? Can you not arrange everything in the world which surrounds him? Can you not influence him as you wish? His work, his play, his pleasures, his pains, are not all these in your hands and without his knowing? Doubtless he ought to do only what he wants; but he ought to want to do what you want him to do; he ought not to take a step which you have not foreseen; he ought not to open his mouth without your knowing what he will say (pp. 37-38).

Freedom is also viewed by non-Skinnerians as a possession, which can be gained or lost--when a dictator takes over a country people lose their freedom. When the dictator is overthrown one's freedom is gained. However, nothing is really gained or lost, according to Skinner, only the environment has changed. One has changed from an environment where contingencies are primarily aversive to one where they are primarily nonaversive.

In summary, Skinner's conception of freedom can be stated simply: Freedom is the arrangement of contingencies of reinforcement so that behavior results in nonaversive consequences (Skinner, 1971).

Critics of Skinnerian freedom have been many and varied. The next section summarizes the critics' major objections.

Theoretical Criticisms of Skinner's Concept of Freedom

Carpenter (1974) has expressed two main weaknesses in the Skinnerian argument about freedom:

1. Skinner relies too strongly on determinism. Skinner explains his empirical findings through a deterministic framework and through

the use of analogy and extrapolation extends his findings and the determinist framework beyond the laboratory. Although his reasoning is supported by experimental findings it is not known how far it can be stretched. What are the parameters of operant psychology? Because of Darwinian ideas we see human behavior as somewhat analogous to animal behavior. The laws should be the same. But "should be" and "actually are" are two different things. The weakness of extrapolation is that we do not know if human learning is composed of the same mix of variables as animal learning. Skinner has not made a concerted effort to identify variables unique to human learning. His extrapolations appear sound when applied to simple learning, but what about complex cognitive functioning such as analysis, evaluation, synthesis of concepts, etc.? The door is open for other possible interpretations. Perhaps not all classes of behavior can be accounted for through a determinist framework.

2. Skinner fails to acknowledge the freedom that is produced by cognitive processes.

Skinner's definition of freedom is a restricted one. It is freedom from undesirable events. What about another form of freedom known as "thinking"? This represents freedom to do things. New concepts and ideas provide new horizons, which act as cognitive maps guiding new behaviors.

Skinner's rebuttal is that principles of operant psychology have an exceptionally strong data base. They have held across many situations and subjects. There is no reason to assume that at some point the system would become inapplicable. "Fine tuning" may be required, but he can find no reason to suspect an entirely different set of principles to be operative. Being unable to account for behavior which appears to occur

through "free will" does not mean that a determinist system does not apply. It means that at this stage in the evolution of the science of behavior we are unable to account for the relevant variables. Traditionally, when this state of affairs has occurred causal references have been made to the "inner man." Skinner assumes determinism and can find no good reasons for doing otherwise.

Summary of Free Will/Determinacy Arguments

Philosophical arguments about whether people are "free" have provided no final answer. On a more testable level those who argue for a "free will" position provide many examples where they say deterministic principles cannot possibly operate. One argument says that since neither a complete belief in the autonomous, free person, nor unquestioned adherence to a determinist position can be accepted one should accept a form of compromise. There are parts of our world which are best explained as operating according to a deterministic framework (such as most areas of scientific activity) and parts best accounted for through a free will proposition (such as operations that make up daily life and social interaction because we can neither control nor predict all events). When prediction and control break down one is better off assuming a free will view of events. When prediction and control are possible a determinist position is operative (Carpenter, 1974). Others in this camp are even less willing to compromise and assert that people are "free."

Strict determinists assert that control is inevitable. The principles of operant behaviorism have withstood rigorous testing and there is no reason to assume that at some point they would break down. Determinism is assumed, even beyond the data.

Neither side has provided the final answer.

The next section extends the free will/determinacy argument to more practical, less philosophical concerns: behavior modification. Because behavior modification is based upon principles of operant psychology it too has received substantial criticism as being manipulative, exploitive, coercive, and controlling.

Criticisms of Behavior Modification

Behavior modification is the application of the principles of learning, in this case operant principles, to various human situations. The issue of free will versus determinacy is inherent in its application. A strong critic of behavior modification (Fry, 1974) has termed Organizational Behavior Modification "Behavioral Taylorism." He says that both systems break behavior into its component parts and then reward what the controllers deem appropriate.

> In both situations, the individuals respond strictly because of the incentives (or avoidance of Punishment). Responses are made without cognitive acceptance of the task. Most modern management theories, however, hold that higher levels of performance should be gained through rational acceptance of tasks, rather than through the use of rewards and punishments.

Fry (1974) sees OBMod as an inherently autocratic method of managing. In it one person (presumably the one with the greater power) does something to another person, with or without their consent.

The following sentence appeared in an article in "Time" magazine (September 20, 1971): "As a leader of the 'behavioristic' psychologists, who liken man to machine . . ." (underlining mine). Again we see the idea of one person in power manipulating another at will, and the mechanistic view attributed to this technique. The machine does not

proact, it merely reacts. It has no control over its own behavior. Its fate is in the hands of another.

Novelist Arthur Koestler calls behaviorism "a monumental triviality that has sent psychologists into a modern version of the Dark Ages." "In ignoring consciousness, mind, imagination, and purpose," Koestler says, "behaviorist Skinner and his admirers have abandoned what is most important." In a like manner Peter Gay, a historian, speaks of the "innate naivete, intellectual bankruptcy, and half-deliberate cruelty of behaviorism" (underlining mine). Herbert Kelman, a Harvard social psychologist, has said "for those of us who hold the enhancement of man's freedom of choice as a fundamental value, any manipulation (underlining mine) of the behavior of others constitutes a violation of their essential humanity, regardless of the goodness of the cause that this manipulation is designed to serve." "The ethical ambiguity of behavioral manipulation is the same whether the limitation on choice comes through punishment or reward or even through so perfect an arrangement of society that people do not care to choose."

Rollo May believes Skinner is an unknowing totaliterian. He says "I have never found any place in Skinner's system for the rebel. Yet the capacity to rebel is of the essence in a constructive society" (Time Magazine, September 20, 1971). Note the coercive properties May implies to behavior modification.

While behavior modification has received substantial criticism like the comments just presented, it also has its ardent advocates, and is in wide-spread usage today. The next section details some of the arguments put forth by supporters of behavior modification.

Support for Behavior Modification

Behaviorists argue that control is already deliberately applied in our governmental laws, compulsory education, child rearing practices, etc. Organizations in particular have never hidden the fact that deliberate manipulation of people is a way of life. However, words such as "manipulation: are not employed." Instead we read about "lead," "influence," "manage," "discipline," "persuade," "motivate," "direct," etc. (Luthans and Kreitner, 1975). What could be a more deliberate type of control? The problem is that control is often viewed as unidirectional. Management "manages" (read "controls") the workers. It is always viewed within the context of management doing something to the workers to help fulfill the goals of the company, established of course, by other "managers." Because of this one-sided control workers have set up counter-control measures such as unions and collective bargaining. Deliberate control is extensively employed in work organizations and has been throughout history. As the next paragraph details, this control has been primarily aversive.

The argument has been made that ours is a punishment-oriented society (Skinner, 1971; Wheeler, 1973). Beginning with Jeremy Benthem's "Theory of Legislation" unwanted behavior was prevented by punishment. While this represented an improvement over past methods of dealing with those who dare violate society's rules (criminals were often killed) we have now progressed to the point where this too has become outmoded. Behavior modification is viewed by its advocates as an improvement over current practices; one that leads to a reward-oriented, humane world. The pleasure-pain principle is no longer an effective control of social behavior. Research on punishment details a number of undesirable

side-effects associated with the use of aversive contingencies and provides support for the use of behavior modification because of BM's orientation to rewarding desired behavior rather than punishing undesired behavior. These undesirable side-effects are:

1. Punishment does not eliminate behavior, but merely suppresses it temporarily. As long as the punishing contingencies are operative the behavior in question does not appear. However, upon removal of the aversive contingencies the behavior often reoccurs. Within an organization this can be seen as an inefficient way of controlling behavior. Punishing contingencies must continually be in force, thus perpetuating all the undesirable side-effects.
2. Punishment generates escape or avoidance behaviors. The experimental literature includes many examples of this. Thinking about this in "common sense" terms we know that it just is not pleasant to be around people who look for the undesirable and punish it rather than looking for the desirable and reinforcing it. Common escape or avoidance behaviors in organizations include absenteeism and turnover. Thus, in organizations in which use of punishment predominates one can expect to find high absenteeism and turnover rates. An outstanding example is the automobile assembly line which has many aversive properties inherent in the jobs themselves.
3. Punishment breeds aggression. If escape or avoidance is not possible and the aversive situation continues one can expect to find many instances of hostility, "bad attitudes," etc. The aggressive behaviors can be "displaced." Thus, in organizations

we see high grievance rates, high accident rates, and uncooperative people with "bad attitudes."

4. People become less predictable when punishment is employed. Punishment tells people what not to do, rather than what to do. The door is open for a host of diversified behaviors, many of which are neither adaptive (for the individual or for the organization), nor desirable.
5. Use of aversive contingencies generates emotional responses which are disruptive to other behaviors. When using negative reinforcement a paradoxical situation arises because the aversive stimulus which is needed to reinforce some operant behavior also disrupts that same behavior. When using punishment other cues (such as the person administering the punishment, the place where it occurs, etc.) take on the aversive properties associated with punishment. One feels anxious when around those cues even if punishment is not being administered (Solomon, 1964; Church, 1963).

Punishment is not totally ineffective in bringing about long-range positive consequences. It can act as a discriminative stimulus: "whenever punishment is differentially associated with reinforcement, a discriminative property will probably influence the effectiveness of the punishment" (Holz and Ayrin, 1962). If punishment is associated with positive reinforcement, positive behaviors may be further enhanced; if it is associated with non-reinforcement if may decrease behavior (Church, 1963).

Considering the serious drawbacks to use of punishment, however, behavior modification, because of its orientation to rewarding desired

behavior, rather than punishing undesired behavior represents a significant improvement in our quest for a more "free," humane world. People in applied settings have also noted the wide-spread use of aversive control of behavior, its deleterious consequences and have recommended alternatives.

Aldis (1961) observes that most workers are primarily under negative reinforcement systems (use of threat; e.g., "show up for work on time or be fired") and suggests switching to systems employing primarily positive reinforcements. "In one form or another intentional aversive control is the pattern of most social coordination--in ethics, religion, government, economics, education, psychotherapy, and family life" (Skinner, 1971). In an experiment conducted within a school system (Psychology Today, March, 1974) grade school students were taught to positively reinforce certain desirable teacher behaviors (example: "when you take your time to patiently explain to me how to do this I learn much better"). "Many of the teachers felt that the engineering by the students created a more positive working environment," not to mention substantial behavioral changes on the part of both the students and the teachers. This is one of the major ideas behind Skinner's "Utopian Society."

> When we make the world less punishing or teach people how to avoid natural punishments, as by giving them rules to follow, we are not destroying responsibility or threatening any other occult quality. We are simply making the world safer. . . . The need for punishment seems to have the support of history, and alternative practices threaten the cherished values of freedom and dignity. . . . Yet there are better ways . . . (Skinner, 1971).

One of the main points of Walden Two (Skinner, 1948) was to design a community employing behavioral science technology to minimize aversive environmental and social stimuli and maximize the use of positive

reinforcement for desired behavior. This is, in fact, Skinner's definition of freedom: arranging contingencies in such a manner that behavior results in nonaversive consequences (Skinner, 1971).

At the heart of the control issue is who will be the beneficiary of the control.

> Social situations have long been manipulated both practically and deliberately. Ever since Machiavelli, and perhaps before, there has been a fear of the control and manipulation of one person's behavior for the benefit of another (underlining mine) (McGinnies and Ferster, 1971).

Controlling another person's behavior for purely selfish reasons is most often unethical. But Skinner has said "Man's natural inclination to revolt against selfish control has been exploited to good purpose in what we call the philosophy and literature of democracy" (Rogers and Skinner, 1956). Behavior modification is the science of behavior technology, and, as such, is ethically neutral on this point. A real concern is that this technology (as with all technologies) can be used in an exploitive manner. The issue of control should not be confused with the technology itself. Behavior modification cannot justly be labeled unethical per se, but its misuse can become unethical (Luthans and Kreitner, 1975).

If one accepts that behavior is a function of its consequences then these principles operate regardless of the degree of awareness of the people involved. To the extent that an individual is not aware of the contingencies that person is controlled by the environment. More control is placed in the hands of the individual when he/she is aware of the principles of behavior and the contingencies involved (i.e., when one uses behavior modification). Now the individual controls the environment, not vice versa. This follows from the definition of

freedom as a human growth function and from Skinner's definition of freedom as the intentional arrangement of contingencies so that behavior leads to nonaversive consequences.

It has been argued that behavior modification is an ethical, freedom-enhancing tool. This dissertation puts this argument to a test. The next section provides a way of operationalizing "ethical" and "freedom-enhancing."

Section II: Operationalizing the Concepts

Terms such as "ethics" and "freedom" do not lend themselves to empirical verification and must be translated into testable terms. They have been operationalized in this study according to the rationale which follows.

Considerable support is provided for the efficacy of behavior modification changing behavior (e.g., Honig, 1966; Allyon and Azrin, 1968; Skinner, 1954). Bandura (1969) provides evidence that internal (psychological) changes also occur when behavior modification is employed. If behavior modification is a manipulative, coercive, freedom-destroying tool, as its critics claim, then one would expect the psychological well-being of the individual to decrease. There is evidence to suggest however, that psychological well-being is enhanced when behavior modification is employed. To the extent this is true behavior modification can be viewed as ethical and freedom-enhancing and the views of critics have no basis in fact.

Bandura (1969) provides three explanations for the internal changes which accompany behavioral ones. First, when a behavior is reinforced the reinforcement effects may generalize across similar

classes of behavior, with the result that the frequency of corresponding verbal responses increases. Cognitive equivalents of the reinforced overt behavior are also effected even though they have never been directly involved in the reinforcement contingency. Second, a change in behavior provides the person with new experiences with the object of the internal state. Information gained from these new social interactions can in themselves produce substantial reorganization of attitudes. Third, task experiences can exert strong influence upon an individual's attitudes. Attitudes induced by success tend to generalize to related types of activities and to abstract preferences. Bandura goes on to say that these ". . . cognitive consequences that undoubtedly accompany behavioral modification have rarely been systematically assessed."

The internal states which are explored in this study include locus of control (Levenson, 1974), self-concept (Cutick, 1962), machiavellianism (Christie and Geis, 1970), job satisfaction (Brayfield and Rothe, 1951), job motivation (Patchen, 1965), and a modified version of a quality of work life scale (General Motors Corporation, unpublished scale, 1977). These six areas were chosen because they are widely regarded as indicants of psychological well-being. The general hypothesis of the study is that behavior modification is accompanied by attitudinal modification in the direction of increased psychological health.

Section III: Literature Review

A number of specific hypotheses follow from the general one. Literature is reviewed on how behavioral changes effect each of the six dependent variables. The hypotheses follow from research done up to this time.

Locus of Control

A personality variable which has received considerable attention in the past twenty years is locus of control. This construct is based upon Rotter's (1954) social learning theory stating that the potential for any behavior to occur in a given situation is a function of the person's expectancy (underlining mine) that the given behavior will secure the available reinforcement (Lefcourt, 1966). Note the word "expectancy," for locus of control is a perceptual phenomena. It deals with the perception of a contingency or relationship between a behavior and a reinforcement. Usually, there are two ends of a single continuum which describe locus of control:

> (1) The generalized expectancy of internal control refers to the perception of events, whether positive or negative, as being a consequence of one's own action, and thereby potentially under personal control. (2) The generalized expectancy of external control, on the other hand, refers to the perception of positive or negative events as being unrelated to one's own behavior and thereby beyond personal control (Lefcourt, 1976).

In Lefcourt's recent (1976) book on research in this area he used phrases such as the following: "'If one feels helpless . . .' 'When one believes that . . .' 'The perception of control . . .' 'The interpretation of the causes of those behaviors . . .' '. . . it is concerned with our beliefs . . .'" (underlining mine). He captures the essence of the construct with the following sentence: "With the locus of control construct we are dealing with a person as he views himself in conjunction with the things that befall him and the meaning that he makes of those interactions between his self and his experiences" (Lefcourt, 1976).

Locus of control correlates with a variety of aspects of mental health, competence, and positive social adjustment. Phares (1976) notes in his review of the construct that an internal locus of control may be

a prerequisite of competent behavior, and that an external control orientation is common to those who do not function in a competent or "healthy" manner. Internals are superior in their efforts at coping with and gaining a measure of control over their environment. They recognize more information, retain and utilize it better, and are generally more effective in the broad realm of cognitive processing. Academic success and achievement are superior to that of externals. They show a greater capacity to delay gratification. They are more independent and more reliant upon their own judgments. They are less easily influenced. They cope better, are more resistant to influence, and are more achievement oriented (Phares, 1976). Internals are more likely to describe themselves as active, striving, achieving, powerful, independent and effective. Externals see themselves as the opposite of this. Internality is consistently associated with indexes of social adjustment and personal achievement (Hersch and Scheibe, 1967). The more internal the individual the better her/his self-concept (Fitch, 1970), the less anxiety (Strassberg, 1973), and the fewer are other indices of maladjustment (Ducette and Wolk, 1972). One study even found that internals are more successful as behavior modifiers (i.e., knowledge of BM principles and use of BM with retardates (Grotjan, 1972)). Lefcourt (1966) notes that one of the goals of psychotherapy often is to help the client become more internally oriented.

These findings suggest that one's internal-external control orientation is quite important. Thus, a necessary question is how to change an individual's control orientation from external to internal. From the miriad of studies done, relatively few have dealt with this question.

> . . . we know little about how to induce changes in locus of control beliefs. Only the broadest outlines are visable now . . . we must learn more specifically how to do this, with what kinds of people various changes are possible, under what conditions, etc. (Phares, 1976).

In this sense, one would be treating locus of control as a dependent variable. Most studies look at the effects of locus of control on some factor, treating it as an independent variable. But, is locus of control a personality trait, subject to manipulation?

> It seems that I-E scores (reflecting the subject's locus of control) can be altered by a range of conditions. These conditions include, on the one hand, very specific influences whose effects may be transitory, and narrow, and on the other hand, changes that have more pervasive, permanent effects on behavior . . . (Phares, 1976).

> Research with both naturally occurring and contrived events has revealed that locus of control scores assessed by scalar and/or behavioral means are susceptible to influence (Lefcourt, 1976).

What conditions have produced changes in locus of control? Psychotherapy, ranging from a Rogerian approach to a behavior modification one, fosters the growth of internality (Phares, 1976). A number of non-behavioral approaches have been employed to help an individual become more internal. Parks and Becker (1975), used 18 college students for 8 one-hour sessions over 4 weeks. They used a technique called "Eliminating self-defeating behavior," to help shift those subjects towards a more internal orientation, as measured by Rotter's I-E scale (Rotter, 1966). The change was still present four months later. Hagmeier (1973) treated ninety-three Department of Vocational Rehabilitation subjects to a Born to be Great program which lasted five weeks. Subjects became significantly more internal. "The results were interpreted to indicate that a disabled person's control of orientation can be changed through a relatively brief training program." Carter (1973) treated adult students working toward their GED in a learning lab.

Those who completed the program showed a significant decrease in externality. DeCharms (1972) used "personal causation" training to help black teachers from inner-city schools with black pupils who were largely from lower-class homes. This training helped the individual "(a) to determine realistic goals for himself; (b) to know his own strengths and weaknesses; (c) to determine concrete action that he can take now that will help him to reach his goals; and (d) to consider how he can tell whether he is approaching his goal, that is, whether his action is having the desired effect." Training was conducted over several years with individuals becoming steadily more internally oriented. Foulds (1971) found that college students who were engaged in quasi-group therapy which emphasized affective expression, awareness of personal freedom and responsibility became more internal on Rotter's I-E scale. Foulds, Guinan, and Warehime (1974) repeated this with an experiential-gestalt orientation with the same results. Diamond and Shapiro (1973) used it with encounter groups and found that the control groups remained stable, whereas the experimental group became more internal. Gillis and Jessor (1970) worked with hospitalized psychiatric patients and found that those who received help from the experience became more internal.

A number of behavior modification approaches have taught individuals to be more internally oriented. Nowicki and Barnes (1973) worked with seventh, eighth, and ninth grade black inner-city students, who applied contingent reinforcement to cooperative group tasks in a 5 1/2 day camping and education experience. "The overall attitude of the program was to emphasize structured working together to accomplish goals." The Nowicki-Strickland locus of control scale indicated a significant shift toward internality as a result, with a longer camp

period resulting in a positive shift. These changes were attributed to the challenge of the tasks as well as the contingent reinforcement. It is interesting to note the following:

> These changes were found with a general measure of locus of control on items that were not specific to the camping experience itself. It is suggested that the camping experience made the youngsters feel more in control of events and better able to see the connection between their behavior and the results of their behavior in terms of reinforcement.

Lesyk (1969) found that schizophrenic women became more internal as a result of participating in a behavior modification program. Eitzen (1974) tested twenty-one juvenile delinquent boys who were residents in "Achievement Place," a home which employed a token economy system. They found shifts towards internality after four and nine months, as well as at the end of their stay. This trend occurred with different sets of teaching parents, indicating that the token economy system is not related to the unique skills of particular teaching parents.

Reimanis (1974) subjected first and third grade students to teacher-directed behavior modification. The five experimental subjects became more internal as measured by the Rotter scale after three months of weekly counseling sessions with teachers, while control subjects showed no significant change. At the end of the experiment the experimental subjects appeared to know and be interested in what they were doing. They were more involved in class projects and the teachers could rely on them more. In a second study, Reimanis had college freshman engage in nondirective group counseling to get them to talk about themselves. The experimental subjects became significantly more internal, while the control group did not. "Thus, it may be concluded that counseling procedures oriented toward strengthening the perception of

behavior-effect contingencies produced significant increases in internal control as measured by Rotter's I-E scale." In his third study, he used college freshman and sophomores. Six groups were trained in achievement motivation during one week while four groups were trained in the same over two weekends. Subjects became significantly more internal. Males maintained this internality after seven months, whereas females did not.

> Altogether, Reimanis' three studies are suggestive in that they each reveal changes in locus of control scores and behaviors relevant to locus of control. However, each of these three studies contains weaknesses: small sample sizes, possible experimenter bias effects, and "Hawthorne effects," which prohibit the drawing of clear conclusions. Only in conjunction with other investigators do Reimanis' studies gain credence as demonstrations of changing perceptions of controls (Lefcourt, 1976).

Dua (1970) compared three treatment conditions: (1) behavior, action-oriented therapy, (2) reeducative psychotherapy, and (3) a no-treatment control. She used female university students who were unable to relate to others. In a posttest six weeks later with Rotter's I-E scale, those who received the behavior treatment showed a significant increase in internality. Furthermore, this group's posttreatment scores were significantly more internal than the other two groups. Those in the reeducative group became more internal, but did not differ significantly from untreated controls. Part of the reason attributed to the change in the behavior group was cognitive rehearsals and consideration of alternatives.

> It can be concluded that the more action-oriented therapies which stress the learning of and effecting of contingent results seem to be the optimal approaches for changing clients' perceptions of causality. Whether these findings derive from the more clearly explicated task demands or therapist expectancies is not evident at the moment. Though this author is prone to accept the suggestion that behavior modification procedures aimed at increasing contingent awareness are apt to be effective at shifting clients' perceptions of control, there will remain gnawing doubts that can only be assuaged by more extensive and precise research . . . (Lefcourt, 1976).

The following section describes the instrument used to measure locus of control.

Description of the scale.--Most studies have used Rotter's (1966) Internal-External (I-E) scale to measure the extent to which people believe they exercise control over their lives (internally controlled) or the degree to which they feel their destinies are beyond their own control and determined by fate, chance or powerful others (externally controlled). "However, several investigators (Gurin, Gurin, Lao, and Beattie, 1969; Lao, 1970; Mirels, 1970) have presented empirical evidence indicating that the I-E scale is not unidimensional . . ." (Levenson, 1974). Joe (1971) and Lefcourt (1972) also suggest that the I-E scale requires further refinements. Levenson (1974) constructed an internal-external scale which has three dimensions: Internal (I), Powerful Others (P), and Chance (C), stating that

> . . . people who believe the world is unordered (chance) would behave and think differently from people who believe the world is ordered but that powerful others are in control. . . . Furthermore, it was expected that a person who believes that chance is in control (C orientation) is cognitively and behaviorally different from one who feels that he himself is not in control (low I scale scorer) (Levenson, 1974).

In constructing and validating this scale, Levenson used several populations: male and female adults in a southwestern metropolitan area and male undergraduates in an introductory chemistry class. The IPC items differ from the I-E items in the following ways: (1) they used a Likert 5-point scale instead of the forced-choice format so that the three scales are statistically independent of one another; (2) all statements on the IPC scale are phrased so as to pertain only to the subject rather than "for people in general"; (3) there are no references made which would assume modifiability of the issue; (4) the three scales have a high

degree of parallelism in content among each trait. Item analysis show that all items significantly distinguish between high and low scores for each of the three scales. Correlations between the Marlowe Crowne Social Desirability Scale (1964) and each of the items were all very near 0.00, the highest being only .19. Coefficient alpha was .64 for the I scale, .77 for the P scale, and .78 for the C scale. Spearman-Brown estimates were .62 for the I scale, .66 for the P scale, and .64 for the C scale. Test-retest reliabilities for a one week period were .64, .74, and .78 respectively. "Conceptually and empirically, the tripartite division of expectancies for control adds to the usefulness of the locus of control dimension" (Levenson, 1974).

Two aspects make the present study different from the ones just reviewed: (1) it employs a different type of behavior modification approach; namely, self-modification, and (2) it uses a three-dimensional measure of locus of control (Levenson, 1974) rather than the one-dimensional scales employed in the other studies.

The above review suggests the following LOCUS OF CONTROL HYPOTHESES: Hypothesis 1: The behavior self-modification group will become more internal, and less controlled by "chance" and "powerful others." Hypothesis 2: The consciousness-raising (CR) and control groups will not change on any locus of control measure.

Self-Concept

The term "self-concept" has not been used consistently in the literature. Terms such as self, self-presentation, self-evaluation, self-estimate, identity, self-awareness, self-perception, self-image, self-esteem, and self-description are also found. The term refers to

the factors contributing to and the way in which one perceives oneself in relation to the world and one's behavior in that world (Bobson).

Several authors have commented on the fact that there are relatively few studies which test the hypothesis of behavior change fostering self-concept changes (Morrow, 1974; Oziel and Berwick, 1974). A study by Sopina (1971) hypothesized that "conditions which facilitate behavior change in a well-structured, positive reinforcement-oriented behavior modification program are also those conditions which lead to concept acquisition and attitude change." She compared high school students in a behavior modification program with high school special education students and normal students who received no treatment. Differences in self-concept changes approached, but did not reach significance. She also showed that "changes in attitudes towards self were relevant to the behavior changes. Subjects who increased positive behavior also responded with a more favorable attitude toward themselves in the same area of functioning. More negative behavior was related to more negative attitudes towards self." Gibby and Gibby (1967) found that self-concept declined in seventh graders immediately after they were told they had flunked a test. Pepitone (1964) found that subjects who were told they scored low on an "inverse creativity" test decreased in self-esteem. Callison (1974) found that third grade students who were told they performed poorly on a test decreased in self-concept. Those who were told they did well showed no change. Carter (1973) taught sheltered workshop skills to fifty male retardates. He found increases in production, vocational adjustment and self-evaluation. "A possible implication of the research was that the creation of a positive

environment contributed to a client's improved self-image which perhaps also led to a higher production and a better work adjustment." One study had three groups of sixth graders: one that received verbal positive reinforcement, one that received verbal negative feedback, and one that received monetary reinforcement. Self-concept significantly improved for all three groups (Samples, 1971). Wahler and Polio (1968) found that behavior changes produced in a boy through selective social reinforcement altered favorably his evaluations of himself and others. Eitzen (1975) found that juveniles in a residential token economy setting improved their self-esteem as a result of the behavior modification program.

Not all studies, however, reach the same conclusions. Stevenson (1974) expected, but did not find changes in self-esteem with psychiatric hospital patients involved in a token economy program. Certain patients in a token economy program whose behavior did not improve with treatment did improve in reality testing. When this happened they became less satisfied with the hospital and with themselves. As contrasted with others in the hospital they became less accepting of institutionalization. Gallaher (1974) used a behavior change model with student licensed practical nurses over a five-week period with twenty-four sessions. While behavior did change, self-esteem did not. Oziel and Berwick (1974) tested the hypothesis that undergraduate students would increase in self-acceptance when self-reinforcement increases. One scale (Berger, 1952) found that those people low in self-acceptance increased on this dimension following an increase in self-reinforcement. However, on the California Psychological Inventory they found no changes in self-acceptance. In fact, they found a trend which showed that subjects low

on self-acceptance actually decreased further following positive conditioning. One explanation is that low self-acceptance subjects could not accept positive feedback because it created dissonance with their own self-perceptions. Bruyere (1975) compared client-centered counseling groups, behavioral group counseling, placebo group experience and no group experience. She found that "the client-centered, behavioral and placebo groups demonstrated stability (i.e., no change) of self-concept and constructive personality change while the control group demonstrated lowered self-concept and personality deterioration." She also noted that "a change in self-perception did not necessarily result in observed positive changes in behavior." Morrow (1974) tested the hypothesis that "successful teacher and parent-mediated behavior modification, by operant techniques of youngster's deviant behavior would tend to be followed by significant positive changes in the youngster's self-concept." However, he found no significant changes in self-concept associated with use of behavior modification. One reason he offers is that environmental and behavior changes were not sufficiently potent and salient to the subjects to produce significant generalized positive changes.

This brings up a salient point: how potent do environmental and behavioral changes need to be in order for self-concept to improve? One might assume, as some authors have suggested, (e.g., Morrow, 1974; Eitzen, 1974) that the more pervasive the environment and the more important the behaviors the more effect it should have on self-concept. However studies by Gibby and Gibby (1967), Pepitone (1964), and Callison (1974) demonstrated self-concept changes following negative feedback which occurred in less than one day. The question is still unresolved.

While it is hypothesized that self-concept changes are by-products of the use of behavior modification, empirical results have not resolved the issue.

Description of the scale.--The original scale was devised by Cutick (1962) according to the following rationale summarized by Diggory (1966): "people evaluate themselves as goal-achieving instruments." The scale, called the "self-description inventory," consists of sixteen items which assess the categories of winning respect from others, the ability to make decisions and perform efficiently, physical skill, appearance, and school. It is approximately balanced for response bias. Each statement refers to functioning in a concrete area and is answered on a 0 to 100 percent scale. Research with this scale usually employed college students. Test-retest reliability was .79 for both 87 males and 80 females over a three month period. Ziller et al. report validity correlations for the Cutick-Diggory version with the Bills scale of .60 (for males) and .29 (for females) and with the Coopersmith scale of .37 and .23. Shrauger reports correlations of .44 (for males) and .22 (for females) for the more recent longer version with the Bills acceptance score. The longer scale also correlated -.26 with the Rotter internality-externality scale (esteem related to internality) and -.42 with anxiety (high esteem related to low anxiety) for about 365 females. The long scale has discriminant validity coefficients of .20 with the Marlowe-Crowne social desirability scale for 365 females (Robinson and Shaver, 1969).

The above review suggests the following SELF-CONCEPT HYPOTHESES:

Hypothesis 3: The behavior self-modification group will significantly improve in self-concept. This prediction results from the idea by

Sopina (1971) that behavior modification techniques which foster positive behavior changes are the same conditions which foster positive self-concept changes. Hypothesis 4: There will be no significant change on self-concept for either the consciousness-raising group or the control group.

Machiavellianism

According to Robinson and Shaver (1969) Machiavellianism "attempts to tap a person's general strategy for dealing with people, especially the degree to which he feels other people are manipulable in interpersonal situations." Critics of behavior modification have speculated that people may learn to become more manipulative and deceptive as a result of participating in a behavior modification program.

Christie and Geis (1970) treat machiavellianism almost exclusively as an independent variable. The question of the determinants of high or low machiavellianism is not dealt with. In fact, the authors state:

> There are no hard data indicating the causes of individual differences. . . . It is suggested that some manipulative behaviors are learned at an early age by being rewarded unintentionally by parents, peers, and mass media. The one safe conclusion is that the marked individual differences in machiavellianism are attributable to a very complex social learning process, and that the parameters have not yet been clearly identified (Christie and Geis, 1970).

There is one behavior modification study, however, which has dealt with machiavellianism as a dependent variable. Eitzen (1975) tested the hypothesis that people learn to become more manipulative as a result of being part of a behavior modification program with a group of twenty-one 12-15 year old juvenile delinquents who were residents of "Achievement Place," a residential treatment center based on the token

economy system. He found there were no changes on machiavellianism at four and nine months, and again when the individual left the program.

> This "no-difference" finding is in fact a favorable one for this technique, since it negates the criticism often charged that the objects of behavior modification will become more manipulative in their social relationships as a consequence of their being manipulated.

However, the question raised at the end of the study was whether the results obtained were a function of the treatment model or the result of placing troubled boys in a stable environment with caring "parents."

Procuik and Breen (1976) looked at the relationship between the Mach V (Robinson and Shaver, 1969) and Levenson's (1974) measure of locus of control. They found that machiavellianism was significantly related to "Powerful Others" on Levenson's scale (r=.41), but was not significantly related to "Chance" (r=.09), or "Internality" (r=.01). This finding occurred for males only. For females there were no relationships between machiavellianism and the three measures of locus of control.

Description of the scale.--The original items were drawn from the writings of Machiavelli (The Prince and The Discourses). The final form, which contains 20 items, is in a standard 6-category Likert format (agree strongly being scored 7, no answer 4, and disagree strongly 1). A constant score of 20 was added to make the neutral score 100, the lowest possible machiavellian score 40, and the highest 160. The average item-test correlations for the items was .38; split-half reliabilities averaged .79. A factor analysis revealed three major factors with item loadings of at least .25. They are: duplicity (items 7,6,9,10,15,2,3), negativism (items 8,5,12,13,1,18,20), and distrust of people (items 4,14,16,11). Many validity studies have been performed.

". . . in 12 or 13 instances in which face-to-face contact, lattitude for improvisation, and irrelevant affect were all judged present, the high machs won more, were persuaded less, persuaded others more, or behaved as predicted significantly compared to low machs . . . in seven of the nine cases in which two of the variables were present, high machs did better" (Robinson and Shaver, 1969).

> In most samples the reliability of Mach V hovers in the .60's. At first glance this is not overly impressive, although it is high enough to separate sheep from goats in some experimental situations. . . . The elimination of both response set and social desirability tends to decrease scale reliabilities. If our concern had been to construct a scale with higher internal consistency, this could have been done easily. We were more interested in devising a scale which would make meaningful discriminations among individual's behavior. For this reason an attempt was made to minimize the effects of such possibly extraneous variables as response set and social desirability. . . . The decision was not to worry about psychometric perfection but to find out if the scales had any relevance to the respondent's behavior (Christie and Geis, 1970).

Studies have not looked at the relationship between behavior self-modification and machiavellianism. From the studies reviewed above, the MACHIAVELLIANISM HYPOTHESIS is derived: Hypothesis 5: There will be no change on machiavellianism for any of the three groups.

Job Satisfaction

The nature of the relationship between performance and satisfaction has been explored from three theoretical positions. The first one states that ". . . management has at long last discovered that there is greater production, and hence greater profit when workers are satisfied with their jobs. Improve the morale of a company and you improve production" (Schwab and Cummings, 1970). This says that "a happy worker is a productive worker," and is associated with the human relations school. It is largely unsupported.

The second position postulates that ". . . good performance may lead to rewards, which in turn lead to satisfaction" (Schwab and Cummings, 1970). This says that "a productive worker who receives rewards is a happy worker." This position, best represented by the work of Porter and Lawler (1968) has received empirical support.

It is the third position, however, that the hypothesis of this study will be derived. While the first two positions posit a causal relationship between performance and satisfaction, the third one says there is no inherent relationship between satisfaction and performance, and that one can produce about any empirical relationship between task performance and self-reports of satisfaction that one wishes (Cherrington, Reitz, and Scott, 1971). To arrive at this statement one must treat self-reports of job satisfaction as another class of behaviors, rather than an index of an underlying state endowed with special causal powers. The problem then becomes one of discovering the conditions under which the self-report behaviors and performance are correlated or independent. From this theoretical perspective Cherrington, Reitz, and Scott (1971) hypothesized that satisfaction is directly influenced by rewards, performance is directly influenced by performance-contingent rewards, and there is no inherent relationship between satisfaction and performance. They had ninety female and male undergraduates enrolled in a junior level business course perform a task for one hour. Then, they gave a monetary reward to 21 of 42 high performers, and 21 of 42 low performers who then filled out self-report measures of satisfaction and performed the same task for another hour. Correlations between satisfaction and second-hour productivity for all Ss was 0.00. However, significant positive correlations were found between satisfaction and high performers who were

rewarded, and between satisfaction and low performers who were not rewarded. Significant negative correlations were found between satisfaction and low performers who were rewarded, and between satisfaction and high performers who were not rewarded. Thus, rewarded subjects were significantly more satisfied than unrewarded subjects. Furthermore, when Ss were rewarded for high performance both performance and satisfaction were high.

Greene (Steers and Porter, 1975) found that merit pay was a cause of satisfaction. In addition, there were significant relationships between merit pay and subsequent performance, and between current performance and subsequent merit pay.

Orpen (1974) used 225 black, South African factory workers, and randomly assigned them to one of three reward conditions: HC (high contingent rewards), LC (low contingent rewards), and NC (noncontingent rewards). Results supported the hypothesis that there is no inherent relationship between satisfaction and performance. If reward is contingent upon good performance there will be a positive relationship between performance and satisfaction. Those subjects who were rewarded (HC group) were significantly more satisfied than the other two groups (LC and NC).

Reitz (1971) looked at the relationship between instrumentality (the perceived relationship between performance and reward) and satisfaction. He used 510 managers in a large midwestern financial organization and found a strong positive relationship between supportive instrumentality and both general satisfaction and satisfaction with the job. That is, people who felt supported when they performed well were also satisfied. The reverse, however, was not true. That is, there

was no relationship between satisfaction and people who felt punished when they did not perform well.

Sims and Szilagyi (1975) studied administrative, professional, technical, and service employees of a major midwestern university medical center. They predicted that leader reward behavior would have a direct relationship with subordinate satisfaction and performance. Consistent positive relationships were found across the four groups between positive reward behavior and subordinate satisfaction as measured by the Job Description Index (JDI) (Smith, Kendall, and Hulin, 1969).

> For three of the four groups reported in this research, positive reward behavior (i.e., positive reinforcement) has been shown to be related to both satisfaction and performance, whereas punitive reward behavior (i.e., punishment) was far less related to satisfaction and performance . . . the results reported here are generally supportive of the concept that positive reinforcement is generally more effective in controlling behavior than are punishment techniques (Sims and Szilagyi, 1975).

Cherrington (1973) asked whether an increase in satisfaction with one's pay would cause an increase in satisfaction with other work related attitudes. He found that rewarded subjects reported not only greater satisfaction with pay and general affective tone than non-rewarded subjects, but also reported greater satisfaction with fellow workers, the supervisors, and the task. The reason for this is a central incentive-motivational state that is conditioned by an organizational reinforcer and subsequently influences attitudes regarding various other organizational stimuli. This is particularly true for stimuli associated with affective feelings regarding a responsible reinforcing stimulus.

Description of the scale.--The "Job Satisfaction Index" (Brayfield and Rothe, 1951) is a general index inferred from attitude toward work. The authors' intent was to provide an overall index of job satisfaction applicable across occupational categories. Seventy-seven men in a Personnel Psychology class at the University of Minnesota served as judges in its construction. A split half coefficient of .87 (corrected) was reported for a sample of 231 clerical female employees. The index is able to discriminate between groups who were assumed to be differentially satisfied with their jobs. The mean scores of forty people in an adult night school course in Personnel Psychology who were also employed in a personnel position was compared with those who were not employed in a personnel position. This dichotomy was based on the following rationale: "Those persons in the class employed in occupations appropriate to their expressed interest should, on the average, be more satisfied with their jobs than those members of the class employed in occupations inappropriate to their expressed interest in personnel work."

The following JOB SATISFACTION HYPOTHESES are derived with the above studies in mind: Hypothesis 6: The behavior self-modification group will become significantly more job satisfied. Hypothesis 7: The consciousness-raising and control groups will not change on any of the job satisfaction measures.

Job Motivation

Early approaches to the study of motivation included instinct theories, drive theories, and cognitive theories. All these approaches view the concept of "motive" as something which must be inferred from overt behavior. For example, we do not know if a person is working

primarily because they enjoy it or because of the necessity of earning a living. From a strict operant point of view an understanding of motives is unnecessary, does not lend itself to scientific investigation, and, in the traditional sense is not studied.

Nevertheless, the "inner man" does exist, and psychologists have devised methods, albeit imperfect ones, to measure this. The general question posed in this study concerns the effects the outer world has on the "inner man," in this case, on work motivation. Martin Patchen (1965, 1970) conducted a large study on this subject with people at TVA. He devised a scale which measures the work motivation that stems from the anticipated satisfaction of personal achievement on the job. He views work motivation as being determined by (1) the motivation for achievement, (2) the achievement incentive, or reward, and (3) the expectancy that work performance will lead to successful achievement.

The achievement motive (number 1 above) is affected by factors on the job which influence intrinsic satisfaction. It is affected by the extent to which it brings social approval, social respect, and pragmatic rewards.

The achievement incentive (the amount of achievement possible) is affected by (1) the extent to which there are clear standards of excellence, (2) expectations of performance feedback, and (3) the extent to which the person is responsible for success.

Expectancy is determined by (1) previous experience of success in similar tasks, (2) difficulties specific to the present task situations, and (3) general self-confidence.

The determinants of work motivation listed above are all factors present in the behavior self-modification approach. One may reasonably

conclude that behavior self-modification will produce an increase in work motivation to the extent the approach is successful.

Description of the scale.--The "Job Motivation Index" (Patchen, 1965) attempts to measure "the level of aroused motivation on the job, from the standpoint of devotion of energy to job tasks." Test-retest reliability of .80 was secured from a sub-sample of forty-nine employees of an electronics firm. Motivation scores correlated moderately (r=.35) with supervisors' ratings of "concern for doing a good job" in one plant but only .15 in another. The relations between motivation and absense ranged from .20 to .53. The four items (5-point Likert items) are best used to detect gross differences among groups, rather than fine differences within groups.

The following JOB MOTIVATION HYPOTHESES are derived from the above review: Hypothesis 8: The behavior self-modification group will become significantly more job motivated. Hypothesis 9: The consciousness-raising and control groups will not change on job motivation.

Quality of Work Life

"Quality of work life" (QWL) is a "catch-all" term which refers to a variety of phenomenological experiences of people in the work setting. Historically, QWL referred only to wages, fringe benefits, and working conditions. But the world of work as well as the people in it have changed tremendously. Today we have severe problems of worker alienation, high absenteeism, turnover, grievances, sabatoge, and lowered efficiency and effectiveness. Increasingly, the meaning of work is being challenged. Today the parameters of QWL have been greatly expanded to include: alienation, health and safety, economic security, self-esteem,

self-actualization, work environment, control and influence, organizational enclosure, career aspirations, extra-work activities, home and family, and employee commitment. Within the past 5-10 years interest in this area has increased tremendously; governmental funding has increased, private foundations are sponsoring conferences, the mass media are giving it additional coverage, work organizations are beginning to see that it is to their best interest to begin to improve the quality of working life in their own organization, and social scientists have increased their research and application efforts.

QWL variables are usually viewed as dependent variables; that is, they are viewed as ends in themselves (Herrick, 1975; Taylor et al., 1972). Causal variables, or variables which influence QWL variables include factors such as organizational characteristics, job characteristics, supervision, work group, status and prestige, training, technology, change, individual differences, and decision-making. However, there are those who view QWL variables as independent variables; "It has been found that when some aspects of the quality of work life are improved--such as the level of employee involvement--there is usually significant improvement in performance, as indicated by reduced absenteeism, fewer grievances, greater product quality, and increased productivity" (Warren, 1976). Like job satisfaction literature, a case can probably be made for QWL variables influencing performance, performance influencing QWL, and no relationship between the two, depending upon which aspect of QWL one studies.

In several studies there are elements of behavior modification which have been related to QWL variables. For example, a study by

Bennis et al. (1958) showed that in hospitals that had the most effective reward system the ability of the supervisors to influence their subordinates was greater than in those hospitals that had less effective reward systems. The effectiveness of the reward structure was also associated with the subordinates' desire to remain on the job.

Behavior self-modification requires the individual to assume primary responsibility for behavior improvement. Clark (1967) found that the extent to which a patient participates in his or her own program for medical improvement the greater the improvement in mental health.

Of two companies studied, the managers in one were able to act more autonomously than the managers in the other. This was traced to four aspects of the environment: (1) groups were clear on what their tasks were and how they differed from those of other groups (defining a behavior); (2) these managers received more positive reinforcement from their environment; (3) they received more knowledge of results; and (4) because of geographical location these managers were forced to be more independent (Dill, 1958).

Perceived role clarity (defining parameters of job behavior) was shown, in one study, to be positively related to work satisfaction, and negatively related to voluntary turnover, propensity to leave, and job tension. These relationships were stronger for those subjects professing a high need for role clarity than for those having a low need for clarity (Lyons, 1971).

The Western Union Telegraph Company has been conducting Organization Development Laboratories based upon the social learning theory of J. B. Rotter, and the personal construct theory of George Kelley. Results indicated that 72 percent of the participants perceived

significant individual change in both behavior and attitude which persisted over a three year period. There were also indications that when the immediate environment was perceived to be supportive individuals regenerated new behavior that had been previously withdrawn. This laboratory has raised the quality of work life by providing participants with concepts and methods for developing new behaviors. This lab is also congruent with the job enrichment approach in that the lab provides concepts and methods for changing behavior, while job enrichment provides work that is supportive to ongoing validation of the new behavior's value to the individual reward system (Fleagle, 1972).

Description of the scale.--The QWL scale used in the present study is a modified version of one developed by General Motors. The original scale went through nine stages in its development: (1) review of scientific literature, (2) specification of QWL dimensions, (3) selection and screening of a large number of items to measure each dimensions, (4) pretesting three questionnaire forms, (5) developing two forms with approximately 150 items in each form, (6) pilot testing both forms in six GM locations with a proportionate stratified random sample, (7) producing a set of factors from form A and from B based on sample sites of 663 and 752 respectively, (8) developing a set of criteria for accepting factors and items, and (9) three test constructors reviewed data to renew consensus on selection of QWL factors and items. No reliability or validity data is reported for the above group, and the scale has not been used with a student population. The revised version includes the following dimensions: employee commitment, developing apathy, on the job development and utilization, employee involvement and influence, advancement based on merit, career goal progress,

respect for the individual, employee state of mind, job stress, attitude toward change, job satisfaction, and employee motivation. In each of these scales the wording was altered to make it directly applicable to the subjects of this study, and some questions were omitted because they did not fit into the situation of this study.

Hypothesis 10: The behavior self-modification group will increase on the QWL variables.

Hypothesis 11: The consciousness-raising and control groups will not change on the QWL measures.

CHAPTER II

METHOD

Chapter II details the subjects, scales, and procedures used to test the hypotheses derived in Chapter I.

Subjects

The experimenter received permission from the instructors of four first and second year undergraduate psychology courses at Michigan State University to make a brief (five minutes) presentation to their classes in order to solicit volunteers for the study. The students were told about the nature of the study and that all participants would receive extra course credit and some could receive personal benefit as well. In addition they received a two-page handout which reiterated the presentation (see Appendix E). From approximately 1,100 students solicited 150 volunteered to be subjects and 100 students showed up for the first meeting. The 100 students were predominantly 18 and 19 year old freshman and sophomores, with an equal number of females and males.

Scales

All subjects completed a questionnaire packet which contained the following scales: locus of control (Levenson, 1974), self-description inventory (Shrauger, 1966), Mach V (Christie and Geis, 1970), job satisfaction index (Brayfield and Rothe, 1951), job motivation index (Patchen, 1965), quality of work life (a modified version of unpublished

General Motors scale, 1977), and a number of demographic questions (see Appendix B). Group I received a workbook which they used in their workshop sessions (see Appendix A). Group II received handouts which summarized the outcome of the previous workshop (see Appendix D). All testing and workshop sessions took place in regular classrooms.

Procedure

Prettesting.--The 100 students who showed up at the first meeting were asked to sign a statement agreeing to be assigned to a treatment condition on a random basis, and to participate in all activities required of the group (see Appendix E). All subjects completed the previously described questionnaires under standard testing conditions. Each scale was completed one at a time, the directions for each scale being read after everyone had finished the previous one. The procedure insured that all subjects understood the directions, pointed out differences in scales (e.g., one scale would have "strongly agree = 1" while the next would have "strongly disagree = 1") and answered questions. Random assignment was done last to prevent possible response bias and was accomplished by drawing slips of paper with the words "green," "yellow," and "white" written on them from four paper bags (one for each of the four classes represented). The number of slips of paper placed in each bag corresponded to the number of people in that class who were present at that first meeting (e.g., there were 37 students from one class so 37 slips of paper were placed in the bag). Thirty percent of the slips in each bag were green, 30 percent were yellow, and 40 percent were white. After each student drew out a slip they picked up a colored sheet of paper (if your slip said "green" on it you picked up a green

sheet of paper). The sheet of paper told them which group they would be in and when and where the next meeting would be. The meeting then adjourned after a total of 1 1/2 hours. Twenty-nine people had been assigned to Group I (the behavior self-modification group), 29 to Group II (the consciousness raising group), and 42 to Group III (the no-treatment control group).

Group I (the behavior self-modification group).--Twenty-seven subjects out of the 29 who were assigned to this condition showed for the first 3-hour workshop. Five, one-hour workshops at one week intervals followed the first meeting. The goals of these workshops were to teach the participants some principles of behavior and to help them apply these principles to one behavior of their choosing which directly relates to their job as student (see Appendix A for a copy of the workbook used). Each subject could choose any behavior they wished as long as it related directly to their job as student. Typical behaviors chosen included comprehension, and time spent studying. The behavior had to be observable, manipulable, and measurable.

The workshops for Group I were conducted by the experimenter who has strong philosophical commitments to the behavior modification approach, a moderate amount of practical experience with it, and an extensive background in its literature.

The study looks at behavior modification as an organization development tool and would ordinarily be employed in work organizations. So it is necessary to draw a parallel between jobs in work organizations and the job of student. One of the principle similarities centers around the tasks themselves. From a behavioral point of view the nature of the specific task is not as important as the fact that it can be broken into

component behaviors, thereby allowing behavior modification to be used. In this sense there is a direct parallel between jobs in work organizations and the job of student. There are also superiors or supervisors in both settings who fulfill the function of at least partially determining the nature of the tasks, and evaluating performance. The concept of equity is relevant to both situations. In work organizations equity usually takes the form of money and fringe benefits. In the school environment the parallel is grades. Promotions are also part of both types of settings, with a minimal level of performance being required. The parallel is not complete, however. In the work organization the individual employee is generally subject to many more controls on his/her behavior than is a student. Thus one depends to a large extent upon the self-control of the subject in this study. If employees in a work organization had been employed as subjects one would depend to a much greater extent upon the support of peers and particularly of superiors. If superiors were committed to the success of a behavior modification approach more reinforcement contingencies would be operative than is the case with students for subjects.

During the first workshop the participants were given an overview of the "ABC" (antecedents, behavior, and consequences) framework, which explained that the job of student could be broken into behavioral components, and the environment rearranged in order to facilitate the occurrence of the desired behavior. The "ABC" framework is adapted from Luthans and Kreitner (1975) and Watson and Tharp (1972). The majority of the time, however, was spent teaching the participants to define, in behavioral terms, some aspect of their job as student they wanted to change. They were also taught how to measure their behavior. At the

end of the first session they completed a behavioral contract agreeing to baseline their behavior from then until the next workshop a week later and to read the first sixteen pages of the workbook.

During the following one-hour workshop all subjects were taught that their behavior is partially a function of its consequences. This was gone into in some detail, through the use of lecture, examples, and group discussion. The ideas of "shaping" and "immediacy of reinforcement" were also mentioned. At the end of the hour they completed a behavioral contract agreeing to continue to baseline their behavior (they were told they could change their behavior at this point if they wished), analyze the consequences which were currently maintaining their target behavior, complete page 23 of their workbook (which helped them identify what would work as reinforcers for them), read pages 18-28 of the workbook, and make copies of what they had written so the experimenter could provide them with written feedback.

The third workshop lasted one hour and dealt with the topic of "antecedents" and how they influence behavior. Again, use was made of lecture, examples, and group discussion. At the end they completed a behavioral contract which asked them to continue to baseline their behavior, analyze the antecedents which are currently influencing their behavior, and read pages 28-33 of the workbook. They also received written feedback from the experimenter about what they had accomplished so far, and were asked to read it and make any adjustments they saw necessary.

The fourth workshop lasted for one hour, and dealt with developing their own change program, incorporating what they had learned from baselining and analyzing their antecedents and consequences. During

the workshop they completed pages 38 and 39 of their workbook, which provided a summarization of their ABC analysis and a behavioral contract for designing and implementing the change strategy. They began implementing the changes that week.

The fifth and sixth sessions were used to deal with problems subjects were experiencing with any part of their program. The main question put to them by the experimenter was "How are you going to defeat yourself in using this approach?" The follow-up question to this was "What can you do to insure that you are successful with this approach?" They were asked to continue with the approach and with charting their behavior until the posttest.

Throughout the workshops subjects had specific goals to accomplish. Examples include an analysis of antecedents and consequences currently maintaining behavior, and how to measure and chart their target behavior. The instructor provided written feedback each week for every subject so they knew how well they were performing and what (if anything) needed to be corrected. In this manner reinforcement was provided for employing the behavior modification techniques correctly.

Group II (the consciousness-raising group). Twenty-seven subjects of the 29 who were assigned to this condition showed for the first workshop, which lasted for 3 hours. They also dealt with their job as student and went through a series of workshops designed to help them raise their level of awareness and to make some changes. These workshops took place at exactly the same time as those of Group I. They were conducted by a doctoral candidate, who was a few months away from receiving her doctorate and who has some strong philosophical commitments

to the approach she was using as well as a good deal of expertise and experience with facilitating groups.

The technique used by Group II was a "consciousness-raising" model (see "Consciousness-raising: A five stage model for social and organization change" by Samuel A. Culbert in The Planning of Change by Bennis, Benne, Chin, and Corey, 1976). Its principle vehicle for change is insight. "Its goals are the formulation of alternative ways for people to live and work in a social or organization system. . . . It is the actions we can support others to take, based on their own ideas of what constitutes an improved situation, which are the real products of consciousness-raising" (Bennis, et al., 1976). The model raises one's awareness about self, the system, and the interrelationships between the two. It was chosen because it is a technique usually seen as consistent with the purposes of a humanistic approach to change.

Four stages of the consciousness-raising model were employed. The first one is entitled "Recognizing what's 'off.'" Its purposes are the "identification of discrepancies between what the system expects of us and what seems natural or consistent with our self-interests" and the "identification of discrepancies between doing what comes naturally and what seems acceptable to the system." The second stage is entitled "Understanding ourselves and the system." Its purposes are "increased awareness of the system: what it is and how it works." The third stage is entitled "Understanding our relationship with the system." Its purposes are "increased awareness of our relationship with system, (a) assumptions which underlie our goals and how we go about achieving them, (b) assumptions which comprise our image of the system, (c) assumptions which explain how we and the system influence one another."

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The fourth stage is "formulating alternatives." Its purposes are "envisioning alternatives, (a) which change the system, (b) which change our relationship to the system." By the end of the last stage each individual had drawn up a list of specific changes they were going to make.

At the end of each stage the participants had a group "product" which indicated they had accomplished the purpose of that particular stage (see Appendix C).

Posttesting.--Subjects from all three groups were present at the last meeting. First the graphs and other written materials were collected from Group I. Next, an evaluation of Group I and Group II's experience was administered. Then the same battery of questionnaires that were administered at the pretesting was administered to all subjects. The experimenter discussed with all subjects the nature of psychological research and what this particular study was attempting to demonstrate. They were given a five question quiz as a basis for determining the amount of extra credit they would receive (one percentage point extra credit added on to their grade for each question they got correct). The questions were based on what was just covered in the debriefing.

CHAPTER III

RESULTS

Chapter III looks at the results: the manipulation check, or how the subjects felt about the intervention, and the extent to which it aided them in attaining their objectives; scale construction data on each of the twenty-two scales and subscales (i.e., which items were deleted and alpha levels); and the empirical data for each test of a hypothesis.

Manipulation Check

Group I.--At the end of the final workshop all participants answered a set of questions about their feelings about themselves in relation to the workshops. On a five-point, multiple-choice Likert scale most subjects felt fairly positive about the experience: they understood the concepts and were able to apply them; they said they liked the technique (i.e., behavior modification); they liked the workshop leader; they indicated they were motivated to improve themselves before the workshops began; they used the techniques fairly often throughout the intervention period; they said it had helped them; they would use it in the future (see Appendix C). They also responded in essay form to two questions: "Tell me what you liked about the workshops" and "Tell me what you didn't like about the workshops" (see Appendix C).

Some of the responses to the manipulation check questionnaire plus this author's own observations seem to contradict some of the positive statements on the multiple-choice scales. For example, the motivation of the subjects can be questioned. Yes, they were willing to become involved and change a behavior, but only to a point. Since resistance is usually encountered when an aspect related to one's identity or a well-ingrained habit is challenged I suspect that the motivation to change was only moderate at best. Furthermore, the behaviors chosen to be altered were those which if not altered, would not do serious damage, nor be a major source of consternation to the individual involved.

There is also some question about how well the subjects understood what they were doing. I suspect they understood the concepts well enough, but had difficulty fitting the abstractions to their specific situation in a manner likely to provide the most benefit. Some of my observations can be borne out by looking at the charts Group I used to keep track of their behavior change. Fifteen out of twenty-one subjects kept a chart. The six who did not keep a chart said they did not think it would aid them in changing. Fourteen of the fifteen subjects who did keep a chart showed positive change. Some of the graphs were difficult to understand. A few of the behaviors were not conceptualized in the most productive or meaningful way. Some reinforcers were not really reinforcing; some antecedents were not conceptualized or engineered as well as they could have been.

In summary, I think the intervention itself was only moderately successful. There is plenty of room for improvement. This is not to

say, however, that the intervention should be considered a failure. It had an impact, but this was not as significant as hoped for.

Group II.--The consciousness-raising group also responded to a survey instrument after their intervention had been completed. Their responses were less positive in some areas than those from Group I. There seemed to be some question about the subjects' perception of the value of the technique in aiding them to improve. This could have an influence on the extent to which they employed the technique and implemented changes in areas of importance to them. The liked the workshop leader as a person, and felt she did a competent job (see Appendix C). After each of the four stages the group generated a product which represented a consensus of the group's thinking for that particular state. For example, the first stage was to generate a list of problems they perceived in their dealings with the system (see Appendix D). The workshop leader generally felt that participants were moderately involved in the proceedings--not apathetic, but not totally committed to change either.

In summary, this workshop was moderately successful in that it had an impact on the participants. But of course, experimenters always hope for more than what they usually get with regard to subject commitment to the study.

Since the workshop leaders for both groups were equally liked and did an equally competent job, much of the difference in respondents' responses can be attributed to the technique itself. Viewed in this manner subjects seemed to prefer the behavior modification approach. My own hypothesis is that behavior modification is a much more tangible procedure. The steps are clearly laid out, behaviors to be changed are

clearly identified, and the process of change can be readily understood by the participants. Consciousness-raising (CR) has less clearly identifiable components and focuses more on the parameters of the problem rather than on change. CR subjects reported disliking some of the workshops because they felt it was just a "bitch-session" and that nothing constructive was being accomplished. It also seemed that the problems those in the behavior modification group identified were more manageable and resided within their control to a greater extent than in the consciousness-raising group.

Instrument Check

Survey instruments which had been employed in previous research were administered to all subjects both prior to the intervention and immediately thereafter. With the exception of the "quality of work life" scale (QWL) all had reliability data available from past use (see Chapter I, Section III). In addition, measures of internal consistency (coefficient alpha) were taken during this use of the scales:

Scale	Alpha
Self-Description Inventory	.77
Mach V	.24
Locus of control	.66
Locus of control (internal)	.62
Locus of control (powerful others)	.71
Locus of control (chance)	.70
Employee commitment	.69
Developing apathy	.85
Employee development and utilization	.74
Employee involvement and influence	.66
Advancement based on merit	.75
Career goal progress	.51
Respect for the individual	.65

Scale	Alpha
Employee state of mind	.87
Job stress	.66
Attitude towards change	.71
Job satisfaction	.69
Job motivation	.30
Quality of work life	.89
Job motivation index	.61
QWL job motivation subscale plus job motivation index	.70
Job satisfaction index	.88
QWL job satisfaction subscale plus job satisfaction index	.73

To reduce measurement error as much as possible items which detracted from internal consistency were deleted. This was done by discarding those items which correlated poorly with the total scale or subscale (Nunnally, 1967, p. 242). The following is a list of the scales and subscales, which items were deleted and the resultant alpha. Scales not reported were left intact:

Scale	Items Deleted	Alpha
Self-Description Inventory	1,7	.81
Mach V	1,3,4,5,8,11,13,14,17,18,20	.55
Locus of control (internal)	4	.67
Locus of control (powerful others)	13,20	.75
Locus of control (chance)	24	.70
Employee commitment	4	.78
Employee development and utilization	8	.75
Respect for the individual	25	.67
Job stress	39	.67
Job satisfaction	44	.76
Job motivation	scale deleted	
QWL job motivation subscale plus job motivation index	48	.74
QWL job satisfaction subscale plus job satisfaction index	QW44,JS1,3,10	.91

The average alpha of all the twenty-two scales used for hypothesis testing was .78 which is considered good (Nunnally, 1967, p. 226). Only one subscale, (the job motivation subscale of the QWL scale) had to be deleted entirely due to a poor alpha. It originally was a two-item scale.

Hypothesis Testing

All data were analyzed with a multivariate analysis of variance repeated measures (MANOVA) (Finn, 1974). The multivariate F for group effects was significant ($p<.05$) when all twenty-two scales and subscales were analyzed together. The multivariate F for the group-by-time interaction was not significant. This means that when all twenty-two scales were analyzed as an aggregate there was a significant difference among the groups. This does not, however, illuminate specifically where the changes took place, and univariate analyses were employed to determine this.

Locus of Control Results

The following two hypotheses pertain to locus of control. Hypothesis 1 stated that the behavior modification group would become significantly more internal and significantly less controlled by "chance" and "powerful others." This was not confirmed: the behavior modification group showed no significant change over time on any of the four locus of control measures ("internal," "powerful others," "chance," and the scale as a whole). Refer to Table 1 for a summary of the analyses of variance for all locus of control hypotheses.

Refer to Tables 2, 3, 4, and 5 for a summary of group and marginal means for all three groups for all locus of control measures.

Table 1.--Analyses of Variance for Locus of Control.

Dependent Variable	Source	Error Term	Degrees of Freedom	Mean Square	Mean Square Error	F-Ratio	F-Probability
Locus of Control	Group	Subjects	2	.238	.293	.813	.447
	Time	Subjects x Time Interaction	1	.022	.069	.317	.575
	Group x Time Interaction	Subjects x Time Interaction	2	.0003	.069	.005	.995
Locus of Control (Internal)	Group	Subjects	2	.453	.656	.690	.505
	Time	Subjects x Time Interaction	1	.702	.244	2.880	.094
	Group x Time Interaction	Subjects x Time Interaction	2	.371	.244	1.523	.225
Locus of Control (Powerful Others)	Group	Subjects	2	.939	1.31	.716	.492
	Time	Subjects x Time Interaction	1	.236	.398	.593	.444
	Group x Time Interaction	Subjects x Time Interaction	2	.166	.398	.418	.660
Locus of Control (Chance)	Group	Subjects	2	.798	1.04	.768	.468
	Time	Subjects x Time Interaction	1	.392	.198	1.981	.164
	Group x Time Interaction	Subjects x Time Interaction	2	.003	.198	.015	.985

Table 2.--Group and Marginal Means for All Three Groups for Locus of Control.

	Mean Pretest Score	Mean Posttest Score	Mean Score Across Time
Behavior Modification Group	3.45	3.48	3.47
Consciousness-Raising Group	3.38	3.40	3.39
Control Group	3.52	3.54	3.53
Mean Score Across Group	3.45	3.48	3.47

Table 3.--Group and Marginal Means for All Three Groups for Locus of Control (Internal).

	Mean Pretest Score	Mean Posttest Score	Mean Score Across Time
Behavior Modification Group	4.35	4.58	4.47
Consciousness-Raising Group	4.46	4.74	4.60
Control Group	4.67	4.64	4.66
Mean Score Across Group	4.52	4.65	4.58

Table 4.--Group and Marginal Means for All Three Groups for Locus of Control (Powerful Others).

	Mean Pretest Score	Mean Posttest Score	Mean Score Across Time
Behavior Modification Group	2.94	2.95	2.95
Consciousness-Raising Group	2.90	2.90	2.90
Control Group	3.05	3.24	3.15
Mean Score Across Group	2.97	3.05	3.01

Table 5.--Group and Marginal Means for All Three Groups for Locus of Control (Chance).

	Mean Pretest Score	Mean Posttest Score	Mean Score Across Time
Behavior Modification Group	3.04	2.96	3.00
Consciousness-Raising Group	2.84	2.73	2.78
Control Group	2.82	2.71	2.76
Mean Score Across Group	2.89	2.79	2.84

Hypothesis 2 predicted that the consciousness-raising and control groups would not change on any locus of control measure. This was confirmed: neither group changed (refer to Tables 1-5).

Self-Control Results

Hypothesis 3 stated that the behavior self-modification group would significantly improve on self-concept. This was confirmed: participants in the behavior self-modification program became significantly more positive ($p<.0005$) in self-concept. The strength of this finding is reduced when it is noted that all three groups significantly improved from time 1 to time 2 and the group-by-time interaction was not significant ($p=.515$). Refer to Table 6 for a summary of the analyses of variance for the self-concept hypotheses.

Hypothesis 4 predicted no significant change on self-concept for either the consciousness-raising group or the control group. This was not confirmed: both groups became significantly more positive on self-concept ($p<.0005$) (refer to Table 7).

Machiavellian Results

Hypothesis 5 predicted no change on the Mach V scale for any of the three groups. This hypothesis was not confirmed: both the behavior self-modification and the control groups became significantly more machiavellian over time ($p=.032$), while group 2 did not change. Refer to Table 8 for a summary of the analyses of variance, and Table 9 for group and marginal means for all three groups.

Job Satisfaction Results

Hypothesis 6 stated that the behavior self-modification group would become significantly more job satisfied. There were three job

Table 6.--Analysis of Variance for Self-Concept.

Source	Error Term	Degrees of Freedom	Mean Square	Mean Square Error	F-Ratio	F-Probability	Omega Squared
Group	Subjects	2	317.25	226.4	1.401	.253	
Time	Subjects x Time Interaction	1	742.19	25.57	29.023	.0005	.037
Group x Time Interaction	Subjects x Time Interaction	2	17.14	25.57	.67	.515	

Table 7.--Group and Marginal Means for All Three Groups for Self-Concept.

	Mean Pretest Score	Mean Posttest Score	Mean Score Across Time
Behavior Modification Group	68.9	74.9	71.9
Consciousness-Raising Group	68.2	71.9	70.1
Control Group	72.9	76.8	74.9
Mean Score Across Group	70.3	74.7	72.5

Table 8.--Analysis of Variance for Machiavellianism.

Source	Error Term	Degrees of Freedom	Mean Square	Mean Square Error	F-Ratio	F-Probability	Omega Squared
Group	Subjects	2	.490	.608	.807	.450	
Time	Subjects x Time Interaction	1	.883	.184	4.808	.032	.012
Group x Time Interaction	Subjects x Time Interaction	2	.199	.184	1.089	.342	

Table 9.--Group and Marginal Means for All Three Groups for Machiavellianism.

	Mean Pretest Score	Mean Posttest Score	Mean Score Across Time
Behavior Modification Group	4.35	4.55	4.45
Consciousness-Raising Group	4.31	4.31	4.31
Control Group	4.38	4.62	4.50
Mean Score Across Group	4.35	4.50	4.43

satisfaction scales employed: a three-item subscale of the QWL scale, an eighteen-item scale (Job Satisfaction Index, Brayfield and Rothe, 1951), and a combination of the two with several items deleted in order to increase internal consistency reliability. The results was not confirmed: the behavior self-modification group did not change on any of the three job satisfaction scales. Refer to Table 10 for a summary of the analyses of variance for all three job satisfaction scales.

Refer to Tables 11, 12, and 13 for group and marginal means for all three groups for all three satisfaction measures.

Hypothesis 7 stated that the consciousness-raising and control groups would not change on any of the job satisfaction measures. This was partially confirmed: results were nonsignificant for two of the scales; however, on the Job Satisfaction scale (Brayfield and Rothe, 1951) all groups became significantly less satisfied across time ($p=.012$) (refer to Table 10). Since the group means for the behavior modification

Table 10.--Analyses of Variance for Job Satisfaction.

Scale	Source	Error	Degrees of Freedom	Mean Square	Mean Square Error	F-Ratio	F-Probability	Omega Squared
QWL Job Satisfaction	Group	Subject	2	.095	1.36	.070	.932	
	Time	Subject x Time Interaction	1	.166	.247	.675	.414	
	Group x Time Interaction	Subject x Time Interaction	2	.00016	.247	.001	.999	
Job Satisfaction (Brayfield and Rothe)	Group	Subject	2	.929	1.04	.892	.414	
	Time	Subject x Time Interaction	1	1.270	.19	6.681	.012	.012
	Group x Time Interaction	Subject x Time Interaction	2	.257	.19	1.353	.265	
Combined Job Satisfaction	Group	Subject	2	1.076	.543	1.981	.145	
	Time	Subject x Time Interaction	1	.00005	.137	.000	.984	
	Group x Time Interaction	Subject x Time Interaction	2	.283	.137	2.072	.133	

Table 11.--Group and Marginal Means for All Three Groups for QWL Job Satisfaction.

	Mean Pretest Score	Mean Posttest Score	Mean Score Across Time
Behavior Modification Group	3.70	3.76	3.73
Consciousness-Raising Group	3.61	3.68	3.65
Control Group	3.62	3.69	3.66
Mean Score Across Group	3.64	3.71	3.67

Table 12.--Group and Marginal Means for All Three Groups for the Job Satisfaction Index.

	Mean Pretest Score	Mean Posttest Score	Mean Score Across Time
Behavior Modification Group	3.39	3.32	3.35
Consciousness-Raising Group	3.12	3.02	3.07
Control Group	3.33	3.00	3.16
Mean Score Across Group	3.28	3.09	3.19

Table 13.--Group and Marginal Means for All Three Groups for the Combined Job Satisfaction Scale.

	Mean Pretest Score	Mean Posttest Score	Mean Score Across Time
Behavior Modification Group	3.50	3.59	3.54
Consciousness-Raising Group	3.18	3.29	3.23
Control Group	3.47	3.31	3.39
Mean Score Across Group	3.38	3.38	3.38

group and the consciousness-raising group were essentially the same from time 1 to time 2 (3.39 to 3.32 for the behavior modification group; 3.12 to 3.02 for the consciousness-raising group) (see Table 12) most of the change can be accounted for by the control group which decreased from 3.33 to 3.00.

Job Motivation Results

Hypothesis 8 predicted that the behavior self-modification group would become significantly more job motivated. Hypothesis 9 stated that the consciousness-raising (CR) and control groups would not change on job motivation. Two job motivation scales were employed: the Job Motivation Index (Patchen, 1965) (a four-item scale) and the same scale plus one additional item taken from the QWL Job Motivation subscale. Results were partially confirmed: on the combined job motivation scale the behavior modification group improved across time (from 3.39 to 3.49) (see Table 14) and was significantly different from the control group

Table 14.--Group and Marginal Means for All Three Groups for the Combined Job Motivation Scale.

	Mean Pretest Score	Mean Posttest Score	Mean Score Across Time
Behavior Modification Group	3.39	3.49	3.44
Consciousness-Raising Group	3.08	3.21	3.15
Control Group	3.39	3.22	3.31
Mean Score Across Group	3.29	3.29	3.29

(p=.043) (see Table 15) which became less job motivated (from 3.39 to 3.22). On the Job Motivation Index all three groups combined became significantly less job motivated (p=.016), but most of this can be accounted for by the control group which declined from 3.16 to 2.86 (group means), while the behavior modification group declined only slightly (3.25 to 3.17) and the CR group which stayed the same (3.06 to 3.01) (see Table 16). On the combined job motivation scale the group-by-time interaction was significant (p=.043) (refer to Table 15). The consciousness-raising group became more job motivated (3.08 to 3.21), while the control group became less job motivated (3.39 to 3.22) (see Table 14).

Quality of Work Life (QWL) Results

QWL is measured by a QWL scale, which is comprised of eleven subscales. Thus, there are twelve separate indicants of QWL.

Table 15.--Analyses of Variance for Job Motivation.

Scale	Source	Error	Degrees of Freedom	Mean Square	Mean Square Error	F-Ratio	F-Probability	Omega Square
Job Motivation (Patchen, 1965)	Group	Subject	2	.532	.769	.692	.504	
	Time	Subject x Time Interaction	1	.960	.157	6.107	.016	.011
	Group x Time Interaction	Subject x Time Interaction	2	.278	.157	1.769	.178	
Combined Job Motivation	Group	Subject	2	.967	.462	2.092	.131	
	Time	Subject x Time Interaction	1	.0005	.117	.005	.945	.004
	Group x Time Interaction	Subject x Time Interaction	2	.383	.117	3.288	.043	

Table 16.--Group and Marginal Means for All Three Groups for the Job Motivation Index.

	Mean Pretest Score	Mean Posttest Score	Mean Score Across Time
Behavior Modification Group	3.25	3.17	3.21
Consciousness-Raising Group	3.06	3.01	3.03
Control Group	3.16	2.86	3.01
Mean Score Across Group	3.15	2.99	3.07

Hypothesis 10 stated that the behavior self-modification group would significantly increase on the QWL variables. This hypothesis was not confirmed. The overall QWL scale was not significant. Refer to Table 17 for a summary of the analyses of variance for all three groups for QWL, and Table 18 for group and marginal means for all three groups for QWL. Three of the subscales were significant. On the "Developing Apathy" subscale all three groups became significantly more apathetic over time (p=.05). However, most of this change is due to the control group, which decreased from 4.00 to 3.48, while the behavior modification group decreased from 4.02 to 3.83 (see Table 19). The behavior modification intervention had the effect of inhibiting the development of apathy. All three groups significantly declined on the "On the job development and utilization subscale" (p=.002). Refer to Table 20 for group and marginal means for all three groups for the "on the job development and utilization" scale. There was a significant difference

Table 17.--Analysis of Variance for QWL.

Scale	Source	Error	Degrees of Freedom	Mean Square	Mean Square Error	F-Ratio	F-Probability	Omega Squared
Employee Committment	Group	Subject	2	2.217	1.11	2.004	.142	
	Time	Subject x Time Interaction	1	.426	.172	2.476	.120	
	Group x Time Interaction	Subject x Time Interaction	2	.271	.172	1.573	.214	
Developing Apathy	Group	Subject	2	.432	1.43	.302	.740	
	Time	Subject x Time Interaction	1	3.840	.992	3.870	.053	.015
	Group x Time Interaction	Subject x Time Interaction	2	.483	.992	.487	.616	
On the Job Development and Utilization	Group	Subject	2	.966	.622	1.554	.218	
	Time	Subject x Time Interaction	1	3.226	.31	10.435	.002	.04
	Group x Time Interaction	Subject x Time Interaction	2	.067	.31	.218	.805	
Employee Involvement and Influence	Group	Subject	2	5.697	.779	7.317	.001	
	Time	Subject x Time Interaction	1	.237	.221	1.075	.303	.116
	Group x Time Interaction	Subject x Time Interaction	2	.067	.221	.306	.737	
Advancement Based on Merit	Group	Subject	2	1.40	.919	1.526	.224	
	Time	Subject x Time Interaction	1	.050	.196	.257	.613	
	Group x Time Interaction	Subject x Time Interaction	2	.062	.196	.320	.727	
Career Goal Progress	Group	Subject	2	.107	.793	.136	.873	
	Time	Subject x Time Interaction	1	.026	.195	.137	.712	
	Group x Time Interaction	Subject x Time Interaction	2	.537	.195	2.76	.070	
Respect for the Individual	Group	Subject	2	1.790	.630	2.856	.064	
	Time	Subject x Time Interaction	1	.093	.208	.451	.504	
	Group x Time Interaction	Subject x Time Interaction	2	.455	.208	2.193	.119	
Employee State of Mind	Group	Subject	2	1.097	1.46	.752	.475	
	Time	Subject x Time Interaction	1	.032	.220	.146	.703	
	Group x Time Interaction	Subject x Time Interaction	2	.237	.220	1.077	.346	
Job Stress	Group	Subject	2	.133	.590	.226	.799	
	Time	Subject x Time Interaction	1	.587	.136	4.323	.041	.008
	Group x Time Interaction	Subject x Time Interaction	2	.029	.136	.219	.804	

Table 17.--Continued.

Scale	Source	Error	Degrees of Freedom	Mean Square	Mean Square Error	F-Ratio	F-Probability	Omega Squared
Attitude	Group	Subject	2	.743	.663	1.121	.332	
Toward	Time	Subject x Time Interaction	1	.325	.241	1.350	.249	
Change	Group x Time Interaction	Subject x Time Interaction	2	.076	.241	.319	.728	
QWL	Group	Subject	2	.095	1.36	.070	.932	
Job	Time	Subject x Time Interaction	1	.166	.247	.675	.414	
Satisfaction	Group x Time Interaction	Subject x Time Interaction	2	.00016	.247	.001	.999	
Total	Group	Subject	2	.724	.282	2.565	.084	
QWL	Time	Subject x Time Interaction	1	.016	.045	.353	.554	
Scale	Group x Time Interaction	Subject x Time Interaction	2	.037	.045	.827	.441	

Table 18.--Group and Marginal Means for All Three Groups for the Total QWL Scale.

	Mean Pretest Score	Mean Posttest Score	Mean Score Across Time
Behavior Modification Group	3.59	3.63	3.61
Consciousness-Raising Group	3.41	3.38	3.40
Control Group	3.42	3.36	3.39
Mean Score Across Group	3.46	3.44	3.45

Table 19.--Group and Marginal Means for All Three Groups for the "Developing Apathy" Subscale of the QWL.

	Mean Pretest Score	Mean Posttest Score	Mean Score Across Time
Behavior Modification Group	4.02	3.83	3.93
Consciousness-Raising Group	3.92	3.73	3.82
Control Group	4.00	3.48	3.74
Mean Score Across Group	3.98	3.66	3.82

Table 20.--Group and Marginal Means for All Three Groups for the "On the Job Development and Utilization" Subscale of the QWL.

	Mean Pretest Score	Mean Posttest Score	Mean Score Across Time
Behavior Modification Group	4.36	4.15	4.25
Consciousness-Raising Group	4.15	3.79	3.97
Control Group	4.21	3.90	4.05
Mean Score Across Group	4.23	3.94	4.08

among the three groups on "employee involvement and influence," but the groups were different to begin with and did not change over time (see Table 21).

Table 21.--Group and Marginal Means for All Three Groups for the "Employee Involvement and Influence" Subscale of the QWL.

	Mean Pretest Score	Mean Posttest Score	Mean Score Across Time
Behavior Modification Group	3.43	3.38	3.40
Consciousness-Raising Group	2.97	2.80	2.89
Control Group	2.76	2.73	2.74
Mean Score Across Group	3.01	2.93	2.97

Hypothesis 11 stated that the consciousness-raising and control groups would not change on the QWL measures. This was partially confirmed: the overall QWL scale showed no significant changes (see Table 17). As mentioned in the preceeding paragraph the control group became more apathetic (from 4.00 to 3.48) while the CR group declined slightly (3.92 to 3.73) (see Table 19). Both the CR and control group on the "on the job development and utilization" scale declined significantly (see Table 20).

Summary of Results

One can summarize the overall results quite simply: the thesis of this dissertation was not supported by the empirical results obtained. The significant multivariate F indicated that there were some differences among the groups. However, upon closer inspection with univariate analyses the changes did not provide support for the hypotheses of this study. There were trends in the data, however which indicate that the thesis itself may be correct. For example, the behavior modification group (Group I) became more internal over time on the locus of control (internal) scale relative to the no-treatment control (Group III) (see Table 3). On the "chance" subscale Group I showed a trend in the prediction direction, becoming less controlled by "chance" (see Table 5).

When results are significant one can be reasonably confident that a change due to an intervention has occurred. Nonsignificant changes or "trends" may or may not indicate a meaningful relationship. When looking at individual cases small changes may simply be due to measurement error. If a number of trends are in the predicted direction one may hope that a relationship actually does exist. However,

empirical results of this study do not support such claims. For example, a number of changes on the locus of control measures showed trends in the predicted direction even though there were no significant differences. If these changes were due to measurement error the probability is .5 that the change would be in the predicted direction. When this begins to occur more than 50 percent of the time one may hope that better research in the future will uncover the hypothesized relationship, even though the present empirical results do not support such claims.

Of the 22 scales and subscales changes on 15 of the dependent measures for Group I and Group II were in a positive direction, even though most of them did not attain statistical significance. Group III had only 7 of the 22 scales change in a positive direction. Perhaps this says something about the particular approaches employed. After all, Chapter I provided considerable evidence indicating this relationship would occur, and advocates of "more humane" approaches argue that a CR group would produce the changes indicated. Perhaps this is simply another test of the Hawthorne effect which says that people will change if something is done to or with them. But the fact that the changes were positive rather than negative provides hope that the changes are real. It is some consolation that the claims of critics of behavior modification were also not demonstrated.

CHAPTER IV

CONCLUSIONS

Discussion

To account for the lack of significant findings one may challenge some of the assumptions made in the study. One major assumption of this study is that a causal relationship exists between one's behavior and subsequent attitudes; that is, behavior change produces attitudinal change. However, it has been suggested by Cherrington, Reitz, and Scott (1971) and by Bandura (1969) that there may not be a causal relationship between behavior and attitudes and that any changes in the two response systems represent correlated effects due to similar control mechanisms. Furthermore, since the classes of responses (i.e., self-concept, job satisfaction, etc.) being dealt with are all different it might be the case that the attitudes investigated in this study are all subject to different types of behavioral regulation. Bandura (1969) notes that a comprehensive theory of human behavior must include all three sources of behavioral control: stimulus control, internal symbolic control, and outcome control. He further notes "in many situations, of course, two or more of these processes may operate simultaneously in governing responsiveness." Thus, the schedule of reinforcement, rewards, and other learning variables used to increase the target behavior may have been inappropriate

for changing the six other classes of behaviors. Notice that the approach employed to change the target behavior for the behavior modification group relied only on stimulus and outcome controls. Perhaps attitudinal changes are more appropriately made employing principles of internal symbolic control. Or perhaps stimulus and outcome control is appropriate but a different "mix" of variables is called for. This reasoning is supported by Bandura and Walters (1963) and by Mischel (1968) who note that "human behavior is markedly specific and extensively regulated by discriminative cues, reinforcement contingencies, and other external events . . ." A noncausal framework with the questions that would stem from it may account for the lack of results from the present study. If there is no causal relationship between behavior change and subsequent attitudinal ones then the appropriate question becomes: "To what degree and under what conditions do changes brought about in either cognitive, affective, or motor classes of behavior have reciprocal effects?" (Bandura, 1969). Under what specific conditions do certain changes occur? For example, under what conditions do changes in self-concept occur? Are they the same as the conditions which produce changes in locus of control?; in job motivation?; in any overt behavior?

For example, self-concept may be most profoundly influenced by effects of self-reinforcement instead of some other mechanism for the control of behavior. Studies on the effects of self-reinforcement on the maintenance of behavior reveal that people generally adopt the standards for self-reinforcement exhibited by exemplary models, they evaluate their own performance relative to that standard, and then they serve as their own reinforcing agent. Self-concept could be

developed for instance by those who have been exposed to models setting either low or high standards. The individual's own behavior might then be judged relative to someone else's standards. In the behavior modification group in the present study participants may have judged themselves in relation to one another. Since they were highly similar in the standards they set, the procedures they used, and the outcomes they obtained one might not expect any change in self-concept if it were developed and maintained according to internal symbolic principles, in this case, self-reinforcement. That is, they may not have learned to reinforce themselves internally any differently than before the study.

This is not to deny that overt behavior influences internal, subjective states. But one must question whether and how the specific targer behaviors and stimulus and outcome regulatory mechanisms employed in this study are casually related to the six different outcomes.

The other possibility is that the relationship between behavior and attitudes is a causal one as hypothesized and that the mechanisms for changing overt behaviors, such as those employed in this study, are also the mechanisms for influencing internal states. If this is the case then the problem becomes one of design. The lack of significant results may then be accounted for by the following: (1) the effects were not as profound as expected, and (2) were drowned out by "noise." With respect to (1) I suspect the original expectations of subjects, and the design of the behavior modification group itself influenced the results. As discussed in the "manipulation check" section, resistance to changing behavior, which is part of one's identity and which have become well-ingrained habits is quite difficult to overcome and, in retrospect, is important in change efforts which place most of the burden for change

squarely on the shoulders of the individual who is to do the changing with little psychological support from significant others. For me this also ties in to concepts such as how we teach people to relate to authority figures, and responsibility individuals assume for their own lives. When one pauses to think about her or his own educational experience one can remember the teacher asking all the questions (with most student-initiated questions being extinguished), and prescribed courses of study over which the student (particularly in the primary grades) has little or no say. One can remember the pressures to be attentive to the needs of the teacher (and other authority figures for that matter) because responding to one's own needs and ideas which may be different from those of the authority figures often incurred more trouble than it was worth. The net result of this was a habit of focusing one's attention outward to what one "should" do, and neglecting what one "wanted" to do, at least within authority-controlled situations, such as the school.

Another influential message in this authority-subordinate relationship is "don't be responsible for yourself" (in fact if you wanted to you couldn't), "be passive," "let someone else tell you what is good for you."

Now imagine the people who walk into a situation (namely, as a subject in the behavior modification group) and are asked, in effect, to be responsible for themselves: to choose an important behavior (which one is not satisfied with) to modify, to analyze the present environment for relevant contingencies (i.e., antecedents and consequences), etc.; in other words, to take responsibility for learning a new set of concepts and skills and to make them work. After years of the previously

described situation I doubt (in retrospect) that the individual possesses all of the relevant concepts, behaviors, and attitudes required. There is still some degree of "waiting for the magic pill" which will make everything better. This is not laying all the blame on the individuals involved, but rather, is an indictment against what we learn about authority-subordinate relationships, what people learn about responsibility for oneself, and present conditions in the schools which support this. From a more intrapsychic point of view, we weaken the link between an individual wanting something to change and their believing they can actually do something about it themself.

One other reason for loss of power was the large amount of "noise." Considering that this intervention took one hour of meeting time and about one hour of application time each week its influence would need to be quite strong to compete with all other events in the life of a student. This event (i.e., participation in a behavior modification group) was probably viewed as relatively trivial in each subject's life. Studies conducted at "Achievement Place" (a home for delinquent boys) (Eitzen, 1975) were quite different. They had a total behavior modification environment, which provided a great deal of support to the individual in the early stages until he was able to learn the skills of self-control. A behavior modification environment did not exist with the subjects of this study. Also, a large part of the environment was no more under the control of the individual than when she/he began. I am assuming of course that the degree of self-control possessed by today's college student is somewhat less than optimal. This is, however still an empirical question which would provide interesting research.

Sample size. Another major factor in power analysis is sample size. Usually error decreases and power increases when the size of the sample increases. Perhaps more than twenty-one subjects should have been employed in Group I.

Number of dependent variables. The purpose of this study was to take an omnibus view of the psychological effects of behavior modification; thus, the necessity for including a wide range of dependent measures. However, what was sacrificed in the process was degrees of freedom, and hence statistical sensitivity. That is, it becomes more difficult to detect a difference which actually exists as the number of dependent measures increases. But, as in every study, there are trade-offs to be made, and in this one the investigator chose the conceptual trade-off for the statistical one.

It will be remembered from the results section that all three groups combined on the Job Motivation Index became significantly less job motivated over time ($p=.016$). Most of this difference occurred in the control group. It appears that participating in some type of activity designed to aid one in making improvements in one's school work has an attenuating effect on the decline in job motivation. Perhaps this is another example of the Hawthorne effect. The external reinforcement provided by the extra attention received by subjects in the behavior modification and consciousness-raising groups seemed to influence their job motivation.

In summary, a case was not made for behavior modification being an ethical technology, employing the specific definition of ethics that this study did. Nor was behavior modification demonstrated to be

unethical. If future research concentrates on the issue of ethics a broader definition would be necessary in order to encompass its many facets.

Directions for Future Research

One may view this study as having two major themes: (1) a test of the relationship between behavior change and subsequent attitude change, and (2) a test of the ethics involved.

With regard to number one above there are a number of improvements which can be made. If the relationship between behavior change and subsequent attitude change is not a causal one then the questions asked and the actual design of the study need rather drastic revision. The question then becomes a test of the nature of the relationship between behavior change and attitude change. Rokeach (1966) has suggested that "social behavior is determined by sets of interacting attitudes--one activated by the attitude objects, and the other elicited by the situation" (Bandura, 1969). Thus, each specific attitude (i.e., self-concept, locus of control, etc.) may be controlled by a different "mix" of variables and a separate test for each one may be called for.

If the relationship between behavior change and subsequent attitude change is a causal one then the problem of demonstrating this thesis is one of design.

If attitude change is a function of change in a target behavior then a different design may be employed. One may use a behavior modification group and compare those who are successful in changing their target behavior with those who are unsuccessful. In this case a consciousness-raising and control group is unnecessary.

If attitude change is a function of participating in a behavior modification program then a refinement of the present study is in order. Four major areas for improvement suggest themselves: (1) choose participants who have a more compelling reason to change. The success of the behavior modification approach hinges upon its correct and diligent application. "Going through the motions" often results in failure, particularly on counterproductive behaviors which are rewarded by one's environment. (2) Reduce the size of each behavior modification group. Instead of one large group of 20 people, 4 groups of 5 would be optimal. More time could be spent helping each individual translate the abstract ideas into a program which will work in their own situation. Group members can provide support for one another in making what are often difficult changes. (3) Learning the concepts and applying them are a series of behaviors which are determined by the environment. Applying the principles of shaping to this class of behaviors would go a long way. With such a large group (21) the experimenter was unable to shape individuals' behavior to the extent necessary. Smaller groups (5-person groups) would enable the trainer to do so. (4) The behavior modification training group can also act as a support group for members trying to learn a new technique which will help them change their behavior. Peer reinforcement, social support, praise, knowledge that others are experiencing similar events, and others to help point out blind spots or alternative ways to do things are all powerful tools which would help insure the success of the program.

A partial answer was provided to the question of the ethics of behavior modification as it was operationalized in this study. A case

was not made for its enhancing the psychological health of the individual. However, the claims of critics were also not supported: there was no deterioration in psychological health as a result of participating in a behavior modification program.

Future research may wish to concentrate on the question of ethics. Realizing that the manner in which "ethics" was operationalized in this study is only one of many possibilities a variety of ways of approaching the study of ethics suggests itself. There are issues such as who does the controlling; that is, does it make a difference if one individual administers rewards and punishments for another rather than employing a self-modification program? Who chooses the target behavior is another question of ethics for we assume that while the individual may not deliberately harm oneself this may not be the case when someone else has the power. This also raises questions about the use of power: for example, under what conditions do those in power use it to the detriment of others? And, under what conditions is countercontrol exercised and what is the nature of this countercontrol?

Additional Findings and Discussion

The following is a table of intercorrelations among the six major scales plus age and sex (alpha is on the diagonal):

	Self-Concept	Mach	Locus of Control	QWL	Job Mot	Job Sat	Age	Sex
Self-Concept	.81							
Mach	.09	.55						
Loc	-.14	-.10	.66					
QWL	.16	-.47	-.01	.89				
Job Mot	-.06	-.41	.14	.63	.74			
Job Sat	.27	-.27	.03	.77	.62	.91		
Age	.17	-.05	.28	-.08	-.13	.04		
Sex	.02	.11	.09	-.20	-.24	-.33	-.12	

Notice (in order) (1) the high degree of correspondence among QWL, job motivation, and job satisfaction, (2) the high negative relationship of these three variables with machiavellianism, (3) the relationship between sex and these same three variables (women were more job satisfied, job motivated, and had a higher quality of work life than men), (4) the positive relationship between self-concept and job satisfaction, and (5) the low relationships among the other variables. It seems that QWL, job motivation, and job satisfaction all seem to be tapping some common factor. The author suggests that the "common factor" is an environment which produces rewards important to the individual. Cherrington, Reitz, and Scott (1971) demonstrated empirically that satisfaction is directly influenced by rewards; the greater the rewards the more the individual is satisfied. They further found that performance is directly influenced by performance-contingent rewards.

Performance is an outward manifestation of a (supposed) internal state such as motivation. Operant theorists have demonstrated with literally thousands of replications, that rewards contingent upon performance will increase the frequency of that behavior. It is a small conceptual step to say that not only is the external performance changed but the internal state as well. This would also be predicted by cognitive dissonance theory (Festinger, 1957) which maintains that there must be a congruency between one's behavior and one's beliefs (an internal state). The highest correlation is between QWL and job satisfaction. The author questions whether there really is a significant difference between the two concepts. It is difficult to imagine a situation where one is dissatisfied, yet maintains a high QWL or vice versa.

The negative relation between the above three variables and machiavellianism is an interesting one. Since no causality can be implied from correlations, and one does not know the nature of the influence nor its direction one can only speculate as to its meaning. The author of the machiavellian scale says that high Machs possess a "'cool detachment' which makes them less emotionally involved with other people . . ." In validity studies ". . . in which face-to-face contact, latitude for improvisation, and irrelevant affect were all judged present, the high Machs won more, were persuaded less, persuaded others more . . ." (Robinson and Shaver, 1969). In organizations which employ a participative style of management there has been noted higher job satisfaction, job motivation, and QWL scores. Behavior in participative organizations exhibited by an individual high on the machiavellian dimension probably would not lead to success. There would, of necessity, be a high degree of interpersonal interaction, and emotional involvement with other

people. There would have to be a good deal of "give and take" with interpersonal skills such as giving and receiving feedback being a prerequisite for all members. Apparently behaviors indicative of high machiavellianism preclude one becoming satisfied, motivated, and having a higher quality of work life.

If the "common factor" among QWL, job satisfaction and job motivation is a rewarding environment then the positive correlation between job satisfaction and self-concept makes sense. Self-concept is formed through interactions with one's environment. To the extent that one's environment provides rewards then the individual will have a positive self-concept.

These findings suggest that those organizations which are designed and managed so that employees are able to attain rewards they consider to be important will be more effective and humane. Since there is a great deal of individual variation with what one finds rewarding, the particular organizational design must provide opportunities, without individuals being coerced into certain behaviors. One of the most promising designs for this is a participative organization. Participative organizations provide for the potential fulfillment of a large variety of needs (e.g., economics, affiliative and competence to name a few) while allowing individuals wide latitude in the degree to which they wish to become involved. An intermediate step between today's hierarchically designed organization and a participative one is a behavior modification program. Here behaviors are specified (surprisingly enough role ambiguity and inadequate understanding of one's tasks is a problem in bureaucratic designs), a variety of rewards are identified (there is an overreliance on economic rewards, sometimes

to the detriment of other aspects of work that could "turn on" people in the traditional hierarchical system), and rewards are made contingent upon behavior (this condition rarely exists in today's hierarchical organization).

Most organizations today are using outmoded designs. Results of not keeping pace with innovative ideas and alternatives have been lowered productivity, higher costs, increased absenteeism, turnover, sabotage, and many others. While organizational psychology is still in its infancy the information accumulated thus far is greater than that which has been put to good use. Organizations in the not-too-distant future will be forced (by the demands of survival) to look into alternatives which will provide for a more efficient operation as well as a more humane way of managing. Organizational behavior modification will be an integral part.

REFERENCES

REFERENCES

Aldis, O. "Of pigions and men." Harvard Business Review, July-August, 1961, pp. 59-63.

Allyon, T. and Azrin, N. The Token Economy. New York: Appleton-Century-Crofte, 1968.

Argyris, C. Personality and Organization. New York: Harper, 1957.

Bandura, A. Principles of Behavior Modification. New York: Holt, Rinehart, and Winston, 1969.

Bennis, W. G.; Berkowitz, N.; Affinito, M.; and Malone, M. "Authority power, and the ability to influence." Human Relations 11 (1958), 143-156.

Bennis, W.; Benne, K.; Chin; and Corey, K. The Planning of Change. New York: Holt, Rinehart, and Winston, 1976.

Berger, E. M. The relation between expressed acceptance of self and expressed acceptance of others. Journal of Abnormal and Social Psychology, 1952, 47, 778-782.

Blake, R., and Mouton, J. Building a Dynamic Corporation Through Grid Organization-Development. Reading, Mass.: Addison-Wesley, 1969.

Bobson, Sarah. Self-concept: An Annotated Bibliography of Selected ERIC References.

Brayfield, A. H., and Rothe, H. F. "An index of job satisfaction." Journal of Applied Psychology, 35, 5, Oct., 1951.

Brethower, D. Behavioral Analysis in Business and Industry. Kalamazoo, Mich.: Behavioradelia, 1972.

Brown, P., and Presbie, R. Behavior Modification in Business, Industry, and Government. New Paltz, N.Y.: Behavior Improvement Associates, 1976.

Bruyere, D. H. "The effects of client-centered and behavioral group counseling on classroom behavior and self-concept of junior high school students who exhibited disruptive classroom behavior." Unpublished doctoral dissertation, University of Oregon, 1975.

Burns, T., and Stalker, G. M. The Management of Innovation. London: Tavistock Publications, 1961.

Callison, Connie P. "Experimental induction of self-concept." Psychological Reports, 1974, 35, 1235-1238.

Campbell, D. T., and Stanley, J. C. Experimental and Quasi-Experimental Designs for Research. Rand McNally, 1963.

Carpenter, F. The Skinner Primer. New York: Free Press, 1974.

Carter, J. B. "Effect of the learning laboratory on locus of control." Unpublished doctoral dissertation, North Carolina State University at Raleigh, 1973.

Carter, G. "A study of the effect of behavior modification techniques upon the production, self evaluation, and vocational adjustment of retardates." Unpublished doctoral dissertation, New York University, 1973.

Cherrington, D. J.; Reitz, H. J.; and Scott, Jr., W. E. "Effects of contingent and noncontingent reward on the relationship between satisfaction and task performance." Journal of Applied Psychology, 1971, 55, 6, 531-536.

Cherrington, D. J. "The effects of a central incentive-motvational state on measures of job satisfaction." Organizational Behavior and Human Performance, 10, 1973, 271-289.

Christie, R., and Geis, F. L. Studies in Machiavellianism. New York: Academic Press, 1970.

Church, R. M. "The varied effect of punishment on behavior." Psychological Review, Vol. 70, No. 5, September, 1963.

Clark, A. W. "Patient participation and improvement in a therapeutic community." Human Relations 29 (1967): 259-273.

Cristie, R. Machiavellianism scale in unpublished manuscript, department social psychology, Columbia University, 1968.

Cutick, R. "Self-evaluation of capacities as a function of self-esteem and the characteristics of a model." Unpublished Ph.D. dissertation, University of Pennsylvania, 1962.

Dayal, I., and Thomas, J. "Operation KPE: Developing a new organization." Journal of Applied Behavioral Science, 4, 4 (October/November/December, 1968), 473-506.

DeCharms, R. "Personal causation training in the schools." Journal of Applied Social Psychology, 2, 1972, 95-113.

Delbecq, A.; Van de Ven, A.; and Gustafson, D. H. Group Techniques for Program Planning. Scott, Foresman, 1975.

Diamond, M. J., and Shapiro, J. L. "Changes in locus of control as a function of encounter group experiences." Journal of Abnormal Psychology, 32, 1973, 514-518.

Diggory, J. Self-evaluation: Concepts and Studies. New York: Wiley, 1966.

Dill, W. R. "Environment as an influence on managerial autonomy." Administrative Science Quarterly, 2 (1958): 409-443.

Dua, P. S. "Comparison of the effects of behaviorally oriented action and psychotherapy reeducation on intraversion-extraversion, emotionality and internal-external control." Journal of Counseling Psychology, 17, 1970, 567-572.

DuCette, J. P., and Wolk, S. "Locus of control and extreme behavior." Journal of Consulting and Clinical Psychology, 39, 1972, 253-258.

Eitzen, D. S. "Impact of behavior modification techniques on locus of control of delinquent boys." Psychological Reports, 35, 1974, 1317-1318.

Eitzen, D. S. "The self concept of delinquents in a behavior modification treatment program." Journal of Social Psychology (June, 1976), Vol. 99, 203-206.

Eitzen, D. S. "The effects of behavior modification on the attitudes of delinquents." Behavior Research and Therapy, 1975, Vol. 13, 295-299.

Feeney, E. "Performance audit, feedback, and positive reinforcement." Training and Development Journal, 11 (November 26, 1972), 8-13.

Ferster, C. B., and Perrott, M. C. Behavior Principles. New Century, 1968.

Filley, A. Interpersonal Conflict Resolution. Ill.: Scott-Foresman, 1975.

Fitch, G. "Effects of self-esteem, perceived performance, and choice on causal attributions." Journal of Personality and Social Psychology, 16, 1970, 311-315.

Fleagle, G. P. "An experiment in organization development." Unpublished, April, 1972.

Ford, R. Motivation Through the Work Itself. New York: American Management Association, 1969.

Foulds, M. L. "Changes in locus of control of internal-external control." Comparative Group Studies, 2, 1971, 293-300.

Foulds, M. L.; Guinan, J. F.; and Warehime, R. G. "Marathon group: Changes in perceived locus of control." Journal of College Student Personnel, 15, 1974, 8-11.

Foulkes, F. Creating More Meaningful Work. New York: American Management Association, 1969.

Frost, C.; Wakeley, J.; and Ruh, R. The Scanlon Plan for Organization Development. Michigan State University Press, 1974.

Fry, F. "Operant conditioning in organization settings: Of mice or men?" Personnel, July-August, 1974, pp. 17-24.

Gallaher, S. L. "Behavioral and attitudinal change with MDTA nursing students." Unpublished doctoral dissertation, University of Washington, 1974.

Gibby, R. G., and Gibby, S. R. "The effects of stress resulting from academic failure." Journal of Clinical Psychology, 23, 1967, 35-37.

Gillis, J. S., and Jessor, R. "Effects of brief psychotherapy on belief in internal control: An exploratory study." Psychotherapy: Theory, Research, and Practice, 7, 1970, 135-137.

Grotjan, G. "An investigation of the relationship between perceived locus of control and performance as behavior modifier with the mentally retarded." Unpublished doctoral dissertation, University of Missouri, Columbia, 1972.

Gurin, P.; Gurin, G.; Lao, R.; and Beattie, M. "Internal-external control in the motivational dynamics of Negro youth." Journal of Social Issues, 25(3), 1969, 29-53.

Hagmeier, L. D. "Locus of control and self concept: Implication for rehabilitation and an investigation of a method for their change." Unpublished doctoral dissertation, University of Washington, 1973.

Hausser, D. L.; Pecorella, P. A.; and Wissler, A. L. Survey-guided Development: A Manual for Consultants. Institute for Social Research, University of Michigan, 1975.

Herrick, N. Q. "The quality of work life and its outcomes: Estimating potential increases in labor productivity." Columbus, Ohio: The Academy for Contemporary Problems, 1501 Neil Avenue, 1975.

Hersch, P. D., and Scheibe, K. E. "Reliability and validity of internal-external control as a personality dimension." Journal of Consulting Psychology, 31, 1967, 609-613.

Holz, W. C., and Azrin, N. H. "Interactions between the discriminative and aversive properties of punishment." Journal of the Experimental Analyses of Behavior, 5, 1962, 229-234.

Honig, W. K. Operant Behavior: Areas of Research and Application. New York: Appleton-Century-Crofts, 1966.

Joe, V. C. "Review of the internal-external control construct as a personality variable." Psychological Reports, 28, 1971, 619-640.

Jongeward, D., and contributors. Everybody Wins: Transactional Analysis Applied to Organizations. Reading, Mass.: Addison-Wesley, 1973.

Klein, S. M. "Pay factors as predictions to satisfaction: A comparison of reinforcement, equity, and expectancy." Academy of Management Journal, 16, 4, 1973.

Krasner, L., and Ullmann, L. P. Research in Behavior Modification. Holt, Rinehart & Winston, 1965.

Lao, R. C. "Internal-external control and competent and innovative behavior among Negro college students." Journal of Personality and Social Psychology, 14, 1970, 263-270.

Lefcourt, H. "Internal versus external control of reinforcement revisited: Recent developments." In B. A. Maher (ed.), Progress in Experimental Personality Research, Vol. 6. New York: Academic Press, 1972.

Lefcourt, H. "Internal versus external control of reinforcement: A Review." Psychological Bulletin, 65(4), 1966, 206-220.

Lefcourt, H. Locus of Control: Current Trends in Theory and Research. New York: John Wiley and Sons, 1976.

Lesyk, J. J. "Effects of intensive operant conditioning on belief in personal control in schizophrenic women." Dissertation Abstracts, Section B, 1969 (12), 29, 4849.

Levenson, H. "Activism and powerful others: Distinctions within the concept of internal-external control." Journal of Personality Assessment, 38(4), August, 1974, 377-383.

Likert, R. The Human Organization. New York: McGraw-Hill, 1967.

Luthans, F., and Kreitner, R. Organizational Behavior Modification. Scott, Foresman, 1975.

Lyons, T. F. "Role clarity, need for clarity, satisfaction, tension, and withdrawal." Organizational Behavior and Human Performance, 6 (1971): 99-110.

Machiavelli, N. The Prince. Translated by L. Rucci. New American Library of World Literature, 1953.

Machiavelli, N. The Discourses.

Maher, J. New Perspectives in Job Enrichment. New York: Van Nostrand, Reinhold, 1971.

McGinnies, E., and Ferster, C. The Reinforcement of Social Behavior. Houghton Mifflin, 1971.

McReynolds, W. T., and Church, A. Self-control, study skills development and counseling approaches to the improvement of study behavior. Behavior Research and Therapy, 11, 1973, 233-235.

Mirels, H. L. "Dimensions of internal versus external control." Journal of Consulting and Clinical Psychology, 34, 1970, 226-228.

Morrow, W. R. "Self concept changes following behavior modification." Final report. PHS (HSMAH/NIMH/DERP/ARB) Research grant 1-rol-mh-21755, University of Wisconsin Fund 144, Account d276, 1974.

Nowicki, S., and Barnes, J. "Effects of a structured camp experience on locus of control orientation." Journal of Genetic Psychology, 122, 1973, 247-252.

O'Leary, K. D., and Wilson, G. T. Behavior Therapy: Application and Outcomes. Prentice-Hall, Inc., 1975.

Orpen, C. "The effect of reward contingencies on the job satisfaction-task performance relationship: An industrial experiment." Psychology, 11, 3, Aug., 1974, 9-14.

Orwell, G. 1984.

Oziel, L., and Berwick, P. T. "Effects of feedback on self-reinforcing behavior in relation to self acceptance." Psychological Reports, 34, 1974, 1039-1044.

Parks, C., and Becker, W. "Eliminating self-defeating behaviors and change in locus of control." The Journal of Psychology, 91, 1975, 115-120.

Patchen, M. Some Questionnaire Measures of Employee Motivation and Morale. Monograph no. 41. Ann Arbor, Mich.: Institute for Social Research, 1965.

Patchen, M. Participation, Achievement, and Involvement on the Job. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1970.

Paul, G. L. Insight Versus Desensitization in Psychotherapy: An Experiment in Anxiety Reduction. Stanford: Stanford University Press, 1966.

Pepitone, A. Attraction and Hostility. New York: Prentice-Hall, 1964.

Phares, E. J. Locus of Control in Personality. Morristown, N.J.: General Learning Press, 1976.

Porter, L. W., and Lawler, E. E. Managerial Attitudes and Performance. Homewood, Ill.: Richard Irwin, Inc., 1968.

Prociuk, T. J., and Breen, L. J. "Machiavellianism and locus of control." The Journal of Social Psychology, 98, 1976, 141-142.

Quality of work life survey, GM corp.

Raia, A. P. Managing by Objectives. Ill.: Scott-Foresman and Co., 1974.

Reitz, H. J. "Managerial attitudes and perceived contingencies between performance and organizational response." Academy of Management Proceedings, 31st annual meeting, 1971, pp. 227-238.

Reimanis, G. "Effects of locus of reinforcement control modification procedures in early graders and college students." Journal of Educational Research, 68(3) (Nov., 1974), 124-127.

Robinson, J. P., and Shaver, P. R. Measures of Social Psychological Attitudes. Survey research center, ISR, University of Michigan, 1969.

Rogers, C., and Skinner, B. F. "Some issues concerning the control of human behavior." Science, Vol. 124, No. 3231, Nov. 30, 1956.

Rotter, J. B. "Generalized expectancies for internal versus external control of reinforcement." Psychological Monographs, 80, 1966 (1 whole no. 609).

Rotter, J. B. Social Learning and Clinical Psychology. Englewood Cliffs, N.J.: Prentice-Hall, 1954.

Rush, H. Job Design for Motivation. New York: American Management Association, 1969.

Samples, F. "A study of the effects of varied reinforcements on self-concept change and learning as related to locus of control and birth order." Unpublished doctoral dissertation, West Virginia University, 1971.

Schein, E. Process Consultation. Addison-Wesley, 1969.

Schwab, D. P., and Cummings, L. L. "Theories of performance and satisfaction: A review." Industrial Relations, 7, 1970, 408-430.

Shrauger, J. "Self-esteem and reactions to being observed by others." Journal of Personality and Social Psychology, 23, 1972, 192-200.

Sims, H. P., and Szilagyi, A. D. "Leader reward behavior and subordinate satisfaction and performance." Organizational Behavior and Human Performance, 14, 1975, 426-438.

Skinner, B. F. Walden Two. Macmillan Press, 1948.

Skinner, B. F. "The science of learning and the art of teaching." Harvard Educational Review, 24, 1954, 86-97.

Skinner, B. F. Beyond Freedom and Dignity. Bantam Books, 1971.

Smith, P. C.; Kendall, L. M.; and Hulin, C. L. The Measurement of Satisfaction in Work and Retirement. Chicago: Rand McNally, 1969.

Solomon, R. L. "Punishment." American Psychologist, Vol. 19, 1964, pp. 239-253.

Sopina, M. V. "Self-concept changes in adolescents following behavior modification." Unpublished doctoral dissertation, University of Arizona, 1971.

Steers, R. M., and Porter, L. W. Motivation and Work Behavior. McGraw Hill, 1975.

Strassberg, D. S. "Relationships among locus of control, anxiety, and valued-goal expectations." Journal of Consulting and Clinical Psychology, 41, 1973, 319.

Taylor, J. C. "The quality of working life: An annotated bibliography." Graduate School of Management, UCLA, 1972.

Ullman, L. P., and Krasner, L. Case Studies in Behavior Modification. Holt, Rinehart & Winston, 1965.

Wahler, R. G., and Pollio, H. R. "Behavior and insight: A case study in behavior therapy." Journal of Experimental Research in Personality, 3, 1968, 45-56.

Warren, A. Excerpt from a talk given on the quality of work life at GM, 1976.

Watson, D. L., and Tharp, R. G. Self-Directed Behavior. Belmont, Calif.: Brooks/Cole Publishing Co., 1972.

Wheeler, H. Beyond the Primitive Society. San Francisco: W. H. Freeman and Co., 1973.

Workman, E. E. "A comparison of behavoristic and humanistic treatment procedures on the achievement of success in a sheltered workshop." Unpublished doctoral dissertation, University of Southern California, 1973.

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APPENDICES

APPENDIX A

WORKBOOK

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WORKBOOK

WORKSHOP: MANAGING YOUR BEHAVIOR

by Glenn DeBiasi
Department of Psychology
Michigan State University

Schedule:

April 11: Introduction to behavior management
What is behavior?
Counting (baselining) behavior

April 18: Consequences
Shaping
Immediacy of reward

April 25: Antecedents

May 2: Changing your own behavior

May 9: Continuation of above

May 16: Continuation of above

June 1: Posttesting
Debriefing

GOALS: To teach the participants some principles of behavior. To help them apply these principles to one behavior of their choosing which directly relates to their job as student.

OBJECTIVES: First workshop (April 11). By the end of this 3 hour workshop each participant will have identified one student/job-related behavior they will improve. They will put in writing how they will measure this behavior. They will put in writing what they will do between the first and second workshop. This consists of baselining their behavior and showing up for the second workshop on April 18.

INTRODUCTION

In this experience we will draw an analogy between jobs in the outside world for which people get paid money and the job of a student for which people receive grades, promotions to the next level (i.e., class), and ultimately a degree. When you think about it there really are many similarities. Like a job, you have chosen, for whatever reasons, to become a student. You have certain expectations of the school: they have certain expectations of you. You have a series of tasks to do. You have some control over those tasks, but not too much. You have several bosses (i.e., professors, administrators) and you have co-workers (i.e., other students) with whom you must interact, and with whom you are partially interdependent (particularly in courses which curve grades). You get paid for your efforts (i.e., grades). You receive promotions if you are good enough (from freshman to sophomore etc., to college graduate).

In work organizations an increasing amount of attention is being paid to the various jobs people hold, and improvements are being made. If one considers the job of student to have many of the same characteristics as jobs outside of college then it is quite possible to help students make improvements in areas they consider to be important. Thus the basic idea of this workshop and the following activities is to teach you some skills that you can apply to some significant problems in your job as student.

The focus of this will be yourself. Specifically we will deal with <u>behavior</u>, or what you <u>do</u>. Although there are other aspects of people, such as feelings, thoughts, values, attitudes, etc., we will

focus on behavior. We will be coming from the perspective that behavior is learned. A great deal of research has shown this to be true. Since behavior is learnable you will be able to acquire new behaviors which you feel will be helpful to you, and to unlearn behaviors which you feel are not so helpful.

The other basic thing you need to know is what makes you behave the way you do. The perspective taken in this workshop says that your behavior is strongly influenced by its environment. It is influenced by what comes before it (ANTECEDENTS) and what follows it (CONSEQUENCES). For example, you may have noticed that people tend to repeat those behaviors which result in rewards (i.e., pleasant consequences). Through much research, it is now well known that if any behavior or performance is followed by a rewarding consequence, it most likely will be repeated. On the other hand behavior followed by an unpleasant consequence is likely not to occur again. Behavior is also strongly influenced by what precedes it. For example, I may ask you a question (this comes before your behavior and is called an antecedent), which prompts you to give a reply (a behavior), which is followed by an indication from me as to whether you were right or wrong (a consequence). This is called the "ABC" framework. In this workshop you will learn how to get the behavior you want by assuming control over your environment (i.e., antecedents and consequences).

OVERVIEW OF BEHAVIOR MANAGEMENT

A. ANTECEDENTS. Those people, times, situations, or places which set the occasion for the behavior to occur. Put another way this means that behavior occurs in a context. Behaviors occur in a place (e.g., the library), at some time (e.g., 8:00 p.m.), with certain people (e.g., other students), and in some situation (e.g., the professor is lecturing). These antecedent conditions affect the behaviors which follow. They can either help the behavior to occur or they get in the way.

B. BEHAVIOR. A behavior is a specific, observable, and measurable aspect of an individual. This is the very foundation of behavior management. Examples include reading a book, driving a car, typing a paper, and asking a question.

C. CONSEQUENCES. A consequence is something that occurs <u>after</u> the behavior. Some examples include: feeling bad after reading a book because I tell myself I'm stupid, receiving an "A" on a paper I've just turned in. There are four main types of consequences: positive reinforcement, punishment, extinction, and performance feedback. The main thing to remember is that: BEHAVIOR IS STRONGLY INFLUENCED BY WHAT FOLLOWS IT.

There are four general reasons why problems with your behavior occur: (1) Some antecedent conditions get in the way of behaving, (2) we haven't defined what it is we want to accomplish (i.e., the behavior), (3) the consequences for behaving discourage us from performing again, or (4) because we don't get any feedback on how we're doing (i.e., performance feedback). Any one or a combination of these factors would cause us to exhibit behaviors we didn't want to exhibit or not exhibit behaviors we would wish to. Here are some examples:

1. An example of antecedents which hinder a behavior: I usually study in my room. However, this year I was unfortunate enough to be rooming next door to some people who just bought a new stereo system. These people are really into music and thus play it almost all the time. They must also be slightly deaf because they play it at such a volume that I can hear it was well as they can. Now whenever I try studying in my room I find my mind wandering and listening to music. Consequently I don't get as much studying done and my grades are starting to fall. In this example the antecedent conditions would be the place where the studying is supposed to occur, and the loud distractions.

2. An example of a poorly defined behavior: I don't seem to get much out of classes. Most of the time the professor talks too fast so that I can't take good notes, and so that often I don't know what she is talking about. In this example the student has not specified what he or she can do to get more out of the class.

3. An example of consequences which decrease behavior: I went over to my girlfriend's house to study the other night. She kept telling me how stupid I am. Boy, that makes me mad!. I'm not going to study with her any more. In fact I might not even see her again. In this example, the

behavior of studying with one's girlfriend was followed by an aversive consequence (i.e., being told how stupid you are). The result is that you don't want to study with her any more.

4. An example of lack of performance feedback. I was reading my text book last night and I wasn't sure whether I was understanding the material. In this example the person reading the book (the behavior) was not sure whether she understood it. Thus she gets no incentive for continuing and will soon stop reading or begin daydreaming. If she received some feedback about her performance which told her how well she was doing her reading would continue longer as well as her retention improving.

BEHAVIOR

What is behavior? Behavior is a specific, observable, and measurable aspect of an individual. Behavior is what you see and hear a person do.

Most of us do not speak nor do we observe the world in behavioral terms. For example, we say things like: "Boy, Terry sure was angry the other day." There is nothing behavioral about this statement. Ten people who make this statement may mean ten different things because it isn't specific enough. For example, "angry" could mean that Terry shouted and yelled at you, that he refused to speak to you, that he shook his fist at you, or any number other behaviors.

To tell whether something is a behavior ask yourself three questions: 1. Can it be seen? 2. Is it specific? 3. How do you measure it? When one says that Terry is "angry," the concept "angry" cannot be directly seen, but can only be inferred. It is not specific, and it can't be readily measured. When one says that Terry shook his fist at you the shaking of the fist can be seen, it is specific, and one can easily count the number of times the behavior occurs.

In the following example a professor is describing one of her students. In the left-hand column she describes the student in non-behavioral terms. In the right-hand column she describes the same student in behavioral terms:

"Phil is . . .	"Phil . . .
1. disagreeable, negative	1. tells you why it can't be done that way.
2. aggressive	2. verbally threatens, fights.
3. sulks	3. sits in a corner.
4. immature	4. tells crude, childish jokes.

BEHAVIOR QUESTIONS

1. "I am a good student." Is this an example of a behavioral statement? Why or why not?

2. "I asked the professor 3 questions in class yesterday." Is this an example of a behavioral statement? Why or why not?

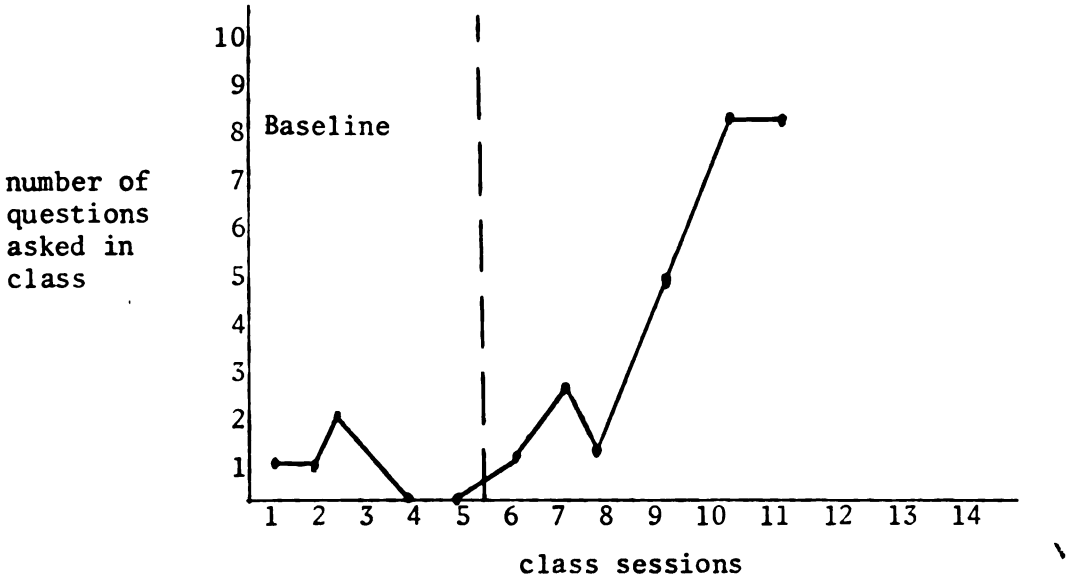
3. What are the three questions one asks in order to determine what a behavior is?

4. Give an example of a behavior that you do in your job as student.

COUNTING AND CHARTING YOUR BEHAVIOR (BASELINING)

Sometimes simply defining your problem in behavioral terms may be enough to improve it. However, this is not always the case. In the world of work, recording behavior is not entirely new. What is new is that people are being taught to measure their own behavior. In this approach you have chosen a behavior you consider to be important enough to work on. The next step is to get some accurate idea of how often it occurs, how long it occurs, etc. This is necessary so that even small improvements can be noted and reinforced.

There are two basic ways of counting the behavior you have chosen to work on: (1) Event counting. This is simply a direct count of each time a particular behavior occurs. Event counting may be carried out for an entire day or for a certain period each day. For example you can count the number of times you miss a class, the number of times you turn a paper in late, the number of questions you ask in class, the number of pages you read per unit of time or per class, the number of words you write each time you sit down at your desk, etc. (2) Time sampling. Sometimes it is not practical to count everytime a behavior occurs because it occurs so frequently. In this case you can pick certain times during the day when you will count the number of times the behavior is occurring.



In the above example the individual is charting the number of questions asked in class. A BASELINE is simply the number of times a behavior occurs before any attempt is made to change it. In this case it refers to the number of questions asked before any intervention is made. During the sixth class session the individual begins to rearrange contingencies (i.e., antecedents and consequences) so that the number of questions asked increases. A chart such as this one is quite reinforcing in that the individual can see how much improvement is made. This is called performance feedback, a term we will discuss later.

BEHAVIOR CASE STUDY

Hortensia Esposito was taking her first psychology course. Before the first day of class she was real excited about studying "the mind" and decided that she would spend a lot of time during the term reading the book so she could find out why she does the crazy things she does. But after the first class she felt real disappointed and was questioning whether this was the right course for her. She was feeling this way because the professor had said that psychology is the study of behavior, not the study of the mind. Well, all this seemed real boring to Hortensia. She wanted to read about crazy people, and psychoanalysis, and Herbert Freud. Nevertheless she decided to give it a try. Besides, she just couldn't disappoint her mother. She said to herself that she would spend one hour each day reading her psychology book. She decided she would begin the following day, when she set aside 7-8 p.m. to read.

Everything began fine. She was sitting on her bed and promptly at 7:00 p.m. began to read her psychology book, boring as it was. At 7:13 she decided she needed a drink. This took til 7:17. She read the next 3 paragraphs until 7:21. At 7:25 she found she had been thinking about her mother for the past 4 minutes. She then read the next 2 paragraphs, which she really did not understand. By this time it was 7:35. From then until 7:40 she told herself how dumb she really was and "this material is boring anyway." She forced herself to read the rest of the page, but when she turned the page she realized she hadn't comprehended a word because she had been daydreaming about how mad she was at the professor for teaching about behavior. After all, "that isn't what psychology is all about." "Well, its 7:56 and the hour is

almost over, so I can quit now. I spent my hour reading this stupid subject."

Hortensia did pretty well studying. She studied for an hour (well, almost an hour) every night that week (well, almost every night. She missed Wednesday night because there was a good TV show on). At the end of the week she had a quiz. She got 4 out of 10 correct. The class average was 7 out of 10 correct. Hortensia was mad! "I read the material! Either that was an unfair test or I'm not a very bright person." (Hortensia had this lingering fear that maybe underneath it all she really wasn't too bright.)

QUESTION: Identify some behaviors which help Hortensia to be a good student.

QUESTION: Demonstrate that they are behaviors (i.e., can they be seen? Are they specific? How do you measure them?)

Notice in this case study that a few behaviors which help Hortensia be a successful student are embedded with a lot of other ways of describing Hortensia. Notice also that the other ways of describing Hortensia are not useful for making any constructive changes. Can you isolate the few positive behaviors?

TASK: Identify one behavior which you would like to improve in your job of student.

Individually (5 min.)	1.	Make a list of areas which, if improved, would help you be a more successful student. These must be aspects which you have some control over. At this point they do not need to be behaviors.
Group (15 min.)	2.	Briefly share this list with others in your group. The purpose of this is to stimulate your thinking so that you may add or subtract from your own list.
Individually (3 min.)	3.	Rank order your list of areas for improvement.
Individually (2 min.)	4.	Pick one area you want to work on.
Individually (5 min.)	5.	List all the behaviors in this area.
Individually (2 min.)	6.	Pick one behavior you want to improve.
Group (20 min.)	7.	Have the other group members help you define your area of improvement in behavioral terms. (Check: Can it be seen? Is it specific? How will you measure it?)

Note: Throughout this exercise ask only "what" questions. "Why" questions are not necessary and are not allowed.

Note: There is no need to look for the "real" problem. The behavior is the problem.

Clarifying the Behavior I would like to change

1. The behavior I want to change is

2. When I do this behavior I defeat myself in the following ways

3. When I do this behavior, I most frequently feel

4. I do this behavior most often when I am

5. When I do this behavior, I most frequently am thinking

6. Often, after I do the behavior I feel

7. I most frequently avoid changing by

8. I do this behavior _____ times per day

9. I anticipate my behavior change will have the following impact on those closest to me

10. My greatest fear about changing this behavior is that I might

11. The most positive consequence of my behavior change will be

BEHAVIORAL CONTRACTING

In these workshops you are learning some new ideas and skills to be used to improve some aspect of your behavior as a student. One valuable tool which will aid you is called a BEHAVIORAL CONTRACT. Briefly, it specifies what you will do, how you will do it, and by when. It is important to use a behavioral contract or you'll end up getting the same results as you do when you make a New Year's resolution. In a New Year's resolution "what you will do" often is specified (e.g., "I'm going to quit smoking.") but "how you will do it" most often is not specified. "When you will do it" is often far removed in time (I'll do it by the end of the year"). From your own experience you know that most New Year's resolutions are never kept.

In order for you to learn the skills being taught in these workshops you will need to complete a behavioral contract each meeting which specifies what you will accomplish by the next workshop.

BEHAVIORAL CONTRACT

1. What is the behavior you will improve?

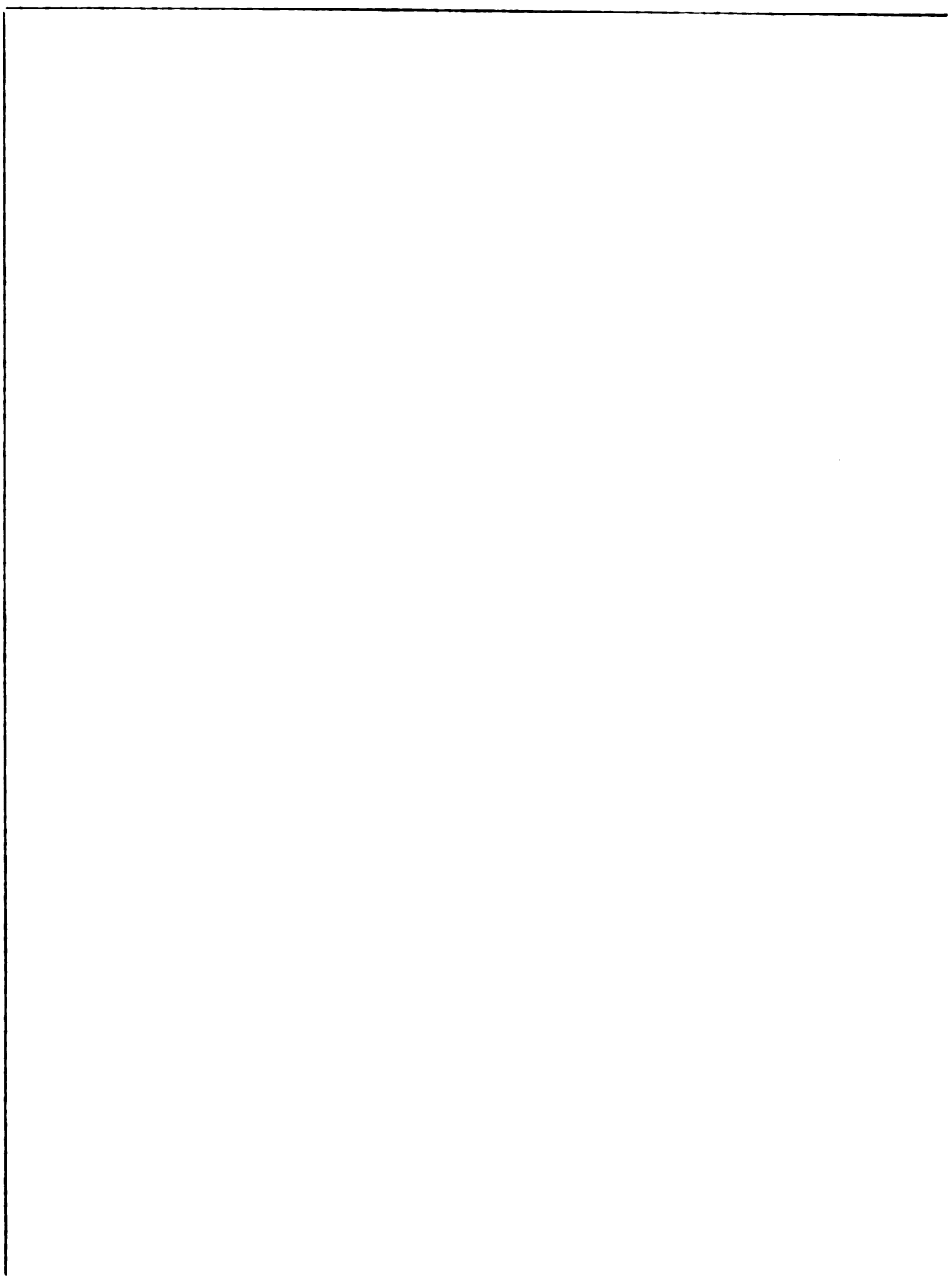
2. How will you measure it?

3. Specifically, what will you do by the next workshop?

4. Specifically, how will you do it?

_____

(signature)



CONSEQUENCE

OBJECTIVES: By the end of this one hour workshop participants will have identified some reinforcers for themselves. They will complete a behavioral contract which states what they will do between this workshop and the next, continue to baseline their behavior, identify consequences of their behavior, complete their list of reinforcers, read pp. 18-27 in the manual, and show up for the next workshop.

A consequence is something that comes after a behavior. Consequences can be thoughts, feelings, events, or other behaviors. They either increase behavior or decrease behavior. Thus, it is quite important that the behavior is followed by the proper consequence. There are two basic types of consequences, those which increase behavior and those which decrease behavior.

I. Consequences which increase behavior

A. Reinforcement. This refers to any event which follows a behavior and increases the likelihood that the behavior will occur in again. We tend to repeat those behaviors which result in reward. In other words, it strengthens or increases the behavior. Since one behaves all the time reinforcement occurs all the time. Many examples can be found in your job as a student. Receiving a high grade on a test or paper can be reinforcing for an individual. It helps to provide incentive for the student to do the same thing again. In this case the behavior may have been studying 3 hours/day for 5 days for a test. It was followed by getting a good grade on a test. The result is that the behavior of studying for a test is likely to occur again.

Another example concerns this workshop. The behavior is attending the workshop and participating in the activities. If the result is that you learn some new skills and ideas which you feel will be useful to you the chances are that you will return when the next session is held.

B. Knowledge of Results. This refers simply to knowing how well you did on something. It is information about behavior that is used to guide, improve, or change behavior. A decrease in behavior usually occurs when students receive no information, erroneous information, or nonspecific information. A good example of this occurs when we are reading a book and aren't sure whether we're understanding the material. The result is frustration, and daydreaming. When this occurs reading behavior decreases quite rapidly.

Suppose that you have decided that it is important for you to study for 5 hours each day. If your study time occurs at infrequent times throughout the day and you don't keep track of this you may not be sure you are reaching your goal. Getting information that tells us how we are doing with respect to attaining our goal is a powerful reinforcer of behavior.

II. Consequences which decrease behavior.

A. Punishment. This refers to any event which follows a behavior and which weakens it or reduces the likelihood that it will occur again. It is widely used as a method of influencing behavior. Examples include threats, ridicule, sarcasm, ostracism, and other aversive events. One example I have frequently seen occurs when a student asks a question in class and the professor lets everybody know the question was a stupid

one, thereby embarrassing the student in front of the whole class. The frequency of question-asking is going to decrease quite dramatically. Punishment does weaken behavior. But it has the following drawbacks: (1) It suppresses behavior temporarily, rather than eliminating it completely. Thus when punishment is removed the behavior returns. (2) It produces anxiety. (3) It tells a person what not to do, not what to do. For these reasons it should be avoided whenever possible.

B. Extinction. When a behavior is not followed by any type of event, either positive or negative, it will gradually stop occurring. For example, if you are in the library reading and another person begins talking to you and you attend to this other person and laugh at his jokes he will continue to talk to you. However, if you ignore him he'll go away much quicker. This example may seem rude, but the process is well illustrated.

DIRECTIONS: Read the following examples and answer the questions.

1. Last night Bob went to the library to read. Of the two hours he spent in the library he estimated that he read of a total of 15 minutes. His desk was next to the stairs. He spent most of the time staring at the people who were on the stairs. What behavior was being reinforced?

2. Last night Mary picked up her physics book and said she was going to read the next 10 pages. At the end of 10 pages she felt like she understood everything she read so she decided to read another 10 pages. What was the behavior? What was the consequence? What was the result?

3. Tom was in history class the other day listening to the professor lecture. The professor was talking faster than Tom could write, so Tom asked the professor to slow down. The professor said he didn't realize he was talking so fast and slowed down. Tom could now write down everything the professor was saying. What was Tom!s behavior? What was the consequence? What was the professor's behavior? What was the consequence?

4. Hortensia had a test to take the next day which she felt she wasn't ready for. So she decided to pull an "all-nighter." At 8:00 a.m. when she went in to take the test she was so tired she couldn't think clearly. She failed the test. What was the behavior? What was the consequence?

5. At the beginning of the term Larry periodically tried to call one of his professors. But he never got an answer. Gradually he stopped calling. What was the behavior? What was the consequence?

6. Turn back to pp. 11-12. Hortensia supposedly spent one hour reading each night. What was the consequence? What was the result? Hortensia took a test. What was the consequence? What was the result?

7. What behavior will you improve? Name one consequence you have experienced for performing that behavior? What was the result?

ARRANGING APPROPRIATE CONSEQUENCES

Up to this point you have identified a behavior to work on and have learned how to take some baseline measures. The next step is to learn how to arrange things so that reinforcement follows desired behavior, and extinction follows undesired behaviors. In other words, you want to use a strategy which helps you increase those behaviors you consider to be important, and use another strategy which helps you to decrease those behaviors you want to get rid of.

STEP 1. If you observe that some reinforcer is currently maintaining an undesired behavior, then you can rearrange the contingency so that the same reinforcer is used to strengthen the desired target behavior in the same situation. For example, in one of the previous examples Bob apparently enjoyed watching people walk up the stairs in the library more than he enjoyed reading his book. Consequently, he got very little reading done. His solution was to read in his room for 1 hour, and then reward himself by spending 15 minutes in the library ogling his fellow students. This was simply a matter of using an already existing reinforcer but arranging it so the reinforcer follows the behavior, not precede it. Remember that reinforcement must follow the desired behavior in order for the behavior to increase.

STEP 2. If you can't use an already-existing reinforcer then you must identify a new one. There are three things to consider in choosing a reinforcer: first, the consequence has to be a reinforcer for you. What is reinforcing to one person is not necessarily reinforcing to someone else. For example, I really enjoy reading psychology books. But I dislike working on cars. For many people this is not true. Second,

you must have control over the reinforcers you choose. Third, the stronger the reinforcer the more likely it is to be effective in helping you to change your behavior. To identify what is a strong reinforcer ask yourself: "Do I really think that I will stop performing the undesirable behavior, or start performing the desirable behavior just because I will gain the reinforcer?

To identify reinforcers you can ask yourself the following questions:

1. What kinds of things do you like to have?
2. What are your major interests?
3. What are your hobbies?
4. What people do you like to be with?
5. What do you like to do with those people?
6. What do you do for fun, for enjoyment?
7. What do you do to relax?
8. What do you do to get away from it all?
9. What makes you feel good?
10. What would be a nice present to receive?
11. What kinds of things are important to you?
12. What would you buy if you had an extra five dollars? $10? $50?
13. What behaviors do you perform every day? Don't overlook obvious, the commonplace.
14. Are there any behaviors that you usually perform instead of the target behavior?
15. What would you hate to lose?
16. Of the things you do every day, what would you hate to give up?

IDENTIFYING YOUR OWN REINFORCERS

DIRECTIONS:

Make a list of reinforcers. Remember: (1) What is a reinforcer for another person may not be a reinforcer for you, (2) You must have control over the reinforcer, (3) The stronger the reinforcer the more likely it is to be effective in helping you change your behavior. To identify what a strong reinforcer is ask yourself: "Do I really think that I will stop performing the undesirable behavior or start performing the desirable behavior just because I will gain _____ (the reinforcer)?" Arrange these reinforcers in a hierarchy, from most potent to least potent.

TWO OTHER IMPORTANT PRINCIPLES OF REINFORCEMENT

I. SHAPING.

Suppose that the behavior you are trying to improve is studying 5 hours/day in the library. Suppose that currently you are spending 45 minutes/day in the library studying. Do you wait until you have spent 5 hours/day before you reinforce yourself? Of course not! If you did that chances are you'd never make it. Instead what to do is shape the behavior. This means simply that if you are currently spending 45 minutes/day studying (this is the "baseline") any improvement over this gets a reinforcement. So, tomorrow if you spend 55 minutes reinforce yourself. Two days later if you spend 75 minutes, reinforce yourself. And so on. If you wait until you reach your final goal before you reinforce yourself you'll never make it because all your behavior in the meantime is not getting reinforced. What happens to behavior when it doesn't get reinforced?

EXAMPLE: Go back to our example with Hortensia on pp. 11-12. Her problem is that she isn't able to concentrate very long when reading her psychology book. If she took a baseline she'd find that she can concentrate about 12 minutes during the hour in which she is "reading." After deciding this was a problem and that she wanted to do something about it instead of telling herself how stupid she was (which wasn't true) Hortensia decided that her goal was to be able to concentrate 55 minutes out of every hour that she read. Starting from her baseline of 12 minutes/hour she reinforced herself every time she could concentrate for 15 minutes the first week. Once she was able to do this she increased her criterion to 20 minutes the next week. And so on until she reached

55 minutes. Hortensia was careful not to go too fast. If she didn't reach her criterion (e.g., 15 minutes) for the week she didn't go.

II. IMMEDIACY OF REINFORCEMENT.

REINFORCEMENT MUST FOLLOW THE BEHAVIOR AS SOON AS POSSIBLE. The rule here is: the closer in time the reinforcment follows the behavior the more powerful the effect.

EXAMPLE: Hortensia likes to watch TV. She has said "if I reach my goal studying tonight (concentration for 20 minutes) I get to watch "Kojak" which follows my study hour. If I don't reach my goal I don't get to watch it." If Hortensia was studying on a Monday night and said that her reward would be going out partying on Saturday the effect would be less. It should be pointed out that reinforcement occurs any time Hortensia reaches her goal because it is innately satisfying to know you are doing well and improving.

BEHAVIORAL CONTRACT

1. The behavior you will improve is _____.
2. Specifically, what will you do by the next workshop?

Specifically, how will you do it?

How will you reinforce yourself for doing it?

_____
(signature)

CONSEQUENCE ANALYSIS SHEET

Behavior: _____

Each time the behavior occurs, write down the consequence. A consequence occurs immediately after the behavior. Consequences can be reinforcing or they can be punishing. Sometimes there may be no consequence. Consequences can be something that others do to you (such as smiling, giving you a grade, ignoring you, etc.). They can be your own thoughts ("What a dummy I am," etc.). They can be natural (e.g., a typical consequence of a low rate of studying usually results in a low grade).

Each time the behavior occurs write down the consequence. It will not take long before a pattern begins to emerge.

ANTECEDENTS

OBJECTIVES: By the end of this one hour workshop each participant will have responded correctly to questions which test their understanding of antecedents. They will have completed a behavioral contract which states what they will do between this workshop and the next; continue to baseline their behavior, analyze the antecedents to the behavior, read pp. 28-33 in the manual, and come to the next workshop.

An antecedent is any person, social situation, physical surrounding or thought which comes before the behavior. It is the context in which the behavior occurs. Behaviors occur in some place (e.g., in the classroom), at some time (e.g., from 10:20-11:10 a.m.), in the presence of another person (e.g., a professor), or following some thought (e.g., I'm stupid). These antecedent conditions affect the behavior which follows. They either help the behavior to occur or they get in the way.

In one example a thought functions as an antecedent condition. Susan, a math major, was taking an English course in which she was required to write several papers during the term. Every time she sat down to write she found that she couldn't even get started. She got anxious, frustrated, and soon quit. When she analyzed the antecedents she found that just before she started writing she would say to herself: "I'm too stupid to write a good paper. I'm good at doing differential equations, but not in expressing myself." Susan also felt that she had to be the best student in class. These two thoughts kept her from even beginning to write.

Another example concerns John who was in his second year at MSU. He was taking 12 hours and worked 10 hours/week in the library. His problem was that he "just couldn't find time to study." He had an above average IQ and a 1.5 G.P.A. Upon analyzing the antecedent conditions John discovered that he had no particular place to study and no set time. Sometimes he would "study" at his desk, sometimes in the union, sometimes outside in the grass. He had no set time to do this so he studied "whenever he could find the time. This usually turned out to be late at night when he was tired anyway. In this case John simply said "I will study at my desk from 3-5 and from 7-10 p.m. Monday thru Thursday. When I'm at my desk the only think I can do is study. If my mind starts to wander I must get up from my desk. Likewise, I cannot study in any other place." By using this approach John found that his grades improved, he put more time in studying, and he had more time to play without feeling guilty.

HOW TO IDENTIFY ANTECEDENTS

When the behavior occurs ask yourself what occurred immediately before the behavior did. Specifically, ask yourself the following four questions: (1) What were the physical circumstances of the last few minutes? (2) What was the social setting? (3) What behavior of other people occurred? (4) What did I think or say to myself?

HOW TO CONTROL ANTECEDENTS

There are two basic ways to control antecedents: (1) Avoid antecedents which lead to undesired behavior. For example, every time you get together with your girlfriend to study you end up talking about other things instead. One simple way to get around this problem is for both of you to remain separate when you need to study. (2) A two

stage process in which you first avoid certain antecedent conditions, and then learn desirable alternative behaviors. For example, two women had been rooming together for more than six months and, while they liked each other very much, they had also developed a pattern of arguing that seemed likely in the long run to make their friendship much less rewarding for both. The vicious circle went like this: Anne would do something that Betty thought was very arrogant. Betty would then put down Anne. This would anger Anne, who would attack Betty. From Anne's point of view, Betty was a "put-down artist." From Betty's point of view, Anne was arrogant. Each seemed to be partially right; Anne was arrogant, and Betty seemed to enjoy putting her down. Deciding who was "right," however, was not the task and would not have helped very much in any case. Since they were extremely mad at each other they agreed not to talk to each other until they had calmed down somewhat. This is the first stage. They agreed to avoid each other for awhile. Then they worked out a mutual agreement in which Betty would ignore Anne's outbursts of arrogance, and Anne would ignore Betty's "put-downs." Each also agreed to tell the other when an act particularly pleased her. Thus, they agreed to provide new antecedents and new reinforcers for each other. (3) Arrange antecedent conditions so it supports the desired behavior. Going back to the example about John who "just couldn't find the time to study" we found that he simply created antecedent conditions which helped him study. Susan, the math major, told herself that she couldn't write very good papers, and that she had to be the best in the class. After she realized this she began to tell herself more realistic things like "I'm not the best in the class but I can write an adequate paper when I try. I'll do the best I am able to do and will be pleased with any progress."

1. Alfredo is taking his first college physics course. Since he wants to do well in the course he is studying with Maria, his good buddy. Maria was a high school "whizz kid," particularly in physics. She also has aspirations of going on to medical school and thus needs top notch grades. Alfredo and Maria study physics together on Monday and Wednesday nights for two hours. On their first physics quiz both got a 4.0.
   QUESTION: What is the behavior?

   QUESTION: What antecedent conditions facilitated the behavior for Alfredo?

2. Liddy is taking an ATL course this term which she really can't stand. But she needs to get at least a 3.0 in order to keep her scholarship. So she says that every Monday, Tuesday, and Wednesday afternoon from 3-5 she will stay in her room and read ATL material. But Liddy has been having trouble concentrating because her next door neighbors like to play at that time. (Liddy wonders if they ever study.) In addition, it's Spring and she can hear her friends outside playing frizbee. Liddy is very angry because she says "Why should I have to study this stupid stuff when everybody else is out having a good time?" For Liddy the solution was simple: she studied in the library. Now when she looked around, everybody else is doing the same thing she is doing. Now she tells herself that although studying ATL may not be a lot of fun it will get her what she wants (a 3.0) and that other people need to do the same thing. Somehow, spending 6 hours/week reading ATL is not as difficult as it once was.
   QUESTION: What was the behavior?

   QUESTION: What antecedent conditions hindered Liddy from accomplishing the behavior? What antecedent conditions facilitated the behavior?

3. Turn back to the case study about Hortensia on pp. 11-12.
   a. What is the behavior?
   b. List the antecedents to this behavior.
   c. Do they facilitate or hinder the behavior?
   d. Create some antecedents which would facilitate her study behavior.

BEHAVIOR CONTRACT

1. The behavior you will improve is _____.

2. What will you do before the next workshop?

3. How will you do it?

4. How will you reinforce yourself for doing it?

_____
(signature)

ANTECEDENT ANALYSIS SHEET

During the week record those antecedents which seem to have some influence on the behavior you will improve. You can do this by asking yourself the following questions:

(1) What were the physical circumstances which immediately preceded the behavior?

(2) What was the social setting?

(3) What were other people doing immediately before the behavior occurred?

(4) What did I think or say to myself immediately before the behavior occurred?

CHANGING YOUR OWN BEHAVIOR

OBJECTIVES: By the end of this workshop each participant will have completed their "ABC Analysis Form" which summarized present antecedents and consequences. They will have written a behavioral contract which specifies their change strategy in terms of target behavior, and antecedents and consequences to be changed.

Up to this point you have identified a behavior you want to change. You know how often it occurs (baseline). You have identified the consequences and the antecedents which are currently operating. Now it is time for you to change your own behavior. YOU CAN CHANGE YOUR OWN BEHAVIOR BY CHANGING YOUR ENVIRONMENT (i.e., CHANGING CONSEQUENCES AND ANTECEDENTS).

(NOTE: Throughout this whole procedure continue to count your behavior.)

STEP 1. Make sure that some type of reward follows the behavior you want to increase. You can do this by taking an already-existing reward and making sure it <u>follows</u> the behavior you want it to. Or you can identify new reinforcers (i.e., rewards) and have them follow the desired behavior.

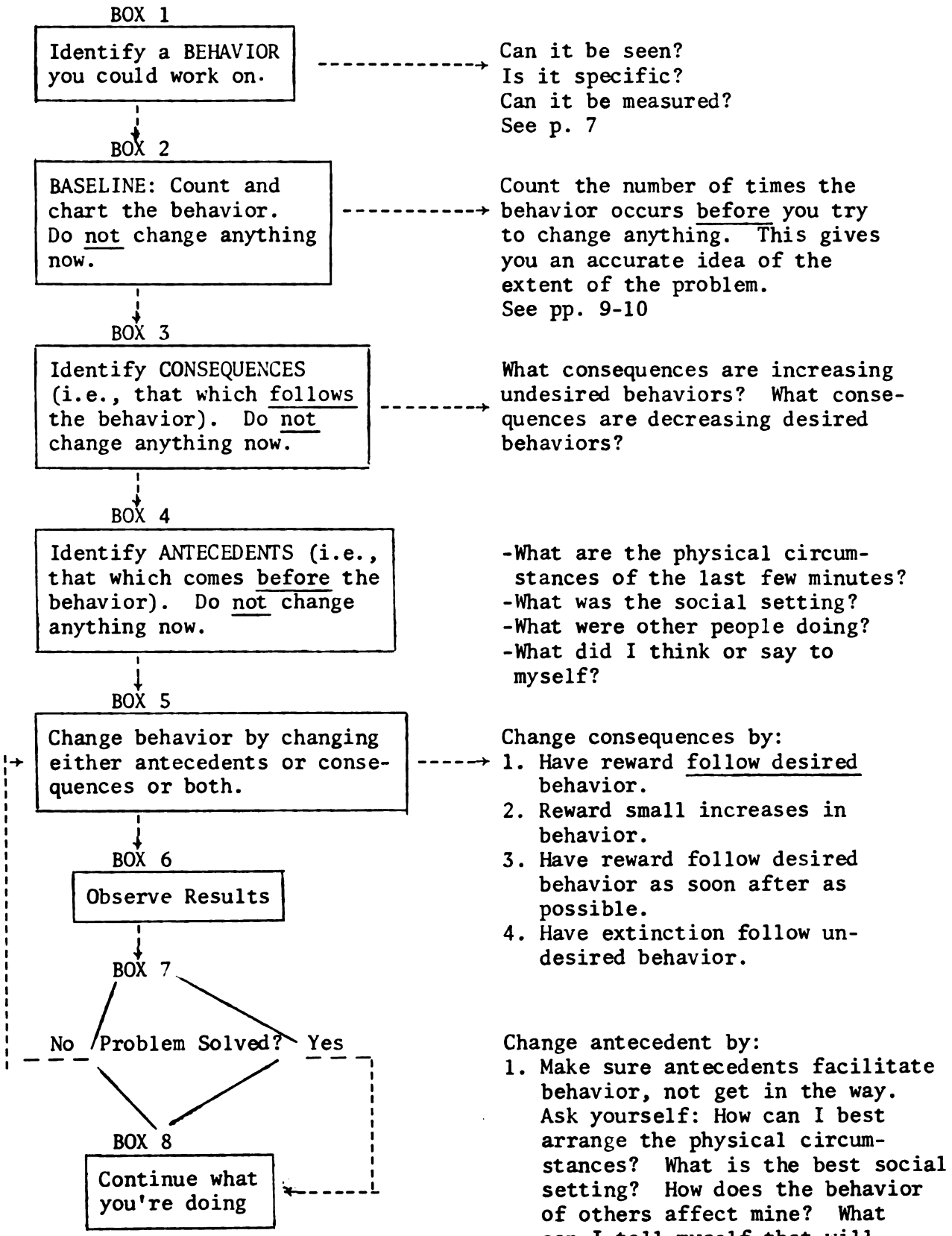
STEP 2. Make sure that reward follows <u>small</u> increases in behavior. If you are studying 45 min./day and want to increase to 5 hours/day reward yourself for any increase over the previous time, don't wait till you reach 5 hours before you reward yourself or you won't make it.

STEP 3. Make sure the reward follows the behavior <u>as soon after as is possible</u>.

STEP 4. If there is another behavior which conflicts with the behavior you want to increase make sure the conflicting behavior is followed by extinction.

STEP 5. Change antecedent conditions so they facilitate your behavior, not get in the way. Ask yourself: How can I best arrange the physical circumstances? What is the best social setting? How does the behavior of other people affect mine? What can I tell myself that will best facilitate my behavior?

(NOTE: Throughout this entire procedure continue to count your behavior. This is knowledge of results. It tells you whether or not your intervention is working. It can be powerfully rewarding to know you're doing a good job in improving yourself. It is also helpful to know when you're not doing such a good job so you can change to more effective means.)


BOX 1
Identify a BEHAVIOR you could work on.
Can it be seen?
Is it specific?
Can it be measured?
See p. 7
BOX 2
BASELINE: Count and chart the behavior. Do not change anything now.
Count the number of times the behavior occurs before you try to change anything. This gives you an accurate idea of the extent of the problem.
See pp. 9-10
BOX 3
Identify CONSEQUENCES (i.e., that which follows the behavior). Do not change anything now.
What consequences are increasing undesired behaviors? What consequences are decreasing desired behaviors?
BOX 4
Identify ANTECEDENTS (i.e., that which comes before the behavior). Do not change anything now.
-What are the physical circumstances of the last few minutes?
-What was the social setting?
-What were other people doing?
-What did I think or say to myself?
BOX 5
Change behavior by changing either antecedents or consequences or both.
Change consequences by:
1. Have reward follow desired behavior.
2. Reward small increases in behavior.
3. Have reward follow desired behavior as soon after as possible.
4. Have extinction follow undesired behavior.
BOX 6
Observe Results
BOX 7
No
Problem Solved?
Yes
Change antecedent by:
1. Make sure antecedents facilitate behavior, not get in the way. Ask yourself: How can I best arrange the physical circumstances? What is the best social setting? How does the behavior of others affect mine? What can I tell myself that will best facilitate my behavior?
BOX 8
Continue what you're doing

ABC ANALYSIS FORM

Behavior: _____

Directions: Use this form to analyze the antecedents and consequences which you think may be affecting the behavior.

ANTECEDENTS	CONSEQUENCES
1. What were the physical circumstances immediately preceding the behavior?	1. Is a reinforcer maintaining an undesired behavior? Describe.
2. What were the social settings?	2. Is a desired behavior followed by punishment or extinction? (See p. 12) Describe.
3. What were other people doing?	
4. What did I think or say to myself?	

BEHAVIORAL CONTRACT

1. The behavior I will change is _____.

2. Change strategy.

   A. Antecedents

      1. Will I change any antecedent conditions?

         Yes No

      2. What antecedent(s) will I change?

      3. How?

      4. By what date?

      5. How will I reward myself in doing this?

      6. What will I do if this doesn't work the first time?

   B. Consequences

      1. What (if any) positive consequences will I eliminate from undesired behavior?

      2. How will I do this?

      3. When will I do this?

      4. What rewards will I attach to desired behavior?

      5. How?

      6. When?

      7. What will I do if this doesn't work the first time? Be specific.

_____
(signature)

APPENDIX B

QUESTIONNAIRES (DEPENDENT VARIABLES)

APPENDIX B

QUESTIONNAIRES (DEPENDENT VARIABLES)

Demographic Variables

Last 3 digits of student number:

DIRECTIONS: Answer these questions right on this paper.

1. Year in school: freshman sophomore junior senior (circle one)

2. Age: ____

3. Sex: female male (circle one)

4. Class: psy 160 psy 170 psy 215 psy 255 (circle one)

5. For me college is:

____ a) primarily a means to an end (e.g., a degree, a good job, etc.)

____ b) a valuable experience in and of itself regardless of whether it leads to a degree and a good job.

____ c) both a and b above are equally important.

6. My cumulative GPA since I have been in college is:

____ a) 3.5-4.0
____ b) 3.0-3.49
____ c) 2.5-2.99
____ d) 2.0-2.49
____ e) 1.5-1.99
____ f) 1.0-1.49
____ g) 0-.99

Self-Description Inventory

The following questions ask you to assess your competence in various areas of performance. Indicate your responses to the following questions in the blank to the left of each question. Just give a number from 0 to 100 that shows how you feel about your ability. Zero would be "never" and a hundred would be "all the time." You can pick any number you want, just so it is closest to how you feel. It is important that you try to answer each item frankly and honestly. Please read each question carefully and try to answer all items.

____ 1. When you try some new sport or physical activity, what percent of the time do you feel you have not mastered the skill as well as the average person?

____ 2. When you face new situations which require fast decisions, what percent of the time can you make them effectively?

____ 3. When you try to reach important goals of any kind, what percent of the time do you feel you have really succeeded?

____ 4. When you are required to direct the activities of others, in what percent of the cases can you feel that you fail to receive the cooperation and respect of those directed?

____ 5. When you are attempting to get someone of the same sex to form a favorable impression of you, what percent of the time do you think you are unsuccessful?

____ 6. What percentage of people of your own age and sex have a more pleasing personal appearance than you?

____ 7. In situations where it is necessary for you to speed up your performance in order to meet a deadline, in what percent of the cases can you do so without sacrificing the quality of your work?

____ 8. When you enter a new college course, what percent of the time do you feel uncertain that you will do as well as the average student?

____ 9. When doing things that interest you most, what percent of the time are you satisfied with your performance?

____10. When you are part of group activities, what percent of the time do your ideas and opinions influence the group?

____11. When put in a situation which is new and unfamiliar, what percent of the time do you feel you are not able to function adequately?

____12. When you have to take the initiative and act independently of others, what percent of the time can you handle things on your own?

____13. When meeting new people for the first time, what percent of the time are you able to impress them favorably and form good relations?

____14. When others trust and depend on you for something, what percent of the time can you live up to this?

____15. When you are attempting to get someone of the opposite sex to form a favorable impression of you, what percent of the time do you think you are unsuccessful?

____16. When wise, careful judgment is needed about something, what percent of the time do you make sound judgment?

Machiavellianism

DIRECTIONS: Below you will find 20 groups of statements listed. Each group is composed of three statements. Each statement refers to a way of thinking about people or things in general. They reflect opinions and not matters of fact--there are no "right" or "wrong" answers and different people have been found to agree with different statements. Please read each of the three statements in each group. Then decide first which of the statements is most true or comes the closest to describing your own beliefs. Circle a plus (+) in the space provided to the left of each statement.
Just decide which of the remaining two statements is most false or is the farthest from your own beliefs. Circle the minus (-) in the space provided to the left of each statement.
Here is an example:

		Most true	Most false
A.	It is easy to persuade people but hard to keep them persuaded.	+	-
B.	Theories that run counter to common sense are a waste of time.	+	-
C.	It is only common sense to go along with what other people are doing and not to be too different.	+	-

In this case, statement B would be the one you believe in most strongly and A and C would be ones that are not as characteristic of your opinion. Statement C would be the one you believe in least strongly and is least characteristic of your beliefs.
You will find some choices easy to make; others will be quite difficult. Do not fail to make a choice no matter how hard it may be. You will mark two statements in each group of three--the one that comes the closest to your own beliefs with a "+" and the one farthest from your beliefs with a "-". The remaining statement should be left unmarked.
DO NOT OMIT ANY GROUPS OF STATEMENTS.

1.

___ A. It takes more imagination to be a successful criminal than a successful business person.

___ B. The phrase "the road to hell is paved with good intentions" contains a lot of truth.

___ C. Most people forget more easily the death of their father then the loss of their property.

2.

___ A. Men are more concerned with the car they drive than with the clothes their wives wear.

___ B. It is very important that imagination and creativity in children be cultivated.

___ C. People suffering from incurable diseases should have the choice of being put painlessly to death.

3.

___ A. Never tell anyone the real reason you did something unless it is useful to do so.

___ B. The well-being of the individual is the goal that should be worked for before anything else.

___ C. Once a truly intelligent person makes up his or her mind about the answer to a problem he or she rarely continues to think about it.

4.

___ A. People are getting so lazy and self-indulgent that it is bad for our country.

___ B. The best way to handle people is to tell them what they want to hear.

___ C. It would be a good thing if people were kinder to others less fortunate than themselves.

5.

___ A. Most people are basically good and kind.

___ B. The best criteria for a wife or husband is compatability--other characteristics are nice but not essential.

___ C. Only after a person has gotten what he or she wants from life should he or she concern him or herself with injustices in the world.

6.

___ A. Most people who get ahead in the world lead clean, moral lives.

___ B. Any person worth their salt shouldn't be blamed for putting their career above their family.

___ C. People would be better off if they were concerned less with how to do things and more with what to do.

7.

___ A. A good teacher is one who points out unanswered questions rather than gives explicit answers.

___ B. When you ask someone to do something for you, it is best to give the real reasons for wanting it rather than giving reasons which might carry weight.

___ C. A person's job is the best single guide as to the sort of person he or she is.

8.

___ A. The construction of such monumental works as the Egyptian pyramids was worth the enslavement of the workers who built them.

___ B. Once a way of handling problems has been worked out it is best to stick to it.

___ C. One should take action only when sure that it is morally right.

9.

___ A. The world would be a much better place to live in if people would let the future take care of itself and concern themselves only with enjoying the present.

___ B. It is wise to flatter important people.

___ C. Once a decision has been made, it is best to keep changing it as new circumstances arise.

10.

___ A. It is a good policy to act as if you are doing the things you do because you have no other choice.

___ B. The biggest difference between most criminals and other people is that criminals are stupid enough to get caught.

___ C. Even the most hardened and vicious criminal has a spark of decency somewhere within him or her.

11.

___ A. All in all, it is better to be humble and honest than to be important and dishonest.

___ B. A person who is able and willing to work hard had a good chance of succeeding in whatever she or he wants to do.

___ C. If a thing does not help us in our daily lives, it isn't very important.

12.

___ A. A person shouldn't be punished for breaking a law which she or he thinks is unreasonable.

___ B. Too many criminals are not punished for their crime.

___ C. There is no excuse for lying to someone else.

13.

___ A. Generally speaking, people won't work hard unless they're forced to do so.

___ B. Too many criminals are not punished for their crime.

___ C. People who can't make up their minds aren't worth bothering about.

14.

___ A. A man's first responsibility is to his wife, not his mother.

___ B. Most men are brave.

___ C. It is best to pick friends that are intellectually stimulating rather than ones it is comfortable to be around.

15.

___ A. There are very few people in the world worth concerning oneself about.

___ B. It is hard to get ahead without cutting corners here and there.

___ C. A capable person motivated for her or his own gain is more useful to society than a well-meaning but ineffecitve one.

16.

___ A. It is best to give others the impression that you can change your mind easily.
___ B. It is a good working policy to keep on good terms with everyone.
___ C. Honesty is the best policy in all cases.

17.

___ A. It is possible to be good in all respects.
___ B. To help oneself is good; to help others even better.
___ C. Honesty is the best policy in all cases.

18.

___ A. Barnum was probably right when he said that there's at least one sucker born every minute.
___ B. Life is pretty dull unless one deliberately stirs up some excitement.
___ C. Most people would be better off if they controlled their emotions.

19.

___ A. Sensitivity to the feelings of others is worth more than poise in social situations.
___ B. The ideal society is one where everybody knows his or her place and accepts it.
___ C. It is safest to assume that all people have a vicious streak and it will come out when they are given a chance.

20.

___ A. People who talk about abstract problems usually don't know what they are talking about.
___ B. Anyone who completely trusts anyone else is asking for trouble.
___ C. It is essential for the functioning of a democracy that everyone votes.

Locus of Control

DIRECTIONS: Place your answers to the next 24 questions on the computer sheet, not on this sheet.

KEY: Strongly disagree = 1
Disagree somewhat = 2
Slightly disagree = 3
Slightly agree = 4
Agree somewhat = 5
Strongly agree = 6

1. Whether or not I get to be a leader depends mostly on my ability.
2. To a great extent my life is controlled by accidental happenings.
3. I feel like what happens in my life is mostly determined by powerful people.
4. Whether or not I get into a car accident depends mostly on how good a driver I am.
5. When I make plans, I am almost certain to make them work.
6. Often there is no change of protecting my personal interest from bad luck happenings.
7. When I get what I want, it's usually because I'm lucky.
8. Although I might have good ability, I will not be given leadership responsibility without appealing to those in positions of power.
9. How many friends I have depends on how nice a person I am.
10. I have often found that what is going to happen will happen.
11. My life is chiefly controlled by powerful others.
12. Whether or not I get into a car accident is mostly a matter of luck.
13. People like myself have very little chance of protecting our personal interests when they conflict with those of strong pressure groups.
14. It's not always wise for me to plan too far ahead because many things turn out to be a matter of good or bad fortune.
15. Getting what I want requires pleasing those people above me.
16. Whether or not I get to be a leader depends on whether I'm lucky enough to be in the right place at the right time.

17. If important people were to decide they didn't like me, I probably wouldn't make many friends.

18. I can pretty much determine what will happen in my life.

19. I am usually able to protect my personal interests.

20. Whether or not I get into a car accident depends mostly on the other driver.

21. When I get what I want, it's usually because I worked hard for it.

22. In order to have my plans work, I make sure that they fit in with the desires of people who have power over me.

23. My life is determined by my own actions.

24. It's chiefly a matter of fate whether or not I have a few friends or many friends.

Quality of Work Life

DIRECTIONS: Place your answers on the answer sheet. Answer every question as candidly as possible.

KEY: Strongly agree = 1
Agree =2
Neither agree nor disagree = 3
Disagree =4
Strongly disagree = 5

1. What happens to MSU is really important to me.
2. I feel very little loyalty to MSU.
3. I could care less what happens to MSU as long as I get my credits.
4. I often think of quitting.
5. I really care about the future of MSU.
6. I used to care about my work more than I do now.
7. I used to be more ambitious about my work than I am now.
8. My job as student requires that I keep on learning new things.
9. My job requires that I use a wide range of abilities.
10. My job gives me the chance to learn new skills and techniques.
11. My job makes good use of my skills and abilities.
12. On my job I have a chance to do some things that really test my ability.
13. I have a great deal of say over what changes are made in my work place (i.e., classroom, library, etc.).
14. I can influence the decisions that affect my job.
15. I have a great deal of freedom to do my own job.
16. At MSU I am asked for my ideas.
17. MSU rewards those who do their jobs well.
18. People who get ahead at MSU deserve it.
19. At MSU, getting ahead is based on ability.
20. MSU administrators and professors in general are really interested in my getting ahead.

21. I really expected to make more progress in school than I have up to now.

22. I feel that I deserve to have been promoted higher by now.

23. I am making satisfactory progress toward my career goals.

24. You can give your honest opinion at MSU without any worry.

25. At school I am shown less respect than I enjoy in the community where I live.

26. At MSU, I am always treated as an adult.

27. At MSU, my private life is respected by professors and administrators.

28. At MSU, I am treated with dignity and respect.

29. While at work (i.e., in the class, library, while studying, etc.) I worry.

30. While at work I feel tense.

31. While at work I feel short-tempered.

32. While at work I feel irritated.

33. While at work I feel downhearted and blue.

34. I feel the amount of work I have to do may interfere with how well it gets done.

35. I feel I have enough time to get everything done.

36. I feel too many demands are being made of me.

37. I feel like I am being "hassled."

38. I have trouble getting the information I need to do my job well.

39. I have difficulty getting books and supplies when I need them on my job.

40. Changes at MSU usually seem to create more problems than they solve.

41. I think that changes around here tend to work well.

42. When changes are made at MSU the students lose out in the end.

43. Knowing what I know now, if I had to decide all over again whether to become a student at MSU I would decide to do it.

44. I feel I am being discriminated against when it comes to getting ahead around here.

45. If a good friend of mine were interested in becoming a student at MSU I would recommend it.

46. Considering everything, how satisfied are you with your job of student at the present time?

    1 = very dissatisfied

    2 = dissatisfied

    3 = neither dissatisfied nor satisfied

    4 = satisfied

    5 = very satisfied

47. Compared to the amount of effort you know you could put into doing your job of student (if it really "turned you on") how much effort do you find yourself putting into your job on a day-to-day basis?

    1 = much less effort--less than half the effort I know I could put into my job if it really turned me on.
    2 = about half (50%) of the effort I know I could.
    3 = a little more than half (60-70%) of the effort I know I could.
    4 = about 75% as much effort into my job as I could.
    5 = a little more than three-quarters as much effort (80-85%) as I know I could.
    6 = almost as much effort (90-95%) as I know I could.
    7 = just as much effort as I could--this job really "turns me on."

48. In your opinion, how much of the effort you put into doing your job is lost or not productive because of things on the job over which you have no control?

    1 = a great deal of my effort is lost (55% or more)
    2 = about half my effort is lost (50%)
    3 = somewhat less than half of my effort is lost (30-45%)
    4 = about one quarter of my effort is lost (25%)
    5 = less than one quarter of my effort is lost (10-20%)
    6 = very little of my effort is lost (5%)
    7 = none of my effort is lost (0%)

Job Motivation

DIRECTIONS: Place your answer on the appropriate space on the answer sheet, not on this sheet.

1. On most days on your job, how often does time seem to drag for you?

    1. About half the day or more
    2. About one-third of the day
    3. About one-quarter of the day
    4. About one-eighth of the day
    5. Time never seems to drag

2. Some people are completely involved in their job--they are absorbed in it night and day. For other people, their job is simply one of several interests. How involved do you feel in your job as student?

    1. Very little involved; my other interests are more absorbing
    2. Slightly involved
    3. Moderately involved; my job and my other interests are equally absorbing to me
    4. Strongly involved
    5. Very strongly involved; my work is the most absorbing interest in my life.

3. How often do you do some extra work for your job which isn't really required of you?

    1. About once a month or less
    2. Once every few weeks
    3. About once a week
    4. Several times a week
    5. Almost every day

4. Would you say you work harder, less hard, or about the same as other people doing your type of work at MSU?

    1. Much less hard than most others
    2. A little less hard than most others
    3. About the same as most others
    4. A little harder than most others
    5. Much harder than most others

Job Satisfaction

DIRECTIONS: In the following 18 questions the word "job" refers to your role as a student. Some people are more interested and satisfied with their job as student than others. We want to know how you feel about your job as student. Place the number that corresponds to your answer on the accompanying answer sheet, not on this sheet.

KEY: Strongly agree = 1
Agree = 2
Undecided = 3
Disagree = 4
Strongly disagree = 5

1. My job is like a hobby to me.
2. My job is usually interesting enough to keep me from getting bored.
3. It seems that my friends are more interested in their jobs.
4. I consider my job rather unpleasant.
5. I enjoy my work more than my leisure time.
6. I am often bored with my job.
7. I feel fairly well satisfied with my present job.
8. Most of the time I have to force myself to go to work.
9. I am satisfied with my job for the time being.
10. I feel that my job is no more interesting than others I could get.
11. I definitely dislike my work.
12. I feel that I am happier in my work than most other people.
13. Most days I am enthusiastic about my work.
14. Each day of work seems like it will never end.
15. I like my job better than the average worker does.
16. My job is pretty uninteresting.
17. I find real enjoyment in my work.
18. I am disappointed that I ever took this job.

APPENDIX C

QUESTIONNAIRES (MANIPULATION CHECK)

APPENDIX C

QUESTIONNAIRES (MANIPULATION CHECK)

FOR GROUP I ONLY Last 3 digits of student number:

1. I found it easy to identify a behavior to work on.

1 a) Strongly disagree
2 b) Disagree
6 c) Neutral
10 d) Agree
2 e) Strongly agree

2. The way I measured my behavior gave me a clear indication of whether I was improving.

1 a) Strongly agree
12 b) Agree
5 c) Not sure
2 d) Disagree
1 e) Strongly disagree

3. The way I measured my behavior gave me a clear indication of what to do differently the next time in order to further improve.

4 a) Strongly agree
8 b) Agree
5 c) Not sure
4 d) Disagree
0 e) Strongly disagree

4. The behavior I finally ended up working on was important to me.

11 a) Strongly agree
8 b) Agree
1 c) Neutral
__ d) Disagree
1 e) Strongly disagree

5. If I had to do it over again I would choose a different behavior to improve.

4 a) Strongly disagree
8 b) Disagree
6 c) Not sure
2 d) Agree
1 e) Strongly agree

6. I found it easy to identify my relevant reinforcers.

0 a) Strongly disagree
2 b) Disagree
1 c) Neutral
15 d) Agree
3 e) Strongly agree

7. The reinforcers I used didn't help me sustain or improve my behavior.

0 a) Strongly agree
3 b) Agree
2 c) Not sure
13 d) Disagree
3 e) Strongly disagree

8. I reinforced myself for performing the behavior I was attempting to improve as often as I felt was necessary.

0 a) Strongly disagree
3 b) Disagree
6 c) Not sure
10 d) Agree
2 e) Strongly agree

9. I found it difficult to identify my relevant antecedent conditions.

5 a) Strongly disagree
6 b) Disagree
5 c) Neutral
3 d) Agree
2 e) Strongly agree

10. The relevant antecedent conditions I used helped me sustain or improve my behavior.

6 a) Strongly agree
9 b) Agree
5 c) Neutral
0 d) Disagree
1 e) Strongly disagree

11. I followed the changes I set up in my antecedent conditions as often as I felt was necessary.

4 a) Strongly agree
11 b) Agree
3 c) Not sure
3 d) Disagree
0 e) Strongly disagree

GROUP: I Last 3 digits of student number:

DIRECTIONS: Check the blank you agree with the most.

1. After the first workshop (April 11) I felt the approach we were taking would help me personally on some important aspects of my job as student.

7 a) Strongly agree
10 b) Agree
2 c) Neutral
1 d) Disagree
1 e) Strongly disagree

2. The workshops were alive and interesting.

0 a) Strongly disagree
3 b) Disagree
3 c) Neutral
12 d) Agree
3 e) Strongly agree

3. When the workshops first began (April 11) I was motivated to improve myself.

0 a) Strongly disagree
0 b) Disagree
2 c) Neutral
8 d) Agree
11 e) Strongly agree

4. When the workshops ended (May 16) I was motivated to improve myself.

4 a) Strongly agree
10 b) Agree
7 c) Neutral
0 d) Disagree
0 e) Strongly disagree

5. I liked the approach (i.e., techniques) we took in these workshops.

0 a) Strongly disagree
0 b) Disagree
5 c) Neutral
11 d) Agree
5 e) Strongly agree

6. I like the workshop leader as a person.

13 a) Strongly agree
6 b) Agree
1 c) Neutral
0 d) Disagree
1 e) Strongly disagree

7. The workshop leader generally did a competent job.

11 a) Strongly agree
9 b) Agree
1 c) Neutral
0 d) Disagree
0 e) Strongly disagree

8. The workshop leader got her/his points across well.

2 a) Strongly disagree
0 b) Disagree
0 c) Neutral
13 d) Agree
6 e) Strongly agree

9. The workshop leaders use of examples helped me understand the concepts.

0 a) Strongly disagree
0 b) Disagree
2 c) Neutral
12 d) Agree
7 e) Strongly agree

10. How long should each workshop have lasted?

1 a) 1/2 hour
10 b) 1 hour
9 c) 1 1/2 hours
2 d) 2 hours
0 e) 2 1/2 hours

11. How long should the intervals between workshops have been?

7 a) a few days
10 b) 1 week
2 c) 10 days
2 d) 2 weeks
0 e) more than 2 weeks

12. I under the techniques taught in the workshops well enough to apply them to myself in the future.

___ a) Strongly disagree
___ b) Disagree
3 c) Not sure
9 d) Agree
9 e) Strongly agree

13. I used these techniques for myself during the time of the study (i.e., April to June).

3 a) Extensively
15 b) Fairly often
5 c) Some of the time
___ d) Infrequently
___ e) Not at all

14. This approach has helped me personally and/or academically in my job of student.

2 a) Strongly agree
11 b) Agree
7 c) Not sure
1 d) Disagree
0 e) Strongly disagree

15. I plan to use this technique with myself again.

10 a) Definately
10 b) Probably
2 c) Not sure
0 d) Probably not
0 e) Definately not

FOR GROUP II ONLY Last 3 digits of student number:

DIRECTIONS: Check the blank that you agree with the most.

During the six workshops you went through 4 stages of a consciousness-raising model (Stage I: recognizing what's "off"; Stage II: understanding ourselves and the system (needs); Stage III: understanding our relationship with the system (assumptions); Stage IV: formulation alternatives).

1. Each stage was clearly recognizable to me.

3 a) Strongly agree
14 b) Agree
2 c) Not sure
3 d) Disagree
0 e) Strongly disagree

2. It would have helped me if they were more clearly recognizable.

1 a) Strongly disagree
5 b) Disagree
7 c) Not sure
9 d) Agree
0 e) Strongly agree

3. In Stage I it was easy to identify problems.

10 a) Strongly agree
9 b) Agree
3 c) Neutral
0 d) Disagree
0 e) Strongly disagree

4. Stage I was valuable to me.

1 a) Strongly agree
8 b) Agree
8 c) Neutral
3 d) Disagree
2 e) Strongly disagree

5. By the end of Stage II I felt like I understood my own needs as well as those of the system fairly well.

1 a) Strongly disagree
4 b) Disagree
12 c) Neutral
4 d) Agree
1 e) Strongly agree

6. Stage II was not very valuable for me.

3 a) Strongly agree
6 b) Agree
9 c) Neutral
3 d) Disagree
1 e) Strongly disagree

7. By the end of Stage III I felt like I understood assumptions about the system fairly well.

3 a) Strongly agree
14 b) Agree
3 c) Not sure
2 d) Disagree
0 e) Strongly disagree

8. Stage III was valuable to me.

3 a) Strongly disagree
8 b) Disagree
5 c) Not sure
6 d) Agree
0 e) Strongly agree

9. During Stage IV I formulated some viable alternative(s) for myself.

2 a) Strongly agree
13 b) Agree
4 c) Neutral
1 d) Disagree
2 e) Strongly disagree

10. These alternatives are important to me.

0 a) Strongly agree
11 b) Agree
3 c) Not sure
0 d) Disagree
3 e) Strongly disagree

11. I will succeed in implementing these alternative(s).

1 a) Definately
9 b) Probably
7 c) Not sure
2 d) Probably not
3 e) Definately note

Group: II Last 3 digits of student number:

DIRECTIONS: Check the blank you agree with the most.

1. After the first workshop (April 11) I felt the approach we were taking would help me personally on some important aspects of my job as student.

1 a) Strongly agree
11 b) Agree
2 c) Neutral
3 d) Disagree
5 e) Strongly disagree

2. The workshops were alive and interesting.

3 a) Strongly disagree
5 b) Disagree
7 c) Neutral
7 d) Agree
0 e) Strongly agree

3. When the workshops first began (April 11) I was motivated to improve myself.

1 a) Strongly disagree
2 b) Disagree
5 c) Neutral
12 d) Agree
2 e) Strongly agree

4. When the workshops ended (May 16) I was motivated to improve myself.

0 a) Strongly agree
9 b) Agree
5 c) Neutral
5 d) Disagree
3 e) Strongly disagree

5. I liked the approach (i.e., techniques) we took in these workshops.

3 a) Strongly disagree
2 b) Disagree
8 c) Neutral
8 d) Agree
1 e) Strongly agree

6. I like the workshop leader as a person.

7 a) Strongly agree
13 b) Agree
1 c) Neutral
1 d) Disagree
0 e) Strongly disagree

7. The workshop leader generally did a competent job.

9 a) Strongly agree
11 b) Agree
1 c) Neutral
0 d) Disagree
0 e) Strongly disagree

8. The workshop leader got her/his points across well.

1 a) Strongly disagree
0 b) Disagree
2 c) Neutral
14 d) Agree
5 e) Strongly agree

9. The workshop leaders use of examples helped me understand the concepts.

1 a) Strongly disagree
0 b) Disagree
3 c) Neutral
13 d) Agree
5 e) Strongly agree

10. How long should each workshop have lasted?

3 a) 1/2 hour
13 b) 1 hour
6 c) 1 1/2 hours
0 d) 2 hours
0 e) 2 1/2 hours

11. How long should the intervals between workshops have been?

4 a) a few days
14 b) 1 week
2 c) 10 days
2 d) 2 weeks
0 e) more than 2 weeks

12. I understand the techniques taught in the workshops well enough to apply them to myself in the future.

3 a) Strongly disagree
2 b) Disagree
8 c) Not sure
9 d) Agree
0 e) Strongly agree

13. I used these techniques for myself during the time of the study (i.e., April to June):

0 a) Extensively
1 b) Fairly often
4 c) Some of the time
8 d) Infrequently
9 e) Not at all

14. This approach has helped me personally and/or academically in my job of student.

0 a) Strongly agree
3 b) Agree
6 c) Not sure
9 d) Disagree
4 e) Strongly disagree

15. I plan to use this technique with myself again.

0 a) Definately
5 b) Probably
6 c) Not sure
8 d) Probably not
3 e) Definately not

GROUP I and II

Tell me what you liked about the workshops. Another way to think about this question is: If you were to repeat this experience what was done the first time that you would like to see repeated? Why?

Tell me what you didn't like about the workshops. Another way to think about this question is: If you were to repeat this experience what was done the first time that shouldn't be repeated. Also what wasn't done that should have been? Why?

APPENDIX D

PRODUCTS FROM CONSCIOUSNESS-RAISING WORKSHOPS

STAGE

STAGE

STAGE

STAGE

APPENDIX D

PRODUCTS FROM CONSCIOUSNESS-RAISING WORKSHOPS

CONSCIOUSNESS-RAISING MODEL

STAGE I: Recognizing what's "off"

STAGE II: Understanding ourselves and the system (needs)

STAGE III: Understanding our relationship with the system (assumptions)

STAGE IV: Formulating alternatives

(18) 1. Irrelevance of course requirements to:
   a) total major
   b) individual interests and needs
   c) real life situation

(18) 2. Examination process can be a limited or inappropriate gauge of student's knowledge or progress.

(16) 3. More responsiveness to student's individual needs by professors and advisors.

(15) 4. More opportunities for experience in chosen field of study.

(11) 5. Inadequate career planning and advising.

(10) 6. More thorough information concerning individual professor's approaches, styles, etc., to make more legitimate choices.

(9) 7. DPS unresponsiveness to student's individual needs.

(9) 8. Openness about policies.

(9) 9. Consistency of teaching practices without a course.

(5) 10. Consistency between course description and content taught.

(4) 11. Competition.

(3) 12. Lack of trust.

(2) 13. Lack of personal interaction between students.

OUR OWN NEEDS AND INTERESTS	INSIGHTS ABOUT THE SYSTEM
1. Tests should be consistent with what was taught.	1. Class size Instructor's preference Testing application and creativity Force a normal curve Lack of communication Makes grading easier
2. Individual written evaluation of a student's progress in learning course material.	2. Class size Make grading harder Who will evaluate (prof or TA) Lot of time and effort More money More student effort Not appreciated by students Might not be an effective evaluation form Reverse discrimination
3. More opportunity to learn from mistakes.	3. Don't want to make up new tests Time involved in implementation Rigid syllabus Responsibility for feedback lies with student Discourage from all getting high grades Trying to weed Prof being concerned with their testing procedure being well known
4. More testing options (paper, multiple-choice exam, etc.).	4. Class size and time Hard to compare the different testing process grades The need for consistency in multiple section courses Harder on prof More money More grad assistants to grade

ASSUMPTIONS ABOUT SYSTEM

PURPOSE

1. Indication of how one will do in the real world.* (10)
2. Comparison between people. (18)
3. Find out how much one has learned.** (10)
4. Weed people out.* (15)
5. Encourage those doing well while simultaneously discouraging those who don't. (1)
6. Fulfill obligation. (1)

VALUES

1. Fairness.** (11)
2. Expedience.** (13)
3. Achievement.** (17)
4. Conformity.** (11)
5. Conscientious.** (12)

ROLE IN SOCIETY

1. Forces competition ("survival of the fittest").
2. Encourages achievement.
3. Shapes personality for future.
4. Financial status potential.
5. Fosters self-discipline.
   a. setting priorities
6. Forms class lines.
7. How to make the system work for you.

HOW IT VIEWS US

1. A "number."
2. Source of revenue.
3. Source of public relations/perpetuating prof's beliefs/source of pride.
4. Source of trouble.
5. Wouldn't learn without the threat of a test.
6. Assume that grades are an accurate measure of one's ability.

ASSUMPTIONS ABOUT WAYS WE AND SYSTEM INFLUENCE EACH OTHER

1. Let grade have too much effect on self-esteem.
2. Let grade have too much effect on feelings of competence.
3. Prof's self-concept determines their receptiveness to student input.
4. Experience affects attitude.
5. Actions of individual and university reflect on one another.

*--assumption could be checked out and updated.
**--social conditioning.

GOALS

Get a 4.0

WHY MEANINGFUL

1. To get a job (employment values)
2. Personal satisfaction
3. Higher form of education
4. Parents and peer approval
5. Good for average grade point

HOW ACHIEVED

1. Cheating
2. Studying and work hard
3. Luck
4. Playing the prof's game
5. Interaction with prof
6. Extra credit

HOW GOAL WAS ACQUIRED

1. Parents approval (7)
2. Respect from peers (6)
3. Employer's standards (12)
4. Grad school (17)
5. Don't like self as much when achieved lower than anticipated
6. Society is very success oriented
7. Early punishment for not achieving in school from teachers and parents
8. Rewards for achieving
9. Grade primarily for self (11)
10. Grade primarily for others (12)

APPENDIX E

FLYER USED TO SOLICIT VOLUNTEERS

APPENDIX E

FLYER USED TO SOLICIT VOLUNTEERS

OPPORTUNITY TO: I. MAKE SOME IMPROVEMENT IN YOUR JOB OF STUDENT
II. EARN EXTRA CLASS POINTS IN THIS COURSE
III. PARTICIPATE IN A PSYCHOLOGICAL STUDY

Work organizations such as hospitals, governmental agencies, business, and many others have been paying more attention late to the people who work in them. They have been developing new techniques and knowledge in an attempt to not only increase the effectiveness of the organization but to improve the quality of life for the people who work there. And the results they have obtained are promising.

Your role of student shares many similarities with jobs in the outside world. In fact, your role can be thought of as a job. There are tasks to do (i.e., reading, studying, writing, etc.). You have bosses (i.e., professors and administrators). You get paid (i.e., grades). You receive promotions (i.e., from sophomore to junior, etc.). And you have feelings about what you are doing (i.e., from frustration and anger to satisfaction and a sense of accomplishment). Work is just beginning in universities to apply similar techniques to help students improve themselves in their job as student and in their personal life. But much more needs to be done.

For my doctoral dissertation in psychology I plan to look into some of these issues. I do not want to do a simulation, but instead wish to have real students in their normal, everyday environment take part in this investigation.

Read the next two sections. They tell "what will be asked of you" and "what you will get from participating."

<u>What will be asked of you</u>

I am asking 150 students to volunteer to be participants in this study. From this group I will assign you, on a random basis, to one of three sub-groups. For a variety of reasons I have had to make a schedule of events. Thus, some of you may not be able to participate because the schedule I have set up conflicts with yours. The schedule is as follows:

<u>Groups I and II only</u>:

Wednesday, April 6 7:30-9:00 p.m. B104 Wells Hall	I will ask each of you to answer a written attitude questionnaire. All responses will be strictly confidential and anonymous.

Monday, April 11 7:30-10:30 p.m. 217 Bessey	Workshop. I will ask each of you to attend a workshop where you will participate in learning some techniques and knowledge designed to help you in your job of student. These techniques are very similar to ones already in use in work organizations such as hospitals, governmental agencies, industry, etc. Before you come, think abour your job as student and some of the areas you would like to improve.
April 18 and 25 May 2, 9, and 16 7:30-8:30 p.m. All are Monday nights 217 Bessey	Mini-workshops. During these workshops we will continue to learn and use the techniques and knowledge begun in the April 11 workshop.
Monday, May 30 7:30-9:30 p.m. 111 Olds Hall	7:30-8:30 p.m. I will ask each of you to answer a questionnaire. Again, all responses are strictly confidential and anonymous. 8:30-9:30 p.m. Debriefing. I will explain the rationale and purpose of the study in more detail. I will tell you the results I expect to find and why, and will answer any questions you may have.
Group III only:	
Wednesday, April 6 7:30-9:00 p.m. B104 Wells Hall	I will ask each of you to answer a written questionnaire. All responses will be strictly confidential and anonymous.
Monday, May 30 7:30-9:30 p.m.	7:30-8:30 p.m. I will ask each of you to answer a written questionnaire. All responses are strictly confidential and anonymous. 8:30-9:30 p.m. Debriefing. I will explain the rationale and purpose of the study in more detail. I will tell you the results I expect to find and why, and will answer any question you may have.

I need to point out that the group you will be assigned to (i.e., group I, II, or III) will be done randomly. Thus you have approximately 1 chance out of 2 to be assigned to either group I or II. Obviously, if you are assigned to either group I or II you will receive more personal benefit than if you are assigned to group III. But that does not mean that group III participants will get nothing for their efforts. First of all their time commitment will be much less. They will be able to get extra class points. They will participate in a psychological study and thus help us gain valuable new information. They will learn something about how psychologists go about getting new information about people. See the next section for details.

What you will get from participating

People generally do things when they see some benefit in it for themselves and/or when they feel it will benefit others. By participating in this study you can expect to get the following:

1. Make some improvements in your job of student. (Because of the nature of the study this applies only to those in groups I & II.) The focus of this study is your job as student. And we will be using some proven technqiues and ideas designed to help you make some improvements. You have several more difficult years of being a student ahead of you. Here is an opportunity to learn how to do a better job. Thus, participating will be particularly beneficial for those who want to improve as a student. This does not mean that only students who are doing poorly should participate. Since there is almost always room for improvement every student can consider this.

Of course, as with most interventions in the physical and social sciences improvement cannot be guaranteed.

2. Earn extra class points in this course. (This applies to all participants.) On May 30 from 8:30-9:30 p.m. all participants will be debriefed on the rationale and purpose of the study. Then on your final exam for the course there will be a number of basic questions about the study. You will receive extra class points for answering them correctly. You will not be penalized for answering them incorrectly. Other class members who were not participants in the study will not be eligible to earn this extra class credit.

3. Interest and altruism. In the past many people who have participated in psychological studies have said they found it interesting and that they learned something in the process. Others have said they enjoyed participating because they realized they were helping the field of psychology advance as a science. Some of you may share similar points of view.

Thank you for considering participating in this study.
Remember: "Nothing ventured, nothing gained."

Glenn DeBiasi
Doctoral Candidate
Dept. of Psychology

APPENDIX F

AGREEMENT

APPENDIX F

AGREEMENT

GROUP I II III (circle one)

_____ (name)	_____ (school address)
_____ (class)	_____ (telephone number)
_____ (date)	_____ (student number)

I agree to participate in a study conducted by Glenn DeBiasi. I know that I will be assigned to one of three groups on a random basis. If I am assigned to either group I or II I will participate in all of the following

1.	Wednesday, April 6 7:30-9:00 p.m. B104 Wells Hall	Complete written attitude questionnaire
2.	Monday, April 11 7:30-10:30 p.m. 217 Bessey Hall	Attend and actively participate in a workshop
3.	April 18 & 25 May 2, 9, & 16 7:30-8:30 p.m. All are Monday nights	Attend and actively participate in mini-workshops
4.	Monday, May 30 7:30-9:30 p.m.	Complete a written attitude questionnaire. Attend a debriefing.

I know that there might be a few small tasks asked of me between workshop sessions, and agree to complete them. I understand these tasks will be to my personal benefit.

If I am assigned to group III I agree to participate in all of the following:

1.	Wednesday, April 6 7:30-9:00 p.m. B104 Wells Hall	Complete written attitude questionnaire

2.	Monday, May 30 7:30-9:30 p.m.	Complete written attitude questionnaire. Attend a debriefing.

I know that I need to agree to the conditions described in this paper in order to be allowed to participate in the study. The reason for this is to insure the success of the study as well as to insure that I will receive something in return for my time and effort. I also know that if I sign this agreement and then do not fulfill it I will not receive any extra course points.

_____

(signature)