Br. J. soc. clin. Psychol. (1971), 10, pp. 362–366
Printed in Great Britain

A Comparative Study of Criminals and Matched Controls on Three Dimensions of Personality

BY SYBIL B. G. EYSENCK AND HANS J. EYSENCK

University of London

Six hundred and six male trainee railmen and 518 criminals were administered personality inventories purporting to measure the personality dimensions of Psychoticism (P), Extraversion (E) and Neuroticism (N). Also administered was a Lie scale (L). Scale means and reliabilities are reported for the experimental and control groups, and proportions of 'Yes' answers compared for individual items. The prisoners are significantly higher on P and N, but lower on E, than the controls; this may be due to the absence of impulsiveness items in the E scale used, and the preponderance of sociability items. There are no differences on the L scale, suggesting that prisoners did not attempt to fake scores. The groups were matched for age and social class, as well as sex, all being male. Coloured members originally forming part of the control group were found to differ significantly from the white members, and were removed prior to the comparisons being run. The results found are on the whole similar to previously reported data using different inventories and different comparison groups, and a different sample of prisoners.

In his book *Crime and Personality*, Eysenck (1964) has developed a series of theories relating criminal behaviour to various dimensions of personality. In particular, he suggested that criminals would score high on measures of N (neuroticism), P (psychoticism) and E (extraversion). The literature reviewed in that book, and papers appearing since (Sanocki, 1969; Eysenck & Eysenck, 1970, 1971), have on the whole supported these hypotheses, although deductions from the theory have not always been supported by the data at a high level of significance. In addition, it has become apparent that the prediction relating to E was correct only in part; Eysenck & Eysenck (1971) have shown that items measuring the sociability component of E were not positively related to criminality (and might even be negatively related), while items measuring impulsiveness were positively correlated with criminality. This finding could be interpreted to support the original hypothesis linking E with criminality through the mechanism of *conditioning* because eye-blink conditioning, too, was found to be correlated with E (negatively) only by way of impulsivity, not by way of sociability (unpublished). This important division of E into two main constituent parts has been discussed in detail by Eysenck & Eysenck (1963).

The experiment reported here is in some ways a replication of the one discussed by Eysenck & Eysenck (1970, 1971), in which an experimental group of criminals was given a personality inventory measuring P, E and N, and their scale scores and item endorsements compared with those of three control groups (random group of parents, students and apprentices). None of the control groups was entirely satisfactory, and it was hoped that their imperfections might cancel out when detailed comparisons were made. In the present experiment a more carefully matched

control group is used in making comparisons with a sample of prisoners chosen along the same lines as in our previous experiment. In addition, a Lie scale (L scale) is incorporated in the personality questionnaire used, in order to test the hypothesis that the prisoners may be faking good (or bad); the rationale of such scales is discussed in detail by Michaelis & Eysenck (1971). The items used for the P, E and N scales in the present inquiry are largely different from those used in our previous one; they are in fact identical with those used in our factorial study aimed at demonstrating the identity of P as a separate dimension of personality (Eysenck & Eysenck, 1968). In this scale (called the PEN scale for short) the E factor is represented almost entirely by sociability items, and not at all by impulsiveness items; hence our prediction for the present study would have to be that criminals would not score more extraverted than controls, but would either have similar scores or have even lower ones.

Our criminal population was made up of 606 male criminals with a mean age of 26·53 (S.D. 10·00); these were a random population from several of the main British prisons. Our control population consisted of 518 white trainee railmen employed by London Transport, all male and with a mean age of 25·85 (S.D. 10·69). The two samples are thus reasonably well matched on sex, age and social class; they differ in that all coloured members had been removed from a somewhat larger total sample of controls. In all, 140 of these coloured trainee railmen were removed because they were found to have significantly different scores on some of the scales; details regarding these differences will be given presently. Coloured persons could not be removed from the prison sample because no record was available to identify them by colour; in any case, the proportion of coloured to white prisoners would almost certainly be smaller. The age of the coloured controls was 30·83 (S.D. 9·42).*

Table 1. *Means and S.D.s of* 606 *prisoners, and* 518 *white and* 140 *coloured London Transport employees on P, E, N and L scales*

	Prisoners		London Transport employees: White		London Transport employees: Coloured	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
P	4·81	3·95	3·14	2·85	3·74	2·50
E	12·43	3·95	13·58	3·59	13·58	2·83
N	9·56	4·46	7·53	4·40	6·38	3·83
L	5·48	3·32	5·44	3·26	8·96	3·63

Table 1 gives the means and S.D.s of these various samples for P, E, N and L. It will be seen that prisoners are significantly higher than controls on P and N, and significantly lower than controls on E; there are no differences on L, suggesting (if we are willing to assume that L is at least in part a measure of dissimulation) that deliberate falsification did not play an important part in the production of these differences. Coloured people are much higher on the L scale than white controls; they are also higher on P ($P < 0{\cdot}05$) and lower on N ($P < 0{\cdot}01$). There are no differences on E.

* Unselected inventories were received from London Transport, and the allocation of the groups was undertaken by us.

The need to match samples for social class is brought out clearly if we compare the data given in Table 1 with the norms for a more representative population sample of 1012 male subjects. These score lower on P (2·50; S.D. 2·71) and on E (12·75; S.D. 4·12) than our working-class white controls; on N they score only fractionally lower (7·33; S.D. 4·37.) These results are in reasonably good agreement with the social class comparisons made in our previous paper (Eysenck & Eysenck, 1969). On L we have available results from two samples: a random sample of 152, and a somewhat more middle-class one of 329. L scores were 4·56 (S.D. 2·95) and 3·56 (S.D. 2·48) respectively, suggesting that L scores are higher in working-class groups. This does not necessarily mean that working-class subjects lie more; alternative and possibly more likely reasons for this difference are given in Michaelis & Eysenck (1971).

Analyses of item comparisons are reported in Tables 2–4 for P, E and N, respectively. Only significant differences are reported, and for this purpose all differences above 5 per cent have been used. A number of smaller differences might have

Table 2. *P scale items showing significant differences between criminals and controls*

	Percentage Yes answers	
	Criminals	Controls
Have you had an awful lot of bad luck?	67	31
Have you have more trouble than most?	54	20
Would you have been more successful if people had not put difficulties in your way?	60	38
Is there someone who is responsbile for most of your troubles?	36	21
Do you worry a lot about catching diseases?	28	15
Are there several people who keep trying to avoid you?	23	12
Do you have enemies who wish to harm you?	23	14
Do your friendships break up easily without it being your fault?	24	17
Do you let your dreams warn or guide you?	20	13
Would you take drugs which may have strange or dangerous effects?	18	12
Was your father a good man?	79	85

Table 3. *E scale items showing significant differences between criminals and controls*

	Percentage Yes answers	
	Criminals	Controls
Do you find it hard to show your feelings?	56	40
Would you call yourself happy-go-lucky?	51	64
Are you more distant and reserved than most people?	40	30
Can you usually let yourself go and enjoy yourself a lot at a gay party?	77	85
Would you call yourself talkative?	35	42
Do you nearly always have a 'ready answer' when people talk to you?	38	45
Do you like plenty of bustle and excitement around you?	61	68
Do you like mixing with people?	81	88
Do you like people around you?	81	88
Do you normally prefer to be alone?	31	23
Do you make friends easily with members of your own sex?	80	87
Would you enjoy hunting, fishing and shooting?	74	69

qualified because the proportion of endorsements was near the 0 per cent or 100 per cent level, but such differences are too small anyway to be of any psychological interest. In order to calculate the proportions and differences, the sample of prisoners was reduced to the same size as that of the controls ($n = 518$) by a random process.

Table 4. *N scale items showing significant differences between criminals and controls*

	Percentage Yes answers	
	Criminals	Controls
Are you often troubled about feelings of guilt?	57	33
Have you ever been afraid of losing your mind?	48	26
Have you ever wished you were dead?	47	25
Do you often feel fed up?	70	54
Do you feel self-pity now and again?	66	50
Do you sometimes feel uneasy indoors?	58	42
Do things sometimes seem as if they are not real?	68	51
Do you get depressed in the mornings?	40	28
Do you sometimes feel you don't care what happens to you?	52	40
Do you often feel very weak all over?	37	26
Do you find it hard to keep your mind on what you are doing?	34	25
Do you worry a lot about your looks?	41	32
Do you ever feel 'just miserable' for no good reason?	50	43

These item analyses bear out our expectations, and also of course the comparisons of sample means; prisoners are more likely to give answers indicative of psychoticism, of neuroticism and, to a lesser extent, of lack of sociability. The particular items quoted are similar to those which in our previous study differentiated prisoners and controls, although of course the wording of many of these items is not identical. One possible criticism should perhaps be anticipated here. It might be argued that some of the items showing differences between prisoners and controls might be influenced by the circumstances and status of the prisoners rather than by their personalities. Thus the answer to the question: 'Have you had an awful lot of bad luck?' might be thought to reflect the prisoner's reaction to being caught and sent to prison rather than his habitual personal feeling. Such an objection must be granted some force, and almost certainly the circumstances of being in prison have increased the differences observed on some of the questions between the two groups. But it is not likely that this is the whole story; we have shown that for both prisoners and controls similar factors emerge from factor analyses of such questionnaires (Eysenck & Eysenck, 1970), and many of the questions related to each factor cannot conceivably be influenced in this manner (e.g. 'Do you let your dreams warn or guide you?' 'Would you enjoy hunting, fishing and shooting?' 'Do you worry a lot about your looks?'). We have suggested elsewhere (Eysenck & Eysenck, 1970) the use of a 'criminality scale' made up of the most diagnostic items in order to make parole and other predictions; this would appear to be the best way of testing the assumptions underlying objections of this kind. Another possibility would of course be the use of follow-up studies of adolescents to whom questionnaires would be administered before their criminal careers started; it is very much to be hoped that such studies

will in due course be undertaken. *Ex post facto* investigations, such as the one here described, always suffer from weaknesses which cannot in the nature of the case be overcome. Such prospective studies as have been published have rather strongly supported the hypotheses here advanced (Eysenck, 1964).

We are indebted to the Maudsley and Bethlem Royal Research Fund for the support of this investigation. Dr P. A. B. Raffle, Chief Medical Officer of London Transport, kindly gave permission for the testing of the trainee railmen, and we would especially like to thank Mr R. C. Potter, Chief Instructor, Railway Training Centre, who arranged for the questionnaire to be administered. We are also indebted to the Home Office for permission to test prisoners; most of the testing was carried out by prison psychologists to whom we wish to express our gratitude for their generous help. Opinions expressed in this article are of course our own, and do not necessarily represent the view of the Home Office or London Transport.

REFERENCES

EYSENCK, H. J. (1964). *Crime and Personality*, 2nd ed. London: Paladin Books, 1970.

EYSENCK, S. B. G. & EYSENCK, H. J. (1963). On the dual nature of extraversion. *Br. J. soc. clin. Psychol.* **2**, 46–55.

EYSENCK, S. B. G. & EYSENCK, H. J. (1968). The measurement of psychoticism: a study of factor stability and reliability. *Br. J. soc. clin. Psychol.* **7**, 286–294.

EYSENCK, S. B. G. & EYSENCK, H. J. (1969). Scores on three personality variables as a function of age, sex, and social class. *Br. J. soc. clin. Psychol.* **8**, 69–76.

EYSENCK, S. B. G. & EYSENCK, H. J. (1970). Crime and personality: an empirical study of the three-factor theory. *Br. J. Criminol.* **10**, 225–239.

EYSENCK, S. B. G. & EYSENCK, H. J. (1971). Crime and personality: item analysis of questionnaire responses. *Br. J. Criminol.* **11**, 49–62.

MICHAELIS, W. & EYSENCK, H. J. (1971). The determination of personality inventory factor patterns and intercorrelations by changes in real-life motivations. *J. genet. Psychol.* **118**, 223–234.

SANOCKI, W. (1969). The use of Eysenck's inventory for testing young prisoners. *Przeglad Penitencjarny, Warszawa* **7**, 53–68.

Manuscript received 16 *July* 1970