"Explain the Relationship Between Stress and Illness. Outline and Discuss Two Psychological Interventions Taken to Deal with the Individual Response to Stress."

Stress, according to the influential Canadian researcher Hans Seyle (1950), is the "non-specific response of the body to any demand made upon it." In Seyle's definition, a demand means a stressor - an event, that throws the body off balance and forces it to respond, triggering the stress response. There are a range of stressors including environmental and workplace stressors, daily hassles and life changes. There are many studies linking these bodily responses with illness. Two of them are described and evaluated below, followed by some useful techniques that have been used to manage stress.

Brady (1958) suggested that stomach ulcers may be caused by stress. In an early study, monkeys were placed in restraining chairs and conditioned to press a lever. Unless the lever was pressed at a particular time the monkeys were given electric shocks every 20 seconds. Many of the monkeys died suddenly from ulcers caused by raised gastrointestinal hormone levels, and the study ended abruptly. It wasn't known whether the deaths were caused by stress or by the shocks themselves, so the study was extended. The test was repeated with pairs of monkeys; one had a lever as before but the other was given no lever, and had no control over the shocks it was administered. After 23 days of the experiment only the monkey in control of the lever died due to a perforated ulcer. Brady concluded that the psychological stress of deciding when to press the lever had caused the monkey's death, rather than the electric shocks.

Brady's experiments on the monkeys went some way to showing that there may be a link between stress and illness. It demonstrated that in extreme conditions stress can cause ulcers and even death. Alongside ethical objections though, there are criticisms of the study. There is no evidence suggesting that stress was the only cause of the ulcers, and as the tests were performed solely on monkeys, it is not possible to infer that humans would also develop ulcers. Another point that reduces the study's ecological validity is that the experiments were conducted in a laboratory - a controlled environment where unnatural levels of stress were generated artificially. Brady's assertion that control puts subjects under greater stress is questionable as "some studies indicate that lack of control causes more

stress than having total control." (Brody & Dwyer, 2002). One study that supports this opposing view showed pictures of violent deaths to two groups of people. Participants in the first group were able to stop the 'slide show' at the press of a button but the second group were not given the option of halting the pictures. Participants in the second group showed signs of more stress than those who had control over what they were watching.

There is also a strong link between stress and cardiovascular disorders, such as Coronary Heart Disease (CHD). One study, the Western Collaborative Group Study, conducted by Friedman & Rosenman in the 1960s, tested the hypothesis that "Type A individuals (high stress personality) were more likely to develop heart disease than Type B individuals (relatively relaxed personality)." (Eysenck, 2000). Over 3,000 healthy men aged between 39 and 59 were assessed by interview and self-report questionnaire and classed as A1 (Type A), A2 (not fully Type A), X (equal amounts of A and B) and B (fully Type B). "Type A" personalities show a variety of personality traits, including the suppression of symptoms of tiredness, greater expression of aggression and hostility, speaking, walking and eating quickly and attempting to dominate group discussions. Eight and a half years after the study's inception 257 of the original 3000 men had developed CHD. Of the 257, 70% had originally been classed as having Type A personalities, a finding that appears to support Frisdman & Rosenman's hypothesis; a significant correlation had been established between personality types and CHD.

The study has strengths and weaknesses. It used a large number of well-chosen participants; Frisdman & Rosenman selected the gender and age-group most at risk from CHD. The study was able to assess and identify a higher-risk group which may be useful for CHD prevention. For example, if people are aware that they have a higher chance of developing heart disease they may take steps to modify their behavior e.g. by taking up exercise or giving up smoking. However, their study is vague and lacks precision. Many traits were measured to assess whether a participant has a Type A personality and it is unclear which of these is specifically linked to CHD; when analysing the original data, Chesney, Hecker et al (1988) suggested that "anger and hostility were the major predictors of CHD." (Coolhan et al, 1996). Although there seems to be a link, the relationship between stress and heart disease is far from straightforward.

There are a number of stress management techniques. Two methods, one physiological and one psychological, are outlined here, along with analysis of their benefits and drawbacks.

Biofeedback, according to Gatchel (1997), is “a technique for transforming some aspect of physiological behavior into electrical signals which are made access ible” (Eysenck, 2000). Typically, an individual is connected to a machine that gives information about Autonomic Nervous System activity. This might be presented visually (i.e. on a screen) or in auditory form, or both. An example of this is a change of blood pressure which is indicated by a constant sound whose pitch rises or falls when a blood pressure reading goes up or down. Supporting evidence of biofeedback’s effectiveness includes Miller and DiCara’s early experiments which “demonstrated that rats were able to learn how to control their cardiac muscles using operant conditioning techniques” (Eysenck, 2000), and a study with people suffering from chronic muscle-contraction headaches (Budzynski et al, 1973) which used regular biofeedback sessions. Even three months later participants had fewer headaches and less muscle tension than a control group.

Biofeedback has advantages over other stress management strategies. The practice shows long-term effectiveness and has virtually no side effects. Contrast this with anti-anxiety drugs such as the benzodiazepine Valium which, although effective at reducing anxiety, can have side effects including drowsiness and depression, and can lead to drug dependency. Biofeedback offers an amount of control to users which itself can help alleviate stress; it must be actively practiced, rather than administered. But this is also a downside of the method. Biofeedback requires effort and commitment and some people may be skeptical or unwilling to try the technique. It can be difficult to interpret the results of biofeedback; are the benefits due to biofeedback or simply because the individual is relaxed? Other techniques, such as meditation, can be just as effective, yet require no equipment and can be easily practiced at home.

Meichenbaum (1985) developed a cognitive therapy called Stress Inoculation Training to control the “catastrophising thoughts” that people often experience in potentially stressful situations. He asserted that cognitive therapy should be used before a person becomes anxious or depressed, rather than afterwards. His method contains three main phases: The first step, assessment, involves a therapist discussing the fears and feelings of the individual and obtaining a

summary of the problem. During the second step, skill acquisition and rehearsal, the person learns stress reduction techniques such as positive self-instruction and relaxation. In the final phase, application and follow-through, the individual is guided "through a series of progressively more threatening situations" (McIlveen & Gross, 1996), during which the learned stress reduction techniques are practiced, before being used in real-life, stressful situations. To support his own theory, Meichenbaum used the technique on individuals suffering from phobias of rats and snakes. The treatment proved as effective as desensitisation, "where patients are gradually introduced to the object of their fear while being taught how to relax." (Eysenck, 2000).

Meickenbaum's Stress Inoculation Training has been shown to be fairly effective in moderately stressful situations, and is based on well-established techniques like relaxation. The technique is more flexible than specific treatments as it can be used for a variety of situations (like treating phobias). The method can help improve self-confidence and, like biofeedback, can provide a sense of control. However, it is hard to imagine the theory being applied when treating a highly stressed individual. Some of the methods taught in phase 2 of Stress Inoculation Training would only be effective if there was prior knowledge of a stressful situation. It is possible, for example, to "psych" yourself up for an event, such as an exam, but what happens if stress arises suddenly, without time for prior thought? Another consideration is that individuals differ in how easy they find it to use coping self-statements in stressful situations.

To conclude, there is almost certainly a strong link between stress and illnesses such as ulcers and heart disease, though individual differences mean that stressors effect people differently. Biofeedback and Stress Inoculation Training are two methods that can be used to manage stress, though again this would depend on the level and type of stress, as well as the individual. It is possible that a number of stress management techniques could be used in conjunction with one other, or that a therapist might assess an individual before deciding which method(s) are appropriate. It seems apparent that, although some excellent research has been conducted, it will be a long time before the relationship between stress and illness is fully understood. Human environments change so quickly that new stressors are discovered as fast as new stress management theories are created, meaning there will probably never be a full understanding!

References

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