Comparison with Other Self-Regulation Strategies

RESEARCH

Physiological


Clinical


Adverse Effects


Refining the Dependent Variable


*Except, of course, for those to whom this is a component responsible for its success!
Goleman, 1977); biofeedback (Glueck & Stroebel, 1975); behavioral self-control (Shapiro & Zifferblatt, 1976b; Shapiro, 1978b); autogenic training (Onda, 1965)—as well as generally with other self-regulation strategies (Davidson & Schwartz, 1976). Hirai, Ikeda, and Watanabe (1977) tried to determine whether previous meditation experience enhanced biofeedback training; and Solomon and Bumpus (1978) have investigated combining meditation with running.

A comparison of the eight most commonly used self-regulation strategies with meditation and with each other, the subject of a forthcoming book (Shapiro, Note 5), would deflect us from the major thrust of this book. Therefore in this chapter, as an example of a methodology for comparing meditation with other self-regulation strategies, it is compared with behavioral self-management; then possible ways and rationales for combining the techniques are discussed.

6.1 Introduction and Background

Based on current biofeedback, meditation, and self-control research, a new paradigm of the individual is emerging within the scientific community, conceptualizing the healthy person as an individual who can pilot personal existential fate in the here-and-now, with far greater bodily self-regulation than heretofore imagined. Concomitant with this new paradigm is an attempt to develop and improve techniques by which people can self-observe their behavior, change it (if desired), and then continually modify and monitor it according to their needs.

This chapter compares self-control techniques developed within the Eastern religion of Zen Buddhism and the Western psychological framework of social learning theory. Because of seemingly different epistemological and cultural frameworks, it might at first appear an impossible task to bridge this gap between an Eastern religious technique, such as Zen meditation, and Western therapeutic strategies, such as self-management skills. There is certainly no doubt that differences both in origin and goals exist.

For example, formal Zen breath meditation (sazen) is a technique developed over one thousand years ago as a method of attaining religious insight (Kapleau, 1967; Maupin, 1968; Weinpahl, 1964). Behavioral self-control techniques, on the other hand, involve a constellation of strategies tailored to specific problem areas, and are the product of recent empirical investigations derived from experimental research in Western laboratories and field settings (cf. Goldfried & Merbaum, 1973; Mahoney & Thoresen, 1974). In addition, Zen meditation is a technique within a religious/philosophical framework that has a view of man different from the philosophical view of man on which social learning theory rests (cf. Bandura, 1974; 1977b; Hirai, 1974; Suzuki, 1956). Finally, based on current split-brain research (Galin, 1974), it may be argued that Zen meditation may primarily involve the right side of the brain (i.e. nonrational, nonanalytic, simultaneous integration of material), while behavioral self-control strategies may primarily involve the left side of the brain (i.e. analytical, rational, sequential processing of information).

Despite the fact that the techniques were developed in different eras, for different philosophical purposes, and with different assumptions about the nature of humankind, systematic investigation of the two techniques is fruitful for several reasons. By looking closely at the behaviors involved in both techniques, it might be possible to determine when behavioral differences in fact exist between the two, and when the supposed differences are merely semantic distinctions. Where behavioral differences do exist, further research might then document whether unique aspects of one could become profitable additions to the other. Social learning theory employs a naturalistic observation technology to identify and measure behaviors and events (cf. Zifferblatt & Hendricks, 1974). By using these tools of experimental analysis (naturalistic observation), it is possible to gain an understanding of meditation as a series of behavioral events under explicit contingency arrangements. In this way meditation is removed from the realm of mystical practice accessible only to the select few, and is redefined as a technique that, if useful, could be practiced and understood by many people.

6.2 Behavioral Self-Observation

The concept of awareness, so predominant in the literature on meditation, is also critical to behavioral self-change strategies. In the behavioral literature the means of
attaining this awareness is called “self-observation.” Self-observation is the initial step of a self-change strategy, and involves teaching a person how to monitor his or her own behavior (Kanfer & Phillips, 1966). Other behavior therapists (e.g., Ferster, 1972; Goldiamond, 1965; Thoresen & Mahoney, 1974) also stress the importance of a self-directed functional analysis of the environment as a prerequisite to behavior change. Ferster (1972) has referred to his functional analysis as “outsight therapy,” noting that probably the most significant and difficult event to learn to observe is the functional relationship between one’s own behavior and the elements of the environment that are controlling it. By recognizing this, an individual takes the necessary first step toward manipulating, rather than being manipulated by the environment (Bandura, 1974b).

Self-observation strategies are not limited to the individual’s interaction with the external environment, and may include monitoring covert thoughts and feelings, such as physiological reactions, somatic complaints, and covert images (Cautela, 1967, 1971; Homme & Tostì, 1971; Jacobson, 1971; Kazdin, 1974; Thoresen & Mahoney, 1974; Meichenbaum, note 10). After discriminating and labeling certain specified behaviors in the internal and/or external environment, the individual then examines the antecedents and consequences of the behaviors. In this way the individual is able to recognize antecedent or initiating stimuli; to recognize consequences maintaining the behavior; and to recognize the behavior itself: frequency, latency, duration, and intensity.

Zen meditation also focuses attention both on inner experiences (Maupin, 1965) and on the external environment (Kasamatsu & Hirai, 1966). In Zen, however, the goal is to remain aware of the ongoing present without dwelling on it. Therefore, in Zen meditation, unlike behavioral self-observation strategies, no attempt is made to plot data charts, use counting devices, or employ systematic and written evaluation of data gathered from the ongoing present. The contrast might be one of a relaxed awareness, a receptive “letting go” compared to an active focusing and dwelling on data (cf. Deikman, 1971). Furthermore, in Eastern self-observation strategies (cf. Rahula, 1959; Spiegelberg, 1962), the important factor is not what is observed—all behaviors experienced by the individual—but how it is observed, in a non-evaluative way, without comment. In Western self-observation strategies, the important factor is the specific problem area observed, the behavior to be changed or altered.

One of the consequences of behavioral self-observation is that the procedure serves both as a method of gathering data and also as a possible self-change technique. As Kanfer and Karoly (1972) point out, self-observation appears to be intimately linked with self-evaluation and self-reinforcement. And Homme and Tostì (1971) suggest that the “act of plotting on a graph serves as a positive consequence for self-management, and once conditioned, the operation of a wrist counter appears to act as a reinforcer in its own right.”

Several recent studies have attempted to verify this reactive effect. Most indicate that self-observation of a behavior does influence the occurrence of that behavior, depending on such factors as the valence of the behavior, the timing of the self-observation, the nature of the response monitored, and the frequency of the observations.*

It was noted earlier how a similar reactive effect takes place during the first step of Zen meditation in which self-observation of the behavior of breathing influences its occurrence (see Chapter One, Figure 1.3). However, the reactive effect in Zen seems to serve no therapeutic value, but rather causes a difficulty in breathing. Because the behavior of breathing is presumably nonvalenced, further research needs to clarify the exact nature and differences between the reactive effects that occur in behavioral self-observation and meditation.

Thus, in summary, although both behavioral self-control and meditation strategies involve the concept of awareness, there are differences in terms of the nature of what is observed, the method by which it is observed, and the types of reactive effects that occur as a result of observation.

6.3 Self-Evaluation and Goal Setting

* Cf. Broden, Hall, & Mital, 1971; Johnson & White, 1971; Kazdin, 1974; McFall, 1976; McFall & Hamm, 1971; Mahoney & Thoresen, 1974.
The goal in Zen, on the other hand, is not to evaluate the effects of self-observation but rather to just observe. As Alan Watts (1972) put it: "Zen meditation is a trickily simple affair, for it consists only in watching everything that is happening, including your own thoughts and your breathing without comment." (p. 220). Further, Zen also stresses the importance of living in the present without setting goals. For example, Suzuki (1956, 1960) discusses the dilemma of modern Western man, who is so busy striving after future accomplishments that he is unable to appreciate the day-to-day beauty right beside him.

However, there is a contradiction in the Zen explanation of nonevaluative self-observation. In fact, two goals are posited: One is the goal of living-in-the-moment without self-evaluation, and the other is the goal of not having any goals. From a behavioral standpoint, a series of techniques are involved that represent a successive approximation toward the "goal of non-goals." For example, beginning meditators are taught, as noted earlier, to count from one to ten. More advanced meditators, however, are taught to just count one over and over again. This represents an attempt to focus the individual meditator more in the present, without striving after the goal of reaching ten. Finally, there is a technique in the Soto Zen sect for the most advanced meditators called Shikan-taza, which means just sitting and involves neither focusing on counting nor breathing. Thus, rather than no goals in Zen, there are a series of sub-goals designed to help the person reach the goal of being goal free and fully in the present.

A similar analysis could be made of the goal of no self-evaluation. In order for an individual to be able to observe himself without comment and without evaluation, he has to be able to discriminate, label, and evaluate those times when he in fact evaluates. For example: "I’m no longer focusing on breathing; I’m being too self-critical, I should stop being so critical and return to just observing myself." Thus, a behavioral analysis, although not denying that Zen in fact has a goal of nonevaluation, raises the question of whether that goal can be reached and maintained without the initial aid of evaluating the effects of one’s progress. Seemingly, one must first learn how to evaluate before one can experience nonevaluation.

6.4 Environmental Planning:

Once the individual has become aware of the target behavior, several self-management strategies are available for him or her to use. The first of these strategies is environmental planning, which occurs prior to the execution of the target behavior. Examples of environmental planning include arranging antecedent or initiating stimuli (stimulus control), pre-programming certain punishments or reinforcements for specified actions (self-contract), self-regulated stimulus exposure (self-administered desensitization), and covert self-verbalizations and imagery (self-instructions).

Stimulus Control

The development of stimulus control may be a prerequisite step in successfully implementing a behavioral self-management strategy. The individual must identify and plan changes in relevant situations: ones that will "cue" or set the occasion for self-change responses to occur. Stimulus control strategies may involve the association of desired behaviors with stimuli likely to evoke them. Examples of successfully implemented stimulus control procedures have been reported in the areas of weight control (Ferster, Nurnberger, & Levitt, 1972), obesity (Stuart, 1967, Stunkard, 1972), study skills (Beneke & Harris, 1972), and smoking (Bernard & Efran, 1972; Shapiro, Tursky, Schwartz, & Shidman, 1971).

The uncluttered location of the meditation setting may be seen as a type of stimulus control in that the individual pre-arranges the physical environment to reduce unwanted distractions and thereby to help him or her focus attention on breathing. Similarly, the physical posture may be seen as a way of reducing unwanted proprioceptive feedback. Incense may be used as a means to block out other smells or as a discriminative cue for relaxation. The dimness of the lighting may be a method of reducing unwanted visual distractions. All of the above are examples of stimulus control, in that the individual is trying to

*Cf. Mahoney & Thoresen, 1974; Thoresen & Mahoney, 1974.
prearrange the physical environment to set the occasion for the proper occurrence of meditation behavior.

Other examples of environmental planning include meditating with a group of people in order to ensure daily practice, a using of social reinforcement to encourage the performance of certain actions. Similarly, in formal Zen meditation, the use of the *kaout*, a slap by the master of a “non-concentrating” student represents a preprogramming of punishment to reduce “nonalert” behavior. These are examples of environmental planning because they occur prior to the execution of the target behavior of meditation, with the individual prearranging relevant environmental cues and social consequences to influence the occurrence of the behavior.

It is important to note, however, that although the meditator prearranges environmental cues, and may use social reinforce-
ment and consequences to influence the occurrence and proper execution of meditation behavior, the long-term goal of meditation is eventually to eliminate the need for social consequences, environmental cues, or even covert self-reinforcement. In the beginning, however, the need for these cues and consequences is both recognized and used.

SYSTEMATIC DESENSITIZATION:

Wolpe (1958, 1969) borrowed from Jacobson’s (1929, 1971) relaxation techniques and used them as the first step in his three-step process of systematic desensitization. Wolpe hypothesized on the basis of reciprocal inhibition that the negative affect of a phobic or stressful event would be reduced and eventually eliminated (extinguished) if it could symbolically occur in the presence of an incompatible response such as relaxation. He had the patient construct elaborate hierarchies, labeling the items on the hierarchy in ascending order of subjective units of disturbance. He would then relax the subject using Jacobson’s method, and once the subject was relaxed, have him or her visualize the item having the lowest subjective rating of disturbance on the hierarchy. If the subject began to feel tense, Wolpe would instruct him/her to dismiss the image and continue to relax. If the subject felt no tension, the therapist would have him/her imagine the next highest tension-producing item.

Step four of formal meditation (Chapter One, Figure 1.2) has several similarities to the Wolpe paradigm. First, step four of

formal meditation may be conceptualized as a type of counter-
conditioning (cf. Bandura, 1969; Davison, 1968b) in which responses incompatible with maladaptive behavior are practiced; that is, step three, relaxation or effortless breathing, precedes the feared image, step four. However step four of meditation is dif-
ferent from Wolpe’s paradigm in that there is no structured hierarchy of anxiety-producing events, but rather a “global desensitization hierarchy” (Goleman, 1971).

There is still considerable debate, in the literature as to what exactly accounts for the success of systematic desensitization. Wolpe and others have argued on the basis of reciprocal inhibi-
tion an incompatible response causes a counterconditioning to occur (Bandura, 1969; Davison, 1968b). Others have argued in favor of a cognitive refocusing model, suggesting that it is primarily the attention shifts that cause the effectiveness of systematic desensitization (Wilkins, 1971; Yulis et al., 1975).

Both of the above explanations seem plausible for the effects that occur in step four and step five of formal meditation. A third explanation might consider the use of operant punishment, behavioral thought stopping (Wolpe, 1969). In behavioral approaches to thought stopping, whenever the individual realizes the presence of an unwanted aversive thought, he or she covertly yells “Stop!” It is possible that a similar process occurs during meditation, in which using self-instruction the individual stops focusing on thoughts and images and returns to the behavior of breathing.

6.5 Behavioral Programming

THE SECOND of the behavioral self-management strategies is behavioral programming. In behavioral programming, the individual presents him/herself with consequences following the occurrence of a target behavior. These consequences can be either verbal, imaginal, or material self-reward or self-punishment (positive or negative, overt or covert [Mahoney & Thoresen, 1974; Thoresen & Mahoney, 1974]).

Although Zen does not espouse attachment to material possessions (material self-reward), Zen meditation does involve
internal processes. Therefore, of particular interest to this discussion is the behavioral literature on covert events, both imaginal and verbal.

It is only within the last ten years that behaviorists have actively begun to pay attention to covert events, finally entering into the "lion's den of private events" (Cautela, 1967, 1971; Mahoney, 1974; Meichenbaum, Note Ten; Ellis, 1962), for several reasons. First, improved scientific instrumentation has made it possible to study some internal processes (e.g., the research on biofeedback [Barber et al., 1971, Shapiro et al., 1973; Stoyva et al., 1973]). Second, animal studies (e.g., Miller, 1969) began to question the traditional distinctions of operant and classical conditioning, especially the interdependence of environmental/cognitive influence processes and the primary role of "symbolic processes" in behavior change. Third, the clinical experiences of clients and patients have almost invariably involved maladaptive cognitive problems.

As early as 1964, Skinner noted that internal events, even though self-reported and unobservable, are justified in a science of behavior if they delineate functional behavioral relationships. L. Homme (1965), in a seminal article entitled "Control of Covernants, The Operants of the Mind," hypothesized that a behavioral relationship existed between what a person said to himself covertly and his subsequent overt behavior. Several recent studies have attempted to show the relationship between covert events and overt actions. Cautela (1967, 1971) has discussed the use of covert sensitization (covert imagery as punishment) as a technique for modifying maladaptive approaches to behavior involved in problems such as alcoholism (cf. Ashem & Donner, 1968), inappropriate sexual behavior (Barlow et al., 1969; Davison, 1968a) and obesity. Ferster (1965, 1971) has discussed the use of ultimate aversive consequences in which the individual, say a problem-smoker, imagines an aversive future consequence, rotting lungs, doctors talking over his/her decayed body, every time he/she begins to engage in the maladaptive behavior, lighting a cigarette. The individual thereby learns to modify his/her overt behavior by covertly summoning up aversive future consequences at the onset of his/her present maladaptive activity.

Other studies employing covert responses as examples of behavioral programming have been discussed by Cautela (1967; 1971) and Bandura (1974c). Both authors review studies suggesting that covert desensitization can be used to modify maladaptive avoidance responses, and that covert self-reinforcement, both positive and negative, can be used to modify maladaptive approach or avoidance behavior. Other studies have taken Homme's (1965) covert control therapy paradigm, based on the Premack principle (Premack, 1965), and successfully applied it to modifying covert thoughts, for instance, increasing positive self-thoughts and decreasing negative self-thoughts (Johnson, 1971; Mahoney, 1971). Further, it has been shown that covertly practicing the behavior, cognitive rehearsal, is a successive approximation approach and increases the likelihood of its successful occurrence (Johnson, 1971).

Based on the research on covert events discussed above, several stress and tension management training packages have been developed (cf. Suinn & Richardson, 1971; Meichenbaum, Note Ten). These training packages have altered the traditional Wolpe paradigm in both theory and practice. As noted earlier, Wolpe believed that relaxation should precede the fear-arousing imagery. In the new paradigm, the fear-arousing situation becomes a discriminative stimulus for relaxation. The two paradigms were compared in a group study involving acrophobics. One group practiced the passive paradigm relaxation before phobic scene and avoidance of arousal), and one group practiced the active paradigm (fear arousal as a discriminative stimulus for active relaxation and positive imagery). On both self-report and actual performance tests of climbing and looking down from a twelve story building, subjects in the active "stress as a cue to relax" procedure did significantly better (Jacks, Note Eleven.) The latter technique first involves training in deep-muscle relaxation and then teaching the person to discriminate anxiety by imagining the fear-arousing situation and maintaining that situation in imagination. While maintaining the image, the person then practices controlling arousal by means of muscular relaxation, covert self-modeling (self-observation while acting in a competent and successful fashion in the anxiety-arousing situation) and self-instructions to cope with the situation ("relax, I am in control, I can handle the situation." [cf. Goldfried, 1973; Jacks, Note Eleven; Mahoney, 1974; Suinn & Richardson, 1971; Meichenbaum, Note Ten]).

These training procedures involve practices quite different
from both formal and informal meditation. For example, in informal meditation, the individual observes all actions and behaviors throughout the day. In the training package, the individual is instructed to discriminate certain specified ‘anxiety-arousing’ situations, and then to use those situations as discriminative stimuli for engaging in relaxation, covert self-modeling, and self-instruction activities. In informal meditation, although all cues are observed, the individual is instructed to ‘merely observe, as a witness’ and to take no specific action after recognizing any particular cue. In terms of formal meditation, although the beginning meditator may subvocalize such self-instructions as ‘relax; keep focused on breathing; attention has wandered, better return to breathing again,’ the goal of meditation is to remove these verbal cues eventually and have an ‘empty mind,’ that is, an absence of covert statements and images, step five.

6.6 A Clinical Combination of Zen Meditation and Behavioral Self-Control Techniques

THE PRECEDING discussion has attempted to suggest that there is a common ground between Zen meditation and behavioral self-management techniques. One of the more important clinical questions, however, still remains unexplored: can these techniques complement each other to provide a more effective treatment strategy in combination than either strategy can when practiced alone? To date, there has been almost no research in this area. Therefore, the comments that follow are intended only as plausible hypotheses and must await further research for empirical documentation of their effectiveness.

INFORMAL MEDITATION PLUS BEHAVIORAL SELF-CONTROL TECHNIQUES: “CONTINGENT INFORMAL MEDITATION”

Current research suggests that the technique of informal meditation can be converted into a more powerful clinical intervention strategy by making its performance contingent on certain antecedent cues, and by coupling it with covert self-images, covert self-statements, and focused breathing. In this model, the subject, in addition to observing all events and behaviors occurring throughout the day (informal meditation), also discriminates certain specified cues in the internal and external environment such as tension, anger, anxiety, social events. Once the individual has discriminated those cues, s/he then self-observes in a detached nonevaluative manner, as in informal meditation. However, the individual also focuses on breathing and covertly initiates cues to relax, to feel in control, and imagines acting in a relaxed, competent fashion (cf. Boudreau, 1972; Shapiro, 1976a; Shapiro & Zifferblatt, 1976b).

The research thus far, though suggestive, is cursory, based on case reports. Further replications are necessary to determine the variance of outcome effects attributable to various aspects of the treatment.

FORMAL MEDITATION PLUS BEHAVIORAL SELF-CONTROL TECHNIQUES:

The acquisition of formal meditation behavior might possibly be facilitated by borrowing from certain behavioral self-management techniques. For example, individuals have been given a wrist counter and instructed to punch the counter every time their attention wandered from the task of breathing. The punching of the wrist counter was then made a discriminative stimulus for

*It appears that making informal meditation contingent on certain cues and coupling it with covert self-modeling and self-instructions makes informal meditation a more powerful clinical strategy for an immediate problem. However, this is in no way meant to suggest that the combination of informal meditation with behavioral self-control strategies makes informal meditation more effective for the goal for which it was originally intended: ongoing awareness of all cues.

Similarly, from a Western perspective, formal Zen meditation is often seen merely as a technique that may be useful when applied to certain clinical problems. However, from an Eastern perspective, Zen meditation is a way of ‘being’ in the world; a total awareness of oneself, of nature, of others. Thus, it is important to note that the technique of formal Zen meditation may be being used for goals other than those for which it was originally intended.
returning attention to the task of breathing. Functionally, a tool used in behavioral self-observation (the wrist counter) took the place of the kwas of the Zen monk (cf. Shapiro & Ziferblatt, 1976a, Van Nuyis, 1971). It is possible that biofeedback techniques might also serve to facilitate the acquisition and proper performance of meditation behavior.

Conversely, certain aspects of formal meditation might help complement and facilitate behavioral self-control skills. For example, during formal meditation, the individual learns to unstress (desensitize) himself (step four, Figure 1.2) and to reduce the frequency and duration of covert chatter and images (step five, Figure 1.1). It is hypothesized that this ability to relax and have an empty mind gained during formal meditation will help an individual be more alert and responsive to stress situations occurring at other times, thus facilitating a person’s performance of behavioral self-observation of internal and external cues throughout the day (Shapiro, 1976a, 1976; Shapiro & Ziferblatt, 1976a).

Second, formal meditation seems to give practice in noticing when attention wanders from a task. At first, long periods of time usually elapse between the attention wandering and the realization of it. With practice, however, the person may learn to notice it almost as soon as s/he stops focusing on breathing. Similarly, in behavioral self-control strategies, several minutes or longer often pass before the individual realizes that s/he is supposed to have discriminated a cue and subsequently interrupted the maladaptive behavioral chain. For example, the chronic smoker illustrates this lack of awareness (Premack, 1970) as does the heroin addict (Shapiro & Ziferblatt, 1976). The practice of discriminating a stimulus, say wandering attention, developed in meditation may generalize to situations involved in behavioral self-control strategies, such as reaching for a cigarette or the “need” for a fix. As such, the individual practicing meditation may be aided in eventually discriminating the stimulus as soon as it occurs, thereby placing the individual in a much better position to interrupt a maladaptive behavioral sequence.

A third way in which formal meditation might help behavioral self-control strategies involves the cognitive set that meditation can help give to the practitioner. Formal meditation ‘allows the individual an opportunity for fixed reference points in the day during which s/he feels relaxed, calm, and in control. Therefore, when recognizing tension at subsequent points during the day, the individual should be able to say, “I was relaxed, calm and in control this morning,” thereby attributing current stress to a specific situation rather than to an “anxious personality trait” (Mischel, 1968), and learning to increase feelings of self-control and self-perception as a responsible individual with the ability to control personal behavior and actions (Lefcourt, 1966; Rotter, 1966, 1969, 1971).

Fourth, although the physiological data are still equivocal (cf. Hirai, 1974) aspects of the technique of formal meditation may make it more powerful than other self-management techniques in certain respects. For example, other self-control techniques, such as autogenic training (Luthe, 1968, 1970), self-hypnosis (Paul, 1969), or relaxation with covert self-statements (Jacobson, 1929, 1971; Meichenbaum, Note Ten), employ certain covert images and self-statements like, “I’m feeling warm; my right arm feels heavy; I am feeling relaxed.” In formal Zen meditation, the individual does not say anything to him/herself, nor does s/he attempt to engage in positive covert images or thoughts. This absence of preprogrammed covert thoughts and images seems to allow mediators to observe and become desensitized to “what’s on their own mind” (step four, Figure 1.2 Chapter One). Repetition of preprogrammed covert statements and images would seemingly interfere with this process and also would seem to prevent the “mind from becoming empty” as in Figure 1.2, step five. This “empty mind,” this absence of verbal behaviors and images, may be important in certain externally oriented situations, such as the counseling setting (Lesh, 1970) and interpersonal relationships (Shapiro, 1976a). The empty mind may also be important for hearing certain internal cues, especially in clinical areas dealing with stress and tension, obesity, tachycardia, migraine, and hypertension.

Finally, because during meditation the individual seems to be able to step back from personal fears, concerns, and worries, and observe them in a detached, relaxed way (Shapiro, 1976, 1976a; Shapiro & Ziferblatt, 1976a, b), it is possible to hypothesize that after meditation the individual should be able to think about the fears and evaluate how s/he wants to act without being overwhelmed or oppressed by them. Within Kanfer’s behavioral model of self-management involving self-observation, evaluation, and reinforcement, this type of detached self-observation would
<table>
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<tr>
<th>Topics</th>
<th>Formal Meditation</th>
<th>Behavioral Self-management</th>
<th>Informal Meditation</th>
<th>Contingent Informal Meditation</th>
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<tbody>
<tr>
<td>Environmental Planning</td>
<td>specified setting (e.g., room or in nature); reduced external stimuli to initially help individual focus on object of meditation</td>
<td>in natural environment where problem behavior occurs; or symbolically in neutral environment</td>
<td>occurs in natural environment</td>
<td>same as behavioral self-management</td>
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<td>where intervention strategy occurs</td>
<td>stimulus cues (control; e.g., incense; or, in case of concentrative meditation, the object of meditation as stimulus cue)</td>
<td>specified cues in natural environment (programming antecedent or initiating stimuli)</td>
<td>everything is a stimulus cue for “awareness”</td>
<td>same as behavioral self-management</td>
</tr>
<tr>
<td>if stimulus cues are used</td>
<td>or half-lotus, to reduce bodily distractions</td>
<td>self-regulated stimulus exposure occurs in relaxed posture: e.g., reclining in thick armchair</td>
<td>posture</td>
<td>posture</td>
</tr>
<tr>
<td>nature of physical posture</td>
<td>“KWAT” as preprogrammed punishment for non-alarm behavior</td>
<td>preprogramming of certain punishments or reinforce-ments</td>
<td>no preprogrammed punishments or reinforce-ments</td>
<td>sometimes preprogrammed punishment or reinforce-ment</td>
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<tr>
<td>if preprogrammed punishments or reinforcers</td>
<td>in formal Zen meditation focusing on behavior of breathing alters the behavior: a stumbling reactive effect (step 1); soon mind wanders, i.e., habituation to task of observing (step 2)</td>
<td>behavioral self-observation alters behavior observed (generalization one); then there is habituation to task; subject forgets to monitor; when subject stops monitorings, behavior returns to pre</td>
<td>goal is that observation have no interference or interruption of daily activities</td>
<td>observation used as a discriminative stimuli to interrupt a maladaptive behavioral sequence (see also behavioral self-observation)</td>
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<td>Cognitive Variables</td>
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<td>effects of observation</td>
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<td>what is observed</td>
<td>initially just breathing is focused on (steps 1, 2, 3); eventually openness and receptivity to all stimuli, internal and external (steps 4, 5) occurs</td>
<td>functional analysis: observation of problem behavior, antecedents, and consequences</td>
<td>all behaviors, actions, and thoughts are observed: global awareness</td>
<td>only specified cues (e.g., anxiety, stress) in internal and external environment are observed</td>
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<td>how behavior is observed: self-evaluation and goal setting</td>
<td>thoughts, behavior, breathing, are observed without analysis: no charting, no evaluation, no goal-setting: i.e., “detached” self-observation</td>
<td>parameters of behavior observed: frequency, latency, duration, intensity; behavior is counted, charted; systematic evaluation is made; and goals are set</td>
<td>observation without comment and without evaluation</td>
<td>same as behavioral self-management; however, also try to maintain detached self-observation at same time</td>
</tr>
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<td>desensitization paradigm; when occurs</td>
<td>relaxation (step 3) precedes feared images (step 4); in formal meditation, a “global” desensitization with no specific cues</td>
<td>relaxation precedes phobic scene (cf. Wolpe, 1958, 1969) involves subjective hierarchy of disturbing scenes; or, relaxation follows phobic scene (real or symbolically) and is contingent on discriminating certain cues (cf. Goldfried, 1973)</td>
<td>continuous discrimination of cues in daily environment</td>
<td>relaxation follows phobic scene or certain stress cues</td>
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<td>cognitive statements and thought stopping</td>
<td>observation without comment (no self-statements); without evaluation (no thinking); covert images are allowed to “flow down the river of consciousness” and are not dwellled on; focus on competing response of breathing helps remove thoughts (step 4)</td>
<td>covert images and self-instruction used extensively: e.g. covert sensitization (images as punishment); covert rehearsal (images and self-instructions as successive approximation); self-modeling; covert self-reinforcement; covert behavior modification: either alter self-statements, or emit relaxing instructional self-statements; to stop thoughts, covert yelling of word “stop”</td>
<td>no cognitive statements or images involved in the performance of actions.</td>
<td>use of covert images, self-modeling; and self-instruction; e.g., “I am breath,” “I am relaxed, in control, I can handle this”</td>
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<td>focused attention</td>
<td>in formal Zen meditation, attention focused on breathing (steps 1-4); the KWAT (step 2) helps return the wandering mind to the object of focus; in Raj Yoga (cf. Anand, Chimna, &amp; Singh, 1961) note the use of internal focusing</td>
<td>Kanfer and Goldfoot (1966) discuss the use of external focusing as a technique for self-management of pain</td>
<td>attention focused on the here-and-now action only</td>
<td>in contingent informal breath meditation, attention focused on breathing; in Transcendental Meditation, attention focused on covert sacred syllable controlled breathing in contingent informal breath meditation (cf. Shapiro, 1974a); nonfocus on breathing (but rather on sacred sound) in “contingent” Transcendental Meditation (cf. Boudreau, 1972)”</td>
</tr>
<tr>
<td>Breathing effects of type used</td>
<td>breathing from the abdomen; goal is effortless, autonomic breathing plus aware that breathing; used as a “controlled” breathing; voluntary breathing from chest/thoracic area used in deep muscle relaxation</td>
<td>relaxed, aware autonomic breathing from abdomen controlled breathing in contingent informal breath meditation (cf. Shapiro, 1974a); nonfocus on breathing (but rather on sacred sound) in “contingent” Transcendental Meditation (cf. Boudreau, 1972)”</td>
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<tr>
<th>Topics</th>
<th>Formal Meditation</th>
<th>Behavioral Self-management</th>
<th>Informal Meditation</th>
<th>Contingent Informal Meditation</th>
</tr>
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<tbody>
<tr>
<td>type of relaxation (step 3); an aid in unsteressing (step 4) and in thought stopping (step 4)</td>
<td>acquisition and proper performance of formal meditation is facilitated by a wrist counter, a device used in behavioral self-observation; naturalistic observation methodology of social learning theory is useful in understanding meditation as a series of behaviors under explicit contingency arrangements</td>
<td>clear mind gained during step 5 of formal meditation helps facilitate a behavioral functional analysis of internal and external events throughout the rest of the day; practice of discriminating a stimulus (e.g., wandering mind) gaining during formal meditation should help an individual interrupt a maladaptive behavioral chain earlier and more quickly; meditation involves a “detached observation” of concerns, thereby reducing the threat of the concerns and producing optimal conditions for behavior change</td>
<td>in terms of a clinical intervention strategy, informal is made more powerful by making its performance contingent upon certain internal and external cues, and by coupling it with covert imagery, self-instructions, and focused breathing</td>
<td>This technique is a combination of informal meditation and behavioral self-management strategies; covert imagery, self-instructions, focused breathing, functional analysis all come from the behavioral self-management strategy; however, at the same time the technique involves the use of “detached self-observation” derived from informal meditation</td>
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| Contributions of the Strategies to Each Other | Shapiro, 1974a; nonfocus on breathing (but rather on sacred sound) in “contingent” Transcendental Meditation (cf. Boudreau, 1972)” |

This technique is a combination of informal meditation and behavioral self-management strategies; covert imagery, self-instructions, focused breathing, functional analysis all come from the behavioral self-management strategy; however, at the same time the technique involves the use of “detached self-observation” derived from informal meditation.
presumably alter the subsequent self-evaluation by reducing the self-evaluative threat, that is, making the problem seem less intense; and by giving the person a sense of strength and control from the firm, centered posture, and relaxed, focused breathing so that s/he need not be subsequently afraid to self-evaluate (Kanfer & Karoly, 1972). Thus, even though during the process of formal meditation there is ideally no thinking or evaluation, subsequent to meditation the individual may be well prepared to think and make decisions. In this way, meditation might help produce "self-observation conditions such that inner feedback for behavior change is optimal" (Goleman, 1971, p. 17). Table 6.1 provides a more detailed descriptive comparison of the different strategies along important dimensions.

6.7 Unanswered Questions: Concluding Remarks

The foregoing discussion leaves several questions unanswered, both with respect to the effectiveness of meditation as a complementary strategy with behavioral self-control skills and also with respect to the exact mechanism by which meditation works. The first set of unanswered questions includes the following: Is formal Zen meditation a necessary part of the intervention? Is it sufficient by itself? Is it the relaxation component of meditation that makes the greatest contribution? As discussed in Chapter Five, is meditation really different from, or more effective than, deep-muscle relaxation (cf. Woolfolk et al., 1976), systematic desensitization, (Kirsh & Henry, 1979) covert imagery, and covert self-statements? Further research is necessary to address these questions and to determine the variance of outcome effects attributable to various aspects of the treatment.

A different set of questions involves the role of breathing in formal Zen meditation. There is a paucity of empirical literature dealing with the effect of breathing. Timmons et al. (1972) have compared different types of breathing in general, and Nakamizo (1974) and Matsumoto (1974) have researched Zen meditation breathing in particular. However, the question is still unanswered as to whether focusing on breathing is more clinically effective than other types of cognitive focusing techniques.

As noted in Chapter One, the Eastern literature is replete with different examples of cognitive focusing techniques (cf. Orne-stein, 1971; Shapiro, 1978b). The "objects of focus" can be located in either the external or internal environments. As noted in Chapter One, examples from the external environment include Hindu Yoga, the focus on a point (a trataka), the Taoist focus on the abdomen, early Christian focus on the cross, focusing on a vase (Dolman, 1966), a kasina (disc), a guru or a mandala (a symbol). The meditator can also focus on internal visual images such as a fire in the earth, the symbol of a guru, sexual mandalas (cf. Mooke, 1966; Spiegelberg, 1962), the third eye, or the vault of the skull (by Yogins—see Anand, Chinna & Singh, 1961a). The meditator can also focus on words or phrases chanted aloud, such as the Sufi devish call (cf. Ornstein, 1971) or a mantra (Mishra, 1959). She can also concentrate on internally-generated, unspoken sounds such as a bee humming (Mishra, 1959), a prayer, or a sentence like the Zen koan. The meditator can also focus on internal bodily processes, for example, on the heartbeat or on breathing (Dagey et al., 1989).

Although different types of meditation can produce different physiological and behavioral indices during meditation (Anand, Chinna, & Singh, 1961a; Kasamatsu & Hirai, 1966) it is not yet clear whether there are in fact any differences after the occurrence of different types of meditation. Although each school of focus seems to make claims and develops rationales for the use of its own particular technique, whether it be Zen's focus on breath (cf. Akishige, 1968; Hirai, 1974) or Transcendental Meditation's focus on an internal mantra (Bloomfield, Cain, & Jaffe, 1975; Kanellakos & Lukas, 1974), there has been almost no research comparing the clinical effectiveness of different types of cognitive focusing (cf. Yamaoka, 1973; Otis, Note Three).

Within the behavioral literature, there has also been an interest in different types of cognitive focusing, including work with delayed gratification (Mischel, Ebbesen, & Zeiss, 1972), the use of different types of imagery in therapy (Singer, 1975), and the use of cognitive focusing on external slides (Kanfer & Goldfoot, 1966) and on music (Yulis et al., 1975). Again, however, systematic comparison of different audiovisual techniques (both covert and overt) has not been undertaken.

What truly seems needed is a convergence of several different fields such as cognitive behavior modification research (Mahoney,
1974, Beck, 1976) imagery research (Singer, 1975), meditation research (cf. Hirai, 1974; Ranellakos & Lukas, 1974; Shapiro & Giber, 1978), behavioral self-observation research (Kazdin, 1974), and biofeedback research (Blanchard & Young, 1974; Schwartz, 1973), to deal with the common problems and issues involved in evaluating the clinical uses of covert processes. With this convergence of academic and clinical scholars, perhaps some of the unanswered questions will begin to be better understood.

This chapter has made an attempt to look at two clinical strategies: Zen meditation and behavioral self-control. Current research has suggested that either technique alone provides potentially effective self-directed attempts to control one's everyday life, thoughts, and feelings. Researchers have found meditation effective in reducing fear (Boudreau, 1972), curbing drug abuse (Benson & Wallace, 1972a; Brautigam, 1971), increasing empathy in counselors (Lesh, 1970), decreasing generalized anxiety (Girodo, 1974), decreasing test anxiety (Linden, 1973), and reducing blood pressure and hypertension (Datey et al., 1969; Wallace & Benson, 1972a). The behavioral self-management literature suggests the effectiveness of social learning strategies applied to a variety of problems, such as reducing weight (Mahoney, Moura, & Wade, 1973; Jeffrey, Note Twelve, curbing smoking (Axelrod, 1973; Premack, 1970), changing negative self-thoughts (Hannum, 1972) reducing fears (Jacks, Note Eleven) and in other clinical areas (cf. Bandura, 1969; Cautela, 1971; Goldfried & Merbaum, 1973; Meichenbaum & Cameron, 1974; Mahoney & Thoresen, 1974; Meichenbaum, Note Ten).

The foregoing research suggests the clinical intervention effectiveness of meditation and behavioral self-control strategies each used alone. Subsequent research should determine whether a combination of the two techniques will, in fact, be more powerful in dealing with applied clinical problems. To this end, pilot studies have applied a treatment package combining Zen meditation and behavioral self-management to such clinical areas as drug abuse (Shapiro & Zifferblatt, 1976a) and stress and tension management (Shapiro, 1978a). Currently, pilot studies are extending these investigations both to rehabilitative programs, such as stress management training (Shapiro, 1980, in press b) and to preventive and educational programs dealing with “positive mental health” (Shapiro, 1978a; Shapiro, 1978b). Although the results of these pilot studies combining behavioral self-control and Zen meditation techniques are tentative and need further replication, the continued exploration of the applied interface between Eastern disciplines and Western psychology promises to be an important and clinically useful area for further investigation.
Chapter Six: Further Reading

MEDITATION AND BEHAVIORAL SELF-CONTROL


MEDITATION AND HYPNOSIS


MEDITATION AND BIOFEEDBACK


MEDITATION AND OTHER RELAXATION TECHNIQUES


Onda, A. Zen, autogenic training, and hypnotism, Psychologia, 1967, 10, 139-136.

Meditation as an Altered State of Consciousness

THOSE INVOLVED with the psychology of religion (Smith, 1965; Stace, 1969) and those who have studied spontaneous religious experiences (e.g., William James, 1901) note that often during times of meditation there are powerful subjective experiences which individuals claim have radically altered their lives, given them a new sense of meaning and purpose, new values, and a new relationship not only with themselves, but with other people and the world around them. In Eastern traditions some of these are referred to as satori, kensho, samadhi.

These experiences, although of high salience for the individual, are sometimes spoken of as ineffable. Those who experience them have difficulty communicating these experiences to others (Frank, 1977), which presents a dilemma to the researcher who needs some kind of verbal or symbolic representation to help quantify, label, and describe them. Often the task of experimentally validating these experiences has seemed so difficult that some researchers have dismissed the experiences themselves as epiphenomena at best or at worst artificial schizophrenic with complete withdrawal of libidinal interest from the outside world (e.g., Alexander, 1931; GAP Report, 1977). Dismissing the experiences as epiphenomena is based not only on the difficulty of describing the phenomena, but also involves a paradigm clash (as discussed in Section 1.3) between the Western