ORGANIZATIONAL BEHAVIOR MODIFICATION

A MODEL FOR PUBLIC SECTOR ADMINISTRATORS

by

J. MICHAEL REMBOR

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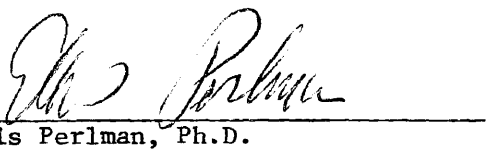
First Reader 
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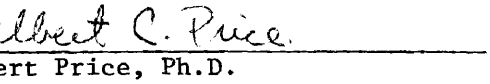
Second Reader 
Albert Price, Ph.D.

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ABSTRACT

This paper reviews the historical development of management theory as it relates to organizational behavior modification (OBM) theory. The relevant empirical literature that relates to OBM is reviewed. The literature review is divided into two categories: (a) business and industry and (b) human service/public sector. Finally, a model of OBM is presented that is tailored toward the needs of the public sector administrator. This model details each element that is necessary to design and implement an OBM intervention strategy to change organizational behavior. Emphasis is placed upon positive consequences. Additionally, the undesirable side effects of negative controls are reviewed.

PERSONAL VITA

J. Michael Rembor is the Director of the Behavioral Treatment Program at a developmental disabilities center within the Michigan Department of Mental Health. He received his Bachelors Degree in psychology and sociology from Wayne State University and currently is a student in the Master of Public Administration Program at the University of Michigan--Flint.

Introduction

Improving the performance of individual members of organizations has always been a challenge faced by managers and administrators. The development of organizational theory and the systematic study of organizations, however, is a relatively recent development with the first work in the field being done in the late 1800's. Since that time, industrial, organizational, and social psychology, management science, and public administration have all made contributions to the growing body of literature regarding management and organizations.

Although many articles have been published recommending various supervisory techniques based on management theory, individuals still manage human resources in a haphazard manner. The wide variety of seemingly disparate theories may be the cause of this, or perhaps the recommendations ask too much of the average administrator. Whatever the cause, it is clear that new directions should be sought offering practical and effective ways to improve employee performance.

Statement of the Problem

Administrators in any type of organization experience problems in improving employee performance. This is especially true in the public sector which lacks access to incentives common in the private sector, such as raises, promotions, or bonuses. In addition, today's public administrator must often function with a declining budget and constant threats of staff reductions, leaving more work to be accomplished by the remaining staff.

There is a clear need for specific management techniques that can be used by public administrators to accomplish organizational goals. These techniques must be derived from organizational theory and empirically supported. These techniques must also be practical, effective, functional, and easy to learn. Organizational behavior modification (OBM), a newly developing field in management theory, presents techniques that meet these criteria.

Purpose of the Paper

The purpose of this paper is to review the historical development of management theory as it relates to organizational behavior modification theory and review the relevant empirical literature that lends scientific support to OBM theory. Following these reviews, a flow chart and management model utilizing OBM in the public sector will be developed and examined in detail. The overall goal of this process will be to present realistic possibilities for the use of OBM in the public sector work place and to offer specific applications of OBM to managers in the field and those contemplating research.

Historical Overview

To gain a thorough understanding of any conceptual framework or theory, it is important to review the historical developments which precede them. OBM is no exception to this, especially in light of the rejection of OBM by managers based on their misconceptions about the principles of OBM. Many managers and students of management theory view OBM as a new and totally different way of addressing organizational behavior involving complicated methods, autocracy,

and dehumanizing techniques (Luthans and Kreitner, 1975). The purpose of this historical overview, therefore, is to show how OBM is similar to, and dependent upon, previous work in the field of management theory.

Scientific Management

The scientific approach to management is generally regarded to have begun with the work of Frederick W. Taylor in the late 1800's. Taylor's ideas were generated as he worked for various firms and began to recognize the many shortcomings of management practice. Taylor realized that solid experimentation was needed to determine more appropriate management techniques. He was one of the first management scientists to employ observation, measurement, and scientific comparison to management problems.

Taylor's initial work was directed specifically at production rates in the steel industry and how to improve them. Taylor conducted time and motion studies with a stopwatch, tape measure, and scale in an effort to determine the most efficient way to perform a task. Tasks were broken down and studied in precise detail. Taylor eventually came to the conclusion that up to 50 percent of labor and materials were being wasted due to improper planning and supervision (Golembiewski, 1962).

Taylor developed a workshop management system based on his findings. This system was comprised of the steps he felt were necessary to increase production. The first step was to observe each task under controlled conditions to set practical and precise standards of output. From this production standard, he was able to determine

standards of work performance. Second, Taylor introduced techniques such as instruction cards, routing sequences, material specifications, and material handling standards to ensure work was carried out in the most efficient manner. Third, Taylor believed that workers should be selected that were best suited for each specific task. For example, only large men should be hired for jobs that require lifting and individuals with small fingers for exacting piece work. Each worker was then trained carefully to perform tasks according to standards. Fourth, Taylor saw the need for good supervision of the employees and their work conditions. He developed his concepts of functional foremanship, with specialists employed in every phase of supervision to ensure excellence of the operation. Finally, Taylor believed that workers should receive incentive pay, based on levels of productivity, to increase performance (George, 1968).

Taylor often achieved dramatic success in increasing productivity and his emphasis on accurate measurement allowed his results to be replicated and widely communicated. Organizations and labor unions both applauded his efforts, which were viewed as being in everyone's best interest.

Taylor recognized broader applications of his management systems and expanded his concepts to a philosophy envisioning that the maximum good for all society could come only "through the cooperation of management and labor in the application of scientific methods to all common endeavors" (George, 1968, p. 89). Taylor believed that the application of his principles to management required a complete mental revolution on the part of managers and workers. Under his system of

shop management, the workers' main responsibilities were to perform assigned tasks as efficiently as possible. The responsibilities of management were to set standards, plan, organize, and control (George, 1968).

Taylor discussed three levels of concern in his philosophy of management. The first, called "mechanisms", referred to the research techniques, time studies, and standard settings, which have been previously discussed. "Mechanisms" also referred to three assumptions about work and workers. The first of these assumptions was that society itself could and would operate like a machine if the right techniques and procedures were utilized. This, of course, involved "controlling the social experience of the workers and attempting to change the workers to think and act consistently with the dictates of the mechanisms" (Golembiewski, 1962, P. 13). The second assumption was that only the "physiological man" was important to the work situation. Only those physical characteristics which allowed a worker to perform his task were of interest to Taylor. The third assumption was the efficiency of minute specialization. Taylor believed that the highest production would be achieved when a worker could perform a small task repeatedly without thinking. Thinking was the responsibility of the manager, not the worker.

Taylor's second level of concern, called "underlying principles", related to the more philosophical issue of what the purpose of the techniques of Scientific Management ought to be. Taylor identified four great "underlying principles" to define this purpose:

First. The development of a true science.

Second. The scientific selection of workers.

Third. Their scientific education and development.

Fourth. Intimate friendly cooperation between management and the man (Golembiewski, 1962, p. 15).

Taylor's purpose in defining these principles was to set limits on the use of the technique, and to provide more general goals above and beyond increased productivity.

Taylor's concept of "essence", his third concern, carries his management beliefs to an even broader level. Taylor believed that the appropriate application of his management principles would end class conflict between worker and management and provide objective study of productive relations (Golembiewski, 1962). He believed that combining the neutral techniques of his mechanisms with the four underlying principles would lead to a smoothly working society of happy, productive individuals.

Although Taylor stressed the importance of the philosophical aspects of his system, the major successes of his management approach were seen in the application of his empirical techniques in industry. Perhaps his inability to cogently communicate his beliefs to his colleagues and the vague idealistic nature of these beliefs led to their minimal application to management systems.

Taylor is primarily remembered for his scientific approach, but toward the end of his life, he continually stressed his philosophies. He repeatedly stated that management should recognize individuals, allow each to air his mind freely, and respect him. These beliefs.

however, were lost amidst the successes and ease of understanding of the mechanical aspects of his system and were not to surface for many years.

The precise measurement and goal setting of Taylor's scientific management are clearly a part of OBM, as they should be in any model or conceptual framework that is intended to generate useful hypotheses. Furthermore, Taylor's understanding of pay for productivity (piece-rate pay) shows some of the earliest attempts to change behavior by changing its consequences. Taylor also emphasized clear definitions of tasks, and training of workers to complete them.

Several followers of Taylor's principles made contributions to the study of scientific management and began to expand its use into other related disciplines.

Frank B. and Lillian M. Gilbreth refined the field of time and motion study to an exact science. They were the first to use motion picture films to analyze and to improve motion sequences. The Gilbreths also developed the process chart and flow diagrams widely used in organizations today (Wren, 1972). Lillian Gilbreth, educated in the field of psychology, published works on human factors in industry, especially in the ways that workers' fatigue affected productivity.

The Gilbreths' perspective, like Taylor's, exceeded the bounds of the work place. Their interest lay in "the development of man to his fullest potential through effective training, work methods, improved environment and tools, and a healthy psychological outlook"

(George, 1968, p. 98). This philosophy, in addition to their detailed analysis and observation of behavior within the organization, relate the Gilbreths' work to the present study of OBM.

Henry R. Gantt's major contributions to the field of scientific management were twofold. He developed: (a) output as a function of time; and (b) the base wage system, an alternative to the strict piece-rate pay scale. Gantt also began to recognize that financial incentives were only one of many that influenced employee behavior (George, 1968). The identification and use of incentives other than money remains a major component of OBM attempts to achieve behavior change.

Hugo Munsterburg was the first to propose the application of psychology to industry. A strong proponent of Taylor's principles of management, Munsterburg published Psychology and Industrial Efficiency in 1913. According to Munsterburg, the role of the psychologist should be: (a) to help find the men best fitted to the work; (b) to determine under what psychological conditions the greatest output could be achieved; and (c) to produce influences on the human mind desired in the interest of management (George, 1968). Munsterburg is often referred to as the father of industrial psychology. Munsterburg's primary contribution was to apply psychology to management. OBM is an excellent example of this. Behavior modification, developed within the realm of psychology, is now being used in the work place.

Classic Organizational Theory

The work of Henri Fayol in the early 1900's began a shift from emphasis on productivity to viewing the organization as a whole. Fayol's approach also differed from Taylor's in that it worked from the administrator down, rather than up from the worker. Fayol, believing that there were global principles that applied to any organization, proposed the first comprehensive theory of management (George, 1968). The five major elements were described as planning, organization, communication, coordination, and control. Fayol also proposed that management could and should be taught at the university level.

Luther Gulick and Lyndal Urwick (1937) integrated the ideas of Taylor and Fayol to design a conceptual framework that offered both theory and empirical support. Seven basic principles of administration were developed and made famous by the anagram POSDCORB. They are as follows:

Planning - what has to be done, and how

Organization - the formal structure of authority

Staffing - personnel functions

Directing - the continuous task of decision making

COordinating - ensuring all parts of the organization function as a whole

Budgeting - fiscal planning, accounting and control

The classical theorists, Fayol and Gulick and Urwick, provided the basis for viewing organizations as systems. OBM recognizes the

need to determine who should be reinforcing whom. This can only be accomplished through an understanding of organizational structure.

Human Relations Approach

The realization that human factors in organizations could not be ignored spawned the development of the human relations approach to management in the 1940's. Whereas classic organizational and management theory concentrated on the physical environment, human relations theory stressed the social environment.

The human relations movement evolved in part from work done by Mary Parker Follett in the 1920's. Follett stressed the importance of coordinating the psychological and sociological aspects of management. Conceiving of organizations as social systems and processes, she considered subordination offensive. Follett also believed that new principles of association were needed to understand groups and how they worked together. She proposed that leadership could be taught and this education should include studies in group dynamics and human behavior (George, 1968).

The famous Hawthorne Studies, conducted at Western Electric by Elton Mayo and Fritz Roethlisberger, provided some of the early impetus and inspiration to proponents of the human relations approach. Utilizing an empirical approach to management, as recommended by Taylor, researchers set out to find the relationship between the quantity and quality of light and the efficiency of industrial workers. Instead of determining optimal illumination levels, however, Mayo and Roethlisberger found that the relationships

between workers and supervisors, and among workers, had as much or more impact on productivity as the formal physical surroundings and economic benefits derived from the job (Stillman, 1980).

The Hawthorne Studies underscored a fundamental truth obscured by scientific management theories. The employees of an organization constitute its basis, and upon their attitudes, behavior, and morale within their primary groups depends industrial effectiveness and productivity.

Inspired by the work of Mayo, Follett, and others, Chester Barnard logically analyzed organizational structures and applied sociological concepts to management. He presented his views in the classic volume The Functions of the Executive. Barnard emphasized human factors and their relationship to production and management, pointing out that the continuance of an organization depends on the balance between the contributions of individuals and the satisfaction these individuals derived from their work (George, 1968).

Barnard viewed the functions of the manager as the maintenance of the organization; formation of the purposes and objectives of the organization; and most importantly, to allocate satisfactions, money, status, and the like, to elicit specific behaviors from individuals in the organization. Believing that the individual was the basic strategic factor in the organization and that individual contributions to the organization are only accomplished because of incentives, Barnard proposed a system he named the "economy of incentives" (Barnard, 1948).

Barnard described a two-part approach to employee management. First, incentives could be offered, appealing to already existing needs and motives of the individual organization member. If this system proved ineffective, persuasion was to be employed to attempt to change individual motivation so that available incentives could become effective. Essentially, Barnard viewed the manager as having authority only as far as orders were accepted by subordinates. The rejection of authority, rather than a problem of the subordinate, became a problem of the manager who must determine how to induce acceptance (George, 1968).

Barnard stressed that good communication within an organization was an indispensable tool in achieving desired employee performance. He believed that individuals would assent to authority if four conditions were met: (a) the individual must have understood what was being communicated; (b) the individual had to believe that the information communicated was consistent with the organization's goals; (c) the information had to be compatible with the individual's own personal interests; and (d) the individual had to be mentally and physically able to comply (Wren, 1972).

Another necessary ingredient in effective management, as viewed by Barnard, was the determination and allocation of incentives. Barnard divided incentives into two categories, general and specific.

General incentives are basically characteristics of an organization, its systems and processes. Incentives of this type cannot be offered to individual workers. Included as general incentives are such

factors as social compatibility in work groups, allowing workers to develop personal methods to achieve desired results, job enlargement and enrichment, and the opportunity for comradarie and mutual support among workers within an organization. Although managers cannot use these incentives in dealing with individual employees, they can be instrumental in influencing policies aimed at creating conditions conducive to these incentives.

Specific incentives can be offered to the individual worker. Barnard places specific incentives into four categories: (a) material inducement, (b) personal non-material opportunities, (c) desirable physical conditions, and (d) ideal benefactors.

Material inducements include money, things, or physical conditions. Barnard felt material inducement was necessary to meet one's physiological necessities of food, shelter, and clothing. He felt material incentives were weak once these needs were met, except in a very limited proportion of men. Barnard believed that material incentives were weak unless supported by other incentives.

Personal non-material opportunities are of great importance to secure efforts beyond the minimal material rewards necessary to subsist. Barnard (1948) stated:

> The opportunities for distinction, prestige, personal power, and the attainment of a dominating position are much more important than material rewards in the development of all sorts of organizations. . . money without distinction, prestige, position, is so utterly ineffective that it is rare that greater income can be made to serve even temporarily as an inducement if accompanied by suppression of prestige (p. 145).

Desirable physical conditions dealing with the environment and general surroundings are important inducements to cooperation. These incentives often meet unconscious needs on the part of the worker and are usually more obvious in their absence than in their presence.

Ideal benefactors include the ability of the organization to satisfy personal ideals, usually related to non-material or altruistic needs; i.e., pride of workmanship or sense of adequacy. Ideal benefactors are among the most powerful and most neglected incentives.

To deal with the failure of incentives, Barnard developed three methods of persuasion. The first, coercion, was used to change worker behavior or to exclude workers. Coercion was accomplished through creating fear, ostracism, punishment, withholding benefits, discharge, etc. Although Barnard saw coercion as necessary in some cases, he believed it should not be used alone.

The second method of persuasion is described as rationalization of opportunity. The main thrust of this method is to stress opportunities that will be available to individuals who accept authority and organization goals.

The third method, the inculcation of motives, carries the second method further into the realm of propaganda. The purpose of this method is to actually attempt to change the needs and desires of the individual through deliberate education. Good examples of this method of persuasion would be the techniques employed in religious and political organizations to ensure individual dedication to organizational goals.

Barnard believed that both incentives and persuasion were necessary for an organization to function. The manager's ongoing responsibility was to analyze the balance between these two techniques and ensure that the most productive combination for the organization was in effect.

The study of administrative management was furthered in the late 1940's by Herbert Simon. He examined several of the principles of administration and identified four areas that appeared repeatedly in the literature: task specialization; hierarchy of authority; limited span of control; and the groupings of workers according to purpose, process, clientele, or place. Simon's close inspection showed these principles to be vague, ambiguous, and often contradictory. He summarized his dissatisfactions with (1957, p. 38):

> Administration description suffers currently from superficiality, oversimplification, lack of realism. It has confined itself too closely to the mechanism of authority, and has failed to bring within its orbit the other, equally important, modes of influence on organizational behavior. It has refused to undertake the tiresome task of studying the actual allocations of decision-making functions. It has been satisfied to speak of "authority", "centralization", "span of control", "function", without seeking operational definitions of the terms. Until administration description reaches a higher level of sophistication, there is little reason to hope that rapid progress will be made toward the identification and verification of valid administrative principles.

Simon felt that one object of study should be Administrative Behavior, the title of a book he authored. Since the early 1950's, Simon's admonition has been followed. Scholars have branched in many directions, but the focus remains on what is happening in the real organization.

A number of authors (e.g., Fry, 1974; Deci, 1972) believe that OBM opposes the human relations approach. Upon closer examination, however, it can be seen that there is really minimal conflict between the two approaches. Follett's work is reflected in OBM as the understanding that there are many complex relationships in organizations that can be reinforcing or punishing. Peers, as well as those in authority, have control over reinforcing consequences. The Hawthorne Studies supported the concept that many relationships in organizations were influential in behavior change. Barnard, in particular, appears to support many of the principles of OBM. The importance of the individual worker in the organization, allocation of incentives, and the notion that managers ought to question their choices of incentives if workers are not responding, are all concepts found in the realm of OBM.

Motivation Approach

Motivation theories have been particularly appealing in explaining organizational behavior for two major reasons. First, they attempt to explain why individuals are productive or act in a certain way, or in other words, what energizes their behavior. Second, motivation theories attempt to explain the direction organizational behavior takes when it is energized. Two approaches have emerged which are commonly called "content theory" and "process theory". The content theories of motivation attempt to identify what the energizers of behavior are. The process theories attempt to identify the cognitive processes which give behavior purposeful direction (Luthans & Kreitner, 1975).

Abraham Maslow initiated the content approach in 1943 with his development of a hierarchy of needs theory. Maslow placed human needs into five categories: physiological, safety, love, esteem, and self-actualization. The first three needs are considered lower level needs while esteem and self-actualization are considered higher level needs.

Maslow also believed that in most cases, an individual must have all needs met at one level before proceeding to the next. Maslow's work was general in nature, and ignored the more complex factors in human needs and motivation. His work has, however, been very influential in management and stimulated subsequent research.

In the 1960's, Frederick Herzberg used Maslow's proposals as a theoretical framework to conduct interviews with employees about job situations they found satisfying and dissatisfying. Following these interviews, Herzberg proposed a two factor theory of work and motivation, delineating two types of needs: hygenic and motivational. Job security, salary, and status are examples of hygenic needs and correspond to lower level needs in Maslow's hierarchy. Motivational factors include responsibility, recognition, and achievement and relate to the higher level needs of the hierarchy. Hygenic factors are considered necessary, but not sufficient, conditions for satisfaction to occur. Motivational factors are thought to create job satisfaction and stimulate greater performance (Frederiksen & Johnson, 1983).

Academicians have generally turned away from the content theories and use process theory approaches to explain motivation. Process theories are generally divided into drive theories and expectancy theories. The drive theories take prior experience into account when explaining behavior. Expectancy theories are more complex. Unlike the process theories which are past oriented, the expectancy theories are future oriented.

An example of drive theory is Clark Hull's historically important drive-reduction theory which was based on habit strength. Habit strength was based on previous behavior that had been reinforced. This reinforcement enabled an individual to satisfy fundamental drives. He implied that all behavior was a function of drive states. The problem with Hull's approach was that it did not separate learned and unlearned responses. A manager is not driven to make an administrative decision through the same process that a thirsty organism is driven to water.

Expectancy theory is also known as the path-goal approach. Simply stated, "expectancy theory suggests that the level of motivation experienced is a function of the value placed on a particular outcome and the subjective probability that a particular behavior will result in that outcome" (Luthans & Kreitner, 1975). While expectancy theory and reinforcement theory differ on the major theoretical point of intervening cognitive variables, they have much in common. Expectancy theory is concerned with the measure of overt behavior and appears to

to be one of the first management theories that examines the effects of the environment on behavior. This understanding is not sufficient, however, to change behavior in contemporary organizations.

While OBM theorists have received a great deal of criticism for ignoring the advances of the motivational theorists, this criticism is not necessarily valid. Proponents of OBM do not refute the existence of inner needs or drives, but rather believe that since these needs cannot be directly observed, management scientists must look to behaviors that can be observed and measured. The OBM approach utilizes scientifically proven techniques which are conspicuously absent in the motivational approaches.

Behaviorism

In 1913, American psychologist John B. Watson, expanded on the classic stimulus-response studies conducted by Russian psychologist Ivan Pavlov. Watson believed that all learned behavior consisted of responses elicited by prior stimuli. His major contribution to the behaviorism movement was the recognition of the value of scientifically studying observable behavior, rather than relying on intuition or personal experience.

Contemporary behaviorists do not agree with Watson's stimulus-response explanation for all behavior. They focus more attention on the reinforcing aspects of the consequences of the behavior, rather than the causal prior stimuli. This shift in focus is mainly the result of the work of the reinforcement theorists.

The first comprehensive reinforcement theory can be found in Edward L. Thorndike's law of effect. Thorndike (1913) stated that stimulus-response connections were reinforced or strengthened by satisfying consequences and weakened by annoying consequences.

The most notable behaviorist is B. F. Skinner. Skinner's approach follows from the historic framework laid by Watson and Thorndike. Conceptually, Skinner's work can be traced to Watson's preoccupation with objective, observable behavior and Thorndike's emphasis on the effect of the consequences of behavior.

Skinner divided behavior into two categories: operant behavior and respondent behavior. He called the behavior that operates on the environment to produce a consequence "operant behavior". An unlearned or reflexive behavior is called "respondent behavior". An example of respondent behavior would be a knee jerk that followed the tap of a doctor's reflex hammer. Operant behavior, while it may become paired with a prior stimulus, is not caused by a stimulus in the same way that a doctor's tap causes a knee jerk. With operant behavior, the organism acts on the environment to produce a consequence; while with respondent behavior, the environment acts on the organism to produce stimulus-response connections.

Based on this distinction, Skinner developed a procedure called "operant conditioning". The difference between operant conditioning and respondent or classical conditioning is that in respondent conditioning a reinforcer is paired with a stimulus, whereas in operant behavior it is contingent upon a response.

The final Skinner contribution to be examined is the concept of contingency. Contingencies are specific formulations of the interaction between an organism's operant behavior and its environment (Skinner, 1969). A contingent relationship could simply be thought of as an if-then relationship. If a behavior causes an environmental change, then the environment can be said to be contingent on the behavior.

Prior environmental cues also play an important role in contingencies. The Skinnerian concept of contingency involves three elements (Luthans & Kreitner, 1974, p. 29):

1. a prior environmental cue or state
2. a behavior
3. a consequence

The process of breaking complex behavior into these three components is called "functional analysis". Functional analysis attempts to systematically identify what cues are present when a specific response is emitted and, more importantly, what consequences are supporting that response.

Skinnerian behaviorism attempts to change behavior through the management of consequences. This approach, based on the operant conditioning paradigm, is commonly called behavior modification or applied behavior analysis. Most of the specific behavioral change technology presented in organizational behavior modification could collectively fall under applied behavior analysis.

Organizational behavior modification attempts to systematically relate the impact of the environment on organizational behavior. The assumption is that despite the primary use of behavior modification on mental patients, developmentally disabled persons, and children, it can be applied successfully to the more complex organizational behavior of normal adults. Therefore, the extensive knowledge that exists in the behavioral sciences is readily adaptable to organizational behavior. The OBM approach avoids dwelling on the internal reasons for behavior and provides management with a sound theoretical foundation and a selection of methods for shaping, changing, and directing organizational behavior toward the attainment of objectives (Luthans & Kreitner, 1975).

Literature Review

The published material on OBM can be divided into two broad categories: advocacy literature and empirical studies. The advocacy literature promotes the use of behavior modification to achieve organizational goals; it does not provide experimentally based empirical data, but rather presents interpretations and opinions based on existing studies. Since the early 1960's, the number of advocacy articles has continued to grow in the professional literature and trade journals (i.e., Aldis, 1961; Conversation with B. F. Skinner, 1973; Hamner & Hamner, 1976; Kreitner, 1975; Luthans & Lyman, 1973; Luthans & White, 1971; Rotoodi, 1976). Several books have been published that review the background and techniques of OBM in great detail (e.g.,

Brethower, 1972; Brown & Presbie, 1976; Connellan, 1978; Luthans & Kreitner, 1975; Miller, 1978). The main benefit of this literature is in encouraging the use and review of more behaviorally oriented approaches to organizational management.

The second broad category of literature empirically investigates the use of OBM in the work setting. This data based literature will be reviewed here. Based on the setting in which the study was conducted, the available literature will be examined in two groups: business and industry, and human services.

Business and Industry

Weitz, Antonetti, and Wallace (1954) published one of the first demonstrations of the effectiveness of feedback within a business setting. Feedback, in the form of a weekly bulletin on group sales performance and a bimonthly individual letter to the insurance salesman, increased monthly sales performance to $21,352 from $15,496 after six months. In addition, 54.3% of the feedback group improved while only 37% of the control group increased sales. While this pioneering article had a number of methodological problems that limited its validity, it was the first to recognize the importance of feedback in behavior change (Frederikson & Johnson, 1983).

Komaki, Waddell, and Pearce (1977) used strategies and techniques of applied behavior analysis to improve the performance of employees in two small businesses: a neighborhood grocery store and an arcade. Desired goals were set in observable terms, performance was repeatedly monitored, and observer reliability assessed. In the

grocery study, a multiple baseline design across behaviors was employed. Performance improvement on three behaviors ranged from 29% to 52%. The reinforcing consequences used were self-recording, feedback, and time off with pay. A reversal design was used at the arcade. Following the introduction of goal clarification and a contingent pay system, performance increased from baseline means of 62% and 63% to 93% and 97%. A by-product reported in these studies was the modification of the supervisors' behavior. They began attending to appropriate working behavior rather than ignoring or negatively reinforcing these behaviors.

Sielaff (1974) attempted to increase the performance of two men in an industrial setting. A history of poor performance was unchanged by praise from management and production bonuses for increased performance. When a piece-rate system was introduced, however, production per hour and earnings nearly doubled, while cost per unit declined. This increased performance continued at a six month follow-up to the study.

The training of hard-core unemployed to package beds in a small factory was the target of a study by Schneier (1973). A standard pay structure was not reinforcing desirable work behavior and many employees were not completing the two to three days of training that were necessary to learn the task. Initially, points that could be traded for money were introduced for the correct performance of each step, and later for the correct performance of the entire task. This intervention greatly increased the success

of the training program. Continuous reinforcement (after every response) was used at first, then a variable ratio (after every 7th response) was utilized. After the training, regular wage and pay scales were observed, along with a supportive attitude on the part of the supervisor. No follow-up study was conducted to assess the durability of the skills learned.

Yukl, Wexley, and Seymour (1972) and Berger and Cummings (1974) found that the cost/effectiveness ratio was more favorable when the incentive was administered on a variable ratio schedule rather than a continuous schedule of reinforcement. Generalizing from these experiments, however, to a full-time work situation is difficult because they were conducted with limited samples (N=15) who worked only 1 hour per day for 5 days.

Yukl and Latham (1975) compared three schedules of reinforcement in terms of their effect on the productivity of marginal workers (N=38 tree seedling planters). In a quasi-experimental design, the following treatments were randomly assigned to existing work groups: (a) continuous reinforcement - a $2 bonus per bag of tree seedlings planted; (b) variable ratio - a $4 bonus contingent on planting one bag of trees and guessing one coin toss correctly; and (c) variable ratio - an $8 bonus contingent on planting one bag of trees and guessing two coin tosses correctly. A fourth group was a control. The continuous schedule of reinforcement was the most effective in increasing performance. Although these results are just the opposite of previous studies, it is not clear whether these

results provide a valid comparison of the three reinforcement conditions. It was not possible to control for the biasing influences on the groups. This could have been avoided through random assignment. This was, however, the first study of reinforcement schedules in an industrial setting and it demonstrates some of the difficulties encountered outside the laboratory.

Luthans, Paul, and Baker (1981) analyzed the impact of behavioral technology on employee performance in a nonmanufacturing environment. The study involved 82 retail clerks in a large department store. Contingent reinforcement, which consisted of paid time off, equivalent cash, and a chance for a paid vacation, resulted in significant improvement in performance behavior (selling, stockwork, idle time, miscellaneous, and absence from work station). The control group's behavior remained the same. Because of careful controls used in the study, conclusions have considerable validity.

Performance improvement at a waterbed factory was the subject of a multiple baseline study by Luthans and Schweizer (1979). Two interventions were introduced following baseline: first, contingent time off for achieving present goals; and second, contingent praise, attention, and recognition for the same criteria. As a result of these interventions, production performance increased from a baseline of 1.6 beds per man hour to 2.13 and 2.19 beds per man hour, respectively. In addition, feedback and social praise were used to improve quality. The error rate fell from 15.42% to 9.9%.

Absenteeism and tardiness are problem behaviors that receive a great deal of attention from OBM researchers. This is because they are costly, reoccurring problems for which systematic, long-term data are readily available.

Nord (1970) conducted one of the earliest studies employing a behavioral approach to the control of absenteeism. The program utilized a contingent lottery system whereby employees in an industrial setting became eligible for drawings following one month or six months of perfect attendance. The procedure resulted in absenteeism being reduced to 25% of its baseline level and leave payments being trimmed by 62%.

Pedalino and Gamboa (1974) used a much larger sample (N=215) to assess the effects of a lottery incentive system to decrease absenteeism in a manufacturing and distribution facility. Four adjoining plants were used as a control. A baseline-intervention-return to baseline (ABA) experimental design was used. Absenteeism was decreased significantly (18.3%) for the experimental group, but did not decrease for any of the control groups. Further, stretching the schedule of reinforcement from a weekly to a biweekly did not increase the rate of absenteeism.

A similar study was conducted by Wallin and Johnson (1976) at an electronic manufacturing plant. All employees with perfect attendance and punctuality were eligible for a $10 cash lottery, as well as having their name listed on the plant bulletin board. After 11 months, there was a 30.6% decrease in total sick leave usage and a savings of $3,100. The total cost of the program was $110.

A non-lottery incentive program was used by Orpham (1978) in a factory in South Africa. A small monetary reward (50¢) was given for each week of perfect attendance. The differences in the rate of absenteeism for the treatment (2.56%) and the control group (3.7%) during the intervention was significant. The treatment group increased in absenteeism when a return to baseline condition was reinstated. When the contingency was re-established, the effect was replicated.

Success in increasing punctuality was obtained by Hermann, de Montes, Dominguez, Martes, and Hopkins (1973) using a similar incentive program. The researchers evaluated the effectiveness of a contingent monetary bonus of 2 pesos (16¢ U.S.) on the punctuality behavior of six chronically late workers in a Mexican manufacturing plant. A reversal design was employed. Results showed that tardiness per day decreased from baseline data of 15%, 8%, and 6.5% to 2.5%, 1.8%, and 2%, respectively. Control group tardiness for the same 77 weeks increased from 9.8% to 12%.

Kempen and Hall (1977) combined reinforcement and punishment to decrease rates of absenteeism in a large industrial setting. Specific criteria levels of absence were established and rewards, such as special leave time, were offered for attaining these goals. These positive contingencies allowed for punishment to be implemented for employees acquiring a higher number of absences. Absenteeism at one plant decreased from 5% during baseline to 3.4% during the attendance program. At a second plant, absenteeism decreased from approximately 10.5% to 6.5%.

Behavior modification principles have been used in business and industry to achieve organizational goals for the past 30 years. Through the systematic arrangement of consequences, including self-recording, feedback, money, and paid time off, desirable organizational behaviors have been increased and undesirable behaviors reduced. These changes in behavior are observable, measurable, and well documented. The primary goal of the organizations in this section is profit. The next section will review the use of OBM in organizations whose goal orientation is people rather than profit.

Human Service/Public Sector

A number of studies have been conducted in the human service setting and the public sector. Behavior modification on human subjects was pioneered in mental hospitals and institutions prior to its application in organizations. It is not surprising, therefore, to find that many of the human service OBM studies were conducted in mental hospitals and facilities for the retarded. This research is not restricted to these settings, however. The focus of these human service based studies parallels those conducted in business and industry. Areas of concern remain performance, absenteeism, and punctuality. Although specific target behaviors may be unique to this setting (i.e., increase staff-patient interactions), concerns are similar to those present in the business setting (i.e., increasing salespersons' interactions with clients). This section will first, review studies employing feedback and nontangible reinforcement; and second, studies utilizing tangible reinforcement.

One of the first studies conducted in the human service delivery area was by Panyon, Boozer, and Morris (1970). The setting was eleven residential halls of a state institution for the retarded. The intent was to determine the effect of performance feedback on the frequency of training sessions conducted by the attendant staff. During baseline, training assignments were made without any contingencies for the completion of these assignments. Following baseline intervals of 4-37 weeks, feedback was provided through public postings of the number of training sessions conducted and the staff responsible. The percentage of sessions conducted by each hall was ranked for comparison. Following feedback, the percent of conducted sessions in each hall increased to almost 100% from baselines of approximately 40%. The use of publicly posted feedback has been replicated and extended in several studies.

Welsh, Ludwig, Radiker, and Krapfl (1973) provided feedback to attendant staff of a state hospital on the percentage of assigned patient training programs that were completed. A multiple-baseline design was used across wards and feedback was distributed by shift on each ward. These results showed a large and consistent increase in the percentage of programs completed that coorelated with the introduction of feedback. Kreitner, Reif, and Morris (1977) provided public feedback to mental health technicians regarding the number of daily assignments completed and the frequency of individual and group therapy sessions conducted. Using a multiple-baseline design across behaviors, a dramatic increase was reported in all three behaviors

following the introduction of written feedback in the form of publicly posted memos. It is important to note that these feedback studies were conducted in the absence of specific goal setting and supervisory praise.

Cooper, Thompson, and Baer (1970) attempted to increase teacher attention to desirable child responses by providing two teachers with feedback regarding their attending behavior. The study used a multiple-baseline design. During the feedback period, both teachers steadily improved in their rate of attending to appropriate behavior and decreased their rate of attending to disruptive behavior. Teacher A improved the attending to appropriate behavior from 9% to 30%. Teacher B rose from 14% to 21%. During the two week follow-up period without feedback, both teachers' performance steadily declined.

The effect of supervisory praise on staff-resident interaction in a state retardation center was studied by Montegar, Reid, Madson, and Ewell (1977). Following baseline data collection, a staff inservice program was presented. Staff were then given praise from supervisors contingent upon interactions with residents, as instructed in the training program. This intervention resulted in a large increase in staff-resident interactions, ranging from 25% to 50% improvement from baseline data. Following termination of the contingent praise, interactions fell to near baseline levels. The subsequent reintroduction of contingent praise resulted in the recovery of high levels of staff-resident interaction.

In a study utilizing self-recording and supervisor praise, staff-resident interaction was measured in a state institution for the retarded (Burg, Reid, and Lattimore, 1979). Results indicated that the introduction of self-recording of each staff-resident interaction, coupled with supervisor praise for this recording, increased interaction from .07 to .54 per rater observation. Follow-up observation 11 weeks after the discontinuation of the supervisor praise indicated that for those staff who continued to self-record, the increased levels of interaction were maintained. This study suggests that self-recording may have long-term implications for achieving staff behavior change.

Quilitch (1975) investigated the effects of contingent feedback on performance compared to more traditional staff management methods in a residential facility for the retarded. First, a memo from the chief administrator of the facility was sent to staff stressing the importance of completing daily scheduled activities. The memo also recommended procedures to make the activities more meaningful. Second, a staff workshop was conducted on how to provide constructive activities for the residents. Third, specific staff were assigned to be activity leaders and were provided daily feedback through a poster of daily activities conducted. Neither the memo, nor the workshops, had any effect on staff's activity leading behavior. Following the assignment, however, the average daily number of residents engaged in activities increased from 7 to 32. Quilitch demonstrated that identifying specific staff responsibilities and providing feedback proved to be an effective combination to achieve staff change, whereas official policy interventions (i.e., the memo and staff training) did not result in changing staff behavior.

Iwata, Bailey, Brown, Foshee, and Alpern (1976) used a lottery in two studies attempting to improve the daily care and training services for residents in a facility for the multi-handicapped retarded. One study consisted of allowing attendants who had met pre-established performance criteria to be eligible for a weekly lottery drawing in which they could win the opportunity to choose their days off for the following week. Results showed that the lottery increased the percent of time attendants engaged in predefined target behaviors and, by their frequency of task completion, in several areas of resident care. The second study replicated and extended these results to include the area of increasing work quality. The performance lottery was found to be an effective procedure that could be implemented by supervisory staff on a large scale.

Reid, Brannon, and Schuh-Wear (1978) employed a group contingency to reduce absenteeism in a state institution for the retarded. If present criteria levels were achieved or surpassed by a shift, the reward of two weekends off over a four week period was granted. If the criteria was not met, the staff were given only one weekend off for that period. Results showed that five of the six work shifts decreased their mean percentage of absence, ranging from less than 1% to 5.02%. The authors point out that the intervention also involved goal setting and public feedback, since the criterion levels and actual rates of absenteeism for each shift were publicly posted. One can conclude that this combination of interventions correlated with a decrease in absenteeism, but the individual effects of each intervention is uncertain.

In a study conducted in the public sector, Schneier, Pernick, and Bryant (1979) measured the effect of supervisor feedback on work performance. The study was conducted on two units (N=20) of a medium sized Federal Agency. Each worker received feedback forms indicating personal performance relative to pre-established standards. The forms were self-reinforcing, as reported in Burg et al. (1979). In addition, supervisor praise was given for improvement in performance. The supervisors were simultaneously praised by management for their involvement in the study. Results in the first unit showed a mean improvement of 92% in the target areas. Annual savings totaled $112,000. The second unit improved 78% in its five targeted areas. This converted into a $35,000 annual savings. Additional benefits included a structure that moved managers from crisis management to focusing attention on desirable performance.

Two early studies involving tangible reinforcement used trading stamps to reinforce completion of assignments on a psychiatric unit. Hollander and Plutchik (1972) awarded 150 trading stamps to psychiatric attendants for each assigned task that was completed, as well as an additional 150 stamps for completion of each voluntary task. Staff had the opportunity to earn more than two full books each week. Using a multiple-baseline design, a significantly greater percentage of assigned tasks were completed during the stamp contingency phase (mean of 94%, as compared to a baseline of 61%). When the trading stamps were removed, the mean fell to 50%. A similar increase was found in voluntary tasks (mean of 75% compared to baseline of 38%). This mean

also fell to 50% following the removal of reinforcement. The total cost of this program was $300.

In a more complex study, Hollander, Plutchik, and Horner (1973) assessed the interaction of separate reinforcement programs for attendants and patients on a psychiatric ward. The patients were reinforced with lunch for engaging in work behavior. The attendants were reinforced with 150 trading stamps for successfully completing behavior modification tasks. Interactions were defined as the effect on the patient's work behavior of introducing and removing reinforcement for attendants. The reinforcement of attendant behavior significantly increased the work behavior of the patients. The removal of the reinforcement significantly reduced the patient's work behavior. This "piggyback" design proved to have utility for explaining interactions that govern behavior of two groups that are separately reinforced in a social system.

Several studies have employed cash rewards for desired behavioral performance. Pommereau, Bongrove, and Smith (1973) rewarded psychiatric aides for behavioral improvement in assigned patients. Aides were given specific information about the behavior of their assigned patients, cash rewards, public recognition based on patient improvement, and varied supervision by psychiatric staff. Appropriate patient behavior increased when aides were given quantitative information on progress (feedback). Noncontingent cash rewards (for cooperation among staff) had little effect, contingent cash rewards increased appropriate behavior. Direct supervision increased appropriate behavior, while required consultation regarding assigned patients did not. The patient's behavior deteriorated when the

program was terminated. Similar to the results of Hollander, et al. (1973), these authors found that the behavior of psychiatric patients is effected by variables that impinge on the psychiatric aide.

Pommer and Streedbeck (1974) investigated the effect of goal setting and token reinforcement on staff performance in a residential child treatment facility. The number of completed assignments and the number of new procedures implemented within one week of assignment were counted. Public notices were posted with job procedures and persons responsible. This resulted in an immediate increase in performance levels that eventually tapered off. Staff were then awarded tokens (exchangable for $1) for completing assignments within one week. When used in conjunction with public postings, the tokens resulted in a substantially higher level of performance than with the postings alone. The use of tokens without clear expectations did not yield as dramatic results, but performance was better than baseline.

Patterson, Griffin, and Panyon (1976) conducted two experiments to investigate peer competition (via public postings) and two schedules of money reinforcement to increase the rate of cottage self-help training sessions for severely retarded institutionalized residents. Both experiments included five phases presented in differing orders: baseline I, peer competition, behavioral engineering money, bingo money, and baseline II. Results indicated that the payment of small amounts of money to attendant staff, contingent on performance, produced dramatic increases in the rate of

daily training sessions conducted in cottages. The order in which the two schedules of money reinforcement were offered produced markedly different results in the frequency of daily sessions conducted.

Stephens and Burroughs (1978) used two financial reward systems to reduce absenteeism among 92 nurses, ward clerks, and nursing assistants. System A permitted subjects to become eligible for a $20 lottery by having perfect attendance during a 3 week period. System B allowed subjects to be eligible for a $20 lottery if they were not absent on any of 8 randomly drawn dates during the same 3 week period. Both reward systems resulted in significant decreases in absenteeism. No significant differences were obtained between the two systems. These results are consistent with similar lottery incentive programs discussed in the Business and Industry section (i.e., Nord, 1970; Pedalino and Gamboa, 1974).

The human service sector has achieved considerable success in changing organizational behavior in a positive direction. Not only has employee behavior been changed; but in some cases, so has the behavior of the clients as a result of the employee's change. The same types of interventions used in business and industry were employed to obtain desired results. These interventions included feedback, supervisor praise, money, and other tangible rewards. Organizational behavior modification has clearly become a viable tool for the manager seeking behavior change.

A Model of Organizational Behavior Modification

It is apparent from the literature review, that a wide body of knowledge currently exists on how to modify organizational behavior through the manipulation of the environment. Positive reinforcement has been used widely, for example, to effectively increase productivity and sales; increase the frequency of staff-client interactions; and decrease waste, absenteeism, and tardiness, to just name a few areas of success. Despite the proven effectiveness of positive reinforcement in the experimental setting, this technique has not achieved widespread use in the natural work environment. This lack may reflect the failure of the advocacy literature to specifically address the problems encountered in the work setting. The current literature presents "cookbook" approaches to the use of OBM and, thus, fails to prepare its potential users to overcome the inevitable obstacles that arise in the actual implementation. The remainder of this paper will present a model of OBM and will "walk" the reader through each step, thus, preparing the public sector administrator to use this powerful behavioral tool to help achieve organizational goals.

When an administrator decides that there are organizational behaviors that need to be strengthened or weakened, there are several elements in the OBM approach that must be followed. These include (a) identification of existing behaviors, (b) measurement of the frequency, (c) identification of the desired behaviors, (d) contingency analysis, (e) identification of consequences, (f) design of behavioral intervention, (g) analysis of the effects of the intervention, and

(h) maintenance of the desired results. This process is graphically presented in Figure 1, a Flow Chart of Organizational Behavior Modification.

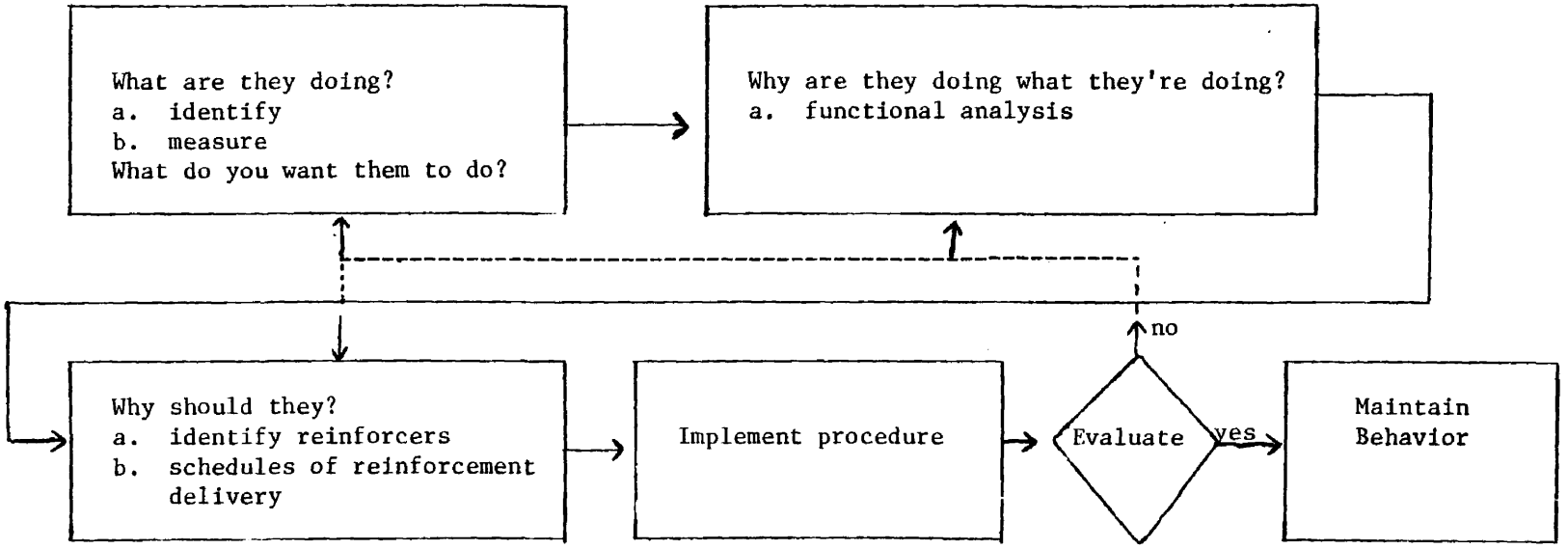
WHAT ARE THEY DOING? WHAT DO YOU WANT THEM TO DO?

The first step in any attempt to change organizational behavior is identifying (a) in what behaviors the members are currently engaging, and (b) what behaviors you want them to exhibit. This analysis is generally begun in response to certain desirable behaviors that the administrator wants to strengthen or certain undesirable behaviors that are to be decreased. "Desirable" and "Undesirable" are subjective terms; but for the purpose of OBM, desirable behaviors are those that aid in the attainment of the organization's goals, while undesirable behaviors hinder that attainment.

To simply eliminate undesirable behaviors is not sufficient. If reinforcement is not provided for the desired behavior, one undesirable behavior may just be replaced by another undesirable behavior. The answer most frequently given to the question "What do you want them to do?" is stated in terms of what one doesn't want the employee to do. For example, the employee should stop being late, or talk on the phone less, or have fewer accidents. The intent of this question is much broader. The OBM administrator must decide what he/she does want the employee to do and must identify these behaviors as the target behaviors.

FIGURE I

FLOW CHART OF ORGANIZATIONAL BEHAVIOR MODIFICATION



The identified target behaviors must be specified in terms of behavioral events. Behavioral events are observable, have a distinct beginning and a distinct end, and are countable. The behavioral event is the dependent variable. Behavioral events are units that change the direction of complex behavioral chains. (Luthans and Kreitner, 1975)

The behavioral event should be a performance related behavior. Numerous behaviors occur in any work situation and unless they are specifically related to performance, they are not in the realm of OBM. For example, an employee may have poor personal hygiene and the supervisor may find this annoying. However, if this employee is a top performer, the poor hygiene should not be a target behavior for OBM. If the employee's personal hygiene is affecting his performance; for instance, in a position directly dealing with the public, than this behavior would be an appropriate behavioral target. The purpose of OBM is to improve performance, not merely to change behavior (Luthans and Kreitner, 1975).

If tardiness is a problem because the supervisor jokes with the employees about being late or because the supervisor also comes in late and is not even present to supervise the employees' tardiness, then the problem is with the supervisor's behavior, not that of the subordinates. Through the analysis of determining what behaviors are being exhibited, and why, it can be established whether the problem lies with the employees or with the supervisor. In the above cases, the use of OBM to modify the behavior of the employees would not be appropriate.

There are several other caveats that must be addressed during the analysis of "why?" before proceeding with a decision to use OBM. First, it must be determined that the employee is capable of performing his duties. It may be that he just does not have the mental capability, or physical strength or dexterity to do the task. This point relates to Taylor's management beliefs of matching the physical characteristics of the man to the job. This remains a valid point. Performance cannot be expected from a worker who is incapable of performing. If it is determined that this is the problem, then the solution is to obtain a worker with the desired ability.

Second, make sure the employee knows what is expected. Many problems can be corrected at this stage by simply establishing clear expectations. Administrators often hear, "If someone had only told me what they wanted done, I would have done it". Therefore, it is essential that the expectations are clearly communicated and understood by the employee.

Third, once it has been established that the employee has the ability and understands what is supposed to be done, ensure he has the skills necessary to complete the assignment. The problem may be one of training or retraining. After all, it is unfair to hold someone accountable to specific performance standards if they do not know how to perform the task in the first place.

Finally, factors influencing the worker that are originating from outside the work place must be ruled out. An understanding of these may be difficult to determine. However, if an employee's unsatisfactory

performance reflects emotional problems, alcohol or other drug abuse, or similar factors that are deeply rooted outside the organization, modifying the organizational environment through OBM will not be successful in changing these behaviors.

Thus, before a commitment can be made to the use of OBM, the administrator must ensure that the behaviors to be modified are performance related and are within the scope of the approach.

In order to scientifically determine the effect of an intervention, a pre-measure (baseline) is needed as an assessment reference. This is why it is important to determine the frequency, or strength, of the identified behavioral event (what are they doing?). At this time it is often discovered that the pre-measurement impressions of the frequency of the behavior are different from what is actually happening. The problem may not be as serious as first imagined, or it may be much worse.

There are many ways to measure frequencies of response. The key to doing this effectively is not in the choosing of a method, but in accurately recording the frequency. In some cases the data are already available in files, timebooks, or other records. In most cases, however, the approach to recording will be through direct observation. Whatever the means, the process must be specific and precise.

Once the behavioral event has been identified, the initial step in measurement is developing a recording sheet. This sheet should specify the definite predetermined criteria for recording.

designing a recording sheet, it is helpful to reduce the observations into a choice between two alternatives; i.e., either it happened or it did not, either on time or late, either on task or not on task. This simplifies recording and eliminates the possibility of bias through subjectiveness in entering the measurement (Luthans & Kreitner, 1975).

The use of OBM should be conducted with the full knowledge of the participants. If the administrator feels, however, that the knowledge of being directly observed may bias the performance, he may opt for a less obvious observation method. For example, rather than directly record on the recording sheet, one could use a wrist counter, or make mental notes, and transfer this data onto the recording sheets away from the observation site.

When measuring behavior frequency, the administrator has two main options. For low frequency behavior, every incident can be counted. For high frequency behavior, time sampling may be used. Time sampling involves randomly choosing one or more time periods during which the behavior regularly occurs and counting the frequency during that time. For example, the frequency of on-task behavior may be determined by 5 minute observations made each hour during the day. While this type of sampling does not include all the behavior elicited throughout the day, if it is truly random, it will give an accurate picture of the strength of the behavior. This baseline period should normally last one to two weeks, depending on the frequency of the behavior. While this aspect of behavior analysis may be time consuming, the

amount of knowledge that can be gained can be tremendous in preparing the administrator to continue with OBM planning.

The final step in measurement is graphing the data from the recording sheets. Flexibility and adaptability are required when constructing behavioral graphs. Normally, the frequency in percentage is recorded on the vertical axis and the time on the horizontal axis. Frequencies are better recorded in percentage of total observations because this allows for accurate comparisons, even when observation periods are missed.

These graphs should continue to reflect the behavior observations made after the intervention is determined and implemented. In effect, they answer the pivotal OBM question: Has the intervention strengthened, weakened, or not effected the target behavioral event? In addition, these graphs become reinforcing to the manager who uses them. Just by seeing the graphic representation of employee performance as a result of OBM, the manager is receiving direct feedback on the success of his intervention.

Administrators who decide to use OBM must record behaviors in a straight forward and ethical manner. Behavioral recording is a tool, and like any tool can be misused. The positive approach to behavior change must be maintained and the results of the recording should not become ammunition for disciplinary action. This is not the answer to effective behavior change. Only personal experience will tell an administrator if and when to use charting. Proficiency will be gained with practice. With the specific technique of behavioral recording

mastered, the administrator is now ready to move to the next step of OBM-behavior change. The change techniques parallel behavioral recording; they are precise and systematic, not intuitive or haphazard (Kreitner, 1975).

WHY ARE THEY DOING WHAT THEY'RE DOING?

The next step in the analysis is to determine the contingencies that support the existing behavior. This contingency analysis involves identifying the antecedent (A), the response or behavioral event (B), and the consequence (C) (Skinner, 1967). The basis for this analysis is to determine if the behavior is being maintained by the organizational environment or is the result of a nonwork related problem. It is not sufficient to simply identify the B's, the A's and C's must also be identified and analyzed (Luthans & Kreitner, 1975). What events precede certain behaviors? Is performance being punished? Is undesirable behavior being reinforced? Are there inconsistent or conflicting contingencies? Is the employee receiving appropriate performance feedback. It is the answer to these and similar questions that allows the administrator to gain a full understanding of specific organizational behavior.

The following is an example of the functional analysis of a behavioral event: Imagine a supervisor who identifies an employee's problem behavior of disrupting meetings with jokes and smart remarks. She determined that the amount being accomplished at these meetings could be increased if this employee made relevant contributions to the discussions, rather than the disruptive remarks. In functionally

analyzing the behavior, the supervisor determined that the antecedent condition (A) for emitting the behavior was the gathering of the staff for the meeting. The meeting did not cause the behavior, it only identified the occasion for the behavior to occur. The consequence (C) for the disruptive remarks was the laughter and other signs of approval from several of the staff present. If the supervisor wanted to change this behavior, she could not change the antecedent (A), the meetings were a necessity. She could, however, change or replace the consequences. The procedure for changing consequences will be identified later in the paper. The point here is that, more often than not, the antecedent is difficult to change. Functional analysis will reveal that the consequences are more adaptable to OBM.

Luthans & Kreitner (1975) identify two problems in the process of functional analysis: (a) the same consequence may control the frequency of two or more behaviors and (b) a single response may have more than one contingent consequence. When a supervisor walks through the office area and compliments all the staff on their hard work, it is possible that all the workers were not on task prior to his coming into the office. While his intention was to reinforce on-task behavior, he may have unintentionally reinforced "goofing off", if that was the behavior of some employees just prior to the reinforcement.

On the other hand, if a supervisor praises one of two equally performing members of a group project and, as a result of this, the performance of the nonreinforced employee drops, the consequence of the supervisor's behavior has affected the behavior of more than one person. Thus, a single consequence may, at the same time, control

(a) more than one behavior in the same person or (b) the behavior of more than one person.

Another problem encountered when functionally analyzing behavioral events concerns the single response that elicits more than one consequence. While undesirable behavior may elicit disapproval from the supervisor, at the same time it may be reinforced by the worker's peers. To resolve this conflict the administrator must make the organizational consequence more desirable than the consequence of the peers.

The successful completion of the functional analysis of a behavioral event is a difficult task. When it is completed, however, the preparatory work to designing the intervention strategy has been completed. At this point the most important question can be asked.

WHY SHOULD THEY EXHIBIT THE TARGET BEHAVIOR? (the intervention design)

There are several variables within the work environment that should be addressed before the actual intervention is decided upon. Luthans (1973a) notes the importance of considering the internal organizational process. The eventual success or failure of an OBM intervention can be affected by the decision making process, communication networks, or systems of control. Organizations by nature are social environments and, as such, include all the complexities associated with group dynamics. The effects of any intervention strategy on all members should be considered. The complicating nature of groups, with all of their force and influence on organizational behavior, cannot and should not, be underestimated in OBM (Luthans & Kreitner, 1975).

The nature of the task is also a consideration. Not all tasks lend themselves to OBM. The tasks with the greatest likelihood of success are those with a great deal of behavioral input that has, in turn, a great impact on performance. Related to the contingency management approach, the goal of OBM is to decide if the organization has a certain structure, process, technology, and there are certain group and task elements; then what is the most appropriate strategy to use to achieve the greatest improvement in performance (Luthans, 1973b).

When the decision has been made to proceed with the development of an intervention strategy, the following questions have to be asked regarding the employee(s): "Why should they exhibit the target behaviors you want to increase or decrease?" "What's in it for them?" The answer to these questions lie in the basic strategy interventions: positive reinforcement, negative reinforcement, punishment, extinction, or a combination of these. Positive reinforcement is the most effective tool available to the OBM administrator and will be the focus of this paper. Negative control has a limited place and this will also be presented.

OBM is primarily concerned with controlling behavior through positive controls. This approach, unfortunately, requires a complete turnabout in the behavior of many organizational members. The millieu found in most organizations is one of negative control and one where negative behavior attracts attention. When everything goes right, nobody in the organization notices or responds. When someone exhibits negative behavior, however, it is quickly noticed and brought to their attention.

A good example of this, recently observed by the author, concerns a psychologist in a developmental disabilities facility who started writing progress reports to his supervisor. These reports highlighted significant accomplishments of the resident care staff on his unit. The main purpose of the reports was to positively reinforce these staff members for their success with specific residents. Copies of these memos went to the administrative cadre of the facility. This practice went on for several weeks and neither his supervisor nor any of the administrative staff said a word to the psychologist about these reports, much less to the staff who were highlighted in the reports. When the psychologist incorporated the word "shit" into one of the reports to emphasize his delight in the accomplishments of a certain staff member, he was finally approached by his supervisor and verbally counselled about his inappropriate language. He was also warned not to repeat that type of behavior or be prepared to receive discipline. This was a simple straight forward attempt on the part of this psychologist to reinforce the desirable behavior of other staff. The end result was the psychologist being punished and the report writing quickly being terminated. Most members of large organizations can probably recall similar examples of negative behavior attracting attention while appropriate, desirable, and even exemplary behavior going unnoticed.

Because positive reinforcement is so important to the success of OBM, and it is often confused with rewards and negative reinforcement, these terms will be clarified. Within the realm of OBM, the concept

of positive reinforcement has been derived from the E. L. Thorndike "Law of Effect". Specifically, a contingent response is called a positive reinforcer because it strengthens the behavior upon which it is contingent and makes the likelihood of that behavior more probable (Luthans & Kreitner, 1975). A consequence is not a positive reinforcer simply because someone thinks it is. It is only termed a positive reinforcer if the frequency of the response preceding it increases. A consequence can only be labeled after its effects are measured. This measurement is important because subjective opinions cannot adequately determine what will be reinforcing to a given individual. An important point to remember is that what is reinforcing to one person may not be reinforcing to another. Something is called a "reward" based on the subjective opinion that it is of value to the receiver. This is not always the case. Unless this reward increases the response of the behavior for which it was given or it is demonstrated that the withdrawal of the reward results in a decrease in the response, it is not a positive reinforcer. All positive reinforcers are rewards, but not vice versa. Rewards are also often given noncontingently by supervisors. Undesirable behaviors can be maintained by the noncontingent presentation of a reward. Positive reinforcers, on the other hand, are presented contingently upon, and only contingently upon, the performance of a predetermined behavioral response. The key difference is that while rewards are subjective, positive reinforcers are scientifically tested and functionally defined. A consequence is a positive reinforcer because it functions as a positive reinforcer.

While positive reinforcement increases behavior by the presentation of a desirable consequence, negative reinforcement increases behavior by the withdrawal of an undesirable consequence. For example, if performance increases following contingent praise, this is positive reinforcement. If a supervisor threatens discipline, demotion, or other aversive measures unless performance increases, and as a result the performance of the employee improves, this process is called negative reinforcement. The behavior (performance) increased and the consequence was the withdrawal of the aversive behavior of the supervisor. Negative reinforcement, like punishment, has some undesirable side effects. These will be explained in detail in the negative control section.

For clarification, the desirable consequence that increases the behavior is the positive reinforcer, the process is positive reinforcement. Likewise, the undesirable consequence that is withdrawn to increase behavior is a negative reinforcer and the process is negative reinforcement.

Identify Positive Reinforcers

The review of the literature demonstrated that for a wide variety of organizational settings, the answer to the question "Why should they?" is because of positive reinforcers. Through a reliance on the dispensing of positive reinforcers, a supervisor can increase desirable behavior and not have to worry about the undesirable effects that are associated with negative controls.

The first step in the designing of an intervention strategy is the identification of positive reinforcers. Intervention designers should keep in mind that reinforcers are idiosyncratic and they should not fall into the trap of attempting to identify universal reinforcers. One man's reinforcer may well be another man's punisher. The OBM supervisor must learn what turns individual employees on and what turns them off. The common denominator is the frequency of the operationally defined behavioral event. The identification of reinforcers should occur through a systematic plan. There are several options available: analysis of the employee's reinforcement history, self-reporting, and trial and error.

The analysis of the reinforcement history is an extension of the contingency analysis that occurred in the "Why are they doing what they're doing?" stage. At this time the A-B-C contingencies are identified. When the response (B) is increased and the consequence (C) is desirable, it is a positive reinforcer. A list should be made of these reinforcing consequences. If the list does not appear large enough or workable, expand it by doing further contingency analysis. There is no limit to the number of positive reinforcers one can have available.

Further identification of positive reinforcers can be obtained essentially the same way the previous contingency analysis was performed. Through the functional analysis of naturally occurring contingencies in the work environment, one can identify the consequences that exist that are positive reinforcers. These contingencies will not involve the targeted behavioral event, but the same principles apply.

Document the antecedent, the response, and the consequence on a worksheet and graph the response frequencies. Through analysis of the results one can generate a list of effective positive reinforcers.

Keep in mind that the most precise identification of reinforcers will be obtained through the direct observation of contingencies and the functional analysis of the results. Getting away from this practice leads to less accurate results. This analysis also forces the manager to look at organizational behavior in terms of A-B-C contingencies, thus using an OBM approach to human resource management (Luthans & Kreitner, 1975, p. 93).

A second method of identifying positive reinforcers is self-reporting. This can be accomplished by simply asking the employee what is reinforcing to him. Keep in mind that this method does not yield results as accurate as the history of reinforcement analysis. This relies on verbal behavior. The adage "Actions speak louder than words" holds true here. Whatever someone tells you is reinforcing to him/her should only be considered a reward until it is functionally analyzed to determine its effects on the strength of the target behavior or is subject to the trial and error method.

The trial and error procedure is also less accurate than the analysis of reinforcement history. On the surface, it is similar to this procedure because it has the same intent. This is where the similarity ends, however. This method involves the presentation of rewards following a behavioral response and then an observation of its effects on the frequency. This procedure lacks the measurement and the pre-established contingencies of the history method. The intent

here is to induce performance with rewards of it. If it appears to work, consider the reward a positive reinforcer.

Most administrators use some sort of trial and error method of responding to behavior, although probably not overloaded with positive reinforcement. It may be helpful at this point to examine some of the positive consequences available to the public sector administrator. Keeping in mind the budgetary constraints under which most public sector organizations operate, the emphasis will be on rewards that naturally exist in the organizational environment rather than being artificial or contrived. This list is presented in Figure 2 and is called "Potential Reinforcers" because the interventions are just possibilities to become actual positive reinforcers. Only an examination of the results on the response frequency will indicate if they are effective.

A closer examination of the potential reinforcers identified in Figure 2 will assist the reader in gaining better understanding of this powerful arsenal of consequences.

Feedback on performance is one of the easiest methods to use, yet it is easily neglected. It has already been stated that negative behavior attracts attention. This is often the only feedback some employees receive. Because feedback is such an effective reinforcer, attention to negative behavior often results in the frequency of the negative behavior increasing. This contingency must be reversed. Contingent verbal praise is a powerful and meaningful reinforcer available to increase desirable behavior.

FIGURE 2

POTENTIAL POSITIVE REINFORCERS

1. Feedback on performance.
   - verbal praise from supervisors
   - written praise from supervisors
2. Assignment of preferred work activities.
3. Assignment of special projects.
4. Assignment of special projects usually performed by supervisors.
5. Public recognition in organizational newsletter.
6. Opportunity to attend training, learn new skills or techniques.
7. Opportunity to train others.
8. Additional and/or upgraded equipment.
9. Awards.
10. Opportunity to supervise others/engage in supervisory tasks.
11. Opportunity to design forms, reporting systems, schedules, charts, graphs, and/or other work aides.
12. Preferred work space assignment.
13. Inclusion in certain social events.
14. Redecoration of work environment.
15. Solicitation of suggestions/advice from supervisors.
16. Opportunity to schedule one's own work and/or breaks.

This point was demonstrated recently in a story told to me by a public health nursing supervisor who practices OBM. During her second week in this assignment, she gave verbal praise to an aide after the aide asked for technical assistance with a patient she was not trained to deal with independently. This was a behavior she was not demonstrating as often as the supervisor felt was appropriate. The aide was so moved by the verbal praise that she broke down crying, saying "This is the first time in four years anyone has ever said I've done anything right". The frequency of asking for technical assistance rose to an appropriate level and is being maintained with verbal praise. This incident demonstrates the effect that a positively controlled organization can have on its personnel. Staff want to be told when they are doing something right. Verbal praise costs nothing, every person has the capability to provide it, and it can be done quickly and on the spot. It is one of the easiest reinforcers to deliver.

Written praise can take many forms. A note or memo directly to the employee is one method. This technique alone will not usually remain effective if used repeatedly with the same employee; therefore, in the long run, it is best used in combination with other reinforcers.

Written praise can also be delivered via a memorandum to someone other than the subject. Two ways of doing this will be presented. First, send a memorandum to a significant superior in the organization simply stating what the subject did that you want to reinforce. For example, an office manager may send a memorandum to the department

director stating that Mr. B. processed the most forms in a given week. For memoranda to be effective, the employee must know that it has been written. No consequence will increase behavior if the subject is not aware that it is occurring. In the case illustrated above, the reinforcer will be even more powerful if the department director provides some feedback to Mr. B. on his performance. Mr. B. then not only gets the message that his performance is appreciated enough to be shared with the director, but also the director cares enough to respond.

A second use of the memorandum is to write progress or status reports. The key is to draw attention to individual behavior as highlighted accomplishments critical to the achievement of an organization's objective. The greater the number of significant members of the organization that receive these memoranda, the greater the chance of the effect of this procedure becoming a positive reinforcer for the employee. Unlike the first method, the goal of these reports is not to overtly draw attention to the employee's behavior. The intent is to "plant" this information within a report that addresses broader organizational issues. This then gives the employee the message that their behavior is critical to the effectiveness of the organization and also important enough to be shared with high level administrators. These memoranda should not only be shared with the employees mentioned in them, but also with the remainder of the employees in the work unit. This gives them the opportunity to find out what is important to administration and worthy of reporting. These reports can act as a vehicle after which to model their own behavior.

As mentioned earlier, what can make this process an even more powerful reinforcer is the solicited positive feedback of the significant others who receive copies of the memoranda. The word "solicited" is used because personal experience shows that many administrators do not naturally respond to positive behavior that is brought to their attention. If necessary, prepare a script for these individuals to follow. At this point, the intent is to modify the employees' behavior, not the administrations.

One may think that a staff member's name in a report of this sort would not have any affect on him/her. The author has experienced several incidents of an employee remarking after the issuance of such a report "Make sure you spell my name right next time" or "I do the same thing you said Mr. B. did, why didn't I get my name in your report". On other occasions the author has overheard remarks of rivalry among staff regarding the best performance in order to get mentioned in an upcoming report. Staff do read these reports and they do affect their behavior.

Assignment of a preferred activity is another potential reinforcer available to the supervisor. While assignments to work locations or units may be governed by civil service rules and collective bargaining agreements, the criteria for who does what within the work location is much more flexible. Choice tasks can be identified and used as reinforcers. Easy tasks can be assigned following the completion of more difficult tasks. All supervisors know the desirable jobs in their area which are potential reinforcers.

Desired behavior can also be reinforced through the assigning of special tasks. There are always projects with special significance, special data to be collected, research to be done, reports prepared, etc. Many employees respond positively to being allowed to participate in these projects. They enjoy doing something "special". Even though it is work that someone would have to do anyway, because of the nature of the assignment, it becomes special and they, not someone else, get to do it.

This whole process can take on special significance if the project is usually the responsibility of the supervisor. Many staff find it particularly rewarding to do assignments that are normally considered the boss' work. A situation in which the author was recently involved in illustrates this reinforcer used in conjunction with the "written praise via the progress report to significant others". An employee's on-task behavior was being reinforced by asking her to prepare the written reports on a particular client that the author had been writing to reinforce other staff's behavior. Up until this point, the writing of these reports had been an administrative responsibility. The particular case involved a client that this employee was very involved with, and these reports had been used to reinforce this involvement. This employee was offered the responsibility of writing the reports, to help the author because of increasing demands on his time. These reports were now being addressed to the author with copies to his supervisor, as well as to all the members of administration who had been receiving them all along. Not only was the employee's behavior being reinforced, but so was the behavior of the staff mentioned in

the reports because these reports continued to go the the significant others in the organization.

Using some sort of public newsletter or informational bulletin to highlight desirable behavior is another method to strengthen its response. This can be used to strengthen group or individual behaviors. Personal experience has shown that this type of reinforcer can be very meaningful to staff. These newsletters become treasured possessions and copies are saved and sent to family members. It is important to remember with this, as all reinforcers, that it must be delivered contingently. Otherwise you run the risk of reinforcing undesirable behaviors. Also, unless this is part of a regular feature in a newsletter, these "one time only" reinforcers are generally insufficient to maintain a behavior change. Other types of reinforcers delivered at a higher frequency will be necessary to maintain the behavior at the desired level.

The supervisor can also utilize the opportunity of allowing staff to attend training or to learn new techniques or skills as a reinforcer. The realm of possibilities within this category is vast. Included are instructing an employee in special techniques, new tasks, supporting work related college classes, or sponsoring attendance at seminars and lectures. To use this mechanism effectively to reinforce desirable behavior, it is necessary to ensure that the employee knows why he is being reinforced. So often an employee is allowed to attend special training or a seminar by a supervisor who is pleased with the employee's "good work" and the supervisor will communicate this vague idea to the employee. When pressed for details, however, the supervisor is able to operationally define "good work" into specific behavioral events.

Just reinforcing "good work" is not sufficient. If the supervisor is attempting to increase or maintain a specific behavior, then it should be ensured that the employee understands the contingency between that specific behavior and the reinforcer. Otherwise, the employee may misinterpret the entire process and the end result will be the reinforcement of the wrong behavior.

The opportunity to train others can also be an effective reinforcer. Experienced staff can be paired with new employees for training purposes. Staff can be allowed to go to other work areas, departments, agencies, etc., to share their experience with individuals or groups. These kinds of activities give the employee the message that their knowledge and skills are valued and good for more than just completion of the assigned task. Allowing the staff to share their skills contingent upon the exhibition of target behaviors can be effective in increasing those behaviors.

Additional and/or upgraded equipment can also be provided contingently. This can either be on a permanent or loan basis. For employees who obtain equipment through a check out system, the choice equipment can be issued to those with the most desirable performance. The same applies to the issuance of vehicles to employees. The permanent issuance of equipment can also be made contingent upon performance or behavior.

Awards are generally one time only reinforcers and are often presented so much after the fact that they lose their effectiveness as reinforcers. They are particularly beneficial, however, in delivering the message to

staff "this is what we want you to do". Staff recognize that the organization is putting time and resources into rewarding certain behaviors. Therefore, the message is transmitted that this is important to the organization. To maintain the awarded behavior, however, there generally needs to be other reinforcers provided on a higher frequency.

The opportunity to supervise others or engage in supervisory activities are activities that are important to a large number of people. Most organizational units allow for the opportunity of an "acting supervisor" to assist or cover in the absence of the designated person. These kinds of assignments can be potent reinforcers. Ideally, staff will have the opportunity to utilize the skill or expertise that is being reinforced. These assignments do not necessarily have to include direct supervision (nor may it even be possible). Allowing an employee to complete a routine task that is normally considered a part of the supervisor's responsibility is another reinforcer many staff will work to earn.

Documentation is an all too common requirement for many public sector organizations. Often the staff who are responsible for maintaining certain documentation requirements, if allowed, could produce a more useful and/or workable document than the one currently in use. Likewise, if a new or modified form is necessary, the staff who use the existing form, or will be required to use the new form, are potential candidates to be the designers. Not only will the organization benefit through the acquisition of a good document, but the employee chosen to design this document will feel worthwhile and

important. As above, this consequence must be contingent upon the targeted response. While the opportunity to design forms, reporting systems, schedules, charts, graphs, and/or other work aides may not be appropriate as an ongoing reinforcer, it is one of a category of consequences that can be utilized in isolated instances to provide special reinforcement for a behavior that is being maintained by another positive consequence.

The supervisor also has the opportunity to reinforce target behaviors through the assignment of preferred work space. If the work environment involves office areas, then the supervisor could contingently manipulate office or desk assignments, location of where the work is to be performed, amount of space available, or allow for the individual to choose his/her own work space. Outdoor work space could include the most comfortable area. These are just a few examples, specific choices would depend on the creativity of the supervisor and the particular work environment.

Including employees in certain social events may be another effective reinforcer. These opportunities range from lunch to a cocktail after work to an evening engagement or vacations.

Redecoration of the work environment is another possibility. This may include small items like wall hangings or a rug, or major redecoration projects. This also is a reinforcer that will be given once, unless provided in segments. Therefore, there should be another reinforcement system in action to address the target behavior.

Behavior can be reinforced by the superior asking for suggestions or advice from the employee. This gives the employee the message that his knowledge is respected and needed by the organization. It is particularly meaningful when the employee is solicited for information directly related to the behavior that is being reinforced. For example, an employee's accuracy in reviewing a form for errors is successfully being increased through positive reinforcement. This behavior can be further reinforced by asking the employee for suggestions or advice on how his system of review works and how it could be replicated by other employees in the organization.

The opportunity to schedule one's own work and/or breaks can be utilized in many organizational settings as a potential reinforcer. Employees are often considered unable to adequately schedule use of their own time. If this opportunity is presented contingently to reinforce desirable behavior, especially areas of independent decision making, the employee may not only feel better about his job; but the end result of the self-scheduling may result in higher productivity than if the supervisor continued to do the scheduling.

One can conclude from a review of the above suggested reinforcers that there are many possibilities for utilizing combinations of the different categories. The response of the employee is the key to this decision making. Is the frequency of the target behavior changing in the desired direction? If so, the reward is a reinforcer and is appropriate to be utilized. The limit to the number of possible

reinforcers is determined only by the imagination and creativity of the program designer. The more reinforcers that can be identified and utilized, the less the chance that the employee will tire of any given one.

Schedules of Reinforcement Delivery

The frequency and timing of reinforcer delivery is very important. The sooner after the response that the consequence is delivered, the more effective it will be. If there is a delay, a noncontingent consequence may occur and influence the target behavior and/or the contingent consequence may end up affecting the wrong behavior. The longer the time between the response and the consequence, the greater the chance of the employee losing sight of the A-B-C contingency attempting to be established. For example, merit increases in pay are often routinely administered without really being contingent on performance. As a result, they may reinforce some other work related behavior; e.g., lower than average performance, etc. Also, because raises are often delayed due to organizational procedures, they lose much of their reinforcing quality and become less effective in increasing performance (Lazer, 1975, p. 24).

The frequency, or scheduling, of the delivery of the reinforcer is as important to the behavior change as what the reinforcer is. The schedule of reinforcement can have as great an effect on frequency of responding as does the size or magnitude of the reinforcer (Luthans & Kreitner, 1975).

There are two major types of reinforcement schedules, continuous and intermittent; and four intermittent subtypes: fixed ratio, variable ratio, fixed interval, and variable interval. Refer to Figure 3 for a summary of these.

The continuous reinforcement schedule calls for a reinforcer to be delivered following every response. This will effectively maintain response strength as long as the reinforcer is delivered each time. Missed consequences, for whatever reason, stand out in contrast to a continuous schedule. If this occurs, the response tends to stop shortly after the reinforcers are no longer being delivered.

The intermittent schedule of reinforcement reinforces less than every response. It promotes stronger, more stable, and a higher frequency of responding than the continuous schedule. The intermittent schedule can depend on the ratio of responses to reinforcement. This can be fixed; for example, every tenth response will be reinforced; or the ratio can be variable and constantly changing. The intermittent schedule can also be on an interval schedule tied to the passage of time. In this case, the first response after a stated time interval has elapsed is reinforced. All other responses prior to this time go unreinforced (Schneier, Pernick, & Bryant, 1979). A common example of a fixed interval schedule of reinforcement is the regular paycheck received by organizational members. An example of a variable schedule of reinforcement is the supervisor who randomly visits the worksite to recognize outstanding performance.

FIGURE 3

SCHEDULES OF REINFORCEMENT

TYPE OF SCHEDULE	RATE OF REINFORCEMENT			
Continuous	After every desired response			
Intermittent	Ratio: A function of the number of responses		Interval: A function of time elapsed	
	Fixed	Variable	Fixed	Variable
	Reinforcement provided after the same number of responses every time	Different numbers of desired responses must be made to elicit reinforcement	Reinforcement provided after a fixed amount of time	Reinforcement provided after varying amounts of time

SOURCE: Gullett & Reisen, 1975, p. 209

Traditionally, the various schedules of reinforcement have been taken for granted or unsystematically delivered. With the OBM approach schedules are given a great deal of attention and the critical effect they have on human resource management is recognized (Luthans & Kreitner, 1975).

Negative Control

Punishment, negative reinforcement, and extinction are the strategies utilized in negative control. These strategies will be reviewed in this section.

Punishment, by definition, is the presentation of an aversive environmental event which is made contingent upon the occurrence of a given response, and which has the effect of reducing the future probability of the response (Reynolds, 1968). Punishment weakens behavior. Like positive reinforcers, punishers are idiosyncratic and can only be labeled after their effect on the frequency of response is determined. Punishment can be achieved through either of two methods: (a) a positive reinforcer can be withdrawn, or (b) a negative reinforcer can be presented. In either case, if the response behavior weakens the process is punishment.

Like punishment, negative reinforcement is widely used and abused. They are not the same process, however. Negative reinforcement strengthens, not weakens, behavior. The process of negative reinforcement involves the withdrawal of a punishing consequence following a response, with the end result being an increase in the strength of the response. For example, an organization may have a supervisor who has a history of reprimanding

employees orally when he observes them not on task. If the employees ensure they are on task when they see him coming, to avoid a reprimand, on-task behavior is being negatively reinforced. An analysis of this contingency is as follows: the antecedent is seeing the supervisor; the response is on-task behavior; and the consequence is the withdrawal of a verbal reprimand. Negative reinforcement has many of the same undesirable side effects of punishment and these will be reviewed later.

Extinction has the same effect on the response as punishment - it reduces response frequency and weakens behavior. Extinction occurs when a previously reinforced behavior is no longer responded to and the behavior disappears. Undesirable side effects are much less a concern with an extinction strategy. Extinction takes much more time to eliminate a behavior than does punishment.

The popularity of negative control has been referred to several times so far. All too often the first answer to "Why should they?" is a "They better, or else!" and the "or else" is punishment. There is general agreement among behavioral scientists that punishment is widely used (Luthans & Kreitner, 1973; Jablonsky & DeVries, 1972; Skinner, 1953, p. 182; Nord, 1969) and they deplore its indiscriminate use. Luthans & Kreitner (1975) summarize the current status of punishment as a controller of behavior as follows: "(1) we know little about the long-range effects and systematic consequences of controlling human behavior with punishment (Campbell and Masterson, 1969, p. 3); (2) what we have learned from the systematic research indicates that punishment has a number of undesirable side effects (Azrin and Holtz, 1966, pp. 236-38; Estes and Skinner, 1941; Johnston, 1972); and (3) punishment remains a widely used tool for social control today."

There are numerous explanations for the popularity of punishment as a form of social control. These include justice, equity, and the "eye for an eye" doctrine (Luthans & Kreitner, 1975). From an OBM standpoint, punishment is popular because it is very reinforcing to the user. Implementors of punishment techniques are usually negatively reinforced. People often punish to terminate annoying behavior. If this annoying behavior decreases, the act of punishment has been negatively reinforced. For example, a supervisor yells at an employee for reading a book when he was supposed to be working. The employee immediately apologizes and puts the book away. Consistent with the law of effect, the supervisor's behavior is strengthened and will increase in frequency. This problem is compounded by the fact that the next time the behavior is exhibited, the punisher feels "it worked partially last time, so this time I just need to do it harder" (Smits, 1975). Although tempting to use, the immediate payoff of punishment should be avoided.

There are five main side effects of punishment (Kreitner, 1972; and Smits, 1975): (a) the behavior is temporarily suppressed rather than permanently changed; (b) the possibility of behavioral inflexibility; (c) emotional spin-off; (d) the generalization of aversiveness to the controller of the punishing consequence; and (e) punishment becomes a judgment system. These side effects are so dysfunctional they present an effective case against punishment.

Once a supervisor begins to extract desired behavior through punishment, the process will have to continue if the desired response is to continue. Research shows that punishment initially reduces

response frequency, but once the aversive consequence is withdrawn, the punished response returns (Luthans & Kreitner, 1975). Ongoing punishment becomes necessary for sustained suppression. Thus, punishment leads to more punishment.

The possibility of permanent damage to the employee's behavioral repertoire is a serious side effect. Bandura (1969, pp. 110-12) has noted that punishment via the presentation of negative reinforcers may sometimes permanently stifle behavior. This may appear to be an attractive counter to the above side effect of only temporary suppression; but the behavior that is permanently suppressed may, under different circumstances, be highly desirable. In short, punishment may permanently suppress the wrong behavior. In an organizational setting, these behaviors may include independent decision making, creativity, or problem solving. For example, a new employee may be ridiculed by the manager for suggesting a naive solution to a longstanding problem. This ridiculing may permanently hinder the employee's offering of suggestions.

Emotional behavior is also a spin-off of punishment. This behavior is reactive, impulsive, and spontaneous. Punishment appears to increase the incidence of emotional behavior in those being punished. Skinner (1953, p. 188) noted that behavior temporarily suppressed by contingent punishment is commonly replaced by an emotional reaction. Emotional behavior expressed under these circumstances is mainly dysfunctional because it can inhibit the achievement of personal and organizational objectives.

The fourth undesirable side effect is commonly found in modern organizations. The aversiveness of the punishment slowly generalizes to the source. The managers who practice punishment become so closely

associated with the punishing behavior that they themselves take on aversive properties. In the long run, these types of individuals end up being quite ineffective. It is very difficult to assume the dual role of punisher and reinforcer. The ability to reinforce is eroded by fear and mistrust.

The final side effect of punishment occurs in situations where punishment is frequently used. In these cases, punishment also becomes the determiner of acceptable behavior. Staff learn to think that their behavior is sanctioned just because it is not being punished. Thus, behavioral responses tend to be negatively reinforced by the absence of punishment. As a result, no positive behaviors are actively encouraged and the employee may develop unusual or undesirable behaviors based solely on the absence of punishment.

These five undesirable side effects provide a strong case against punishment. Punishment is not as effective as positive reinforcement; it can cause permanent inflexibility where it can least be afforded; it erodes the effectiveness of the presenter; it can become a judgment system; it only temporarily suppresses behavior; and it leads to aggressiveness, defensiveness, passivity, dependence, and immature emotional behavior. The OBM manager should attempt to seek alternatives to this type of behavior change which rely more on positive, and less on negative control. If negative control must be used, special attempts should be taken to avoid or neutralize these side effects as much as possible.

Two alternatives will be examined that employ a combination of techniques. These are: (a) a combination of extinction and positive reinforcement and (b) a combination of punishment and positive reinforcement.

All organizations have behaviors that need to be weakened. An effective strategy to accomplish this is through a combination of extinction and positive reinforcement. Meacham and Wiesen (1969, p. 75) contend that in such a strategy "What is really involved is a systematic redistribution of reinforcers, be they tangible or social, so that the undesirable behavior is deprived of reinforcement but competing desirable behavior is heavily reinforced." By utilizing this process of reinforcing incompatible behaviors, the employee is not left wondering what is expected of him/her. If this were allowed to happen, another undesirable behavior could well surface. An example of this two-step process would be the ignoring of disruptive behavior at meetings, coupled with positively reinforcing constructive comments at meetings. The use of extinction avoids many of the undesirable side effects of punishment.

If punishment is absolutely necessary to quickly eliminate undesirable behavior, it is again best to ensure that one or more incompatible behaviors have been identified to be positively reinforced. The combination of punishment and positive reinforcement negates, as much as possible, the undesirable side effects of punishment used alone. The success of this process depends on how well the incompatible behaviors that are being reinforced are strengthened. This strategy also avoids putting pressure on the individual (by leaving them not knowing what behavior to emit) through the positive reinforcement of the incompatible behaviors. The opportunity to behave in positively reinforcing alternatives acts as a safety valve. The end result allows the OBM manager to take advantage of the ability of punishment to immediately terminate a response, while at the same time neutralizing the side effects.

IMPLEMENT PROCEDURE

At this point the analysis of behavior is complete, reinforcers have been identified, and the intervention strategy has been determined. Now the administrator is ready to contingently apply the selected consequence for the targeted behavioral event.

The same process that was outlined in the "Measure" section continues at this point. In order to evaluate the effectiveness of the intervention, the target behaviors need to be recorded and graphed. This can occur on the same data keeping devices already developed, or a new device can be utilized. It is important to ensure that this record keeping is compatible with the original data (i.e., the same frame of reference, etc.) so accurate comparisons can be made.

EVALUATE EFFECTIVENESS

The answer to whether the strategy is effective lies in whether the frequency of the identified behavioral event is changing in the desired direction. If it is, the intervention is appropriate and should be continued. If it is not, it is necessary to backtrack in the process to identify the cause. Re-analyze the behavior. Be sure OBM is an appropriate behavior change technique. If it is, re-examine the reinforcers and the delivery schedules. It may take more than one attempt before the correct combination is identified. When it is, the result will be a strong and enduring behavior change.

MAINTAIN BEHAVIOR

Maintenance of the desired behavior is the final step in the process. The type and schedule of reinforcers may not need to be as intense to maintain the targeted behavior frequency as it was to

originally achieve it. Experimentation in this area will yield the necessary level. If evaluation shows that the response frequency is not remaining at an acceptable level, the manager must return to the evaluation stage and determine the appropriate action to take. The ultimate goal is to develop a self-reinforcing participant in pursuit of organizational objectives.

CONCLUSION

Organizational behavior modification is the successful application of the principles and procedures of behavior modification to the management of organizational behavior. As such, it has historical and theoretical roots in the fields of behavior modification and organizational behavior. A review of the growing body of empirical literature leads one to the conclusion that OBM is an effective approach to managing a variety of organizationaly relevant behaviors. These findings have been replicated over different settings, behaviors, and populations. Additionally, these demonstrations have been successfully conducted with existing problem behaviors in field settings and have frequently used sophisticated experimental methodology.

OBM does not suggest any unique intervention techniques. The use of verbal and written praise, special attention, and contingent rewards have long been used in the management of organizational behavior. What OBM, and the public sector model in particular, have done is to specify the parameters for the application of these consequences. The manager must ask the questions: What are they doing? What do you want them to do? Why are they doing what they're doing? Why should they do what you want them to do? It is in the ability to successfully answer these

questions and implement a behavior change strategy that make up the essence of OBM. Simply knowing that it is important to provide rewards does not tell someone when, how often, how many, or for what behaviors. OBM allows for the systematic implementation of a planned strategy and has taken much of the guesswork out of organizational behavior change.

The model of organizational behavior modification presented in this paper offers the public sector administrator an effective method of achieving organizational change. The advantages it offers are numerous. The cost is generally minimal as reinforcers do not have to be expensive to be effective. Providing praise and other reinforcers, and drawing attention to desirable behavior, can even be fun. Most important, as demonstrated by the empirical literature, it works. While OBM is certainly not presented as a panacea, it provides a viable alternative to traditional approaches to managing people in today's organizations.

One of the key elements of OBM that should be emphasized is the development of a positive approach to behavior change. This runs contrary to the generally accepted practices and procedures of letting negative behavior attract attention. The reinforcing role of attention has been stressed repeatedly in this paper. If a manager only attends and responds to undesirable behavior, then the employees who need the attention of their supervisor are left no alternative but to continue to exhibit undesirable types of behavior. Thus, in order to maximize on the effect that contingent attention can have on the behavior of others, managers must train themselves to be attracted to desirable behavior. The motto of one supervisor who practices OBM sums up this point very well: "CATCH'EM BEING GOOD!"

A reliance on positive controls must also be adopted. The undesirable side effects that result from the use of negative controls are incompatible with the implementation of a positively oriented OBM plan. Even though behavior change achieved through positive controls may take longer to occur, the results are much more durable and longer lasting than those resulting from negative controls.

OBM is currently in the first stage of development. The next stage should expand its application from small-scale pilot projects to the application of OBM to entire organizations. Appropriate target personnel for this type of demonstration would be organizational members at all levels, not just the lower levels. OBM should also begin to address more complex behaviors within the organization. These behaviors could include managing change, burnout, employee selection, and even the overall design of the organization. OBM should become relevant to a wide range of organizational concerns. Finally, techniques to introduce OBM to organizational members must be developed. The best theory or model is useless if not accepted by those for whom it is intended.

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