

# BIOLOGICAL AND PSYCHOLOGICAL METHODS OF STRESS MANAGEMENT

## Introduction

'Stress management' is defined as any attempt to reduce the negative effects of stress. Management techniques can be divided into those which are broadly **biological** in nature and those which are broadly **psychological** in nature.

**Biological methods of stress management** try to control the body's response to stress by *reducing physiological activity*. Included here are methods like 'biofeedback' and physical activity/exercise. However, by far the most well-known biological method of stress management is **drug therapy**.

**Psychological methods of stress management** try to control the body's response to stress by *altering the way we think* about the stressor. These methods include **Stress Inoculation Training (SIT)** and **Hardiness Training**.

## Drug therapy

Drugs used to manage stress were once called '**minor tranquilisers**'. However, they are now known as '**anxiolytics**'. The effect of all anxiolytics is to reduce heightened physiological activity *without* inducing tiredness. Originally, **barbiturates** were used to manage stress. However, they have been gradually replaced by other drugs. The main group of anxiolytics are called the **benzodiazepines (BZ)**.

BZ drugs include **Valium** and **Librium**. They work by influencing levels of **GABA** in the brain. GABA stops other chemicals from exciting neurons in the brain. As a result, the level of excitation in the brain drops, and the person feels 'calmer'.



Anti-depressants *have* also been used to manage stress, but increasingly **beta-blockers** (e.g. **Propranolol**) are being prescribed. These drugs do not affect brain chemistry. Instead, they reduce activity in the **sympathetic branch of the ANS**. As we know, this prepares the body to expend energy (the 'fight or flight' response). Beta blockers reduce physiological activity, so things like increased heart rate and blood pressure are lowered. Noradrenaline and Adrenalin try to speed up physiological activity when we experience a stressor - beta-blockers prevent them from doing this.



### Evaluation of drug therapy

The main strength of anxiolytic drugs is that they work very quickly and are effective in reducing stress almost immediately. Their use can be therefore be justified, *provided* that the stressor is a short-term one rather than a long-term one.

Another strength is that drugs are also relatively inexpensive compared to psychological approaches to stress management. Also, drugs are widely available (they are prescribed) whereas psychological approaches may not be available everywhere. Moreover, compared with psychological approaches, drugs do not require any time or inclination - you simply take the drug and wait for it to alter physiological activity.

However, there are a number of weaknesses associated with drug therapy. For example, all drugs have unpleasant **side effects** (e.g. drowsiness, lethargy, decreased alertness, dizziness). Thus, they are not effective when a stressor is a long-term one. BZ drugs also produce **drug addiction**. This is characterised by **physical dependence** and **tolerance**. Beta-blockers are not addictive, but are associated with increased risk of Type 2 diabetes if used over the long-term. BZ drugs also produce **abstinence syndrome**. One consequence of abstinence syndrome is

**rebound anxiety**, which is why people find it difficult to stop taking the drugs.

A final weakness of drugs is that they do not address the *source* of the stress. Although they produce a calming effect, they do nothing to terminate the stressor. They are an *emotion-focused* coping strategy rather than a *problem-focused* coping strategy. The latter are generally much more effective than the former.

### **Stress Inoculation Training (SIT)**

SIT was developed by **Meichenbaum (1976)**, who believes it should be undertaken *before* stress reaches a critical level. It is an example of a **cognitive-behavioural** approach to stress management. Its aim is to change the way we think about stress (**cognitive restructuring**). If we can change the way we think about stress, we can change the way we behave towards it.

SIT assumes that people sometimes find situations stressful because they think about them in '**catastrophising**' ways (i.e. they always think the worst). SIT tries to change negative ways of thinking to positive ways in three stages:

**(1) Cognitive preparation ('Conceptualisation')**: The therapist and client explore ways in which the client thinks about and deals with stress (e.g. by going to the pub and getting drunk). The therapist also looks at the extent to which the client uses *self-defeating internal dialogue* in potentially stressful situations (e.g. 'I can't deal with this'). The therapist encourages the client to think about why these negative self-statements occur.

**(2) Skills training and practice**: Next, the therapist teaches the client some *general* methods of reducing stress (e.g. relaxation techniques), and more *specific* methods relating to themselves and their own stressors. These include 'preparation statements', which help the client to (1) prepare for a stressful situation, (2) confront and handle stressful situations, and (3) cope with the fear of being overwhelmed.

**(3) Real-life application ('Application and follow through')**: Finally, the therapist guides the client through progressively more threatening situations. Initially, the person is placed in a situation that is moderately

easy to cope with. Once this has been mastered, a more difficult situation is presented.

### **Evaluation of SIT**

One way of evaluating SIT is to make the point that unlike drugs, which are an *emotion-focused* coping strategy, SIT is a *problem-focused* approach to stress management, since it does try to deal with the stressor itself. This is a strength of SIT. As noted previously, these kinds of approaches are generally much more effective than problem-focussed approaches.

Another strength of SIT is that compared with drug therapy, SIT has no negative side effects, no risk of addiction (dependence and tolerance), and no risk of abstinence syndrome. Therefore, it is a much less riskier way of managing stress.

A final strength of SIT is that it works. Research indicates that SIT is effective in reducing the stress associated with examinations and at least some phobias, and that in general it is a useful method for dealing with moderately stressful situations.

However, a weakness of SIT is that it requires *training* (which drugs don't). Therefore, it is less effective in treating acutely stressful situations (such as an interview), and its effectiveness may be in part determined by *personality factors*, meaning that it is unlikely to be useful for everybody.

Any psychological approach to stress management is also relatively expensive compared to drugs. Additionally, psychological approaches may not be available everywhere whereas drugs are widely available (they are prescribed). Finally, compared with physiological approaches, psychological approaches require both time and inclination. Drugs do not require any time or inclination - you simply take the drug and wait for it to alter physiological activity.

### **Hardiness training**

Remember that people who score high on Kobasa's 3 Cs are less affected by stress. Presumably, stress could be reduced if people could be made more hardy. Kobasa proposes three ways of increasing hardiness:

**(1) Focussing:** Some people cannot recognise the physical signs of stress (e.g. tenseness). Since you can't deal with a stressor if you can't identify when you're stressed, Kobasa's first approach is to *teach* a person to recognise the physiological changes associated with stress.

**(2) Reliving stressful encounters:** Even if a person can identify stress, the way they deal with it might not be appropriate. So, the client is asked to think about a recent stressful situation, and how they could have dealt with it more effectively.

**(3) Self-improvement:** This final stage involves learning to avoid stress in the future by thinking about and appraising potentially stressful situations differently. If a stressor cannot be avoided, or otherwise dealt with, the person is encouraged to take on a challenge which can be dealt with. This allows us to experience the *positive* aspects of coping with a stressor. The consequence of this is that we can 'bounce back' more readily from failure, and potentially serious stressors are experienced as being less stressful.

### **Evaluation of hardiness training**

Like SIT, hardiness training is a *problem-focused* approach to stress management, since it does try to deal with the stressor itself. As noted previously, these kinds of approaches are generally much more effective than problem-focussed approaches. Therefore, hardiness training would also appear to be a better way of managing stress than drug therapy.

Notice how the positive and negative evaluation points relating to SIT also apply to Increasing Hardiness. For example, compared with drug therapy, hardiness training has no negative side effects, no risk of addiction (dependence and tolerance), and no risk of abstinence syndrome. Therefore, it too is a much less riskier way of managing stress.

The hardiness training approach to stress management is also relatively expensive compared with drugs. Additionally, it may not be available everywhere, whereas drugs are widely available (they are prescribed).

The approach has been shown to be useful *if* people are prepared to give it a go. Only a few controlled studies have been done, but those that have show that stress-related absence can be reduced by hardiness training (the DV is absence from work). However, like SIT, hardiness training is

lengthy and requires commitment and motivation, and it is not a rapid solution to stress-management problems.

Finally, the fact that research into hardiness has used a restricted sample (American professional men) means that hardiness training may only be applicable to that sample, and may not generalise to other people suffering stress.