

CREATIVE NOVATION BEHAVIOUR THERAPY AS A PROPHYLACTIC TREATMENT FOR CANCER AND CORONARY HEART DISEASE: PART I—DESCRIPTION OF TREATMENT

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Summary—This paper describes a novel method of behaviour therapy applied to cancer-prone and coronary heart disease-prone patients in a prophylactic manner, to reduce the probability of their dying of cancer or coronary heart disease. The treatment can also be applied to patients already suffering from cancer in order to prolong their lives. The methods used are described in considerable detail, together with the rationale leading to their adoption. In Part II of this paper are the results of several studies showing that the methods are surprisingly successful in preventing death in cancer-prone and coronary heart disease-prone probands, and prolonging life in patients already suffering from terminal disease.

INTRODUCTION

It has long been held that personality and stress are contributory factors leading to the development of neoplastic disorders (Baltrusch, Austarheim & Baltrusch, 1963/1964; Lerner, 1982; Schwarz, 1987) and recent work has given strong factual support to this hypothesis (Eysenck, 1984, 1985). Large scale prospective studies have shown that personality and stress are indeed powerful determinants of the later development of cancer, and that smoking and other similar factors are much less predictive (Eysenck, 1987a, b, 1988a, b, 1990, 1991; Grossarth-Maticek, Eysenck & Vetter, 1988; Grossarth Maticek, Frentzel-Beyme & Becker, 1984; Grossarth-Maticek, Kanazir, Schmidt & Vetter, 1982, 1985; Grossarth Maticek, Kanazir, Vetter & Schmidt, 1983). It appears that behaviour, relating especially to reactions to stressful situations of an interpersonal nature, may be subject to change by psychotherapeutic intervention, and may thus have prophylactic effects as far as cancer is concerned. Similarly, such behavioural treatment may serve to prolong life in situations where irreversible carcinogenic processes have already been activated. Equally, coronary heart disease has been shown to be strongly influenced by personality and stress, and to be susceptible to psychotherapeutic treatment (Friedman, Thoresen, Gill, Powell, Ulmer, Thompson, Price, Rabin, Breall, Dixon, Levy & Bourg, 1984, 1986; Friedman, 1987; Eysenck, 1988, 1990). It is the purpose of this paper to describe the methods used in such behavioural treatment, and to adduce some empirical evidence to show that the treatment is effective.

Psychological methods of intervention or treatment in cancer particularly, but also in coronary heart disease, are of course not new and there have been many reports concerning their employment, often with positive effects as regards prolongation of life. Examples are papers by Bahnson, (1976), Holland and Rowland (1981), Izsak, Engel and Medalie (1973), Le Shan & Le Shan (1971), Meyerowitz (1980), Simonton, Mathews-Simonton and Sparks (1980), Yalom and Greaves (1977) and Spiegel, Bloomn, Kraemer and Gottlieb (1989). Psychoanalysis has also been used in this connection (Bastiaans, 1967). Theoretical foundations are sparse for the most part, and effects variable (Fox, 1981). Recent summaries have been published by Hagar (1986) and Pohler (1989). We shall endeavour to review the *positive* results achieved with the use of the method here described in the second part of this paper, and finally demonstrate *negative* effects of psychoanalysis.

The major two personality traits which have been traditionally linked with cancer, and which have also emerged as showing high correlations with cancer in our prospective studies, have been

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(1) the repression of emotions, such as anger and anxiety, and an inability to show these emotions. The term 'repression' is here used in a non-Freudian sense, to indicate merely that strong feelings experienced by the person do not find expression either verbally or in overt conduct. (2) Failure to cope with stress and feelings of hopelessness-helplessness and depression in response to interpersonal stress, leading to an inability to find appropriate coping mechanisms to deal with the problems involved. Jointly, these two factors contributed something like 50% to the prediction of cancer in our prospective studies. The coronary heart disease-prone personality (Friedman & Booth-Kewley, 1987) is related to the 'Type A personality' (Rosenman & Chesney, 1980), but with emphasis on anger, hostility and aggression, rather than other components of the Type A personality (Eysenck, 1990).

As Schwarz (1987) pointed out, terms like 'melancholia' and 'depression' are probably too general in relation to physical disease to be of much use; the type of depression here referred to is sub-clinical, and might be defined as 'hopelessness depression' (Alloy, Abramson, Metalsky & Hartlage, 1988). This concept is largely based on the work of Seligman (1975) and Abramson, Seligman and Teasdale (1978), and is essentially a component of a cognitive diathesis-stress theory of depression (Alloy, Clements & Koldan, 1985). According to this theory, "A proximal sufficient cause of depression is an expectation that highly desired outcomes are unlikely to occur, or that highly aversive outcomes are likely to occur and that no response in one's repertoire will change the likelihood of occurrence of these outcomes" (Alloy *et al.*, 1988, p. 7). It is in this sense that the term has been used in our research; more general and undifferentiated uses of the term have not shown predictive powers (Zonderman, Costa & McCrae, 1989).

The therapy developed by us and described here contains many features which are familiar, such as Wolpe's method of desensitization, Lazarus's development of coping mechanisms, social skills training, relaxation, suggestion and hypnosis, etc. The method has been called 'Creative Novation Behaviour Therapy', and is characterized particularly by an insistence on personality differences between healthy and disease-prone individuals, and a stress on changing personality and behaviour in ways delineated by these differences. 'Novation' indicates that new types of behaviour are to be developed, and 'creative' suggests that the patient is to be encouraged to develop these novel behaviours creatively through self-observation and experience of the consequences of his/her actions. Another name for the method of treatment sometimes used is 'Autonomy Training', because the major aim of the treatment is to stimulate an individual to look towards the long-term positive results of different types of behaviour and self-evaluation. Autonomy training teaches that behaviour which leads to short-term positive but long-term negative results should be avoided, very much as behaviour which leads to both long-term and short-term negative results should be avoided. The continuation of such behaviour leading to negative results is the essence of what Mowrer (1950) has called 'The Neurotic Paradox', and it is this that links the behaviour of the disease-prone person with the concept of neurosis. Accordingly, the aim of treatment should be the acquisition by the patient of behavioural patterns, leading to long-term positive results, and the avoidance of neurotic responses having the opposite effect, as an effect of making the patient more independent (autonomous) of other people and their influence.

The essence of the neurotic personality, according to Mowrer and later theorists, is the absence of *autonomy*, i.e. an emotional dependence (possibly mediated by Pavlovian conditioning—Eysenck & Rachman, 1965), which prevents such people from making independent decisions in the light of their own best interests. Failing such autonomy, the patient's needs, having high emotional importance for him, are blocked and remain unsatisfied, with the result that symptoms like depression, hopelessness, anxiety, excitement and self-aggression appear. Individuals of this type enter into social relationships which arouse conflict, and develop behaviours which are detrimental to health. The aim of the therapy therefore is to increase the patient's autonomy, i.e. his/her independence and ability to make rational decisions. The essence of our theory, therefore, is that an individual's behaviour is regarded as maladaptive if the ensuing consequences are negative, i.e. are not regarded by him/her as satisfactory. It is consequently the aim of the treatment as already mentioned, to increase behaviours which lead to long-term positive consequences, even though this may involve some short-term negative consequences, and to teach the patient to avoid behaviours which lead to long-term negative consequences, even where these may be associated with short-term positive consequences. Thus for instance rejection by a loved person may lead to attempts to regain

Table 1. Proportion of probands of Types 1, 2, 3 and 4 dying of cancer, CHD and other causes

| | n | Died of | | | Still living (%) |
|--------|-----|------------|----------|------------------|------------------|
| | | Cancer (%) | CHD (%) | Other causes (%) | |
| Type 1 | 901 | 347 (39) | 61 (7) | 155 (17) | 338 (38) |
| Type 2 | 818 | 36 (4) | 208 (25) | 221 (27) | 353 (43) |
| Type 3 | 570 | 8 (1) | 21 (4) | 80 (14) | 346 (81) |
| Type 4 | 946 | 3 (0) | 9 (1) | 39 (4) | 895 (95) |

or retain positive relations with that person, which may be positive in the short-term, but may lead to failure to adapt to the total situation, make new acquaintances and give up the rejecting person, which would lead to possibly better adjustments in the long term.

It is an essential part of our theory that there are groups of people who are *cancer-prone* or *CHD-prone* by virtue of their inability to express emotions (Kissen & Eysenck, 1962), their failure to react to inter-individual stress in an appropriate fashion (Eysenck, 1984, 1985), or their over-reaction to stress by way of anger and aggression (Friedman & Booth-Kewley, 1987; Eysenck, 1990, 1991). These theories have been summarized in the form of a questionnaire which classifies healthy probands into 4 types (Grossarth-Maticek, Eysenck & Vetter, 1988). Type 1 is the cancer-prone type, Type 2 the CHD-prone type, Type 3 is a mixed type with psychopathic tendencies, not likely to develop cancer or CHD, and Type 4 is the healthy, autonomous type. Table 1 shows the major results from 3 prospective studies in each of which healthy probands were assigned to one of these types on the basis of interviewer-administered questionnaires. They were then followed up for a period of 10 yr, and finally death and cause of death were established on the basis of death certificates. A total of 3235 probands constituted the sample, and a detailed analysis of the specific findings has been presented elsewhere (Eysenck, 1985; Grossarth-Maticek *et al.*, 1988; Grossarth-Maticek *et al.*, 1985). The table essentially demonstrates that Type 1 personality is indeed predictive of cancer, Type 2 personality of CHD, while Type 3 and 4 are not prone to disease. Thus the aim of prophylactic therapy should be to *change* behaviour from that characteristic of Type 1 or 2 to that characteristic of Type 4.

These differences remain highly significant even when smoking, cholesterol level, and blood pressure are partialled out (Grossarth-Maticek *et al.*, 1988), and indeed it has been shown in the same paper that psychosocial causes are over 6 times as predictive as physical ones. Our model of disease-proneness is a synergistic multirisk factor one, in which single causes have little effect by themselves, but assume importance in combination with others (Eysenck, 1991).

In our studies of disease-prone persons (i.e. persons who later on develop cancer) we observed that lack of autonomous self-regulation was often associated with strong dependence on particular objects, such as other people, goals, or circumstances, and also specific thoughts and self-evaluative behaviours. Such evaluations constitute the cognitive aspects of the neurotic disorder, are associated with the depression experienced, and can dramatically inhibit the natural tendency of the individuals to guide their behaviour in the light of its probable consequences. It was also observed that persons who succeeded in modifying their behaviour in the light of ensuing consequences were more independent, and less demanding or rigid. In this sense we defined autonomy as "the ability of an individual to regulate his behaviour independently of other persons, in the light of ensuing consequences". Non-autonomous behaviour is defined in terms of the inability of the individual to adapt his behaviour in the light of ensuing consequences, because of the exaggerated attachment to and orientation towards particular people. Considering such persons with whom a strong attachment has been formed, conditions which have become especially attractive, and objects which have become associated with such emotionally positive outcomes, as the objects of a person's needs and desires, we may speak of 'object-dependent behaviour'. The behaviour of disease-prone persons may be regarded as object-dependent in this sense, being regulated by outside factors. We thus chose the ability to direct orientation, self concepts and behaviour patterns in the light of the ensuing consequences as having analytical and therapeutic importance, because ensuing consequences are determinants of an individual's autonomy.

Our inclusion of cognitive elements of self-evaluation and other non-behavioural thought-processes might seem to take our conceptions outside the field of behaviour therapy as conventionally

defined in terms of the application of learning theory principles (Eysenck & Rachman, 1965). This would be quite incorrect. Learning theory is not to be identified with primitive Watsonian or Skinnerian theorizing; it clearly includes important cognitive elements (Eysenck & Martin, 1987; Davey, 1987, 1989). The involvement of cognitive processes even in animal conditioning is powerfully argued by Mackintosh (1983), and no longer admits of doubt.

An individual has an exceptionally complex social-psychobiological system of motivation, showing needs, tensions, development and stagnation in differing areas. Changing behavioural and self-evaluation patterns should lead to the satisfaction of needs, and the optimization of long-term positive results. This, then, is the starting point for the system of autonomy training or novational behaviour therapy. In analysis and therapy many different areas like diet, mobility, quality of social relationships, cognitive-emotional relationships, religious factors, assimilation of life experiences, and degrees of self-activation and stimulation are all taken into consideration. Particularly important is the interaction of the different areas and their integration. Thus for instance people can at one and the same time, strive to alter their diets, change their level of cholesterol, increase their mobility (sport, jogging), and alter behavioural patterns in relationships with partners, when these used to lead to short-term positive and long-term negative consequences. Autonomy training requires the taking into consideration of the specific connections of behavioural patterns and their consequences in different areas, as well as taking into account interactions which give rise to the unique individual distinctiveness of the person.

BASIC THEORY

Individuals live in a socio-cultural-physiological system of mutually interacting factors, in which they have the possibility of actively influencing conditions through their cognitive-emotionally directed behaviour. Needs arise in the individual through tension between the situation that is desired, and the reality situation that exists. These needs can be satisfied through a process of stimulation and reaction in which both the stimulus and the reaction have a cognitive and emotional function. The cognitively-emotionally directed behaviour has the function of influencing both the quality of the stimulus and the pattern of reaction in the direction of satisfying the individual's needs. Adjustment, self-evaluation and behaviour are modified through the resultant consequences, the individual always striving to increase the long-term positive consequences of his behaviour. This is a dialectic learning model, in which, in the life history of any individual, specific stimulation-reaction combinations, as well as specific behaviour patterns and evaluations are learnt. As a consequence, learned expectations occur. Thus an individual may, for example, expect permanent positive results from particular types of stimulation, self-evaluation and behaviour, while in actual fact negative results occur particularly in situations where he does not have the ability to alter the expectations as a function of the resulting consequences. This forms a basis for the appearance of different psychopathological behaviour patterns.

Object-dependent regulation from outside is one such psychopathological behaviour pattern which is defined through the individual making need-satisfaction and problem solving totally dependent on the behaviour of particular persons or objects, themselves persisting in a passive role (external locus of control). Their reactions are dependent to such a degree on the behaviour of a particular person that autonomous self-regulation is made impossible. Such people live in the conviction that they themselves are incapable of achieving need-satisfying situations and reactions through alteration of their own behaviour, or of finding any satisfying significance in their life. The objects of their desire appear all-powerful as a condition for their well-being or lack of well-being, while the contribution of autonomous behavioural patterns for the achievement of personal satisfaction is disregarded. It is this *passivity* in the face of stressful stimulation from the outside which constitutes the essential personality feature of the cancer-prone individual (Type 1).

This dependence on emotionally important others leads these externally regulated individuals to develop needs of great emotional significance within the framework of a symbiotic conception of an all-powerful and all-needs-satisfying person determining the behaviour of a patient's passive personal reactions. If the object of the patient's needs declines to satisfy the patient's needs and wishes, hopelessness, agitation, helplessness and anxiety result, and in such object-dependent individuals, object-dependent expectations are increased; they do not learn from the consequences

of their behaviour, and are not in a position to correct their exploitations in the light of the actual ensuing consequences. As a result, mistakenly learned expectations arise again and again, and block needs of the greatest emotional significance to the point where the individual finally becomes exhausted. His inability to make himself independent of the object or person in question, in spite of rejection, leads to even more passive acceptance of the situation, to hopelessness, despair and depression.

In the CHD-prone person, reactions are somewhat different. Such individuals react to rejection by, or loss of emotionally important persons with anger (often suppressed), but are unable to put an end to an association which brings them nothing but pain and disappointment. They blame the person(s) responsible for their troubles, but cannot find it in themselves to alter the situation in a manner which would enable them to look for new associations, new friends, new lovers. Thus their inability to leave an unsatisfactory situation constantly increases their anger and hostility. This is the essence of Type 2.

Autonomous behaviour, on the other hand, is characterized by an individual's ability to correct exaggerated expectations through recognition of the actual consequences of his conduct. In this way, individuals can, for example, regulate their nearness to and distance from particular persons in the light of consequences resulting from the objective evaluation of their relationships. Such people do not expect satisfaction of their most important emotional needs from other people in a passive, helpless and dependent position, but are able to achieve the desired consequences through their own activity, self-evaluation and behaviour. Thus they are able to correct or abandon extreme object-dependent patterns of behaviour in the light of the resulting consequences, and learn new and autonomous behaviour patterns. These alternative patterns of behaviour, as long as they are experienced as need-satisfying, are seen to be a more acceptable type of behaviour than the object-dependent relationships, which can as a consequence be abandoned with advantage. Individuals who cannot reach this degree of autonomy, and remain in an object-dependent relationship, experience, as a general rule, great anxiety about being abandoned by the symbiotic object/person, thus making for a great deal of unhappiness.

Autonomy training is a method which is intended to give individuals the ability to achieve the desired autonomous self-regulation. Individuals are required to learn to correct their erroneous expectations and experiences within the framework of dependent object relationships, through recognition of the concrete consequences resulting from such behaviour, which are demonstrated and spelt out by the therapist. In addition they are required to learn an alternative type of *autonomous* behaviour, in which a desirable state of stimulation is achieved through their own activity, leading to a need-satisfying state. In addition they are required to learn to control their reactions in such a way that they are no longer subject to any particular stimulation from outside persons or objects; e.g. they can learn to relax in the face of stimuli which earlier always produced extreme tension. It is thus that the individual learns that autonomous behaviour leads to more positive results, i.e. greater satisfaction, and fewer negative results, i.e. less anxiety, than the object-dependent behaviour, and that a change is instituted from object-dependent to more autonomous behaviour.

When individuals find themselves in an object-dependent relationship and undertake to attempt to achieve autonomous self-regulation, they often experience both social pressure from the person on whom they are dependent, and intense anxiety and guilt feelings. This is sometimes interpreted erroneously in the sense that autonomous self-regulation means egotism or separation from others, and above all the surrendering of all human contacts. In autonomy training individuals learn that a degree of independence is a basic condition for every fulfilling aspect of their personal relationships, while an object-dependent relationship always leads to interpersonal problems and ultimate negative consequences.

Practical Applications

In creative novation behaviour therapy, behaviour analysis and the related techniques for learning autonomous behaviour are oriented towards the personal tendencies and intentions of the individual. Individuals formulate both their goals and their desires, and determine the application of the techniques presented, as well as their sequence. The therapist explains the goals to be set in autonomy training, explanations which are individually tailored to the educational qualifications

and the specific situation of the person concerned, so that personal motivation should not be affected by problems or understanding of difficulties in the processes of integration. Although autonomy training makes use of a large variety of techniques, these are not applied in any standardised manner, but used flexibly, according to the individual needs of each case.

(a) Explaining autonomy training

The patient is asked to give a short account of his present situation, goals or problems. According to the information provided by the patient about himself and his situation, the therapist gives a general overview of the goals and methods of training in autonomy. In this overview the education and motivation of the patient are taken into account. Generally, it is explained that autonomy training is a technique for learning from the consequences of one's behaviour methods of achieving long-term positive results. It is explained that the patient himself must play an active and determining role, both in describing the desired behaviour, and in the choice of exercises and techniques put forward by the therapist. At the same time it is stressed that the patient can, at any time, question both the definition of the desired behaviour, and the choice of different techniques and ideas put forward by the therapist. Particular stress is laid on explaining the basic concept of autonomy training, namely that the person who learns behavioural patterns which lead to long-term positive results, will become healthier, both psychologically and physically, and will be able to improve both his professional and inter-personal problem solving behaviour.

(b) Behavioural analysis

Approximately an hour is spent in asking people to talk about all the experiences and situations which have been of great positive or negative emotional importance to them. Discussions concerning these experiences are repeated several times during the course of the training. Memories are divided into three sections: (1) childhood and family; (2) relations with partners; and (3) professional situations. During this account, questions from the therapist are guided towards the positive or negative results of different types of behaviours, and the description of any behavioural patterns which always lead to either negative or positive results. Questions are not asked directly, and the therapist takes care not to go beyond the stereotyped style used by the patient. No attempt should be made to try to use psychoanalytic techniques, or to 'go below the surface'. The goal of this conversation is to pinpoint the connection between stereotyped and self-perpetuating patterns of behaviour, and the resulting consequences. Thus, for instance, it might become apparent in the analysis of behaviour that a person has idealized his dead mother over a period of years, and expects both short-term and long-term positive results from close proximity to this person; because the desired physical nearness is not capable of being realised, however, negative consequences appear, e.g. permanent feelings of hopelessness and guilt.

(c) Defining the desired behaviour

The patient himself is asked to describe the desired behaviour, because only in this way can we make sure that the self-formulated goals are accepted emotionally. If the therapist were to formulate the goals, these could evoke emotional resistance, and stimulate opposing behavioural tendencies. Thus, for instance, if the therapist were to say directly to the patient that dependence on the mother must be reduced, diametrically opposed reactions could manifest themselves immediately. The therapist must take seriously every expressed and desired behavioural tendency of the patient and try to suggest behavioural techniques which will obtain their realization. The patient is asked regularly to formulate desired behavioural patterns which will lead to long-term positive results, and which strengthen autonomous self-regulation. We have not experienced any formulations which lead to strengthening object-dependent relationships or the stabilization of behavioural patterns which bring negative consequences. When the formulation of the desired behaviour has been achieved, this should be put in writing for the patient and repeated verbally to him many times. During the whole course of autonomy training, individuals are stimulated to observe for themselves the connection between behaviour and resultant consequences.

(d) Target areas for applying training

(1) *Improvement of the self-concept.* The first target area is the improvement of the self-concept. Poor self-concepts are an almost invariant accompaniment of neurotic behaviour (Wylie, 1974). In this exercise the individual is asked to examine a particular pattern of behaviour and the resulting consequences, and attempt to consider the results as far as possible. The next step is for the patient to try and anticipate the consequences of different patterns of behaviour in the target situation, and to achieve the desired behavioural patterns through the experienced anticipation of the effects on his self-concept. For instance, he is asked to put before himself the picture of alcohol affecting his life, and experiences this concept negatively. Following this he tells himself that he does not want to drink any alcohol, because he has anticipated the negative effects which result from this on his self-concept.

(2) *Practices in specific day to day behaviour.* The patient puts previously defined and desired behavioural patterns into action in the day to day situation, trying to guide his behaviour through the anticipation of consequences learned in the practice in the previous section. If, after carrying through specific behaviour patterns, long-term positive results appear, such as conscious emotional security and well-being, and if long-term negative results remain absent, such as the earlier feelings of hopelessness, the patient will learn to experience a positive result and to build these into the newly developing self-concept.

(3) *Practice in hypnosis or deep suggestive relaxation.* If the individual can clearly define a desired behaviour, but is not in a position to perform types of behaviour which could realise his wishes, e.g. because the ability to relax is missing, he may be helped by hypnosis or deep relaxation, very much as in the behaviour therapy practices of Wolpe. Of course not all patients are capable of hypnotic relaxation, so that this particular method is not universally useful.

In the use of this technique, the patient here is put into a state of deep hypnosis, in which detailed suggestions are made. The content of these suggestions, of course, is very variable, and is previously agreed upon with the patient. The patient may ask for a unbroken period of deep sleep of 10 hr, in which the patient has a feeling of being in a state of complete security. Another patient when under hypnosis, may acquire the ability to accept himself lovingly, or to be able to show feelings which are not being expressed. It is important to make clear to the patient before hypnosis that the only function of the therapist is to help him achieve his own objectives. The patients get the feeling that they are influencing themselves, and that the therapist is helping them to achieve the desired goals, but is not manipulating them.

(4) *Common elements in all techniques.* There are certain commonalities in all these procedures, as follows:

(a) Alternative behaviours are suggested to take the place of the behaviours leading to negative consequences, and these alternative behaviours are carried through by the patient closely following the behavioural analysis.

(b) The negative results of the unsuccessful behaviour are clearly described to the patient, followed by a description of the possible positive results of the new behaviour. Both description and formulation of these behaviour patterns are of course often quite complex.

(c) The desired type of behaviour is described carefully and in great detail to the patient.

(d) All the elements of the exercise, and the behaviours required are described precisely in relation to the stimuli initiating particular reactions.

(e) The anticipated positive results of the desired behaviour, and the negative results of the usual behaviour, are defined and described.

(f) Detailed descriptions are given of the satisfaction gained from successful learnings through positive consequences, e.g. the subsequent relaxation, and the experience of the actual resultant positive consequences.

(g) Self-observation is stimulated, particularly with reference to the connection between the behaviour and the resultant consequences. It is only when an individual experiences a firm connection between the alternative learned behaviour with the resultant consequences that learning can be considered successful. It is not only important that behaviours should be altered, but so should be the individual's consciousness and self-esteem as a function of the altered behaviour.

(e) Application of the behavioural techniques

(1) Training for reduction of dependent behaviour and initiation of autonomous behaviour. Patients are asked to visualize the person/object to which they have developed dependent reactions, and then practise through imagery independence from this person/object. This is done under conditions of relaxation, very much as in desensitization. In this way fears of isolation, guilt feelings, etc. can be reduced.

(2) Training for cognitive alteration under conditions of relaxation. Individual behaviour is directed by assumptions which follow the if-then rule, e.g. if I do this, then certain results follow. Such cognitive assumptions are closely associated with emotional reactions. Where changes in the if-then rules are required, this can best be done in conditions of emotional relaxation, and hypnotic procedures are particularly useful in altering such programmes. During this process of hypnotic suggestion, stimulus situations and the ensuing reactions are graphically presented with appropriate suggestions, and experienced emotionally. In this way if-then rules can be altered.

(3) Training for alternative reactions. Individuals are frequently not in a position to achieve alternative behaviours to those producing negative results, and social skills training may be required. Thus, for instance, aggressive distancing from a person/object can be practiced in imagination, or the ability to express permanent loving feelings can be practiced in imagination, independently of the actual behaviour of the person/object.

(4) Training for the integration of cognition, emotionality and intuition. An individual may not be in the position of being able to achieve optimal interaction between intuition, emotionality and cognition. To improve the interaction between these elements, behavioural techniques may be used according to the specific nature of the difficulty. For example, the person can learn to achieve previously defined behaviour patterns in specific emotional situations through some form of modeling. Thus he may practise the verbalising of emotional feelings which were previously irrationally inhibited. Also, uncontrolled emotionality which regularly leads to negative consequences may be altered by practising its inhibition by previously absent rational insight.

(5) Training to achieve stable expression of feelings. Object-dependent behaviour patterns are usually found in individuals whose emotions are excessively dependent on the behaviour of the person/object. The behaviour of the cancer-prone person, for instance, is characterized by the fact that either the gradual or the sudden withdrawal of the highly valued person/object leads to the blocking of the expression of feelings in such a way that hopelessness and depression set in. Emotionality which is dependent on the other person's behaviour is unstable and hardly suitable to ensure emotional security. The behaviour of the autonomous personality, on the other hand, is characterized by a self-evaluation system with a stable, communicative expression of emotion. In the framework of this behaviour, feelings are expressed in a stable manner, independent of the actual behaviour of the object. In trying to lead the cancer-prone person in the direction of autonomous behaviour, qualities of a stable expression of emotion, directed from within and then constantly supported by the evaluation system, are described. The negative consequences of the earlier object-dependent and unstable expression of emotions are demonstrated, as well as the positive consequences of the stable expression of emotion. In this way the situation and the precise behavioural patterns through which individuals can achieve a stable system of expressing his emotions are defined. The positive consequences of the learned stable expression of emotion, and the negative consequences of the object-dependent expression of emotion, are constantly brought to the attention of the patient.

(6) Training for potentiating social behavioural control. Patients are often unable to alter the position of important others in the way they wish, because they are not in possession of social skills which might have that effect. The patient through social skills training learns how to affect the behaviour of others, and how to produce the desired consequences. What is required is an understanding of the behaviour of the other person, and ways and means of gaining control over that behaviour.

(7) Training to suppress stress-creating ideas. Social behaviour and the appearance of particular stress-producing thoughts are often closely related. During training the patient has to learn to alter his behaviour in such a way that the link is broken. For example, the patient may have a phobia

concerning heart disease, and may have to learn to distance himself from an ambivalent and symptom-creating person who in his mind is associated with the symptoms.

(8) *Training to achieve a behaviour-directing hierarchic value structure.* The value structure of patients is often such as to have negative consequences for their behaviour. In the behavioural analysis the structure existing at the moment is first of all analysed. Following this, a definition is given of a desirable, and the present undesirable value structure. Consequences of both value structures are determined for the patient, who learns to anticipate the positive and negative consequences of both structures. In order to achieve a particular desired pattern of behaviour, such as well-being, self-assurance, satisfaction of needs, and good orientation in daily life, it may be necessary to build up a hierarchic value structure which produces an ordering function in the behaviour of the individual in the environment. The learning of such a hierarchic value structure is often possible only at the end of the autonomy training. If individuals formulate such an alternative hierarchic value structure, and anticipate positive consequences, they will then attempt in their everyday life to behave according to the defined value structure. As always, stress is on the consequences, which should be reinforcing and thus help to confirm the acceptance of the new system.

(9) *Training in the suppression of stress-creating thought.* Neurotic symptoms such as severe anxiety, reactive depression, feelings of helplessness and excitement are often associated with stress-creating and symptom-forming thoughts and ideas. During training, individuals learn to avoid such symptom-creating thoughts. First of all, the contents of the symptom-creating thoughts are identified in the behaviour analysis. At the same time, the stimulus responsible for the appearance of the symptom-creating thoughts is identified, as well as other conditions, such as consumption of coffee, alcohol, or a particular inter-personal conflict, favouring the activating of stress-creating thoughts. To deal with this problem, the negative consequences of the stress-creating thoughts are defined, and contrasted with feelings of well-being which arise in the absence of the stress-producing thoughts; relaxation and desensitisation may be used in this connection.

(10) *Abolition of dependence reactions.* Individual reactions to one's own behaviour and the perception of the self have often been required by patients in such a way that self is experienced as the condition producing lack of well-being. Individuals stand in their own light. The negative results of such behaviour, the content and the conditions of the learned negative self-interpretation are identified in the behavioural analysis. A training programme is suggested to inactivate the negative self-interpretation and make positive the possible approach to the self. An approach is defined and learned in the form of an alternative set of behaviours. Again, success in achieving is self-rewarded, producing positive reinforcement.

General Description of Three Forms of Autonomy Training

In our prospective studies, as we have already mentioned, we were able to describe the characteristic behavioural patterns of cancer-prone and CHD-prone probands (Eysenck, 1988, 1989, 1991; Grossarth-Maticek *et al.*, 1988). Autonomy training attempts to alter those behaviour patterns in the direction of normality and health. Treatment may be individual or in groups.

In individual treatment, duration is about 30 hr in all. It is difficult to estimate what portion of this time is devoted to different aspects of the treatment, as individual cases differ profoundly in this respect. So do the particular methods suitable for each case; every patient differs in this respect from every other. Duration of treatment, too, shows considerable variability, but overall something like 25–30 hr is a reasonable estimate, with something like 2 hr per week being average. In group therapy, the members are drawn into a mutually supporting process of communication. In those cases, once the behavioural analysis and the formulation of individual goals has been accomplished, the variety of techniques, which appear to be suitable for the activation of the desired behaviour are put forward by the therapist for discussion. Patients decide on particular techniques and possibly modify them for individual problems. The effects of the training are regularly discussed. Patients learn continually from session to session to formulate new training goals. The goal of the therapy is that patients should acquire behavioural patterns, through which they can arrive at a point where they can influence certain factors in the whole system, such as in relations to particular persons, conditions at work, etc., in such a way that well-being results from their efforts.

The size of the group is on the average 20–25, and meetings last for several hours depending on progress and the wishes of the group. The number of meetings is also very variable, with a minimum of 6 and a maximum of 12–15. It is always left to the members of the group to decide when they feel that they have benefited enough from the therapy to discontinue.

We have also used a third type of treatment, which combines short individual behaviour therapy with bibliotherapy. This centres around a printed explanation of the meaning, aims and methods of creative novation behaviour therapy, a copy of which is given in the Appendix. This statement is given to the proband, who also receives an introductory 1-hr treatment in which the meaning of the statement is explained, application considered, and likely advantages discussed. After the patient has been given time to consider the statement, and apply it to his/her own problems, the therapist spends a further 3–5 hr with the patient, suggesting specific applications of the principles in the statement to the needs of the patient, and his/her particular circumstances. The possible usefulness of bibliotherapy has been demonstrated several times—e.g. Glasgow and Rosen, 1978; Scogin, Hamblin and Bentler, 1987; Scogin, Jamison and Gochneaur, 1989. These studies did not combine bibliotherapy and individual therapy.

There is good evidence to demonstrate the prophylactic efficacy of all three procedures (long-term individual treatment, group therapy, and short-term individual treatment with bibliography.) This evidence will be presented in Part II of this article (see also Eysenck, 1989, 1991).

It should be noticed that techniques which have a prophylactic effect as far as cancer is concerned may also have an effect on the behaviour of patients already suffering from cancer, in the direction of prolonging their lives. Here the aims and methods of creative novation behaviour therapy are similar to those described above, and here also effects have been positive, as will be demonstrated in Part II (see Eysenck, 1989).

Case Histories

Mrs D, aged 43 yr; metastatizing mastocarcinoma

She came to see us after being through various psychotherapeutic treatments. Her first, psychoanalytic, treatment took place when she was 23, but was broken off after a year. The reason for analysis was separation from her boyfriend who had suddenly left her. She developed severe depression and had expected behavioural direction and speedy help from the therapist.

When she found no improvement in her condition, after this period, she broke off the therapy. After telling the therapist that her depression had actually got worse, the therapist insisted that she was therapy-resistant and was not prepared to work hard enough. While she was in therapy she had particularly felt that the therapist did not accept her and was convinced that the depression got worse during this time. Mrs D suffered from torturing feelings of inferiority, just because she is a woman. In her family the three sons were always preferred and she was pushed aside with the argument that she was 'only a woman'.

Because of this she felt dependent on her mother and her father, because both of them were interested only in the sons. When her boyfriend left her suddenly when she was 23, and entered into a homosexual relationship, she had her conviction that she counted for nothing as a woman reinforced. After unsuccessful psychoanalysis she buried herself in an intensive period of study and concluded it with very good marks. During this time she had no relationships with men, and after this she fell in love with a female friend and had a 2 yr relationship with her. In this relationship she felt herself to be masculine, and was secure, and expressed and satisfied feelings of great emotional meaning. Her women friend showed distinct bisexual tendencies and left her in the same way, very suddenly to go to a male friend. After this she experienced even more severe depression than after the first separation. In the next 10 yr she went through psychotherapy, and Janov primal scream therapy. During the psychotherapy, at first she felt extraordinarily well during the sessions, because she believed that her problems were deeply understood. Some months after this therapy she developed serious doubts that the therapist had deceived her professionally about the deep understanding, and in reality could not help her at all. For some months she was unable to inactivate a negative impression of psychotherapists as 'intuitive and hypocritical chimpanzees', but in addition she could not free herself from the idea that she had been misunderstood by these therapists and that they did not understand her parents.

After the psychotherapy her continuing depressions were deflected by being expressed more in anger towards the therapists, which provided her with a certain relief. After the Janov primal scream therapy she collapsed altogether. She wanted to scream out once more the pain which she had experienced through the absence of her parents. During this therapeutic process, the memory came back vividly, that when she was a child and was naughty her parents often said “Be good, because without us you are nothing”. She experienced sudden panic and anxiety, at the idea that the parents would abandon her, and reacted for several days with persecution mania. “I feel that everyone is coming up behind me, in order to point a finger and show that I am inferior and unfit to live”. Severe depression and social isolation re-appeared following this. She was declared to be unfit for work and pensioned, and for 2 yr she suffered from a rapidly metastasizing mastocarcinoma. Six months after the diagnosis she was trained by the Simonton method. She had to visualize how the cancer cells were being annihilated by her immune system. This was a total failure and she once again felt depressed and incapable—“I am after all, not a guru, how can I, in my situation, learn to put forward such potent ideas”. In order to avoid once again being the ‘black sheep’ in therapy, she deceived the therapists by showing satisfaction and learning success, while inside she was full of doubts.

She described her most important psychic difficulties as follows: “(a) I cannot stop thinking, and the thoughts go round and round on the one theme, that as a woman I am rejected and worthless; (b) I have longed, during my whole life, to be close to my parents, my boyfriend and my woman friend, but have never achieved this, and for this reason I become depressed and still more convinced that I am worthless as a woman. I can visualise now, in my illness, how the metastases spread, but not how I can become even partly healthy, either physically or mentally”.

This was the situation when Mrs D came into autonomy training. To the question, in which direction was she going at the moment, and how did she wish to develop herself, she answered, “I can tell you both what I do not want and what I do want. I am quite clear that I do not want to enter a therapy, in which something is being done to me, in which the therapist only wants to confirm his own views, and is not really capable of taking an interest in me. I would like to be free of endless torturing thoughts of being worthless as a woman and that other people just tolerate me. I would like to be self-sufficient and in this way to strengthen my psychic strength so that I can overcome the illness better. I would like to find myself, and work positively on myself, not have to reject myself. How I can achieve that I have no idea”. The therapist: “I find it positive that you have defined your goals so clearly. I can describe several learning techniques. Whether these will correspond to your needs is something you will have to decide. One thing which is at your disposal is the use of suggestive relaxation, in which relaxation techniques are used, which are suitable for the particular individual. Following this it could be interesting to practice an exercise in which stress and symptom-producing thoughts are inactivated”. The patient: “I can never relax and can never free myself from the torturing thoughts. In addition I sleep very badly. I have often wished to be able to relax completely, with the fantasy that I am in a wide, golden meadow, the sun is not too hot, and I would quite simply like to relax in this situation. However, I am not able to realise such a concept. I would be very happy if I could practice this immediately”. Suggestive relaxation was a success, the patient was deeply relaxed. A golden meadow in which she could completely relax was suggested to her. After the exercise she was very happy and reported that she had been immediately able to achieve deep relaxation, and for the first time in her life she felt at one with herself, with nature and the world. She wanted to have this relaxation in every practice session. In the next session she came round to speaking of the theme herself, of how she could dismantle her stress-creating thoughts. She wanted to find the connection between the learned relaxation and the dismantling of the torturing thoughts of her own inferiority.

An exercise in visualization and day to day behaviour was suggested. Every time that torturing thoughts appeared, the patient counted to three and put herself in the state of learned deep relaxation. Following this she put the contents of the torturing thoughts together with the negative results in such a way that these were packed together in one ‘packet’ and banished from her head. Written exercises were asked for by the patient herself, who formulated the content in detail. In the next discussion she reported “The business with the ‘packet’ was unnecessary, it was sufficient if I relaxed completely as soon as the torturing thoughts appeared, then I think of absolutely nothing and the torturing thoughts just do not exist anymore”. In a 3-monthly follow-up Mrs D

reported that she had lived without the torturing thoughts since then, and is in a position to neutralize all stress and symptom-creating thoughts with learned relaxation. In addition Mrs D learned various behavioural techniques, e.g. that she could relieve the pain in her left arm; after that she wanted to improve her ability to co-ordinate her rationality with her feelings and her intuition. After successfully carrying through her training, she became religious in a fundamental Christian fashion and felt so well when praying, that she left the therapy with a farewell letter of thanks, in which she said amongst other things that she had learnt in autonomy training, for the first time in her life, the feeling of complete happiness by inactivating thought. This had become the basis of a new contented and self-determined orientation. The patient lived for 3 yr after the autonomy training in a state of emotional stability. "I can always both relax and also stimulate myself to contentment. Earlier on, I looked for happiness in dependence on other people, now I regulate myself and feel exceptionally well".

DISCUSSION

In what sense is creative novation behaviour therapy novational, and in what sense is it a behaviour therapy? The first question arises because clearly many traditional methods of treatment are used; the second because it obviously contains a number of cognitive elements which are quite central to it.

With respect to the first question, we must distinguish between strategy and tactics in any therapeutic system. As far as tactics are concerned, creative novation behaviour therapy clearly makes use of many widely accepted and used methods, such as desensitization, modeling, skills training, the teaching of coping mechanisms, hypnosis and relaxation, etc. What is essentially new is what one might call the strategy of the intervention programme. This is geared to observed differences in personality between cancer-prone and CHD-prone probands, or patients already suffering from disease, and the great majority of the population not disease-prone, and not suffering from disease. Thus the aim of the therapy is defined in terms of these differences, i.e. to change the behaviour and personality of disease-prone people to that typical of people not so prone, or that of patients suffering from disease towards that of healthy people.

From another point, too, the programme differs somewhat from the more customary use of behaviour therapy in cases of psychiatrically abnormal behaviour. While normally the behaviour therapy programme is based on the extinction of Pavlovian conditioned emotional responses, such as anxiety, here we are more concerned with the rewarding or punishing consequences of action, making use of instrumental rather than classical conditioning in this context (classical conditioning, of course, is also involved). This change of stress is a major difference from such therapeutic packages as are advocated by Wolpe, or Lazarus, or Bandura. Thus the major novelty in the type of therapy described, in addition to the unusual population involved, is in the field of strategy, rather than tactics.

With respect to the second question, relating to the use of the term 'behaviour therapy' in connection with our method, we would suggest that it is wrong to imply a fundamental distinction between behaviour therapy and cognitive therapy (Eysenck, 1987c). Behaviour therapy has been from the beginning identified with the principles of learning theory and conditioning, and it is quite erroneous to imagine that these leave out cognitive factors. Indeed, as is made very clear in the book *Theoretical Foundations of Behaviour Therapy*, cognitive factors have always played a very important part in learning theory since the days of Pavlov, and no modern system of learning theory is conceivable which does not contain cognitions as vitally important elements in the process of learning and conditioning (Eysenck & Martin, 1987). Thus the contrast between behaviour therapy and cognitive therapy is a purely artificial one, which has no reality or meaning, and therefore the question whether our method of treatment is behavioural or cognitive is not relevant.

We will discuss in the next paper our position as far as a comparison of new methods with those of other therapists is concerned. There is a long list of psychologists who have looked at the problems of stress, stress dismanagement and stress reduction (e.g. D'Zurilla & Goldfried, 1971; Lazarus, 1966; Wagman, 1979) and our methods clearly bear some similarity to theirs. All that will be claimed is that these are the methods we have used, and such as they are they have been

remarkably successful. Others might have been equally successful, of course, but in the absence of any evidence this question must be left open.

There are three characteristics of our treatment which may have played an important part in its success, although there is no way of proving this. In the first place, our treatment was *free*; no charges of any kind were made. In the second place, many probands agreed to take part because we stressed that the research was conducted as an aid to *science and medicine*. In the third place, complete *anonymity* was guaranteed. It is our subjective impression that these three factors played an important part in the motivation of our *Ss*, and possibly the success of our treatment.

In summary, we have suggested a method of behaviour therapy which is applicable to persons diagnosed as having a certain type of personality (cancer-prone or Type C personality, or CHD-prone or Type A personality), or to patients suffering from cancer. The therapy uses various methods of behaviour therapy to alter both the cognitions and the behaviour of proband or patient, in attempting to change his/her personality from that associated with disease to that associated with health. The strategy of treatment is based on the principles of instrumental conditioning, i.e. the use of positive reinforcement for the development of more appropriate behaviours, and the demonstration of the punishing consequences of the personality pattern characteristics of the cancer-prone personality type.

Clearly the usefulness of any therapeutic technique has to be demonstrated in clinical trials containing an appropriate control group. As we shall demonstrate in the second part of this paper there is now good evidence that the methods here discussed do in fact have a powerful prophylactic effect, and can also prolong the lives of patients suffering from terminal cancer (Eysenck, 1989; Grossarth-Maticcek *et al.*, 1988; Grossarth-Maticcek, Eysenck, Vetter & Frentzel-Beyme, 1988). If those successful applications of behaviour therapy to physical disease prevention and containment can be replicated, we would have here an important extension of behaviour therapy to areas outside the traditional confines of psychiatry.

A final possibility which should not be disregarded relates to the actual cure of cancer by means of behaviour therapy. Professor M. Z. de Vries and Dr C. D. van Baalen, in an unpublished study, looked in detail at seven cases of spontaneous cancer regression. In all of these, carcinomas disappeared partly or wholly without medical treatment. At the time of diagnosis all patients were suffering from an advanced state of the disease. The disease-free period has lasted from between 6 to 25 yr. What is of interest is that these patients showed a marked change in their personality and behaviour, as compared with a comparison group where the cancer was progressive rather than regressive. This change was described in terms suggesting a transformation from Type 1 to Type 4; patients in the comparison group remained Type 1 in their behaviour. Of course these results do not prove that perhaps behavioural intervention might actually produce regression in established carcinomas, but the possibility should be investigated as soon as possible in order to throw new light on what might be a potent means of confronting the scourge of cancer.

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APPENDIX A

(Text of a document given to therapy patients to help in short-term behaviour therapy)

HOW TO ACHIEVE EMOTIONAL INDEPENDENCE AND A HEALTHY PERSONALITY

Every human being has the ability to alter his behaviour, and that of those around him, in such a way that he can attack his problems more successfully, and achieve a complete solution.

I. How do problems develop which are in part due to your own actions?

Problems arise because you continue with a certain course of action, or maintain certain views and attitudes, which result in consequences that are negative, harmful, and unpleasant. Possibly you expect positive, pleasant, agreeable consequences, such as the affection or love of somebody who is important to you, and suffer because this acceptable state of affairs is not realized.

II. What can you do in order to solve the problem and overcome difficulties?

In principle, there are three things to be done:

- (1) You can change your behaviour in such a way that conditions (e.g. in your interpersonal relations) are changed in such a way that you are placed in a better position (e.g. lose weight, smoke less, improve your interpersonal relations).
- (2) You withdraw from situations which do nothing for you in the long run, and avoid conditions which are likely to do you harm.
- (3) Change your mental attitudes and values, and in that way improve your general adjustment.

In these three ways you have a better chance to solve problems which before gave you difficulties.

III. What are the important variables to consider if you want to change your behaviour and your attitudes in order to solve your problems?

(a) You have to observe yourself carefully and try to answer the following questions:

- (1) What are the conditions which produce distinctly negative, undesirable effects for you?
- (2) Why can't you change these conditions? Is it possible that you may expect positive effects although usually the effects are negative?
- (3) What new, alternative activities are there which would enable you to produce more positive consequences, and get rid of the negative ones?

(b) The first thing to do so to imagine new, alternative varieties of behaviour. These activities may complement your usual type of behaviour, or may completely change it. Next go on to try out the consequences of these new activities, both in your thoughts and emotionally. When you anticipate positive consequences from this new type of behaviour, try it out in your everyday life.

(c) Always try to gain some insight into yourself, remember that your own needs and wishes are important, and that you should not always give way to others in order to preserve the peace.

IV. What can you do when things do not work out?

Failure should always be regarded as the reason for trying out new types of behaviour and activity. It should never be the cause of depression, but merely serve to enrich your range of experiences. Your principles should be geared to 'trial and error'; when some new type of activity does not lead to the expected success, abandon it and try something else. In doing so you may of course suffer sadness and despair, and express these emotions, but you should always try to act in such a way that your behaviour leads to better and more acceptable consequences.

V. What can you do when you have no idea what else you can do?

You can only accept that state of affairs, but continue to observe your own behaviour in order to discover the conditions which prevent you from achieving satisfaction and happiness.

VI. The most important aims of autonomous self-activation

- (1) Your aim should always be to produce conditions which make it possible for you to lead a happy and contented life.

(2) To increase the positive consequences of your behaviour, and to reduce the negative consequences—go for what makes you happy, abandon what makes you unhappy.

VII. What is the role of other people in helping to solve your problems?

The aim of autonomy training is not to be a completely independent person, but someone who is able to create the best possible conditions which lead to pleasure and contentment. You will often find that the support and help of other people can be of great assistance. Consequently it is usually important to enlist the help and assistance of other people. When you have a problem, such as giving up alcohol, or reducing weight, then try to enter into a contract with another person who will hold you to your promises. When you cannot solve the problem by yourself, it is very helpful to have an obligation to another person to stand by the rules you have agreed on, such as not to eat more than 1000 calories per day.

VIII. How do you achieve autonomous self-regulation?

You are in a state of autonomous self-regulation when you succeed through your own activities, e.g. sport or jogging, refreshing sleep, production of good interpersonal relations, to achieve an inner equilibrium and contentment, and to respond appropriately to deviations from this equilibrium. You will avoid dependence on other people and conditions which produce dissatisfaction and unhappiness, and you will also avoid too great dependence on such things as coffee, alcohol, or drugs. It is important to observe your own behaviour and mental activity in order to identify those people and objects on which you are too dependent, and which produce undesirable consequences. For instance, you may be drinking too much coffee, which in turn produces great excitement and prevents you from sleeping properly. In such conditions it is necessary to engage in some alternative form of behaviour, such as ceasing to drink coffee, or altering your behaviour vis-a-vis a particular person, etc. When through your activities you achieve more autonomous self-regulation, then you will feel that you are very much better off. If this does not happen, you must not despair, but go on looking for an improvement in the situation in which you find yourself.