

A FRAMEWORK FOR PLANNING STRESS CONTROL INTERVENTIONS¹

BRYAN A. HIEBERT
Simon Fraser University

Abstract

This paper is of potential use to counsellors planning stress-related interventions with clients. Initially a conceptual framework is presented. The differences between demands, pressures, stressors and stress; the role of personal coping in the stressful experience; and the differential effects of transitory and chronic stress are discussed. Next, an overview of data-based stress control procedures is presented. Stressor management strategies, focusing on changing the situation to reduce the pressure, are treated separately from stress management strategies, focusing on changing the person's reaction to the situation. These strategies are divided further into two groups, "use-as-required" or "use continuously", based on the amount of life-style change and client commitment required. Finally, an assessment procedure is outlined that can be used in both a diagnostic and a prescriptive way to plan stress intervention.

Résumé

Le contenu de cet article peut s'avérer utile aux conseillers qui envisagent de faire auprès des clients des interventions relatives au stress. L'auteur présente d'abord un cadre conceptuel. La discussion porte 1) sur les différences entre les notions de demandes, de pressions, de sources de stress et de stress, 2) sur le rôle de l'adaptation personnelle dans les expériences stressantes et 3) sur les effets différentiels du stress transitoire et chronique. Suit une revue de stratégies expérimentalement éprouvées en vue de contrôler le stress. L'auteur traite séparément celles qui visent à modifier la situation pour réduire la pression et celles qui cherchent à modifier la réaction de la personne à la situation. Compte tenu du taux de changement dans le style de vie et de l'implication du client, ces stratégies sont encore subdivisées en termes d'une utilisation ponctuelle ou continue. Enfin, l'auteur propose une méthodologie d'évaluation pouvant servir au diagnostic et au pronostic dans la planification des interventions sur le stress.

¹ Parts of this paper were presented to the annual meeting of the Canadian Guidance and Counselling Association, June 2-4, 1982, Victoria. I am thankful to Dr. A.W. Hayduk for his comments on an earlier draft of this paper.

Reprint requests should be sent to Bryan A. Hiebert, Instructional Psychology Research Group, Faculty of Education, Simon Fraser University, Burnaby, B.C., V5A 1S6.

Some recent attempts have been made to describe a conceptual framework that would be useful for counsellors dealing with stress related disorders (Ardell, 1981; Barrow & Prosen, 1981; Dragon, 1981, Hassard, 1981). Unfortunately, these articles contain mostly an elaboration of only one facet of a stress response (e.g., Ardell, 1981; Dragon, 1981),

or are descriptive rather than prescriptive in focus (e.g., Hassard, 1981), or are not specific enough to be used by most counsellors (e.g., Barrow & Prosen, 1981). The purpose of this paper is to a) provide an accurate conceptual framework that is both useful for theorizing about the nature of stress and at the same time useful in designing treatment programs for clients, b) outline current data-based treatment procedures within this conceptual framework and c) provide an assessment procedure that is useful in planning specific interventions.

Conceptual Framework

The discussion of concepts in this paper is based on the points in the literature where consensus is usually found. Initially an overview of the framework is presented, following which the concepts are elaborated.

Most current writers in the area of stress and stress management would agree that stress results from the interaction between personal factors (genetic predisposition, idiosyncratic perceptions, repertoire of coping skills) and environmental factors (e.g., task difficulty, amount of aversiveness, degree of uncertainty). The environmental factors are usually referred to as stressors, or pressures, while the term "stress" is usually reserved to describe the person's reaction (see Albrecht, 1979; Cox, 1978; Everly & Rosenfeld, 1981; Shaffer, 1982). If people wish to feel less stressed, they may learn ways to alter their environment to reduce the amount of pressure, or learn to change their reaction so that a given situation is experienced as less stressful (Lazarus, 1974). Strategies aimed at teaching individuals how to change their environment so as to contain less pressure, are known as *stressor management strategies*. *Stress management* is a term usually reserved for those strategies which teach people how to change their reaction to a given situation (see Barrow & Prosen, 1981; Shaffer, 1982). These concepts are elaborated below. First, the nature of stress and the related concepts of stressor, pressure and demand are discussed. Next, stress control procedures are discussed, including both stressor management and stress management interventions. Finally, an assessment procedure is outlined that incorporates the conceptual framework developed in the previous sections of the paper and serves as a guide to tailoring stress interventions to unique client situations.

Stress

For the purposes of this paper, stress is defined as a complex reaction to a situation that exceeds a person's self-perceived ability to cope with that situation (cf. Cox, 1978;

Everly & Rosenfeld, 1981). This definition is somewhat different from, the concept of stress elaborated by Selye (1974) in which stress is defined as "the non-specific response of the body to any demand" (p. 14). From Selye's perspective stress becomes the amount of wear and tear on the body as the result of being alive. Virtually every activity that people engage in becomes stress inducing to a greater or lesser degree because everything a person does places some demand on the body. This notion may have theoretical and heuristic value, but often it meets with puzzled looks on the faces of clients. The definition put forward in this paper is more in line with people's common understanding of the term stress, without violating major theoretical propositions.

The stress reaction has three components: physiological, cognitive, and behavioral (Lazarus, 1974). The physiological component of the stress reaction consists of heightened arousal indicated by such factors as: increased heart rate, respiration rate, muscle tension, endocrine secretion, decreased peripheral skin temperature, skin resistance, and stomach mobility. This physiological activity usually occurs as an integrated response and has been labeled as a fight or flight reaction, after Cannon (1953). The cognitive component of a stress reaction typically involves an appraisal of the degree of threat, or the amount of demand that a situation contains (Everly & Rosenfeld, 1981; Lazarus, 1974). A stress reaction is usually accompanied by cognitive activity that misrepresents the situation by overexaggerating the degree of threat or demand involved, and denigrating the individuals' coping attempts (Lazarus, 1974; Meichenbaum, 1972, 1975). The behavior component of a stress reaction typically involves random motor flagellation (tics and tremours) and/or various indices of hyperactivity, referred to as the "hurry-up syndrome" (Elek, 1975). These three components tend to occur as an integrated response involving heightened arousal, inappropriate cognitive activity, and hyperactivation of the motor system.

Typically people experience stress as unpleasant. This is opposed to excitement, joy, etc., where there is heightened arousal, but a positive experience. Further, the stressful reaction is not a result solely of situational demand per se, but of the person's perception of his/her ability to handle the situational demand in the way she or he prefers. In summary, the stress reaction incorporates physiological, cognitive and behavior components in response to situational demands, attempts to cope, and perceptions both of demands and of coping abilities. The process

is graphically depicted in Figure 1, and elaborated below.

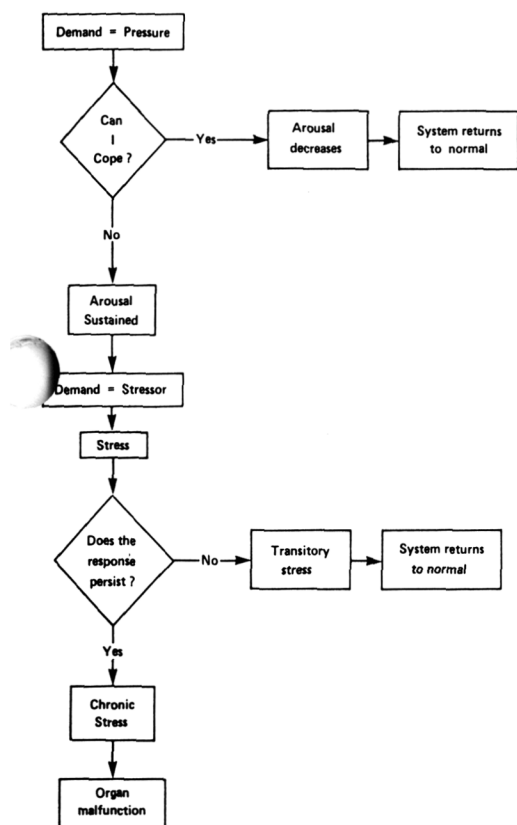


Figure 1: A Framework For Stress

Demand. Stress arises from a demand placed on a person. The demand may be internal or external, real or imagined. An example of an internal demand is the perception of hunger. If 4 or 5 hours have elapsed since the last food was consumed, the demand on the body is likely to be very real. If 15 or 20 minutes have passed since the last food intake, then the demand is probably not real, but imagined. If the person still feels hungry, and will likely do something to reduce the hungry feeling, however, there is no real food-deprived demand on the person's body (assuming a balanced food intake 15-20 minutes earlier). Some demands on the person are external and again these may be real or imagined. Hiking in the mountains and encountering a bear would result in a real, external demand. Often there are no bears on the trail, but common forest noises are misinterpreted to suggest a bear around the next corner. A stress response is still experienced, but the demand is imaginary.

Degree of coping. When a demand is placed on an organism, there is concomitant striving

to meet the demand (i.e. to cope). If the coping behavior is perceived to be effective, then the arousal accompanying the demand will likely be given a positive label like excitement or joy. If the situation suggests a negative affective label is more appropriate, (e.g., fear) then the resulting effective coping will serve to reduce arousal and restore equilibrium. However, if the attempts at coping behavior are perceived to be ineffective, a negative affective label will likely be used (e.g., stress) and the heightened arousal will likely be sustained. (See the top diamond in Figure 1.) Further, if the demand is not real, the coping attempt is not likely to be adaptive and is unlikely to reduce the imagined demand – it is not in a person's best interest to prepare to fight imagined demands. In other words, stress results when people perceive themselves as not handling very well, the demands they encounter.

Perception. In some cases a physiological imbalance (e.g., hunger, hormonal imbalance, blood sugar level) creates a demand that precipitates a stress response. This process might occur outside of the person's awareness yet still be stress inducing (Shaffer, 1982). However, in most cases, it is the perception of a demand, real or imagined, that gives rise to a stress response (Everly & Rosenfeld, 1981; Lazarus, 1974; Shaffer, 1982). When coping behavior is initiated, it is the perception of the adequacy of the coping behavior that gives rise to the stress response. As long as the person perceives the attempts at meeting the demand as being unsuccessful, a stress response will likely be sustained. When the coping attempts are perceived to be working, the stress response begins to subside.

Pressure, Stressor and Stress

In the early literature the terms pressure, stressor and stress were used interchangeably. Recently, distinctions have begun to be made between these terms. Demands placed upon an individual are referred to as pressures. Demands may or may not give rise to a stress response depending on such factors as the intensity and duration of the demand and how well the person copes with the situation. Pressures which result in a stress response are called stressors (Albrecht, 1979; Everly & Rosenfeld, 1981; Shaffer, 1982). Stressors and pressures are both stimulus events and have the internal/external and real/imagined characteristics of demands. In contrast, stress is a response event, and in most cases is not a salient part of the stimulus configuration *per se*. A pressure becomes a stressor as a result of a cognitive misinterpretation of a situation, a perceived inability to cope with the situation, or when the stimulus involved

has inherent properties that produce a state of disequilibrium (Everly & Rosenfeld, 1981). A common laboratory example is the cold pressor test in which a person's hand is immersed in ice-water for 3-5 minutes. The cold pressor test is considered to be a reliable stressor for it predictably produces a stress response in most people (see Lacey & Lacey, 1958). On the other hand, some environmental demands are experienced as stressful by some people and not others. In all cases, it is important to separate the response event (i.e., stress) from the stimulus event (i.e., demand) and to subdivide the stimulus event further into those events that elicit a stress response (i.e., stressor) and those which do not (i.e., pressure). This relationship is depicted in the top half of Figure 1. The implications of this conceptualization for clinical practice are discussed below. At present one further concept must be discussed.

Transitory and Chronic Stress

When a person is stressed there is an automatic striving to restore homeostasis (Shaffer, 1982). This usually occurs as individuals engage in various coping behaviors as they try to "handle the situation." If the demand decreases, or if coping attempts begin to be perceived as successful, the system begins to return to normal and homeostasis is restored. When transitory stressors such as "almost being in an accident", "misbehaving children", "an unexpected work demand", are encountered, the person typically reacts, handles the situation, and returns to normal with very few negative side effects. However, if the stress response is elicited with a high frequency, or if the stress duration is prolonged, a state of hypermobilization is sustained that is characteristic of chronic stress (Everly & Rosenfeld, 1981; Shaffer, 1982) (See the bottom diamond in Figure 1). A state of chronic stress is characterized by hyperarousal, maladaptive cognitive activity, and inappropriate behavior, chronic stress frequently results in such somatic symptoms as headaches; gastro-intestinal, cardiovascular, and cerebrovascular disorders; chronic muscle tension; and frequent flus and colds (Albrecht, 1979; Antonovsky, 1979; Everly & Rosenfeld, 1981; Lamott, 1975; Shaffer, 1982).

Thus, transitory stress is seen as the normal reaction to the everyday stressors that most people face. This is part of the variety that gives life its spice. When the stress response is sustained over time due to frequent elicitation of the stress response or prolonged intense demand, a state of chronic stress develops. The bulk of medical evidence linking stress and disease would more explicitly refer to a link

between disease and chronic stress (see Albrecht, 1979).

Summary

The flow chart presented in Figure 1 provides a graphic representation and a guide to summarize this section. Stress has been defined as a reaction occurring when the demands of a situation exceed a person's self-perceived ability to cope with the situation. The process begins with a demand or some perceived pressure. The demand may be internal or external, real or imagined. Regardless of the nature of the demand, the result is the same — a mobilization of the person's resources to meet the demand and thereby reduce the pressure. This mobilization involves some increase in arousal, and cognitive activity directed towards evaluating the situation and exploring possible solutions (Lazarus, 1974). If the individual perceives the situation as being adequately handled, the mobilization decreases and the person's system returns to normal. If the coping attempts are perceived to be inadequate, the arousal is sustained, or even increased, concomitant inappropriate cognitive activity is present (exaggeration and self-denigration), and hyperactivation of the motor system also occurs. These characteristics indicate that the demand has become a stressor and that the person is experiencing stress. The stress response may persist or it may be short-lived. If the demand decreases, and/or the individual perceives the coping attempts as being more successful, the stress response will begin to dissipate and the system will return to normal. This process is known as transitory stress. If the stress response persists, a state of chronic stress develops. Chronic stress may result when an individual experiences a high frequency of stressors, or when the combination of intense stressor and low coping ability results in a prolonged elicitation of the stress response. The effects of chronic stress are: hyper-elevation of physiological baselines, high density of maladaptive cognitions, and ultimately the onset of various somatic disorders referred to as "stress related disorders."

The Treatment of Stress

The above conceptual framework can also serve as a guide for prescribing stress reduction procedures. There are two key characteristics in stress; a demand and some coping attempt. Therefore, there are two key foci in stress reduction: procedures which attempt to reduce the demand (i.e., stressor management), and procedures which attempt to change how the person reacts to the demand (i.e., stress

management). Within each category, there are some procedures that are relatively easy to learn, and do not require a great deal of commitment or lifestyle readjustment to implement. These are referred to as "use-as-required" strategies. Within each category there are other procedures that produce a substantial impact on the person's life style for they require regular and continuous use and a high degree of commitment. These are referred to as "use continuously" strategies. These strategies are depicted graphically in Figure 2 and elaborated below.

CONTROLLING STRESS			
FOCUS	GOAL	use-as-required	use continuously
STRESSOR MGT	Change the situation -reduce pressure -change stressor to pressure	-leave the situation -support group -increase repertoire of coping skills -problem solving -financial planning -time management -assertive skills -communication skills	organizational change -exercise -nutrition -sound barriers -lighting
		B E H A V I O R	-walk/talk/eat slower -Train Type B -Anxiety Management Training
		C O G N I T I O N	-Thought stopping -Positive self-talk -Pro/con monitoring -posters -Rational Emotive Therapy -Cognitive Stress Inoculation Training
MGT	change reaction to the situation	P H Y S I O L O G Y	-Cue-controlled relaxation -Differential relaxation -Quieting Response Regular relaxation -Progressive relaxation -Self-hypnosis -Meditation -Benson's Relaxation -Response

Figure 2. Summary of Interventions

Stressor Management

In planning stress interventions, the first issue that must be addressed concerns the degree to which some environmental control can be used to reduce the amount of demand or whether the treatment must assume an unchangeable environment and focus on altering the clients' reaction to the situation. If some environmental control is possible, the treatment may focus on "use-as-required" or "use continuously" strategies. "Use-as-required" strategies might include such procedures as withdrawing from the situation until the arousal subsides, utilizing a support group in times of heavy demand, or learning specific skills in order to handle a situation

more effectively. Some of these skills might be in the area of parenting, (e.g., Becker, 1971; Dreikurs, 1964; Miller, 1975; Sheppard, Shank & Wilson, 1973), problem solving and decision making (e.g., D'Zurilla & Goldfried, 1971), time management (Ferner, 1980; Lakein, 1973), assertiveness (Lange & Jakubowski, 1976), communication skills (Miller, Nunnally & Wackman, 1975), or perhaps even areas like financial planning or prenatal classes. The assumption underlying these procedures is that acquiring the specific skills will serve to reduce the pressure in the situation. For example, people with good parenting skills find the behavior of children less of a stressor: the children are better behaved, and should misbehavior occur, the parent has some skills to handle the situation. Similarly, people with good time management skills have fewer time pressures and people who have a strategy for making decisions or solving problems are less likely to become stressed when problems arise or decisions have to be made. Unfortunately, there are few hard data to support using these stressor management strategies to reduce stress, for the dependent measures used in the field trials of such programs are aimed at determining the degree to which the skills are acquired and the target behaviors are demonstrated in the natural environment, not the degree of stress reduction that ensues. This is one area where research endeavors must be expanded.

Other stressor management strategies require more permanent effort. These include such procedures as: efforts to change organizational structures, or install sound barriers between houses and freeways, or improve lighting. For example, changing, or perhaps just specifying, interaction patterns in an organization so as to reduce the ambiguity in role description or performance appraisal usually reduces the pressure involved in these situations. Such procedures are common to most "management by objectives" approaches and have a well established track record in business. However, again, there are few data to support the claim of reduced stress accompanying these environmental change endeavours, but there is nevertheless logical support for such a claim.

Two stressor management foci which have some empirical support, are exercise and nutrition. Ledwidge (1980) has recently reviewed the literature on the relationship between running, anxiety and depression and suggests that running can have a powerful inhibitory effect on both of these stress-related states. In an earlier study, Evans, Cox and Jamieson (1977) observed that it was not running *per se* that was the operative

variable, but rather aerobic capacity. Aerobic capacity refers to the efficiency with which a person's lungs extract oxygen from the air and deploy it in the bloodstream (see Cooper, 1970). Evans *et al.* (1977) found that people with high aerobic capacity recovered from stress more quickly than people with low aerobic capacity. Further, they found no significant differences between people with high and low aerobic capacity in the intensity of the physiological response to a stressor. In other words, people seemed to react to a stressor equally intensely regardless of their aerobic capacity, but people with high aerobic capacity seemed to recover more quickly to their baseline arousal levels.

The data relating stress and nutrition are somewhat more preliminary. However, some conclusions are beginning to emerge. The effects of caffeine on physiological arousal are well documented (e.g., Asterita, 1980; Asterita, Smolnick & Iatridis, 1981). Specifically, caffeine induces increased physiological arousal and inhibits the relaxation response. Therefore, reducing or eliminating high caffeine foods (e.g., coffee, cola drinks, chocolate) would be a good stressor management strategy. On a more folksy note, many of my clinical patients have reported a total recovery from cardiac arrhythmia (i.e., heart palpitations) accompanying the elimination of coffee in their diet. Mason (1980) reports two further common dietary culprits, refined sugar and insufficient vitamin B. Both operate in a similar manner to slow down the rate at which arousal inducing hormones, released as part of the stress response, are absorbed and homeostasis is restored. On a more general level, some writers (e.g., Everly & Rosenfeld, 1981) emphasize the importance of a balanced diet in preventing daily pressures from becoming stressors. Suggestions in this area include: eating balanced meals from the four food groups (i.e., milk and milk products, meat and meat alternatives, fruits and vegetables, breads and cereals), spacing food intake at regular intervals throughout the day, making sure to eat breakfast, and maintaining a proper age-height related weight. As research continues on the relationship between nutrition and stress, more definitive statements will be possible. At the present time it seems safe to conclude that eating evenly spaced, well-balanced meals, reducing the intake of caffeine and refined sugar, and maintaining a proper concentration of vitamins, especially vitamin B complex, will produce a good stressor management effect.

Summary. To summarize, all stressor management strategies have one element in common: the goal is to reduce the size of the demand

so that the pressures one faces will not become stressors. The basic assumption is that if the size of the demand is reduced, the person is more likely to be able to cope effectively with the situation.

Stress Management

Sometimes people are involved in situations that are difficult, or even impossible to change. Sometimes a person will not want to change a particular situation even though it is aversive. In both cases it is most often possible to change the person's reaction to the situation, even though the situation *per se* remains unchanged. Stress management procedures have as their goal, changing the person's reaction to a given situation so that the reaction is less stressful (See the bottom half of Figure 2). The stress management strategy may focus on changing the behavioral, cognitive or physiological component of the stress response. Typically, change in any one of these components will produce concomitant changes in the other two. Also, stress management strategies can be of the "use-as-required" or "use continuously" variety. These are discussed below.*

Behavioral interventions. The common focus of behavioral interventions lies in developing some set of behaviors that will interfere with the stress response. On the non-intensive, commonsense, "use-as-required" level these include slowing down in order to feel less hassled. This means walking more slowly, talking more slowly, eating more slowly, taking time for lunch and rest breaks, driving in the slow lane, and pausing to smell the flowers, especially on occasions of increased pressure. For those people who find it difficult to see the logic of such behavior, an old adage seems appropriate. "There is never enough time to do a job the way you would like to, but there is always time to do it over." Often we simply have to slow down our pace in order to complete our work more quickly and with less stress. On the more intense "use continuously" level, behavioral interventions involve systematically reshaping Type A behaviors into a more Type B behavior style. This usually involves a systematic attempt to decrease: (a) the hard driving, competitive, time compulsive behavior, and (b) polyphasic thinking and decision making, that authors have labeled the "hurry-up syndrome" (Elek, 1975). These Type A characteristics are replaced with antithetical Type B behaviors

*It is assumed that the reader is familiar with the procedural aspects of the strategies discussed below. Therefore, detailed explanations are not given. However, for less informed readers, sources for a procedural discussion of the interventions are indicated.

such as slower, more relaxed gait, being less time-bound, utilizing sequential thinking and decision-making, and generally, being in less of a hurry (see Shaffer, 1982). Some writers caution against confusing Type A behavior with stress (Jenkins, Zyzanski & Rosenman, 1979). However, others (Howard, Cunningham & Rechnittzer, 1979; Shaffer, 1982) point out that many Type A behaviors are characteristic of the behavioral component of stress. These writers further point to the coronary risk associated with Type A behavior (Friedman & Rosenman, 1974) to lend support to the utility of decreasing Type A behavior.

Another pervasive behavioral intervention is Anxiety Management Training (Suinn, 1975). AMT usually involves some training to self-monitor stress, and then to use perceived increases in arousal as cues to engage in specific overt or covert behaviors to inhibit the stress response. Both interventions involve rather widespread changes in the person's basic lifestyle, however, if such behaviors persist in spite of attempts to change on a "use-as-required" basis, such pervasive interventions are likely to be necessary. Regardless of the focus, behavioral interventions share the common goal of developing a set of behaviors (usually variations on the theme of slowing down) that will interfere directly with the tendency to respond stressfully.

Cognitive interventions. The goal of cognitive interventions for stress management is to develop thinking patterns that promote an accurate appraisal of the demand or threat characteristics of a situation and foster a supportive and encouraging self-dialogue concerning the individual's coping attempts. On the everyday, "use-as-required" level, this often involves some procedure for helping an individual focus on the positive aspects of a situation. A person may be instructed to mark "+" and "-" on two sides of an index card, and to place a check mark on the appropriate side each time some thought about self is perceived. Other times, a person might simply be able to increase the number of positive self-statements that are made, as a means for inhibiting self-denigration. It is almost profound to appreciate that each of us spends more time with ourselves on any given day than we spend with anyone else. If the person we spend most of our time with on any given day is always telling us that we could do better, or that we goofed up, or that we always make those mistakes, or that we never do it right, those admonitions are likely to become stressors. Alternatively, hearing supportive, encouraging admonitions is likely to be stress reducing. Another common sense intervention involves placing visible cues as reminders to maintain a positive focus.

This might involve posting a list of positive personal attributes in a place where it can serve as a reminder of one's assets when frustration occurs or choosing the types of posters one hangs in one's office so as to maintain a positive focus. After a frustrating interaction with one's peers it is likely more beneficial to be reminded that "I am lovable and capable", or "The time to relax is when you don't have time for it", rather than "It is hard to soar like an eagle, when you work with a bunch of turkeys." In cases where the catastrophizing, exaggeration, or self-denigration becomes ruminative, thought stopping or thought substitution (Wolpe, 1969) are powerful "use-as-required" interventions. Both procedures are easy to learn and have a powerful effect in interrupting recurring thought patterns (see Shaffer, 1982).

When nonintensive attempts to alter stress inducing cognitive activity are unsuccessful, some more powerful procedures are indicated. These procedures usually involve considerable effort, substantial attitudinal change, and must become a continuous part of the person's life. Two widely used therapeutic foci have a strong data base in this area, Rational Emotive Therapy (Ellis, 1973) and Cognitive Stress Inoculation Training (Meichenbaum, 1972, 1975). These interventions differ procedurally, however, both have as their ultimate goals the alteration of stress inducing value systems (e.g., I must be perfect, if people don't like me I am worthless) and the person's ongoing self-dialogue. Regardless of the level of intervention or the specific stress management strategy *per se*, cognitive interventions all attempt to create a more positive, realistic and self-supportive mental set. Such a mental set typically has a powerful inhibitory effect on stress.

Physiological interventions. The goal of these stress management strategies is to develop a physiological response that is incompatible with the fight or flight response. Such responses are usually referred to as relaxation responses. Traditionally, relaxation procedures have included such strategies as progressive relaxation (Jacobson, 1938), autogenic training (Luthe, 1977), self-hypnosis (Le Cron, 1964), transcendental meditation (Denniston & McWilliams, 1975) yoga or other forms of meditation (White & Fadiman, 1976) and Benson's relaxation response (Benson, 1975). All of these procedures require regular practice in order to train the skill and maintain the effect. Thus these procedures would fit in the "use continuously" category. The effects of regular relaxation are well documented (Benson, 1975; Borkovec, Grayson & Cooper, 1978; Everly & Rosenfeld, 1981; Reinking

& Kohl, 1975) and include decreased tonic arousal, (Borkovec *et al.*, 1978) reduction of various somatic complaints such as essential hypertension (Shoemaker & Tasto, 1975), tension headaches (Blanchard & Epstein, 1978), chronic muscle tension (Jacobson, 1938), insomnia (Montgomery, Perkin & Wise, 1975), and decrements in various anxieties (Miller, Murphy & Miller, 1978).

Recently, several abbreviated relaxation procedures have begun to be investigated. Many of these procedures fit into the "use-as-required" category and require only initial practice to develop a skill (but not continuous use to sustain an effect) or utilize such a low level of skill acquisition so as to place the procedure within most people's skill repertoires with little or no initial practice. For example, Barrios and Shigetomi (1979) report that cue-controlled relaxation is as effective as regularly practiced relaxation in reducing general tension. Cue-controlled relaxation involves pairing a stimulus cue with a progressive relaxation exercise, or some other relaxation induction procedure until the cue is sufficiently strong to elicit a relaxation response (see Hiebert, 1980). Once the cue has been established, the person uses the stimulus cue to elicit relaxation whenever interfering increases in arousal are perceived. Differential relaxation is also reported to work effectively on an "as-required" basis (see Hiebert, 1980; Walker, 1975). This procedure involves differentially relaxing only selected muscle groups in certain settings, usually those muscles not required to execute the behaviors in question. More recently, Stroebe (1978) has introduced "The Quieting Response." This is a relatively easy to learn procedure involving the perception of tension, ("Hey, I'm getting tense. Time to do a QR"), the enactment of a "Quieting Response" (two 4-count breathes with the jaw sagging and the image of a wave of relaxation sweeping through the body on the second exhale), followed by self-reinforcement ("Yes, that feels better"). Stroebe recommends practicing this procedure at least 40-50 times per day, or whenever tension is noticed, whichever results in the greater number. Some data are beginning to emerge suggesting that the "Quieting Response" may be an effective stress management strategy (Ford, Stroebe, Strong & Szarek, 1981; Stroebe, Ford, Strong & Szarek, 1981).

Summary. To summarize, the common focus in all stress management strategies is to develop some procedure or set of procedures to alter the person's reaction to a perceived demand. When such procedures have been learned effectively, a former stressor no longer

produces a stress response, or if a stress response is elicited, it is a less intense response. The strategy might be directed primarily at altering the behavioral, or cognitive, or physiological component of the stress response. Typically when change is experienced on one of these dimensions, concomitant change is observed on the others. Certainly if lasting alteration of habitual stress responses is desired, all three components must be under control. In order to accomplish this goal, it is usual that some integrated intervention plan be made, combining various stressor and stress management procedures to address directly the clients' unique situation.

Assessment Procedure

It is rarely the case that a client's problems are so circumscribed as to indicate a single intervention strategy. Therefore counsellors must have a wide repertoire of stressor and stress management interventions. Further, the client problem, not the intervention strategy, must provide the central focus for treatment. Counsellors who are familiar with only one or two intervention strategies run a risk of "doing them to the client." Such a practice rarely produces a positive effect beyond the transitory change associated with client expectancy at the beginning of treatment. If more enduring change is desired the counsellor must tailor-make an intervention plan based on the presenting symptoms and personal predispositions of the client. This usually involves a functional analysis of the client's situation following which the counsellor and client can together plan the intervention. The assessment procedure outlined below is one example of the key elements to be investigated in the functional analysis. This information gathering would likely span several counselling sessions and could form part of any initial rapport building endeavour. The information to be gathered has been divided, somewhat arbitrarily, into five areas to facilitate discussion.

Stress Characteristics

Initially, the nature of the client's stress reaction must be investigated. This involves assessing the behavioral, cognitive, and physiological indicators of the client's reaction. It is important to determine the types of stressors, the frequency of stressful responding, and the specific kinds of behaviors, self-statements, and physiological symptoms experienced by the client in order to determine the existence of any pattern. The assessment should focus on client reactions while anticipating the stressor, during the stress response *per se*, and following the encounter

when client behavior is typically sustaining the reaction or attempting to cope with the situation. A useful counsellor strategy is to ask the client to recount a specific stressful episode, using specific questions to determine the behavioral, cognitive and physiological symptoms before, during and following the stressor. Reliability checks can be obtained by asking the client to relate the specific reactions across three or four different stressors, and then collating the results.

Somatic Symptoms

In many cases clients are motivated to seek treatment when the stress-related somatic complaints begin to interfere drastically with the person's daily functioning. In these cases, relief of the somatic symptom is the ultimate treatment goal. A complete history of the somatic complaints must be conducted focussing on the nature of the symptom, the subjective experience of the client, and the frequency and intensity of the symptom. Client baseline data should be gathered so that a reference point can be established to evaluate the treatment. Simple monitoring aids (see Budzynski, Stoyva & Adler, 1970; Hiebert, 1980; Hiebert & Fox, 1981) can facilitate establishing a baseline, and some standard checklists (e.g., Leckie & Thompson, 1979) can be used to assist intake procedures.

Medication

Albrecht (1979) estimates that 80% of all physician case loads in North America concern emotionally-based problems that are treated with medication. The odds are high that clients seeking stress treatment will be taking some form of prescribed medication. Many of these medications have side effects that could be interpreted as symptoms by the client. It is wise to consult the *CPS (Compendium of Pharmaceuticals and Specialties)* to determine common side effects and to work closely with the clients' physician to adjust dosage as the client learns stress management skills. It is also a wise precaution to refer clients to their physician for a check-up before beginning treatment.

Past Stress-Control Strategies

Pragmatically, clients seeking treatment are coping with their stress — after all they are still on the street and not in a hospital. Before composing a treatment plan it is important to explore the client's current and past attempts to cope with stress. Unsuccessful past attempts with certain procedures may foster resistance if those strategies are suggested again. Alternatively clients may already possess

skills that could be used to reduce stress and may require only training in how to use the skill to reduce stress.

Client Predisposition

During the assessment process the client's predisposition to different strategies should be determined. This factor refers to the extent to which the client perceives environment change or the learning of new skills as being possible. Further, a client's philosophical orientation may suggest a behavioral, cognitive, or physiological intervention as being most appropriate. Clients who have difficulty "owning their stress" (i.e., "My job makes me stressed.") may require some educating as part of the treatment. Clients may lack the commitment (or extenuating factors may make it unfeasible) to embark on the total lifestyle change that is part of the "use continuously" strategies. Such clients may still experience substantial benefit using "as required" interventions.* Considering these client factors will make it easier for the counsellor and client to agree on those elements which will make up the treatment program.

Delivering Treatment

Once an adequate assessment has been completed, a treatment plan can be designed. The treatment plan should grow naturally from the combination of symptomatology, past control attempts and client predisposition factors. In delivering treatment it is important to introduce the different components in the treatment plan in a sequential fashion, providing graduated practice of the skills to be learned. In order to facilitate the transfer of training into the client's everyday life, simulated practice sessions are advisable. Therapist modelling is another important factor. Counsellors providing stress control services should be good exemplars of the procedures they are teaching.

Summary

In this paper an attempt has been made to draw together some of the recent theoretical and clinical work in the field of stress and to provide a framework for counsellors wishing to treat clients with stress-related complaints. Initially, a conceptual framework was developed, and a prescriptive overview of stressor and stress management procedures was presented. Finally, a diagnostic assessment procedure was sketched, as a guide for tailoring

*Of course there will be changes in lifestyle accompanying the use of these strategies also. However, they may seem to require less time commitment.

intervention programs to counteract unique client situations.

References

- Albrecht, K. *Stress and the manager: Making it work for you*. Englewood Cliffs: Prentice-Hall, 1979.
- Antonovsky, A. *Health, Stress, and Coping*. San Francisco: Jossey Bass, 1980.
- Ardell, D.B. The dynamics and pay-offs of stress management. *The School Guidance Worker*, 1981, 37, 5-12.
- Asterita, M. F. Effect of coffee ingestion on the voluntary control of muscle tension levels. *Biofeedback and Self-Regulation*, 1980, 5, 358. (abstract)
- Asterita, M.F., Smolnicky, J.E., & Iatridis, I.P. Effect of caffeinated vs. decaffeinated coffee on the voluntary control of muscle tension levels. In *Proceedings of the Biofeedback Society of America Twelfth Annual Meeting*. Wheat Ridge, CO: Biofeedback Society of America, 1981.
- Barrios, B.A., & Shigetomi, C.C. Coping - skills training for the management of anxiety: A critical review. *Behavior Therapy*, 1979, 10, 491-522.
- Barrow, J.C., & Prosen, S.S. A model of stress and counselling interventions. *The Personnel and Guidance Journal*, 1981, 60, 5-9.
- Becker, W.C. *Parents are teachers: A child management program*. Champaign: Research Press, 1971.
- Benson, H. *The relaxation response*. New York: Marrow, 1975.
- Blanchard, E.B., & Epstein, L.H. *A biofeedback primer*. Reading: Addison-Wesley, 1978.
- Borkovec, T.O., Grayson, J.B., & Cooper, K.M. Treatment of general tension: Subjective and physiological effects of progressive relaxation. *Journal of Consulting and Clinical Psychology*, 1978, 46, 518-528.
- Budzynski, T.H., Stoyva, J. & Adler, C. Feedback induced muscle relaxation: Application to tension headache. *Journal of Behavior Therapy and Experimental Psychiatry*, 1970, 1, 205-211.
- Cannon, W.B. *Bodily changes in pain, hunger, fear and rage*. Boston: C.T. Branford, 1953.
- Cooper, K.H. *The new aerobics*. New York: Bantam, 1970.
- Cox, T. *Stress*. New York: MacMillan, 1978.
- Denniston, D., & McWilliams, P. *The TM book*. New York: Warner, 1975.
- Dragon, J.W. Role conflict and counsellor stress. *The School Guidance Worker*, 1981, 37, 18-23.
- Dreikurs, R. *Children the challenge*. New York: Hawthorn, 1964.
- D'Zurilla, T. & Goldfried, M. Problem solving and behavior modification. *Journal of Abnormal Psychology*, 1971, 78, 107-126.
- Elek, S.R. On "the hurry-up disease". *Executive Health*, 1975, 11(a), 1-6.
- Ellis, A. *Humanistic psychology: The Rational-Emotive approach*. New York: Julian, 1973.
- Everly, G.S. & Rosenfeld, R. *The nature and treatment of the stress response: A practical guide for clinicians*. New York: Plenum, 1981.
- Evans, J.F., Cox, J.P., & Jamieson, J.L. Aerobic capacity and recovery from psychological stress. Paper presented to the thirty-eight annual meeting of the Canadian Psychological Association, June, 1977, Vancouver.
- Ferner, J.D. *Successful time management: A self-teaching guide*. New York: John Wiley & Sons, 1980.
- Friedman, M., & Rosenman, R.H. *Type A behavior and your heart*. New York: Knopf, 1974.
- Ford, M.R., Stroebe, C.F., Strong, P., & Szarek, B.L. Quieting response training: Treatment of psychophysiological disorders in psychiatric in-patients. In *Proceedings of the Biofeedback Society of America twelfth annual meeting*. Wheat Ridge, CO: Biofeedback Society of America, 1981.
- Hassard, J.H. Stress factors in school counselling. *The School Guidance Worker*, 1981, 37, 24-30.
- Hiebert, B. *Self-relaxation: Learn it, use it*. Coquitlam: Per Man Consultants, 1980.
- Hiebert, B., & Fox, E.E. Reactive effects of self-monitoring anxiety. *Journal of Counselling Psychology*, 1981, 28, 187-193.
- Howard, J., Cunningham, D. & Rechnittzer, P. *Rusting out, burning out, bowing out: Stress and survival on the job*. New York: MacMillan, 1978.
- Jacobson, E. *Progressive relaxation* (2nd Ed.). Chicago: University Press, 1938.
- Jenkins, C.P., Zyzanski, S.J., & Rosenman, R.H. *Jenkins Activity Survey: Manual*. New York: The Psychological Corporation, 1979.
- Lacey, J.I., & Lacey, B.C. Verification and extension of the principle of autonomic response stereotype. *American Journal of Psychology*, 1958, 71, 50-73.
- Lakein, A. *How to get control of your time and your life*. New York: Signet, 1973.
- Lamott, K. *Escape from stress*. New York: Putnam, 1975.
- Lange, A.J., & Jakubowski, P. *Responsible assertive behavior: Cognitive/behavioral procedures for trainers*. Champaign: Research Press, 1976.
- Lazarus, R.S. Cognitive and coping processes in emotion. In B. Weiner (Ed.), *Cognitive views of human motivation*. New York: Academic, 1974.
- Leckie, M.S., & Thompson, E. *Symptoms of stress inventory: A self assessment*. Seattle: University of Washington, 1979.
- Le Cron, L.M. *Self-hypnosis: The technique and its use in daily living*. New York: Signet, 1964.
- Ledwidge, B. Run for your mind: Aerobic exercise as a means for alleviating anxiety and depression. *Canadian Journal of Behavioural Science*, 1980, 12, 126-140.
- Luthe, W. *Introduction to the methods of autogenic therapy*. Denver: Biofeedback Society of America, 1977.
- Mason, L.J. *Guide to stress reduction*. Culver City, Ca: Peace Press, 1980.
- Meichenbaum, D. Cognitive modifications of test anxious college students. *Journal of Consulting and Clinical Psychology*, 1972, 39, 370-380.
- Meichenbaum, D. A self-instructional approach to stress management: A proposal for stress inoculation training. In C.D. Spielberger & I.G. Sarason (Eds.), *Stress and anxiety*, New York: Wiley, 1975.
- Miller, W.H. *Systematic parent training: Procedures, cases and issues*. Champaign: Research Press, 1975.
- Miller, M.P., Murphy, P.J., & Miller, T.P. Comparison of electromyographic feedback and progressive relaxation training in treating circumscribed anxiety stress reactions. *Journal of Consulting*

- and *Clinical Psychology*, 1978, 46, 1291-1298.
- Miller, S., Nunnally, E. W. & Wackman, D.B. *Alive and aware: How to improve your relationships through better communication*. Minneapolis: Interpersonal Communication Programs, 1975.
- Montgomery, J., Perkin, G. & Wise, D. A review of behavioral treatments for insomnia. *Journal of Behavior Therapy and Experimental Psychiatry*, 1975, 6, 93-100.
- Reinking, R.H., & Kohl, M.L. Effects of various forms of relaxation training on physiological and self-report measures of relaxation. *Journal of Consulting and Clinical Psychology*, 1975, 43, 595-600.
- Selye, H. *Stress without distress*. Philadelphia: Lippincott, 1974.
- Shaffer, M. *Life after stress*. New York: Plenum, 1982.
- Sheppard, W.C., Shank, S.B. & Wilson, D. *Teaching social behavior to young children*. Champaign: Research Press, 1973.
- Shoemaker, J.S. & Tasto, D.L. The effects of muscle relaxation on blood pressure of essential hypertensives. *Behavioral Research and Therapy*, 1975, 13, 29-43.
- Stroebe, C.F. *Practitioner's manual to accompany Quietening Response Training*. New York: Bio-monitoring Applications, 1978.
- Stroebe, C.F., Ford, M.R., Strong, P., & Szarek, B.L. Quietening response training: Five year evaluation of a clinical biofeedback practice. In *Proceedings of the Biofeedback Society of America twelfth annual meeting*. Wheat Ridge: Biofeedback Society of America, 1981.
- Suinn, R.M. Anxiety management training for general anxiety. In R.M. Suinn & R. Weigal (Eds.), *The innovative psychological therapies*. New York: Harper & Row, 1975.
- Walker, C.E. *Learn to relax: 13 ways to reduce tension*. Englewood Cliffs: Prentice-Hall, 1975.
- White, J. & Fadiman, J. *Relax: How you can feel better, reduce stress and overcome tension*. New-York: Confucian Press, 1976.
- Wolpe, J. *The practice of behavior therapy*. New York: Pergamon, 1969.

ABOUT THE AUTHOR

Bryan A. Hiebert (Ph.D., University of Alberta, 1979) is an assistant professor in the Faculty of Education at Simon Fraser University and a founding member of the Instructional Psychology Research Group. Dr. Hiebert is working in the counsellor training program at Simon Fraser University and is conducting research in the application of stress management strategies within both college and public school settings.