

# THE MAUDSLEY PERSONALITY INVENTORY

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Most of the research coming from the Psychology Department of the Institute of Psychiatry in recent years has been oriented in terms of Eysenck's conception of *dimensions* of personality (9). H. J. Eysenck is Professor of Psychology and Director of Research in the Institute of Psychiatry. His philosophy of research and the results of research conducted in his department have been summarized in three monographs (9, 10, 13). Eysenck's primary contention has been that the taxonomical problems of description, classification, and measurement must be worked out in the personality field before worthwhile attempts can be made to explain the underlying causes of differences in personality.

In reviewing practically the entire literature of objective personality research before 1953 based on ratings, questionnaires, objective behavior tests, analysis of physique, physiological measures, and analysis of interests and attitudes, Eysenck<sup>2</sup> found considerable evidence for at least three pervasive and relatively independent "dimensions" in the personality domain. He has identified these dimensions as Introversi~~on~~-Extraversi~~on~~, Neuroticism, and Psychoticism. Eysenck's own factor analytic studies (9, 10) have further substantiated this dimensional hypothesis.

Recently Eysenck and his co-workers have been experimentally testing hypotheses concerned with the "dynamics" or underlying cause of differences on the Introversi~~on~~-Extraversi~~on~~ (I—E) dimension. Much of this work has been reported in Eysenck's latest monograph (13). It has been necessary in this work to have convenient criterion measures of the personality dimensions under investigation. For this purpose the Maudsley Personality Inventory (MPI) has been developed. It is intended to measure on the verbal level two dimensions of personality: Introversi~~on~~-Extraversi~~on~~ and Neuroticism. This inventory is being used extensively in the Maudsley research and already many references to it have appeared in the

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<sup>2</sup> *The Structure of Human Personality*. London: Methuen, 1953.

literature. Its significance is enhanced by its correlations with a number of experimental and psychiatric variables. Thus it seems worthwhile at this stage to present for more widespread use in personality research this instrument which has undergone elaborate development and has already proved useful in research. Most of the existing normative data are also presented.

#### DEVELOPMENT OF THE MPI

The development of the MPI has been described in great detail by Eysenck (12). The E (extraversion) and N (neuroticism) scales of the MPI were derived from rather elaborate procedures involving item analysis and factor analysis of other personality inventories, principally the Guilford inventory of factors STDCR and the Maudsley Medical Questionnaire. The two scales, E and N, have high "construct validity," that is, the items making up the scales are highly correlated with the factor they are said to measure and they have insignificant correlations with other factors. The items have been selected so as to minimize the correlation between the E and N scales. The two factors are thus represented as orthogonal, i.e., uncorrelated with one another.

#### DESCRIPTION OF THE MPI

The complete MPI is given below. It consists of 24 E-scale items, 24 N-scale items, 20 Lie-scale items, and 12 "buffer" items which help in concealing the nature of the questionnaire from the subject. The Lie scale was intended to detect subjects who tend to present themselves in a favorable light to such an extent as to make the validity of their scores questionable. A record may be regarded as definitely suspect in this respect if more than 10 of the Lie scale items are answered in the keyed direction.

*Scoring.* Two points are given to the designated scale for the keyed responses, and one point to the designated scale for the "?". Thus the possible range of scores on the E and N scales is from 0 to 48.

*Short Form.* A short form of the MPI was prepared by Eysenck (14) for use in market research, short interviews, and similar situations in which there is limited time for testing. Eysenck (14) has described the method of selecting items for the short MPI. There are only six items in each scale. These have been denoted by asterisks on the items below. The correlations (for both the E and N scales) between the short MPI and the total MPI have been found to be practically as high as the split-half reliability coefficient of the total MPI.

## MAUDSLEY PERSONALITY INVENTORY

INSTRUCTIONS: Please answer each question by putting a circle round the "Yes" or the "No" following the question; if you simply cannot make up your mind, encircle the "?"<sup>1</sup>. Work quickly and do not ponder too long about the exact shade of meaning of each question. There are no right or wrong answers, and no trick questions.

Remember to answer each question.

Scale		Keyed Response
E	1. Are you inclined to limit your acquaintances to a select few? . . .	Yes ? No
E	2.*Do you prefer action to planning for action? . . . . .	Yes ? No
E	3. Do you nearly always have a "ready answer" for remarks directed at you? . . . . .	Yes ? No
N	4. Are your daydreams frequently about things that can never come true? . . . . .	Yes ? No
L	5. As a child, did you always do as you were told, immediately and without grumbling? . . . . .	Yes ? No
E	6.*Are you inclined to be quick and sure in your actions? . . . . .	Yes ? No
	7. Do you have difficulty in making new friends? . . . . .	Yes ? No
L	8. Do you sometimes put off until tomorrow what you ought to do today? . . . . .	Yes ? No
E	9. Are you inclined to take your work casually, that is, as a matter of course? . . . . .	Yes ? No
N	10. Do you often feel disgruntled? . . . . .	Yes ? No
N	11. Are you inclined to ponder over your past? . . . . .	Yes ? No
L	12. If you say you will do something do you always keep your promise, no matter <i>how</i> inconvenient it might be to do so? . . . . .	Yes ? No
E	13. Do you like to mix socially with people? . . . . .	Yes ? No
E	14. Are you inclined to be shy in the presence of the opposite sex? . . . . .	Yes ? No
L	15. Do you sometimes get cross? . . . . .	Yes ? No
N	16. Do you often experience periods of loneliness? . . . . .	Yes ? No
N	17. Are you touchy on various subjects? . . . . .	Yes ? No
N	18. Do you often find that you have made up your mind too late? . . . . .	Yes ? No
L	19. Are you completely free from prejudice of any kind? . . . . .	Yes ? No
E	20. Are you inclined to be overconscientious? . . . . .	Yes ? No
	21. Do you often "have the time of your life" at social affairs? . . . . .	Yes ? No
	22. Do you ever change from happiness to sadness, or vice versa, without good reason? . . . . .	Yes ? No
E	23. Do you like to play pranks upon others? . . . . .	Yes ? No
L	24. Do you sometimes laugh at a dirty joke? . . . . .	Yes ? No
N	25.*Does your mind often wander while you are trying to concentrate? . . . . .	Yes ? No
N	26. Would you rate yourself as a tense or "high-strung" individual? . . . . .	Yes ? No
N	27. After a critical moment is over, do you usually think of something you should have done but failed to do? . . . . .	Yes ? No
L	28. Would you much rather win, than lose, a game? . . . . .	Yes ? No
	29. Do you find it easy, as a rule, to make new acquaintances? . . . . .	Yes ? No
	30. Do you ever have a queer feeling that you are not your old self? . . . . .	Yes ? No

<sup>1</sup> The encircled answers have been set in type bold face.

E = Extraversion. N = Neuroticism. L = Lie. \* Short Form.

## Keyed Response

- E 31. Do you ever take your work as if it were a matter of life or death? Yes ? No
- N 32.\* Are you frequently "lost in thought" even when supposed to be taking part in a conversation? . . . . . Yes ? No
- L 33. Do you always feel genuinely pleased when a bitter enemy achieves a merited success? . . . . . Yes ? No
34. Do you derive more real satisfaction from social activities than from anything else? . . . . . Yes ? No
- N 35. Do ideas run through your head so that you cannot sleep? . . . . . Yes ? No
- L 36. Do you sometimes boast a little? . . . . . Yes ? No
- E 37. Can you usually let yourself go and have an hilariously good time at a gay party? . . . . . Yes ? No
- N 38. Do you like to indulge in a reverie (daydreaming)? . . . . . Yes ? No
- N 39. Have you often felt listless and tired for no good reason? . . . . . Yes ? No
- L 40. Are *all* your habits good and desirable ones? . . . . . Yes ? No
- E 41. Are you inclined to keep quiet when out in a social group? . . . . . Yes ? No
- N 42.\* Are you sometimes bubbling over with energy and sometimes very sluggish? . . . . . Yes ? No
- L 43. Do you *always* answer a personal letter as soon as you can after you have read it? . . . . . Yes ? No
- E 44. Would you rate yourself as a talkative individual? . . . . . Yes ? No
- L 45. Do you occasionally have thoughts and ideas that you would not like other people to know about? . . . . . Yes ? No
- E 46.\* Would you be very unhappy if you were prevented from making numerous social contacts? . . . . . Yes ? No
- E 47.\* Are you happiest when you get involved in some project that calls for rapid action? . . . . . Yes ? No
- N 48. Do you spend much time in thinking over good times you have had in the past? . . . . . Yes ? No
- L 49. Do you sometimes talk about things you know nothing about? Yes ? No
- N 50. Have you ever been bothered by having a useless thought come into your mind repeatedly? . . . . . Yes ? No
- E 51. Do other people regard you as a lively individual? . . . . . Yes ? No
- L 52. Do you sometimes gossip? . . . . . Yes ? No
53. Do you usually keep in fairly uniform spirits? . . . . . Yes ? No
- N 54. Are your feelings rather easily hurt? . . . . . Yes ? No
- L 55. At times, have you ever told a lie? . . . . . Yes ? No
- E 56. Do you generally prefer to take the lead in group activities? Yes ? No
- E 57. Would you rate yourself as a happy-go-lucky individual? . . . . . Yes ? No
- L 58. Have you money worries at times? . . . . . Yes ? No
- N 59. Do you have periods of such great restlessness that you cannot sit long in a chair? . . . . . Yes ? No
60. Are you usually a "good mixer"? . . . . . Yes ? No
- E 61.\* Would you rate yourself as a lively individual? . . . . . Yes ? No
- L 62. Have you ever been late for an appointment or work? . . . . . Yes ? No
- N 63. Do you ever feel "just miserable" for no good reason at all? . . . . . Yes ? No
- N 64. Are you often troubled with feelings of guilt? . . . . . Yes ? No
- N 65.\* Are you inclined to be moody? . . . . . Yes ? No

## Keyed Response

E 66.	Do you like to have many social engagements? . . . . .	Yes	?	No
L 67.	Once in a while, do you lose your temper and get angry? . . . .	Yes	?	No
N 68.*	Do you sometimes feel happy, sometimes depressed, without any apparent reason? . . . . .	Yes	?	No
E 69.	Is it difficult to "lose yourself" even at a lively party? . . . . .	Yes	?	No
70.	Are you ordinarily a carefree individual? . . . . .	Yes	?	No
N 71.*	Do you have frequent ups and downs in mood, either with or without apparent cause? . . . . .	Yes	?	No
L 72.	Would you always declare <i>everything</i> at the Customs, even if you knew that you could never be found out? . . . . .	Yes	?	No
E 73.	Do you like work that requires considerable attention to details? . . . . .	Yes	?	No
74.	Are there times when you seek to be alone and you cannot bear the company of anyone? . . . . .	Yes	?	No
E 75.	Are you inclined to keep in the background on social occasions? . . . . .	Yes	?	No
N 76.	Have you often lost sleep over your worries? . . . . .	Yes	?	No
L 77.	Of all the people you know are there some whom you definitely do not like? . . . . .	Yes	?	No
78.	Do you usually feel disappointments so keenly that you cannot get them out of your mind? . . . . .	Yes	?	No
E 79.*	Do you usually take the initiative in making new friends? . . . . .	Yes	?	No
80.	Do you enjoy participating in a showing of "Rah Rah" enthusiasm? . . . . .	Yes	?	No

## NORMATIVE DATA

Table I shows the means, standard deviations, reliability, and correlations between the N and E scales in various samples. The Table is quite self-explanatory. The age of the subjects has not been given since even in large samples in which the ages ranged from 17 to 65, no correlation has been found between age and the MPI scales. Correlations with sex have been negligible in all studies, though there is a slight tendency for women to score on the average about one point higher than men on both the E and N scales. The reliabilities of the scales are high for a personality inventory and compare favorably with the reliability of cognitive tests such as the Stanford-Binet and Wechsler intelligence tests. Table II gives similar data for the Short Form of the MPI.

## CORRELATIONS WITH OTHER MEASURES

Table III shows the correlations of the MPI scales with a number of other psychological measures. A brief description is here given of each of these measures. For further details the reader is referred to the original articles.

1. The Short MPI has been described above.
2. The Heron Two-Part Personality Measure (15) consists of an Introversion (or "sociability") scale and a Neuroticism (or "emotional

TABLE I

Mean, Standard Deviation, Reliability and Intercorrelation of the Extraversion and Neuroticism Scales of the MPI for Various Groups

Sample	N	E-Scale		N-Scale		$r_{EN}$	Reliability	
		Mean	SD	Mean	SD		E	N
1. Normal adult males (12)	200	24.62	10.04	17.81	11.32	-.15*	.85 <sup>1</sup>	.90 <sup>1</sup>
2. Normal adult females (12)	200	25.17	9.33	19.45	11.02	-.04	.82 <sup>1</sup>	.87 <sup>1</sup>
3. Total of 1 & 2 (12)	400	24.89	9.67	18.63	11.19	-.09	.83 <sup>1</sup>	.88 <sup>1</sup>
4. English university students. Male (11)	50	28.86	8.36	19.04	11.24	.12		
5. English university students. Male (18)	213	25.26	8.85	23.23	11.27	-.07		
6. English university students. Mixed (20)	64	25.16	10.22	26.78	9.28			
7. Student nurses. Female (20)	22	23.82	9.71	30.64	9.22			
8. Total of 6 & 7 (20)	86	24.81	10.11	27.77	9.42	-.30**		
9. Polytechnic & art school students. Mixed (7)	68	24.57	19.04	27.06	11.56	-.08		
10. American university students. Male (4)	714	28.43	8.06	20.19	10.71			
11. American university students. Female (4)	350	29.41	8.37	21.63	10.45			
12. American university students. Mixed (4)	145	27.77	7.60	21.57	9.75	-.20**	.74 <sup>2</sup>	.84 <sup>2</sup>
13. Industrial apprentices. Male (18)	100	29.34	9.00	21.20	10.26	-.09		
14. Industrial apprentices. Male (16)	76	29.18	8.19	21.21	10.41	-.14		
15. Neurotic patients. Male	83	19.09	10.53	32.98	10.78			
16. Neurotic patients. Female	65	18.67	9.21	34.75	11.83			
17. Total of 15 & 16	148	18.91	9.86	33.75	11.29	-.30**		
18. Dysthymics <sup>3</sup> (17)	25	21.00	11.96	36.80	10.48			
19. Hysterics & psychopaths (17)	27	25.22	9.96	28.82	12.76			
20. Recidivists. Male (1)	72	24.76	10.08	32.18	10.38	-.32**		

\*  $p < .05$ .

\*\*  $p < .01$ .

<sup>1</sup> Corrected split-half reliability.

<sup>2</sup> Kuder-Richardson "Formula 20".

<sup>3</sup> "Dysthymic" is Eysenck's term for neuroses of the anxiety, depression, obsessive-compulsive, and phobic types.

TABLE II

Mean, Standard Deviation, Reliability, and Intercorrelation of the Extraversion and Neuroticism Scales of the Short Form of the MPI.

Sample	N	E-Scale		N-Scale		$r_{EN}$	Reliability	
		Mean	SD	Mean	SD		E	N
1. Quota sample of English urban and rural dwellers (14) . . . . .	1600	7.96	2.97	6.15	3.33	-.05	.71	.79
2. Neurotic patients. Male . . . . .	83	5.41	3.04	8.4	3.19			
3. Neurotic patients. Female . . . . .	65	6.03	2.80	9.00	3.75			
4. Total of 2 & 3 . . . . .	148	5.68	2.95	8.86	3.45	-.44**		

\*\*  $p < .01$ .

maladjustment") scale. The scales are quite short, together requiring only about 20 minutes of the subject's time. The reliabilities are high (.74 and .81 respectively) and the Neuroticism scale has been shown to differentiate normals from hospitalized neurotics.

3. Cattell's CPF (Contact Personality Factor) scale (6) is made up largely of items from five scales of Cattell's 16 Personality Factor Questionnaire. The CPF is essentially a measure of social extraversion and was designed for employment selection purposes as a measure of the amount of social contact a person needs in his work in order to find it personally satisfying. Cattell states also that the test measures "general adjustment to social demands and ability to adapt to people" (6). Successful salesmen, for example, would be expected to obtain high scores, while bookkeepers or research scientists would obtain comparatively low scores. There are two equivalent forms of the CPF, Forms A and B, which are reported by Cattell (6) as being correlated .36 in a sample of 125 subjects. In a sample of 134 neurotic patients tested by the writer, the correlations between Forms A and B was .69.

4. The Minnesota TSEm (Thinking, Social, Emotional) Introversion-Extraversion Scales (8) were based on Jung's idea that introversion-extraversion manifests itself in thinking, in social or interpersonal behavior, and in feeling or emotional behavior, and that these three aspects of introversion-extraversion are not necessarily correlated. The items of the TSEm scales were selected so as to represent these three aspects of I—E and the three scales were so constructed as to be not significantly correlated with one another.

5. The Taylor MAS (Manifest Anxiety Scale) (19) was devised as a measure of the kind of neurotic state diagnosed by psychiatrists as anxiety and has been shown to be correlated with psychiatrists' ratings of anxiety.

The MAS is composed of 42 items selected from the Minnesota Multiphasic Personality Inventory.

6. Bills' Index of Adjustment and Values (5) is an adjective checklist consisting of 49 adjectives describing personal characteristics. The subject rates the adjectives according to the degree to which they describe himself, and also according to what he would regard as an ideal self, i.e., the way he would like to be. The Index yields two scores — and acceptance of self (AS) score and a score reflecting the discrepancy (D) between perceived and ideal selves. The two scores (AS and D) are highly intercorrelated (negatively), suggesting that they both measure the same temperament variable, which is probably one of general self esteem.

7. The Copperative Vocabulary test was used as a measure of verbal intelligence. The non-significant correlations with the MPI scales are consistent with all other studies in which the relationship between intelligence and I-E and N has been determined. The correlation is in all cases negligible or non-significant. If there is any suggestion of a trend in these correlations it is that verbal intelligence is negatively correlated to a slight degree with both extraversion and neuroticism.

8. College Achievement was based on course grades and is not significantly correlated with the MPI scales.

TABLE III  
Correlations of the MPI Extraversion and Neuroticism Scales With Other Scales

Scale	Sample	N	Correlation	
			E-scale	N-scale
1a. Short MPI, N-scale . . .	Neurotics . . . . .	134	-.27**	.86**
b. Short MPI, E-scale . . .	Neurotics . . . . .	134	.87**	-.29**
2a. Heron, Neuroticism . . .	Neurotics . . . . .	134	-.28**	.64**
b. Heron, Introversion . . .	Neurotics . . . . .	134	-.80**	.28**
3a. Cattell, CPF, Form A . . .	Neurotics . . . . .	134	.65**	-.34**
b. Cattell, CPF, Form B . . .	Neurotics . . . . .	134	.67**	-.53**
c. Cattell, CPF, Form A . . .	Industrial apprentices (16)	76	.38**	-.04
4a. Minnesota T-scale . . . . .	English Univ. students (20)	87	-.05	.04
b. Minnesota S-scale . . . . .	English Univ. students (20)	87	.81**	-.33**
c. Minnesota Em-scale . . . . .	English Univ. students (20)	87	.21*	.17
5. Taylor MAS . . . . .	American univ. students (3)	254	-.35**	.77**
6. Bills' Index of Adjustment:	American univ. students (2)			
a. Self-acceptance score . . .		96	.27**	-.25
b. Discrepancy score . . . . .		96	-.29**	.30**
7. Verbal Intelligence . . . . .	American univ. students (4)	254	-.12	-.05
8. College Achievement . . . . .	American univ. students (4)	189	-.12	-.11

\*  $p < .05$ .

\*\*  $p < .01$ .



## DISCUSSION

While the present paper is not intended as a critique of the MPI or of the factor analytic theory of personality underlying its development and its use in Eysenck's research program, a few comments are in order concerning the data presented in Tables I, II, and III.

(a) It can be seen from the correlations presented in Tables I and II that the E and N scales are not orthogonal (i.e., independent or uncorrelated) in all samples. However, even where E and N are significantly correlated, they have at most only about 10 per cent of their variance in common. A significant negative correlation obtains between E and N only in those samples which in some way represent some highly selected (and therefore biased) element of the general population, and these biased samples are generally higher on Neuroticism than the general population. It appears that while in the general population there is only a slight negative correlation, if there is any correlation at all, in groups composed of more neurotic subjects there is a greater tendency to perceive the self as having more introverted characteristics. This effect may be partly an artifact due to a factor such as differences in the "social desirability" of the introverted and extraverted items. Subjects who have less self esteem or are less concerned with making a good impression may score higher in introversion (as well as in neuroticism) if more of the introverted than extraverted items have socially less desirable or less self-flattering connotations. Thus, more neurotic subjects, such as hospitalized neurotics and prisoners, whose self esteem is at a low ebb and who have little incentive to create a "good" impression in an institutional setting, would be less apt to favor the items that create the most favorable self-picture. The E-scale items should be studied for this "social desirability" factor. If it exists, its elimination would be a distinct improvement of the scales.

Another property of the MPI that warrants critical examination is the fact that all of the N-scale items are keyed "Yes", while only two-thirds of the E-scale items are keyed „Yes". If there is a generalized tendency to agree with statements in a questionnaire regardless of their specific content, there would thus be a built-in negative correlation between E and N. A person answering "Yes" to all the items in the MPI would obtain the highest possible N score but would be only intermediate on E.

(b) It will be noted in Table I that samples No. 6, 7, and 9 have appreciably higher N scores than the normal population samples or other student samples. The reason is probably that subjects in these particular samples were tested on a volunteer basis, which was not the case with other samples. Many of the subjects in samples 6, 7, and 9 heard that a

psychological investigation was being conducted and they volunteered to participate. It is not unlikely that such volunteer subjects might have greater concerns about their own psychological problems and would constitute a somewhat more neurotic sample than would be obtained if the sample were randomly selected from the total student population.

(c) Some of the data presented in Table I are not in accord with all aspects of Eysenck's theory and no explanation for this fact seems more reasonable than the suggestion that the theory may not be correct in all particulars. Eysenck (13) has stated that during periods of emotional instability persons towards the extraverted end of the I-E continuum develop symptoms of the hysterical type, while persons toward the extraverted end develop "dysthymic" disorders (anxiety, depression, and obsessive-compulsive). In short, hysterics (and psychopaths) are said to be extraverted neurotics, and dysthymics are said to be introverted neurotics. In Table I, however, it is apparent that the dysthymics and the hysteric-psychopath groups (Samples No. 18 and 19) do not differ significantly on the E scale, as would be predicted from Eysenck's theory, nor do they differ significantly from the normal groups on the E scale. The dysthymics, however, score higher on the N scale, though there is nothing in Eysenck's theory that would predict this finding. The criteria and method of diagnosing these patients as dysthymic, hysteric, or psychopath, as well as a discussion of the negative findings with respect to Eysenck's theory, are to be found in a paper by Sigal *et al.* (17).

Another deduction from Eysenck's theory that is not borne out in these data is that prisoners, especially recidivists, should be more extraverted than are more responsible, law-abiding persons. According to the theory, because of a constitutionally greater tendency to develop cortical inhibition, extraverts are less readily conditioned and hence less readily socialized. They are therefore less apt to be constrained by the rules of society and in general to show more psychopathic types of behavior. Thus one would predict a higher degree of extraversion among recidivists than in the general population. As can be seen from Sample No. 20 (Table I), however, recidivists score no higher on the E scale than do the normal adult males (Sample No. 1) and are not as high on E as industrial apprentices and American university students. But the recidivists are as high on neuroticism as the hospitalized neurotics. Furthermore, the same degree of negative correlation between E and N is found in the recidivist group as in the neurotic group.

(d) Some of the correlations of the MPI with other measures of extraversion and neuroticism (Table III) are based on a sample of neurotic

patients and cannot be assumed to represent the correlations that might be found in a sample of the normal population. Certain points are worth noting, however. The E scale correlates highly with other measures of extraversion, except for the Minnesota scales of Thinking (T) and Emotional (Em) extraversion. The fact that the MPI E scale is not significantly correlated with the Minnesota T and Em scales but is correlated .81 with the Minnesota social extraversion (S) scale indicates that the E scale of the MPI is a measure of only one aspect or one type of extraversion, *viz.*, social extraversion. From a look at the items in the E scale, this finding is not surprising. Most of the items concern forms of social behavior. It might also be pointed out that the MPI E scale correlates as highly with the Cattell CPF measure of extraversion as the two forms of the Cattell scale correlate between themselves in this sample.

Taylor's Manifest Anxiety Scale (MAS) appears to be largely a measure of the MPI neuroticism factor, but it also has a slight correlation with introversion.

It is interesting to see that on Bills' Index of Adjustment the extraverts are more self satisfied and there is less discrepancy between the extravert's perceived self and his self ideal. In view of the low correlation between Bills' Index and the N scale, it would seem that "Index of Adjustment" is a misnomer. Whatever kind of maladjustment Bills' Index measures it is only slightly related to Eysenck's measure of neuroticism.

#### SUMMARY AND CONCLUSIONS

The Maudsley Personality Inventory (MPI), consisting of two scales, one measuring introversion-extraversion (E scale) and the other measuring neuroticism (N scale), has been described. Normative data on a variety of samples have been presented as well as the correlations of the scales with other personality measures.

The E scale is best described as a measure of social extraversion or sociability, the N scale as a measure of neurotic tendency.

By virtue of the brevity of the scales, their high reliability, their orthogonality in the normal population, their high correlations with other measures of these factors, their negligible correlation with non-personality variables such as age, sex, and intelligence, and their correlation with other experimental and non-questionnaire variables relevant to Eysenck's cortical inhibition theory of introversion-extraversion, the MPI may be regarded as the preferred measure of introversion-extraversion and neuroticism. Though it has been suggested in the *Discussion* that certain possible inadequacies of the scales be investigated and further improvements made if necessary, the MPI in its present form can be recommended for research purposes as being perhaps the best questionnaire measure of introversion-extraversion and neuroticism available at the present time.

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*Note:* The MPI is now published by the University of London Press.

## REFERENCES

1. Bartholomew, A., Personal communication, January 1958.
2. Bendig, A. W., and Hoffman, Jenny L., Bills' Index of Adjustment and the Maudsley Personality Inventory. *Psychol. Reports*, 1957, 3, 507.
3. ———, Extraversion, neuroticism, and manifest anxiety. *J. consult. Psychol.*, 1957, 21, 398.
4. ———, Personal communication, December 1957.
5. Bills, R. E., Vance, E. L., and McLean, O. S., An index of adjustment and values. *J. consult. Psychol.*, 1951, 15, 257-261.
6. Cattell, R. B., King, J. E., and Schuetzler, A. R., Contact Personality Factor Questionnaire. Champaign, Illinois: Institute for Personality and Ability Testing, 1954.
7. Das, J. P., An experimental study of the relation between hypnosis, conditioning, and reactive inhibition. Ph. R. thesis, 1957, Univ. of London.
8. Evans, C., and McConnell, T. R., A new measure of extraversion-introversion. *J. Psychol.*, 1951, 12, 111-124.
9. Eysenck, H. J., *Dimensions of personality*. London: Routledge and Kegan Paul, 1947.
10. ———, *The scientific study of personality*. London: Routledge and Kegan Paul, 1952.
11. ———, Reminiscence, drive, and personality theory. *J. abnorm. soc. Psychol.*, 1956, 53, 328-333.
12. ———, The questionnaire measurement of neuroticism and extraversion. *Revista di Psicologia*, 1956, 54, 113-140.
13. ———, *The dynamics of anxiety and hysteria*. London: Routledge and Kegan Paul, 1957.
14. ———, A short questionnaire for the measurement of two dimensions of personality. *J. appl. Psychol.*, 1958. To appear.
15. Heron, A., A two-part personality measure for use as a research criterion. *Brit. J. Psychol.*, 1956, 47, 243-251.
16. Holland, H., Personal communication, January 1958.
17. Sigal, J. J., Star, K. H., and Franks, C. M., Hysterics and dysthymics as criterion groups in the study of introversion-extraversion. *J. abnorm. soc. Psychol.*, 1958. To appear.
18. Star, K. H., An experimental study of 'reactive inhibition' and its relation to certain personality traits. D. Ph. thesis, 1957, Univ. of London.
19. Taylor, Janet A., A personality scale of manifest anxiety. *J. abnorm. soc. Psychol.*, 1953, 48, 285-290.
20. Treadwell, Emer. Personal communication, December 1958.