

PERSONALITY, STRESS AND DISEASE: DESCRIPTION AND VALIDATION OF A NEW INVENTORY¹

R. GROSSARTH-MATICEK AND H. J. EYSENCK

Institute of Psychiatry, University of London

Summary.—The construction of a new Personality-Stress Inventory is discussed, based on previous research and other types of inventory constructed on the same principles. Scores on the inventory divide people into six types, selectively prone to different types of disease. The instrument is administered twice, with six months intervening, and *changes* in the inventory scores are prognostic of the probability of contracting different diseases. Evidence is presented to show the validity of the questionnaire and the method used.

There is now a good deal of evidence that personality and stress are causally related to various diseases, including cancer and coronary heart disease. The Type A-Type B dichotomy is well known, and there is some evidence linking it with coronary heart disease (Rosenman & Chesney, 1980), although the predictive accuracy of the procedures used to determine Type A is far from well established (Eysenck, 1990), and it is now widely agreed that only certain traits within the Type A group, particularly anger, hostility, and aggression are relevant to coronary heart disease (Booth-Kewley & Friedman, 1987; Friedman & Booth-Kewley, 1987). Similarly for cancer there appears to be a "Type C" which characterizes cancer patients and is prognostic of the disease (Baltrusch, Stangel, & Waltz, 1988; Eysenck, 1985).

Cancer-prone people, as opposed to CHD-prone people, tend to be overly cooperative, appeasing, unassertive, over-patient, avoiding conflict, seeking harmony, compliant, defensive, suppress the expression of emotion, and are unable to deal with interpersonal stress, which leads to feelings of hopelessness/helplessness and finally depression (Eysenck, 1988a). This in turn leads to high cortisol levels and so to immune deficiencies (Grossarth-Maticek & Eysenck, 1989; Eysenck, 1990).

Several prospective studies have recently demonstrated the predictability of cancer and coronary heart disease over a period of between 10 and 20 years (Eysenck, 1987a, 1987b, 1987c, 1988a, 1988b; Grossarth-Maticek, Eysenck, & Vetter, 1988; Grossarth-Maticek, Eysenck, Vetter, & Frentzel-Beyme, 1988). These studies used interviews and questionnaires of various kinds, based on certain theories concerning the personality structure and the behaviour of cancer-prone and coronary heart disease-prone persons, respec-

¹Address correspondence to H. J. Eysenck, Institute of Psychiatry, De Crespigny Park, Denmark Hill, London, SE5 8AF, UK.

tively. In spite of the success of the instruments used, it was considered that their psychometric properties could be improved, and the method of administration made more predictive, by certain changes. This paper reports on the changes made, presents in an appendix a short (pp. 371-373) and an extended version (pp. 364-370) of the new questionnaire used, and adduces some evidence to indicate the validity of the instrument and the procedure.

This study constitutes part of our fourth prospective study of the predictive possibilities of using personality/stress inventories with healthy probands and following them up for periods of 10 to 20 years to discover mortality and cause of death. Previous articles have given details about our first three studies (Eysenck, 1987a, 1987b, 1987c, 1988a, 1988b; Eysenck & Grossarth-Maticek, 1989; Grossarth-Maticek, Bastiaans, & Kanazir, 1985; Grossarth-Maticek, Kanazir, Schmidt, & Vetter, 1985; Grossarth-Maticek, Kanazir, Vetter, & Schmidt, 1983; Grossarth-Maticek, Eysenck, & Vetter, 1988; Grossarth-Maticek, Eysenck, Vetter, & Frentzel-Beyme, 1988). The various questionnaires and inventories used proved highly predictive of cancer and coronary heart disease (CHD) but lacked certain psychometric features, which would make them comparable with current Anglo-American devices.

An attempt to construct a psychometrically more satisfactory device was made in our fourth study, which was undertaken in 1974 in Heidelberg (West Germany). The original population studied consisted of almost 16,000 men and 3,000 women of an average age of 50, constituting a fairly random sample of the population. All filled in the form of the personality/stress inventory given in Appendix A (pp. 364-370), answered questions about smoking and drinking, and about health status. Cholesterol level, blood pressure, blood sugar and other medical details were also ascertained. Smaller groups of probands were formed, e.g., in terms of *stress* experienced, and used differentially for various analyses.

No final analysis of the whole sample has yet been undertaken, nor have morbidity and mortality been investigated. Small subsamples have been investigated after a lapse of 13 years in order to be able to say something about the measuring instruments used; this report presents some data on small subgroups selected for the purpose. Rules for such selection will be mentioned in the appropriate place.

The construction of the new inventory was in large measure dictated by the results of our earlier studies, insofar as these bore out our general hypotheses concerning the personality characteristics of cancer-prone and CHD-prone probands exposed to interpersonal stress. We extended the range of our typology from four to six types, as explained below. The publication of our new inventory in advance of analysis of our total sample was undertaken to enable replications of our work to be carried out by interested

workers in this field; the complete analysis must await ascertainment of mortality, incidence, and cause of death and will undoubtedly take many years to complete, the numbers involved being so large. There is of course a danger in early and possibly premature publication, but there have been many inquiries by workers hoping to use our inventories for their own purposes, and so we decided to publish such data as are available.

Instrument and Administration

The inventory contains 182 questions, divided into six groups which define six different "types" prone to different diseases. Type 1 is cancer-prone, Type 2 coronary heart disease-prone, Type 3 shows psychopathic behaviour but is relatively unlikely to die of cancer or coronary heart disease. Type 4 is an healthy type, characterized by autonomous behaviour. These are the four types we have studied and measured in previous research. Types 5 and 6 constitute new developments, our prediction being that Type 5, which shows rational and antiemotional tendencies, would be prone to depression and cancer (Ploeg, Kleijn, Mook, Hunge, Pieters, & Lewer, 1989), and that Type 6, which is clearly antisocial and possibly criminal, to drug addiction. Each person is assigned to a given type on the basis of scoring more points for that type than for any other.

Appendix A (pp. 364-370) gives the questions used in this longer version. There is also a short version, consisting of 70 questions, which is given in Appendix B (pp. 371-373). The short version is probably sufficient for most purposes. Both questionnaires have similar psychometric properties. In the shorter version questions are randomized, whereas in the larger version, they are kept together for each of the types. This was done in past uses of the scale; in future uses it might be preferable to randomize questions.

The questionnaires have usually been administered by interviewers, but for self-administration instructions are: "Here are a number of questions covering your attitudes and emotions in relation to people and situations which have great significance for you. Try to answer 'Yes' or 'No' to each question, according to your first impression; do not think too long about the precise meaning of the question. Leave the answer blank only if it is quite impossible for you to answer 'Yes' or 'No'."

It will be noted that there are *two* sets of Type 4 questions in the short questionnaire. Those labelled 4a are put in a positive form, those in 4b in a negative form; this enables investigators to test for acquiescence response set.

Note that the inventory has been translated from German into English. In the long version, an attempt has been made to give as *correct* a translation as possible in order to enable readers to get the most precise verbal impression of the original. For the shorter version we have tried for a more *idiomatic* style; it is for this reason also that the shorter version is recommended for use.

The questionnaire can, of course, be administered in a single session and scored, but the method used in our study and recommended for prediction of proneness to disease is rather more complex. According to this "dynamic" method, the questionnaire is administered on two occasions, separated by six months; what is of interest is the *change* in type score. The change can either lead to what may be called *stagnation*, i.e., a person having a certain score which establishes him as a member of a type liable to certain diseases retains that score or increases it; this leads to an unfavourable prognosis. Alternatively, the score can show a *development* in a favourable direction, i.e., by a reduction in the number of questions answered in the disease-prone direction. Stagnation (S) identified when the sum of scores on Type 1, Type 2, and Type 5, minus the sum of scores for Type 3, Type 4, and Type 6, shows an *increase*, either through an increase in the scores of the first set of types or a decrease in the second set of types. Favourable development (D) is indicated when there is an increase on Occasion 2 in the scores of the second group of types or a decrease in the scores of the first group of types, leading to a positive difference.

The reason for grouping together Types 3, 4, and 6 as relatively healthy, as opposed to Types 1, 2, and 5 as unhealthy, rests in part on theoretical grounds and past findings but more strongly on psychometric grounds. We took a random sample of 262 women and 486 men from our stressed group, correlated the scores for each sex separately for Occasions 1 and 2, and then factor analysed the matrices (principal components analysis, direct complimin rotation). Both the rotated and unrotated values for Factors 1 and 2 are given in Table 1 in the columns under each occasion.

The unrotated values clearly oppose Types 1, 2, and 5 to Types 3, 4, and 6, as hypothesized, in all matrices. The rotated values (optimal solution close to orthogonal) are not so easy to interpret. Factor 2 opposes Type 4 (the healthy, autonomous type) to Types 1 and 2, i.e., the cancer-prone and the CHD-prone types. Factor 1 is not so clear; it opposes Type 5 to Types 6 and 3. The latter resemble each other in showing psychopathic antisocial tendencies, while Type 5 is rational and antiemotional. It is this quality which links it with Types 1 and 2, both of which show suppression of emotion. Perhaps it is the very act of antisocial behaviour which constitutes a behavioural expression of emotion and so saves Types 3 and 6 from disease.

Means for both the short and long versions of the questionnaire show the same characteristics: (1) there are no significant differences between Occasion 1 and Occasion 2. (2) Men have higher scores on all six type scales and on each occasion than women. (3) Distributions are skewed, standard deviations being not much smaller than means. This skew is not so extreme as to invalidate the usual test of significance but should be remembered in the interpretation of the data. The test-retest correlations are all in excess of

TABLE 1
 ROTATED AND UNROTATED LOADINGS ON FACTORS 1* AND 2† FOR MEN AND WOMEN,
 OCCASIONS 1 AND 2, SEPARATELY (*n*S = 486 MEN, 262 WOMEN): DATA FOR LONG INVENTORY

Type	Men: Unrotated Loadings				Women: Unrotated Loadings			
	Occasion 1		Occasion 2		Occasion 1		Occasion 2	
1	-.72*	.28†	-.76	.21	-.70	.47	-.74	.42
2	-.47	.68	-.47	.67	-.52	.63	-.51	.60
3	.72	.44	.76	.40	.70	.47	.68	.46
4	.48	-.48	.53	-.48	.17	-.74	.18	-.76
5	-.71	-.23	-.74	-.18	-.71	-.26	.71	-.23
6	.69	.39	.70	.43	.68	.40	.70	.39
Variance	2.49	1.16	2.69	1.10	2.26	1.60	2.31	1.54

Type	Men: Rotated Loadings				Women: Rotated Loadings			
	Occasion 1		Occasion 2		Occasion 1		Occasion 2	
1	-.38*	.60†	-.44	.54	-.29	.74	-.39	.72
2	.08	.84	.10	.84	-.04	.81	-.09	.78
3	.86	.05	.87	.03	.86	.10	.83	.09
4	.06	-.66	.08	-.69	-.31	-.74	-.27	-.76
5	-.71	.13	-.70	-.17	-.74	.09	-.73	.13
6	.80	.03	.84	.09	.80	.05	.81	.02
Variance	2.08	1.58	2.22	1.58	2.08	1.78	2.11	1.74

0.80 and so quite satisfactory. Table 2 gives the observed measures and standard deviations for the longer version.

TABLE 2
 MEANS AND STANDARD DEVIATIONS FOR MEN AND WOMEN, OCCASIONS 1 AND 2, SEPARATELY
 (*n*S = 468 MEN, 262 WOMEN): DATA FOR LONG INVENTORY

Type	Men, <i>n</i> = 486				Women, <i>n</i> = 262			
	Occasion 1		Occasion 2		Occasion 1		Occasion 2	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1	4.32	3.32	4.64	3.55	3.30	3.05	3.52	3.18
2	4.47	3.13	4.62	3.17	3.05	2.42	3.05	2.45
3	3.66	2.97	3.67	3.05	2.43	2.24	2.42	2.34
4	4.53	2.55	4.54	2.62	3.94	2.22	3.95	2.25
5	4.90	3.13	4.95	3.16	4.14	2.54	4.34	2.68
6	2.25	2.17	2.31	2.25	2.01	1.94	2.06	2.06

Validity of the Typology

The new questionnaire had been administered to the whole sample mentioned in the first few paragraphs. From this large sample we selected 216 probands, half men and half women, equated for age, on the basis of their scores on the questionnaire. Our aim was to find equal numbers for each of the six types, such that a person given a type was characterized by having a perfect score of 10 for that type, and no score higher than 2 on any other

type. The number of probands satisfying this requirement was not too large, and we chose the first probands in our lists who fulfilled the requirement.

Probands were followed over a 13-yr. period, mortality and incidence of a variety of disorders being the dependent variables. With the agreement of the patients diagnoses were obtained from the physicians in charge of persons who were suffering from any kind of illness. Addiction was diagnosed according to interviews with relatives of the probands. In the case of death, physicians were consulted, and death certificates examined.

TABLE 3
FREQUENCIES OF DIAGNOSES AS RELATED TO TYPOLOGY:
DATA FOR LONG INVENTORY

Type						Diagnosis
1	2	3	4	5	6	
1	1	3	1	27	1	Endogenous depression
9	8	11	0	0	25	Drug addiction
3	1	2	0	16	1	Rheumatoid arthritis
2	19	1	1	2	0	Ulcer ventriculi et duodeni
1	29	4	0	1	1	Hypertonia
1	15	1	0	1	0	Diabetes
3	14	1	0	0	1	Infarct/Stroke
11	2	1	1	4	3	Cancer
36	36	36	36	36	36	Total number of probands
47	48	46	47	46	46	Mean age, yr. at onset

Table 3 shows the major results of the study. It will be seen that, as predicted, cancer is particularly frequently diagnosed in Type 1; in fact, it is as frequent in persons of Type 1 as in those of all other types taken together. Coronary heart disease, as expected, is most frequent in Type 2, being about three times as frequent as in all other types. Type 2 also shows significantly higher incidence of ulcer, hypertonia, and diabetes. Type 3 and Type 4, as expected, are relatively healthy, with few medical diagnoses, although the high scores of Type 3 for addiction might be worthy of a follow-up. Type 5 shows clearly elevated scores for endogenous depression, but also for rheumatoid arthritis. Type 6 only has a high score for addiction, there being about as many addicts of this type as for all other types combined. It is clear that the questionnaire does possess a certain amount of validity, the major diagnostic criteria for the different types agreeing with prediction derived from previous research.

Validity of Dynamic Questionnaire Administration

The predictive accuracy of the dynamic procedure, considering death from cancer, coronary heart disease and other causes, was established in a group of 868 probands, assigned to type according to the score on the first

occasion. They were then divided into those who showed stagnation (S) or development (D). A follow-up was instituted 13 years later; results are shown in Table 4. Probands were allocated to a given type if their scores for that type exceeded their scores for any other type. There were no significant age differences between types.

TABLE 4
FREQUENCIES FOR STAGNATION AND DEVELOPMENT OF TYPE-SCORES IN RELATION TO
DEATH FROM CANCER, CORONARY HEART DISEASE, AND OTHER CAUSES:
DATA FOR LONG INVENTORY

Type	Change	n	Cancer	Coronary Heart Disease	Other Causes	Still Living
1	S	82	35	11	15	21
	D	71	3	4	5	59
2	S	104	17	49	25	13
	D	84	1	10	7	66
3	S	56	8	9	10	29
	D	72	0	1	0	71
4	S	46	5	2	3	36
	D	85	0	1	0	84
5	S	57	18	9	27	3
	D	91	1	0	1	89
6	S	57	6	9	34	8
	D	63	1	2	3	57
Σ		868	95	107	130	536

Note.—S = stagnant, no change or worse score on second administration of questionnaire; D = development, change of score showing improvement on second administration of questionnaire.

Totals in the various columns are given at the bottom of the tables; it will be seen that out of 868 probands, 536 are still alive, 95 having died of cancer, 107 of coronary heart disease, and 130 of other causes. These results are based on examination of death certificates.

Of those who died of cancer, 6 were in the development category, 89 in the stagnation category. Of those who died of coronary heart disease, 18 were in the development category, 89 in the stagnation category. Of those who died of other causes, 16 were in the development category, 114 in the stagnation category. It is clear that this new dynamic way of prediction is highly successful, primarily no doubt because it charts the progress of the way the individual deals with stress. Clearly, if stress is an important cause of death, then a 'D' score indicates that the individual is coping well with his stress and shows psychological improvement, while an 'S' score shows the opposite.

DISCUSSION

The data reported in this article are, of course, only preliminary; we have not been able to follow up the total group studied, and final conclusions must await completion of that effort. However, the data now available are sufficient to indicate the probability that the new instrument will be useful in predicting specific diseases and identify cancer-prone and coronary heart disease-prone probands. In this the questionnaire may constitute an improvement on previous measures which have also been reasonably successful. In particular, the new dynamic method of investigating *change* over time may add an important element to the prediction of disease by identification of disease-prone probands.

We are publishing the inventory and these preliminary results, because there has been a certain amount of interest among psychologists, psychiatrists, and physicians in the researches we have published, and we have had many requests for the actual instrument used. Publication of the latest inventory, and instructions regarding its optimal use, may therefore be helpful to others investigating this new and exciting territory. The scales may be used for research, i.e., in comparing cancer, coronary heart disease and other groups, or in prospective studies. It may be used for locating individuals who may be likely to succumb to cancer or CHD in advance, in order to give prophylactic treatment (Eysenck, 1988; Grossarth-Maticek, Eysenck, Vetter, & Frentzel-Beyme, 1988). Finally, it may be used for theoretical purposes to test the hypotheses underlying our approach (Eysenck, 1986, 1987c).

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APPENDIX A

PERSONALITY-STRESS QUESTIONNAIRE

TYPE 1

1.	The well being of certain people is extremely important for my personal happiness.	YES	NO
2.	I try, by all means, to establish good relations with people who are emotionally important to me.	YES	NO
3.	I am always ready to give way to people who are emotionally important to me.	YES	NO
4.	There are certain people who are the exclusive source of my emotional contentment.	YES	NO
5.	When people are emotionally important to me, I tend to see them entirely in a positive light.	YES	NO
6.	I always feel inhibited when an occasion arises when I want to get my own way.	YES	NO
7.	I have wanted to be closer to a person who is important to me for some time.	YES	NO
8.	The loss of an emotionally important person leaves me quite shattered (e.g., depressed, hopeless, in despair).	YES	NO
9.	When I realize that a certain aim is simply impossible to attain, I feel quite shattered.	YES	NO
10.	I tend to try and avoid showing feelings of emotional despair to the outer world.	YES	NO
11.	When people who are emotionally important to me make mutually contradictory demands, I try to satisfy them all.	YES	NO
12.	I am finding it difficult to live with someone who is emotionally important to me.	YES	NO
13.	I tend to be quiet and inhibited.	YES	NO
14.	I tend to get depressed when I can't get close to someone, or achieve certain aims.	YES	NO
15.	Some people matter a great deal to me emotionally.	YES	NO
16.	When I am disappointed because expectations which are emotionally important to me are not fulfilled, I feel inhibited and freeze emotionally.	YES	NO
17.	The worst thing that could happen to me would be to lose a truly good relationship.	YES	NO
18.	I have always tried desperately to avoid quarrelling with my friends.	YES	NO
19.	When certain traumatic events happen to me, I feel quite incapable of action, i.e., I feel inhibited, depressed, hopeless, etc.	YES	NO
20.	I would rather agree with other people than insist on having my own way.	YES	NO
21.	I have long been emotionally and intellectually depend upon someone, and have been incapable of freeing myself from that person.	YES	NO
22.	Even now I still feel shattered by certain personal losses or traumatic events which occurred a long time ago.	YES	NO
23.	My emotional needs are again and again aroused by important people or aims, but are never satisfied completely.	YES	NO
24.	My actions for some years have been geared to the expectation of some close friends, rather than my own wishes.	YES	NO
25.	My actions for years have been geared to the demands of a situation rather than my own desires.	YES	NO
26.	Whenever I disappoint the expectation of an emotionally close person, I get a serious telling-off.	YES	NO

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APPENDIX A (CONT'D)

27.	For some years I have regularly done what someone else decided I should do.	YES	NO
28.	I am totally at the beck-and-call of someone for whom I feel responsible.	YES	NO
29.	When I don't do everything that a certain person wants me to do, I am usually punished by that person, e.g., through neglect, abuse, etc.	YES	NO
30.	I usually give in to someone else's wishes.	YES	NO
31.	I usually give way for the sake of peace and quiet.	YES	NO
32.	I felt rejected as a child, which even today inhibits and freezes me emotionally.	YES	NO
33.	Rebuffs by an emotionally important person inhibit and freeze me.	YES	NO
34.	Unfavourable events in my life usually upset and inhibit me.	YES	NO
35.	I suffer from hang-ups which keep me from what I want to do.	YES	NO

TYPE 2

1.	I am very easily upset by the actions of other people.	YES	NO
2.	Some things that happen to me upset me a great deal.	YES	NO
3.	Things were very much better for me many years ago than they are now.	YES	NO
4.	Certain people keep preventing me from developing as I should.	YES	NO
5.	Certain conditions keep me from developing as I should.	YES	NO
6.	I have tried in vain for several years to distance myself from people who upset me.	YES	NO
7.	I have tried in vain for years to change conditions which exert a negative and disturbing influence on me.	YES	NO
8.	I have been stressed and annoyed for years by people or conditions which upset me.	YES	NO
9.	I feel helpless towards people or conditions which annoy me, because I can neither change them as I would like, nor distance myself sufficiently from them.	YES	NO
10.	I keep coming up against the negative qualities of certain people or conditions.	YES	NO
11.	Even after losing or separating from certain people, I am still unable to break loose from them, so that I still experience stress and tension.	YES	NO
12.	I tend not to show anger and annoyance to others.	YES	NO
13.	When emotionally important people demand incompatible actions, I tend to agree with one person and get annoyed with the other.	YES	NO
14.	I feel very stressed when a person who is close to me upsets me.	YES	NO
15.	I often experience feelings of stress.	YES	NO
16.	I keep thinking about people and events which upset me.	YES	NO
17.	I am constantly stressed by people or events which upset me.	YES	NO
18.	I tend to be easily upset and annoyed.	YES	NO
19.	When I am upset, I find it difficult to calm down and take a long time to do so.	YES	NO
20.	I keep interacting with difficult people in the hope of influencing them to see things my way.	YES	NO
21.	I am constantly upset by things which I cannot change.	YES	NO
22.	I have to put up with feelings of frustration in order to keep going.	YES	NO
23.	Outwardly, I appear to be quite well adjusted, but inside I am really mostly stressed and annoyed.	YES	NO
24.	I have great difficulties in avoiding stress and tension, because whatever I try to do they creep up on me and stir me up.	YES	NO

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APPENDIX A (CONT'D)

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|-----|--|-----|----|
| 25. | I cannot alter the cause of constant stress and tension because they are due to the behaviour of other people. | YES | NO |
| 26. | I cannot change the causes of constant stress and tension because they are due to certain events which I cannot influence. | YES | NO |

TYPE 3

- | | | | |
|-----|---|-----|----|
| 1. | I believe in the saying: "What's in it for me?". | YES | NO |
| 2. | As far as my partner is concerned, I tend sometimes to be cold and aloof and sometimes overdemandingly close. | YES | NO |
| 3. | I only consider people emotionally important to me who are absolutely and totally on my side. | YES | NO |
| 4. | I always try to make other people stand up for me. | YES | NO |
| 5. | When people attack me, I take this as proof that they are wicked and bad. | YES | NO |
| 6. | I am completely incapable of coping with rejections and insults, and try by all means to convince people that I am somebody. | YES | NO |
| 7. | I am often very anxious in situations which are completely harmless. | YES | NO |
| 8. | I am convinced that I am very important, and that I should be in the centre of everything that happens. | YES | NO |
| 9. | I sometimes feel over-excited, sometimes inhibited, and sometimes well-adjusted. | YES | NO |
| 10. | I am quite incapable of responding to the expectations of other people when these do not agree completely with my own wishes. | YES | NO |
| 11. | I feel extremely positive or negative to people and events, depending on whether they agree or disagree with me. | YES | NO |
| 12. | When I notice the slightest sign of any illness in me, I feel considerable fear and anxiety. | YES | NO |
| 13. | When I come up against a problem, however small, I tend to exaggerate it. | YES | NO |
| 14. | In certain situations I feel extremely powerful, while in others I feel quite impotent. | YES | NO |
| 15. | When I am in a threatening situation, I try to get other people to help me, i.e., to care for me, to listen to me, etc. | YES | NO |
| 16. | I look for, and usually find, someone who will help me achieve my safety and wellbeing. | YES | NO |
| 17. | I go in for activities, such as politics, which I expect will give me an absolute guarantee of long-lasting satisfaction and contentment. | YES | NO |
| 18. | I look for conditions, i.e., socially or healthwise, which give me an absolute guarantee of constant satisfaction and contentment. | YES | NO |
| 19. | When an emotionally important person hurts me very slightly, I immediately distance myself from that person. | YES | NO |
| 20. | Sexuality is a source of great pleasure to me, but also threatening anxiety for me. | YES | NO |
| 21. | I tend to try to impress other people with my achievements. | YES | NO |
| 22. | I demand very high moral behaviours from others, such as absolute fidelity, but I do not practise these myself. | YES | NO |

TYPE 4

- | | | | |
|----|--|-----|----|
| 1. | When my behaviour has consequences which are positive in the short run, but negative in the long run, I discontinue such activities. | YES | NO |
| 2. | I achieve long continued contentment through behaving in certain ways. | YES | NO |
| 3. | I am always able to feel contentment. | YES | NO |

(continued on next page)

APPENDIX A (CONT'D)

4.	I always take other people's wishes into account as far as possible.	YES	NO
5.	My daily activities usually result in contentment and happiness.	YES	NO
6.	My activities tend to make me into a better person.	YES	NO
7.	Every day I try to create situations where I can relax.	YES	NO
8.	When I cannot achieve closeness to an emotionally important person, I can do without that person.	YES	NO
9.	I am concerned about which activities are good for me and which are not.	YES	NO
10.	My own behaviour is responsible for my contentment and my problems.	YES	NO
11.	I am emotionally a very balanced sort of person.	YES	NO
12.	I enjoy my independence.	YES	NO
13.	Many of the things I do make me contented.	YES	NO
14.	I can be as close to or as distant from emotionally important persons as I wish.	YES	NO
15.	When things do not work out as expected, I can easily change my tactics.	YES	NO
16.	My ideas and ways of looking at things make me, and others, content.	YES	NO
17.	I have always felt happy about the way I am.	YES	NO
18.	I can usually see the good and the bad in myself and other people, and tend to make the best of it.	YES	NO
19.	I am usually pretty happy and rarely have negative thoughts.	YES	NO
20.	I often experience feelings of love towards God, other people, and myself.	YES	NO
21.	When things are going well for me, I sometimes tend to behave badly until things aren't going so well.	YES	NO
22.	I can be happy and content with, as well as without, a person who is particularly important emotionally to me.	YES	NO
23.	I can always act in such a way as to satisfy my needs.	YES	NO
24.	I can take into account both my strengths and my weaknesses.	YES	NO
25.	I can always find aims and activities which make me a better person.	YES	NO
26.	I keep on with certain behaviours expecting good results, although bad results usually follow.	YES	NO
27.	I can alter my behaviour according to the consequences, i.e., discontinue behaviours which lead to unacceptable consequences and continue behaviours which lead to pleasant consequences.	YES	NO
28.	I keep discovering new points of view and new behaviour patterns which provide unexpectedly acceptable solutions to problems.	YES	NO
29.	I am independent in my behaviour and do not need anyone who is not good to me.	YES	NO
30.	I manage my emotions in a self-protective way.	YES	NO
31.	When I meet failure, I never give up, but change my tactics instead.	YES	NO
32.	My actions are always motivated by the need to find contentment and happiness.	YES	NO
33.	I can combine emotions and rational thinking successfully.	YES	NO
34.	I can overcome my inhibitions by changing my activities.	YES	NO
35.	I cannot live in a happy and relaxed manner either with or without a certain person.	YES	NO
36.	I cannot be happy or relaxed with or without certain external conditions, for example, because I need my work, but am not happy with it.	YES	NO
37.	I often brood on negative and depressing thoughts.	YES	NO

(continued on next page)

APPENDIX A (CONT'D)

38.	Although certain negative thoughts produce negative consequences, I cannot get rid of them.	YES	NO
39.	Although my relations with certain people always lead to negative consequences, I cannot alter them.	YES	NO
40.	Although a certain condition, for instance, at my place of work, always leads to negative consequences, I am not in a position to change it.	YES	NO
41.	Although a certain physical condition, for example being overweight, always leads to negative consequences, I cannot change it.	YES	NO
42.	I am usually mentally and physically relaxed.	YES	NO
43.	I am rarely capable of relaxing physically, and mentally, and am usually in a state of tension.	YES	NO
44.	I expect people who are emotionally important to me to understand my wishes without me having to tell them, because I dislike doing so.	YES	NO
45.	I feel that I am superfluous and not needed by certain people, like my children, partners, parents, on whom I am emotionally dependent.	YES	NO
46.	I am so concerned about a certain person that I pay little attention to myself.	YES	NO
47.	I have felt unwanted in my professional life for several years, although I enjoy it very much.	YES	NO
48.	I am so wrapped up in my work, that I pay little attention to myself.	YES	NO

TYPE 5

1.	I can only express feelings when they have a rational basis.	YES	NO
2.	I find it very difficult to be emotionally demonstrative.	YES	NO
3.	I find it difficult to tolerate irrational feelings.	YES	NO
4.	My feelings are all clear and completely rational.	YES	NO
5.	My behaviour is completely determined by rational motives and not by emotions.	YES	NO
6.	I feel extremely unhappy when I cannot solve a problem by rational means.	YES	NO
7.	I feel particularly happy when I can solve a problem by reasoning alone.	YES	NO
8.	I organize my life exclusively on rational principles and oppose unreasonable rules and regulations.	YES	NO
9.	I often feel an impulse to do sensational things as long as they are not against my rational principles.	YES	NO
10.	When others make emotional demands on me, I tend to respond rationally but never emotionally.	YES	NO
11.	I have never been aggressive beyond what would be reasonable.	YES	NO
12.	When I state my needs, this is always done in a rational manner.	YES	NO
13.	I cannot allow my behaviour to be guided by emotion.	YES	NO
14.	My actions are never guided by feelings to an unreasonable degree.	YES	NO
15.	I always tend to do that which is reasonable and logically correct.	YES	NO
16.	In all aspects of life, I find it important to look at things in a rational, not emotional way.	YES	NO
17.	I can only criticize a person when there is a rational basis for such an attack.	YES	NO
18.	I can only express happy emotions when they have a rational basis.	YES	NO
19.	I am not religious, because belief is based on emotion and not on reason.	YES	NO

(continued on next page)

APPENDIX A (CONT'D)

20.	I only believe those things which are clear, factual, and determined by reason.	YES	NO
21.	I cannot act when a rationally derived argument in favour is opposed by an equally strong counter-argument against.	YES	NO
22.	I make very high demands of myself and of other people.	YES	NO
23.	I cannot admit or tolerate feelings of anxiety.	YES	NO
24.	All through life I have been unable to make emotional or rational decisions because all arguments encounter equally strong counter-arguments.	YES	NO

TYPE 6

1.	When I expect an emotional response from a person, I cannot tolerate any delay and require instant satisfaction.	YES	NO
2.	When a person is emotionally important to me, I usually experience strong contradictory feelings, like love and hate, attraction and dislike, etc.	YES	NO
3.	When I hate someone I can easily be aggressive to them, both physically and mentally.	YES	NO
4.	I can only be really satisfied by stepping outside the usual rules and regulations.	YES	NO
5.	When certain people become emotionally important to me, I feel both friendly and aggressive towards them.	YES	NO
6.	When certain people become emotionally important to me, I tend to make extreme and contradictory demands, like "Never leave me"—"Leave me alone."	YES	NO
7.	Certain things like money, alcohol or drugs, satisfy me more than emotionally important people.	YES	NO
8.	Most people only serve to satisfy my needs; for example, they are sexual objects, or provide me with money.	YES	NO
9.	I sometimes see myself as superior to everyone and sometimes have extreme contempt for myself.	YES	NO
10.	I don't believe in duties and expectations and don't adhere to any rules and regulations.	YES	NO
11.	I have no long-term relations with people who attract me emotionally.	YES	NO
12.	I would like to be cared for and spoilt by others but do nothing myself.	YES	NO
13.	I tend to be alternatively friendly and good-natured to other people but sometimes extremely aggressive and hostile.	YES	NO
14.	Other people are so inferior that they simply do not come up to my expectations.	YES	NO
15.	I cannot be judged by rules which apply to all other people.	YES	NO
16.	I expect others to stick to their agreements, but do not do so myself.	YES	NO
17.	Although I make emotional demands, I am myself quite incapable of fulfilling them.	YES	NO
18.	I tend to act spontaneously, guided by my positive and negative feelings, without thinking of the consequences.	YES	NO
19.	I have never felt fear and anxiety because when I feel insecure I immediately resort to aggression.	YES	NO
20.	I can tolerate pain very well.	YES	NO
21.	I often feel the need to attack other people aggressively and to upset them.	YES	NO
22.	I would like to receive a great deal from other people without having to contribute anything myself.	YES	NO

(continued on next page)

APPENDIX A (CONT'D)

23.	When my partner shows me evidence of love, I tend to become aggressive.	YES	NO
24.	I do not hesitate to attack another person physically when I feel the need to do so.	YES	NO
25.	I do not hesitate to hurt myself physically when I feel a need to do so.	YES	NO
26.	I do not pay much attention to moral duties because they only tend to inhibit one.	YES	NO
27.	When it suits me, I can lie without moral inhibitions and pretend that things are different from the way they really are.	YES	NO

SCORING KEY FOR APPENDIX A

Points are given according to the following scheme:

YES Answers	Points
0— 1	1
2— 3	2
4— 5	3
6— 7	4
8— 9	5
10—11	6
12—13	7
14—15	8
16—17	9
18 +	10

In the Type 4 reaction, *minus* points are given for YES answers to the following questions: 21, 26, 35, 36, 37, 38, 39, 40, 41, 43, 44, 45, 46, 47, 48.

APPENDIX B

SHORT INTERPERSONAL REACTIONS INVENTORY

1. I find it very difficult to stand up for myself.	YES	NO
2. I have been complaining for years about various unfavourable conditions but I am not able to change them.	YES	NO
3. I am mainly concerned with my own wellbeing	YES	NO
4. I am usually content and happy with my daily activities.	YES	NO
5. I can express my feelings only when there are good reasons for them.	YES	NO
6. I don't believe in social rules and don't pay much attention to other people's expectations or the obligations I may have towards them.	YES	NO
7. I cannot live happily and contentedly with or without a particular person.	YES	NO
8. I prefer to agree with others rather than assert my own views.	YES	NO
9. Certain people are the most important causes of my personal misfortunes.	YES	NO
10. I alternate to a great degree between the positive and negative evaluation of people and conditions.	YES	NO
11. When I cannot achieve closeness with someone who is emotionally important to me, I have no difficulties in letting them go.	YES	NO
12. I have difficulties in showing my emotions because for every positive emotion there is a negative one.	YES	NO
13. My behaviour towards other people alters from being very friendly and good-natured to being very hostile and aggressive.	YES	NO
14. I cannot live happily and contentedly in the presence of the absence of certain states or conditions; e. g., I need my work but am unhappy doing it.	YES	NO
15. I tend to act more to fulfill the expectations of people close to me rather than look after my own needs.	YES	NO
16. <i>Certain conditions or situations</i> are the most important cause of my personal misfortunes.	YES	NO
17. With people I love, I keep changing from keeping them at a great distance to stifling dependence, and from stifling dependence to excessive distancing.	YES	NO
18. I can usually arrange things so that people who are emotionally important to me are as close to or as distant from me as I wish.	YES	NO
19. Reason, rather than emotion, guides my behaviour.	YES	NO
20. I often expect others to fulfill agreements very strictly but do not believe in doing so myself.	YES	NO
21. I often have thoughts which terrify me and make me unhappy.	YES	NO
22. I tend to give in and abandon my own aims in order to achieve harmony with other people.	YES	NO
23. I feel helpless against people or conditions which cause great unhappiness for me, because I cannot change them.	YES	NO
24. When I am in a situation which I experience as threatening, I immediately try to get other people to help and support me.	YES	NO
25. When I fail to achieve my objectives, I can easily change tack.	YES	NO
26. When people make emotional demands on me, I usually react only rationally, never emotionally.	YES	NO
27. I usually act in a spontaneous manner, following my immediate feelings without considering the actual consequences.	YES	NO
28. Relations with certain people are always pretty unsatisfactory, but there is nothing I can do about it.	YES	NO
29. I am unable to express my feelings and needs openly to other people.	YES	NO

(continued on next page)

APPENDIX B (CONT'D)

30. I always seem to be confronted with the undesirable aspects of people and conditions.	YES	NO
31. When someone who is emotionally important to me hurts me ever so slightly, I immediately dissociate myself from that person.	YES	NO
32. I can manage to live fairly contentedly with or without someone who is emotionally important to me.	YES	NO
33. I am quite unable to allow myself to be guided by emotional considerations.	YES	NO
34. I often feel like attacking other people and crushing them.	YES	NO
35. Certain situations and states (e.g., at my place of work) tend to make me unhappy, but there is nothing I can do to alter things.	YES	NO
36. I tend to accept conditions which work against my personal interests without being able to protest.	YES	NO
37. Certain people keep interfering with my personal development.	YES	NO
38. I expect others to live up to the highest moral standards but do not feel that these are binding on myself.	YES	NO
39. I can usually change my behaviour to suit conditions.	YES	NO
40. My actions are never influenced by emotions to the degree that they might appear irrational.	YES	NO
41. When my partner demonstrates love towards me, I sometimes become particularly aggressive.	YES	NO
42. Certain bodily conditions (e.g., being overweight) make me unhappy, but I feel unable to do anything about them.	YES	NO
43. I often feel inhibited when it comes to openly showing negative feelings such as hatred, aggression, or anger.	YES	NO
44. Certain conditions keep interfering with my personal development.	YES	NO
45. I seek satisfaction of my own needs and desires first, regardless of the needs and rights of others.	YES	NO
46. I am usually capable of finding new points of view and successful, sometimes surprising, solutions for problems.	YES	NO
47. I always try to do what is rational and logically correct.	YES	NO
48. When I feel like attacking someone physically, I have no inhibitions about doing this at all.	YES	NO
49. I can relax bodily and mentally only very rarely; most of the time I am very tense.	YES	NO
50. I am inclined not to be demonstrative when emotional shocks upset me.	YES	NO
51. I cannot control excitement or stress in my life because this is dependent on the actions of other people.	YES	NO
52. When I make emotional demands on another person, I require immediate satisfaction.	YES	NO
53. I am independent in what I do and do not depend on other people when this works to my disadvantage.	YES	NO
54. I always try to express my needs and desires in a rational and reasonable manner.	YES	NO
55. I have no inhibitions in hurting myself physically if I feel like doing so.	YES	NO
56. I have great difficulties in entering into happy and contented relations with people.	YES	NO
57. When I feel emotionally let down, I tend to be paralysed and inhibited.	YES	NO
58. I cannot control excitement or stress in my life because this depends on conditions over which I have no control.	YES	NO
59. I usually find fulfillment in everyday situations which are <i>not</i> subject to ordinary rules, regulations, and expectations.	YES	NO

(continued on next page)

APPENDIX B (CONT'D)

60. When things don't work out, this does not make me give up but rather makes me change my way of doing things	YES	NO
61. I try to solve my problems in the light of relevant and rational consideration.	YES	NO
62. I resent all moral obligations because they hamper and inhibit me.	YES	NO
63. I am helpless when confronted with emotional shocks, depression, or anxiety.	YES	NO
64. When something terrible happens to me, such as the death of a loved one, I am quite unable to express my emotions and desires.	YES	NO
65. I can express my aims and desires clearly but feel that it is quite impossible to achieve them.	YES	NO
66. As soon as someone becomes emotionally important for me, I tend to place contradictory demands upon them, such as "Don't ever leave me" or "Get away from me."	YES	NO
67. When things lead to harmful results for me, I have no trouble in changing my behaviour to make for success.	YES	NO
68. I only believe in things which can be proven scientifically and logically.	YES	NO
69. When it benefits me, I have no hesitation in lying and pretending.	YES	NO
70. I am seldom able to feel enthusiasm for anything.	YES	NO

SCORING INSTRUCTIONS FOR APPENDIX B

Type 1: Add YES answers to questions:
1, 8, 15, 22, 29, 36, 43, 50, 57, 64.

Type 2: Add YES answers to questions:
2, 9, 16, 23, 30, 37, 44, 51, 58, 65.

Type 3: Add YES answers to questions:
3, 10, 17, 24, 31, 38, 45, 52, 59, 66.

Type 4a: Add YES answers to questions:
4, 11, 18, 25, 32, 39, 46, 53, 60, 67.

Type 4b: Add NO answers to questions:
7, 14, 21, 28, 35, 42, 49, 56, 63, 70.

Type 5: Add YES answers to questions:
5, 12, 19, 26, 33, 40, 47, 54, 61, 68.

Type 6: Add YES answers to questions:
6, 13, 20, 27, 34, 41, 48, 55, 62, 69.