

# 12

## Personality theory and the problem of criminality

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### INTRODUCTION

In psychiatry generally, the diathesis-stress model is widely accepted; it postulates a *predisposition* to develop certain types of mental illness, such as neurosis or psychosis, which is activated by certain environmental stress factors. A similar conception can be applied to criminality; certain types of personality may be more prone to react with anti-social or criminal behaviour to environmental factors of one kind or another. To say this is not to accept the notion of 'crime as destiny', to quote Lange's famous monograph in which he showed that identical twins are much more alike with respect to criminal conduct than are fraternal twins. There is no predestination about the fact that heredity, mediated through personality, plays some part in predisposing some people to act in an anti-social manner. Environment is equally important, and, as we shall see, it is the interaction between the two which is perhaps the most crucial factor.

Much of the research in this field has been episodic and following the principles of benevolent eclecticism; in this chapter we will rather adopt the method of looking at a general theory of anti-social behaviour, which makes predictions as to the type of personality expected to indulge in such conduct, and summarize the evidence relating to the theory. Before turning to the evidence, it will therefore be necessary to present in brief outline the theory in question (Eysenck, 1960, 1977). The reason for singling out the theory is, in the first place, that it has attracted far more research than any other, and secondly, that it is the only one which has tried to link together genetic factors, a causal theory, and personality in one general theory.

### STATEMENT OF THEORY

Briefly and concisely, the theory tries to explain the occurrence of socialized behaviour suggesting that anti-social behaviour, being obviously egocentric and orientated towards immediate gratification, needs no explanation. It is suggested that the socialization process is essentially mediated by Pavlovian conditioning, in the sense that anti-social behaviour will be punished by parents, teachers, peers etc., and that such punishment constitutes the *unconditioned stimulus* (US), where the contemplation or execution of such behaviour constitutes the conditioned stimulus. The pain/anxiety properties of the US transfer through conditioning to the CS [conditioned stimulus], and as a consequence the person will desist from committing anti-social acts, or even contemplating them, because of the painful CRs [conditioned responses] which inevitably follow. The theory is elaborated in Eysenck (1977), where supportive evidence will be found.

Individual differences in the speed and strength of formation of conditioned responses would, in terms of the theory, be fundamental in accounting for the observed relations between personality and criminality. As Eysenck (1967, 1980) has shown, there is considerable evidence to suggest that introverts form conditioned responses more quickly and more strongly than extraverts, and accordingly one would expect extraversion to be positively correlated with anti-social conduct. Emotional instability or neuroticism would be expected to multiply with the habits of socialized or anti-social conduct, according to Hull's general theory in which performance is a multiplicative function of habit and drive, with anxiety in this case acting as a drive (Eysenck, 1973). The third major dimension of personality, psychoticism, comes into the picture because of the well-documented relationship between crime and psychosis (Eysenck and Eysenck, 1976), and because the general personality traits subsumed under psychoticism appear clearly related to anti-social and non-conformist conduct. The precise nature of these three major dimensions of personality will be discussed later on in this chapter; here we will only look at one particular problem which is closely related to the general theory of conditioning as a basis for anti-social conduct.

The theory suggests that conditioning produces socialized behaviour, and that introverts will show more socialized behaviour because they condition more readily. The same theory would also imply, however, that if the socialization process were inverted, i.e. if parents, teachers, peers, etc. praised the child for anti-social conduct, and punished him for socialized behaviour, then introverts would be more likely to show anti-social behaviour. Raine and Venables (1981) have shown that this is indeed so; children who showed better conditioning in a laboratory situation than other children were remarkably socialized in their behaviour when brought up in a favourable type of environment, and remarkably anti-social in their behaviour when brought up in a non-favourable type of environment. This experiment shows more clearly than almost any other the inter-relationship between genetic factors on the one hand, and environmental ones on the other.

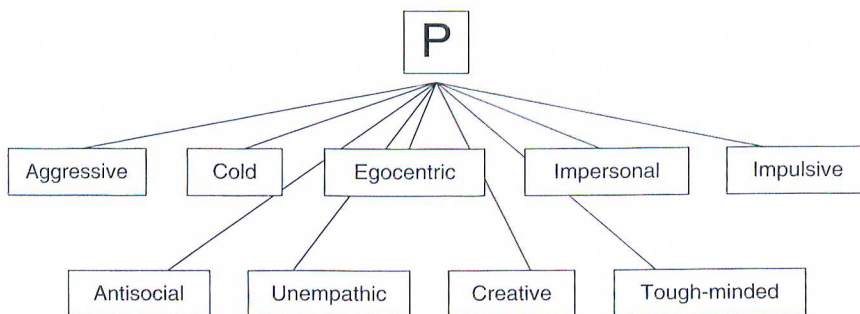
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## DIMENSIONS OF PERSONALITY

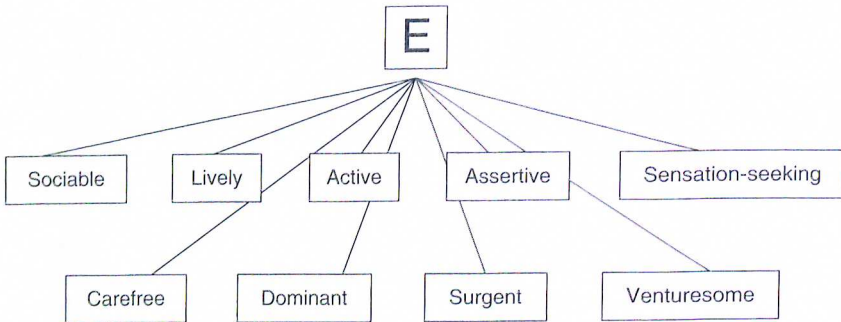
We will now turn to personality factors as more narrowly defined. Our discussion will begin with the three major dimensions of personality, which emerge from hundreds of correlational and factor analytic studies in many different countries. Royce and Powell (1983) have summarized and reanalysed these data, and confirm the theory developed by Eysenck and Eysenck (1976) that these three factors deal essentially with social interactions (extraversion–introversion), emotional reactions and anxieties (neuroticism), and aggressive and egocentric impulses and their control (psychoticism). Many different terms are of course used for these dimensions but Eysenck and Eysenck (1985) discuss the experimental literature which suggests the relevance of the terms proposed above.

The nature of these three major dimensions of personality can best be discerned from the data shown in Figures [12.1–12.3]. These list the various traits, correlations between which have generated at the empirical level the three major dimensions of P, E and N. In this section we will simply look at descriptive studies involving the relationship between anti-social and criminal behaviour, on the one hand, and these major dimensions, and the traits relating thereto, on the other. [...] Here let us mainly stress that the personality traits and dimensions dealt with here have a strong genetic component [...]; this does not prove, but it does suggest that genetic factors may also play an important part in the genesis of anti-social and criminal behaviour.

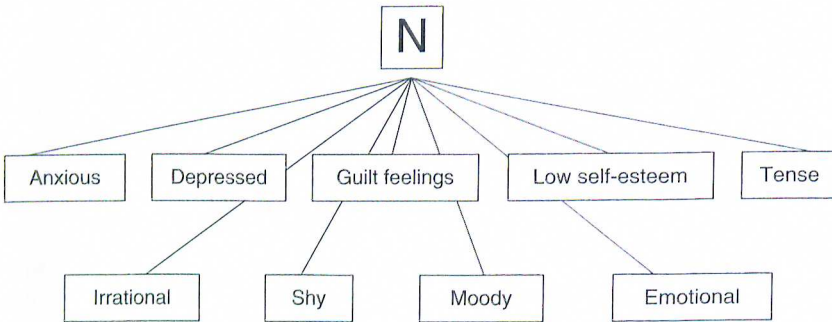
Much of the early literature has been summarized by Passingham (1972), who found that while a number of studies supported Eysenck's hypothesis of a positive correlation between criminality and P, E and N, there were many exceptions, and occasional reversals. There are of course many reasons why results have not always been positive. Criminals are not a homogeneous group, and different investigators have studied different populations, specializing in different types of crime. Control groups have not always been carefully selected; some investigators, for instance, have used the usual students groups as controls, which is inadvisable. There has been a failure to control for dissimulation; there is evidence that high lie-scorers lower their neuroticism and psychoticism



**Figure 12.1** Traits characterizing the psychoticism factor



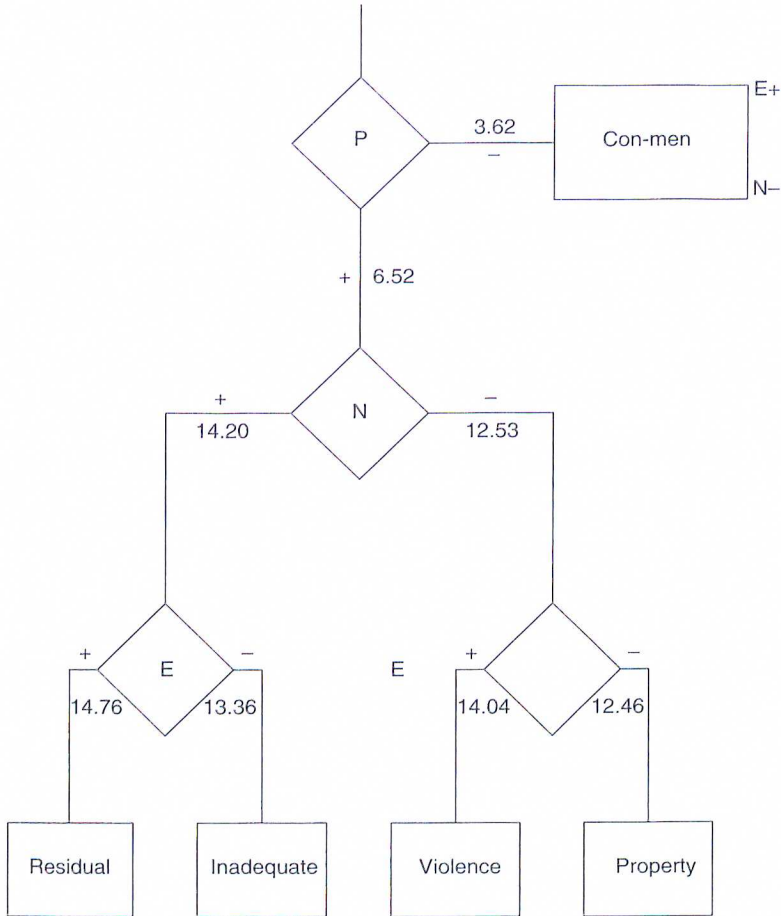
**Figure 12.2** Traits characterizing the extraversion factor



**Figure 12.3** Traits characterizing the neuroticism factor

scores, and they seem to do the same for extraversion (McCue et al., 1976) [...] Some of the most negative reports contain evidence of high L scales, and are hence inadmissible. Other reasons refer to the incarceration of many delinquents; this would interfere with verbal responses on questionnaire items relating to sociability, and hence lead to an understatement of the delinquent's degree of extraversion. More important even than any of these reasons is probably the fact that many early investigations were done without any prior hypothesis being stated, and used questionnaires and other measures which bear only tangential relation to the Eysenck Questionnaires.

Eysenck (1977) lists many more recent investigations, most done from the point of view of testing the hypothesis linking criminality and P, E and N; these results are very much more positive. Some of the studies also strongly support the view that within the criminal fraternity different types of crimes are related to different personality patterns. Thus Eysenck, Rust and Eysenck (1977) studied five separate groups of criminals (conmen, i.e. confidence tricksters; criminals involved with crime against property; criminals specializing in violence; inadequate criminals, and a residual group, not specializing in one type of crime). Figure [12.4] shows



**Figure 12.4** P, E and N scores of different types of criminals (Eysenck et al., 1977)

the differential patterns of P, E and N of these various groups, with conmen for instance having a much lower P score than the other groups.

Mitchell et al. (1980) studied the difference between violent and non-violent delinquent behaviour and found that violence was more frequently associated with low trait anxiety than non-violent behaviour; their results agree with the Eysenck, Rust and Eysenck findings. Schwenkmezger (1983) subdivided his sample of delinquents into three major groups, corresponding to conmen, offences against property, and offences involving violence. As in the Eysenck, Rust and Eysenck study, conmen have much lower values on the various measures involved (impulsivity, risk taking, aggressiveness, dominance, and excitement) than the other two groups. Discriminant function analysis showed two significant functions, the first of which separates conmen from the other two groups. The second

function involved mainly aggressive, dominant and risk taking behaviour, and has offences involving violence at one extreme.

The most recent study by Wardell and Yeudall (1980), specially concerned with this problem, used ten personality factors derived from an extensive psychological test battery administered to 201 patients on criminal wards at a mental hospital and showed many important differences between patients involved with different types of crime. Other recent studies supporting this view are by McGurk (1978), McGurk and McDougall (1981), McGurk and McEwan (1983), and McGurk, McEwan and Graham (1981). To this list might be added some studies cited by Eysenck (1977) showing that murderers (i.e. mainly the usual type of family murder) tend to be significantly introverted. Professional gunmen, on the other hand, are exceedingly extraverted, thus showing that even a single category (murder) may require subdivision in order to give comprehensible and replicable correlations with personality.

Rahman and Hussain (1984), studying female criminals in Bangladesh, found them to have much higher P and N scores than controls; those engaged in prostitution, fraud, kidnapping and possession of illegal arms also had high E scores. Murderers, on the other hand, were significantly introverted.

Holcomb et al. (1985) have shown how complex motivation and personality even within a single category of crime may be. They studied a sample of 80 male offenders charged with premeditated murder, and found that these could be divided into five personality types using MMPI scores. The results were cross validated using a second sample of 80 premeditated murders. A discriminant analysis resulted in a 96.25 correct classification of subjects from the second sample into the five types. Clinical data from a mental status interview schedule supported the external validity of these types. There were significant differences among the five types in hallucinations, disorientation, hostility, depression and paranoid thinking.

## THE EYSENCK STUDIES

We may now turn to the work of the Eysencks in temporal order, as these were the major studies to try to obtain direct empirical evidence regarding the theory under discussion. In the first of these studies (Eysenck and Eysenck, 1970), 603 male prisoners were compared with a control group of over 1,000 males. Results supported strongly the hypothesis that prisoners would have higher P scores, moderately strongly the hypothesis that prisoners would have higher N scores, and rather more weakly the hypothesis that prisoners would have higher E scores. Similar results were found in a later study by Eysenck and Eysenck (1971), contrasting 518 criminals and 606 male trainee railmen. Significant differences were found on P and N, and on E the direction of the prediction was reversed, criminals having lower E scores than controls. In a later study of the personality of female prisoners (Eysenck and Eysenck, 1973) 264 female prisoners were found to be characterized by high P, high N and high E scores; for them therefore E agreed with the predicted direction.

In a study of personality and recidivism in Borstal boys (Eysenck and Eysenck, 1974), recidivists were insignificantly higher than non-recidivists on P and N, but significantly higher on E. In the last of this series of studies (Eysenck and Eysenck, 1977) over 2,000 male prisoners and over 2,400 male controls were given the Eysenck personality questionnaire, and then subdivided into age groups, ranging from 16 to 69 at the extremes. It was found that the lie-scale disclosed little dissimulation in either group. Scores on psychoticism, extraversion and neuroticism fell with age for both prisoners and controls. Prisoners had higher scores than controls, as predicted, on all three scales.

A replication of some of this work was carried out by Sanocki (1969) in Poland, using the short form of the Maudsley Personality Inventory on 84 Polish prisoners and 337 Polish controls, matched for age, education and social class. Criminals were found to be significantly more extraverted, and non-significantly more neurotic. Sanocki also found that different types of prisoners in his study differed significantly with respect to the inventory scores, adding another proof to the hypothesis of criminal heterogeneity. He also showed that a prisoner's behaviour in prison correlated with E, extraverts offending significantly more frequently against prison rules.

Two further points about the Eysenck studies may be of relevance. The first is that Eysenck and Eysenck (1971) constructed an empirical criminality scale by bringing together all those items which showed the greatest differentiation between criminals and normals; this will later on be referred to as the 'C' scale. The other point is made by Burgess (1972), who pointed out that Eysenck's theory implies that criminals and normals would differ on a combination of N and E, not necessarily on one or the other in separation; he was able to show that even in studies which failed to show significance for one or the other variable, the combination did show highly significant differences.

The 'C' scale was constructed for adults; similar scales have been proposed by Allsop and Feldman (1975), and by Saklofske, McKerracher and Eysenck (1978) for children. Like the adult scale they use selected items from the P, E and N scales. The scales have been found to be very useful in discriminating different groups of children. The data demonstrate clearly that delinquent boys have higher extraversion, psychoticism and neuroticism scores, and that the criminal propensity (C) scale discriminates even better between them and non-delinquent boys. Similar differences were also observed between well-behaved and badly behaved non-delinquent boys.

## OTHER RECENT STUDIES

Barack and Widom (1978) studied American women awaiting trial. Compared to a heterogeneous control group, these women scored significantly higher on the neuroticism and psychoticism scales, and on Burgess's *h* scale ( $h = E \times N$ ). Singh (1982) compared 100 Indian female delinquents with 100 female non-delinquents, matched in terms of socioeconomic status, age and urban versus rural place of residence; he found that delinquents had higher scores on extraversion and

neuroticism than did non-delinquents. Smith and Smith (1977) looked at the psychoticism variable in relation to reconviction, and found a very highly significant correlation between psychoticism and reconviction. Their finding supported the results obtained by Saunders and Davies (1976), who administered the Jesness Inventory to samples of young male offenders, and concluded that:

one can ... see a picture of the continuing delinquent as being unsocialised, aggressive, anti-authority and unempathic. This appears to present a somewhat similar pattern of characteristics to that described by Eysenck as 'psychotic'.

Of particular interest are some results of a follow-up of an investigation carried out by West and Farrington (1973). (See also Farrington et al., 1982.) In the original study 411 boys, aged 8 to 9, attending six adjacent primary schools in a working class area of London, were given the Junior Maudsley Inventory at age 10 to 11, and again at age 14 to 15; they were also given the Eysenck Personality Inventory at age 16 to 17. The original data did not provide very strong support for the theory, but more interesting are new data relating to delinquency as a young adult, i.e. convictions in court for offences committed between a boy's 17th and 21st birthdays. Eighty-four boys were classified as juvenile delinquents, 94 as young adult delinquents, and 127 as delinquents at any age (up to 21). This study is particularly important because the delinquents were almost all non-institutionalized at the time of testing. (The following data were communicated privately by D.P. Farrington on 10 June 1976.)

*Extraversion* As regards juvenile delinquency, E scores were dichotomized into roughly equal halves, and 24 per cent of those with above average scores became juvenile delinquents, in comparison with 16 per cent of those with below average scores; so the lowest quarter of E scores at age 16 included significantly few juvenile delinquents – 12.6 per cent as opposed to 23.4 per cent. The tendency of above average E scorers at age 16 to become young adult delinquents was much clearer (30 per cent as opposed to 16 per cent). Farrington states that: 'Low E scores genuinely predicted a low likelihood of adult delinquency.' The major burden of these and other significant relationships was borne by the lowest quarter of E scorers; introverts were very unlikely to become delinquents.

*Neuroticism* There was little overall relationship between neuroticism and criminality except that those on the lowest quarter of N scorers at age 10 tended not to become adult delinquents (12 per cent as opposed to 25 per cent), and not to be delinquents at any age (17 per cent as opposed to 34 per cent). Quadrant analysis, of the kind suggested by Burgess (1972) shows that neurotic extraverts at age 16 included significantly more adult delinquents, and significantly more delinquents at any age, than the remainder.

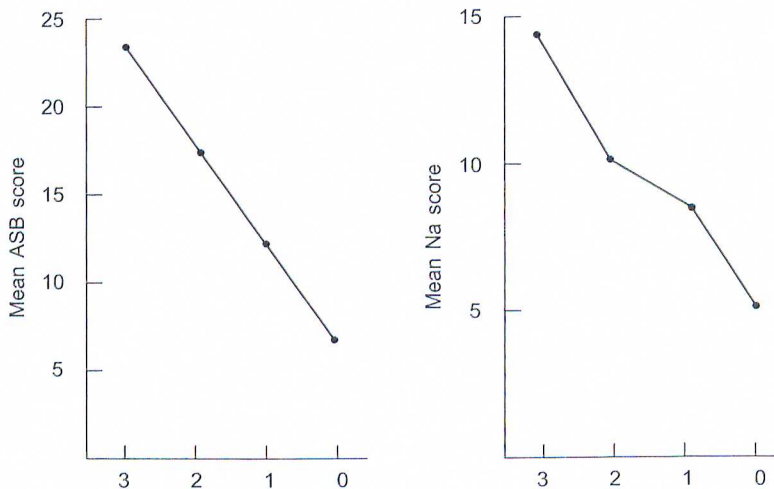
The data, as Farrington points out, suggest that the personality theory might apply to adult delinquency rather than to juvenile delinquency. It is notable that the adult offences included proportionately more aggressive crimes, more damaging offences and more drug offences than the juvenile offences.

For reasons to be discussed presently, this seems an unlikely hypothesis; in school-boys for instance very clear-cut relationships between personality and



anti-social behaviour often of a not very serious kind, have been found. These studies are mainly based on self-reports (Gibson, 1971), a type of study which furnishes the child with a list of minor and not-so-minor misdemeanours frequently committed by school children, and asks him or her anonymously to endorse those items which they have been guilty of. There are two studies which have related self-reported offending to the three major dimensions of personality (Allsop and Feldman, 1975, 1976). In addition, these studies used an outside criterion (teacher's ratings) in order to check on the validity of self ratings; results were very similar for both types of measures. The ratings of the teachers were concerned with school behaviour ('naughtiness'). Scores on the anti-social behaviour scale (ASB) were positively and significantly related to P, E and N in descending order of significance, and 'naughtiness' (Na) scores to P and N, although only the former achieved statistical significance. The P, E and N scores were then divided at the median points and the mean ASB and Na scores plotted for those high (i.e. above the median) on all 3, 2 only, one only, or none out of P, E and N. The results, which are quite striking, are shown in Figure [12.5]. They clearly suggest the usefulness of combining personality scores when analysing self-report data. These data come from the study of secondary schoolgirls (Allsop and Feldman, 1975); a similar study, done on schoolboys, has obtained very similar results (Allsop and Feldman, 1976).

The differential relationship between personality and type of offence has also been studied using self-reports. Hindelang and Weis (1972), using cluster analysis, formed 26 offences self-reported by 245 Los Angeles middle class high-school males into seven groups, and then correlated the scores on each of the seven



**Figure 12.5** Number of personality scales (P, E and N) on which subjects scored highly, as related to anti-social behaviour (ASB) score and naughtiness (Na) score (Allsop and Feldman, 1975)

clusters with the four possible combinations of E and N. They expected a descending order of frequency of offending – EN, either En or eN, and en; this was obtained for 'general deviance' and 'traffic truancy' and partially obtained for two other clusters, concerning 'drug-taking' and 'malicious destruction', respectively. No difference between the combinations of E and N was found for theft and the second of two clusters concerning drugs. For the 'aggressive' clusters the En combination was the highest. These data again show the need to break down criminality into more homogeneous clusters, but of course the sample is a somewhat unusual one.

Allsop (1976) has reported one further study where he used 368 white boys between the ages of 13 and 16. Teachers were asked to rate the behaviour of the boys; on this basis they were divided into well and badly behaved. When these ratings were compared with the personality scale scores, the results indicated that:

badly behaved boys predominate at the high level of P and at the low level of P where there is a combination of high E/high N scores; well-behaved boys predominate at the low level of P except where E and N are simultaneously high.

Using the ASB, he subdivided the total scale into ten sub-scales according to type of offence; this table sets out the correlations of P, E and N with each of the sub-scales as well as the total scale. It showed that all the correlations are positive, being highest with P and lowest with N.

Among non-incarcerated adolescents the pattern is much the same. R. Foggitt (1976) has studied a non-institutionalized sample of delinquent and non-delinquent adolescents. Factor analysis of the intercorrelations between the crimes and the personality scales of E and N showed that they were all positively inter-correlated and that a single general factor emerged from the analysis on which different crimes had loadings as follows. Truancy, 0.56; poor work history, 0.62; vagrancy, 0.71; attempted suicide, 0.56; frequency of violence, 0.74; destructiveness of violence, 0.72; heavy drinking, 0.45; excessive drugs, 0.52; theft, 0.71; fraud, 0.50; group-delinquency, 0.46; number of convictions, 0.59. For the personality variables the loadings were 0.44 for E and 0.42 for N.

Two interesting recent studies extend the scope of the work so far reviewed. Perez and Torrubia (1985) used Zuckerman's (1979) concept of sensation-seeking defined as the need for varied, novel and complex sensations and experiences, and willingness to take risks for the sake of such experiences. This scale, which is correlated with extraversion and defines one aspect of that dimension of personality (Eysenck and Eysenck, 1985) was measured in a Spanish translation of the scale published by Zuckerman, Eysenck and Eysenck (1978). Three hundred and forty-nine students were tested, using the sensation seeking scale as well as a 37-item Spanish version of a written self-report delinquency (SRD) scale. A correlation of 0.46 was obtained for the total of the sensation seeking scale, with the highest correlations going to the experience seeking (0.45) and disinhibition (0.43) scales. These are the values for males; for females they were 0.49 for the

total scale, and 0.43 and 0.45 for the experience seeking and disinhibition scales. Correlations for the other two scales were smaller (in the neighbourhood of 0.20) but still significant.

Also using a self-report format, Rushton and Chrisjohn (1981) tested eight separate samples, obtaining significant positive correlations with extraversion, largely insignificant ones with neuroticism, and very positive and significant ones with psychoticism. Correlations with the lie scale were uniformly negative and mostly significant. Subjects of these experiments were high school and university students, totalling 410 in all. As the authors summarize their findings:

The evidence showed clear support for a relationship between high delinquency scores and high scores on both extraversion and psychoticism. These relationships held up across diverse samples and different ways of analyzing the data. No support was found for a relationship between delinquency scores and the dimension of neuroticism. (1981: 11)

In another interesting study, Martin (1985) pointed out that:

Attempts to verify Eysenck's theory of criminality have usually been concerned with the proportion by which delinquents differ from non-delinquents on the dimensions of extraversion, neuroticism and psychoticism. There are very few studies concerned with the proportion in which these dimensions are related to the acquisition of moral social rules, the real core of this theory. The current study examines the theory from a new approach, trying to show in what measures the value priorities of a group of 113 juvenile delinquents are related to the personality dimensions stated by Eysenck. (1985: 549)

It was found that extraversion and psychoticism showed the largest number of significant relationships. The youths who scored high and low on the E scale differed in six terminal values and six instrumental values out of a total of 36 values. Values concerned with morality, and those which imply an acceptance of the social norms, are considered the most important factors for the youths with low E scores.

Those who scored high on the psychoticism dimension consider the following values as the most important: 'An exciting life; pleasure; ability'; all these have clear personal significance. They gave less importance to values related to the social environment, such as 'world peace', 'equality' and 'social recognition'. As far as they go, these results are in good accord with the personality theory under discussion, and they also suggest a new approach to validating the theory.

Drug takers constitute a rather special sample of criminals, although the study just mentioned shows drug taking offences to be highly correlated with other types of criminality. Shanmugan (1979) compared 212 drug users and 222 non-drug users matched with respect to sex, age, educational qualification and socio-economic status, and found that drug users were high on extraversion and neuroticism; stimulant-depressant drug users were found to be high on psychoticism as well as on the 'C' (criminal propensity) scale. Gossop (1978) studied the personality correlates of female drug addicts convicted of drug-related violent and other

offences. Convicted subjects were more extraverted than non-convicted subjects. Another study, Gossop and Kristjansson (1977), investigated 50 drug takers and found that subjects convicted of non-drug offences scored higher on extraversion than subjects not convicted of such offences. Drug-dependent subjects altogether scored extremely high on the 'C' (criminal propensity) scale. This reflects to some extent their high scores on the P and N dimensions.

### SPECIFIC TRAITS AND CRIMINALITY

Before considering the large number of German-speaking studies using inventories derived from and similar to the Eysenck Questionnaires, it may be useful to consider quickly studies involving a number of specific traits which, as Figures [12.1–12.3] show, are involved in the three major dimensions of personality. Most work has been done on such factors as anxiety and depression, sensation-seeking, impulsiveness, impulse control, hostility and aggression, and lack of conformity. Typical and relatively recent studies only will be quoted; these usually have bibliographies referring to earlier studies.

Sensation or stimulation seeking has been studied by Farley and Sewell (1976) and Whitehill, De Myer-Gapin and Scott (1976), the former using a questionnaire, the latter a laboratory experimental technique. They found support for the hypothesis, which was formulated earlier by Quay (1965), that criminals would be sensation seekers. Robins (1972), can also be quoted in support.

Impulsiveness and lack of impulse control has frequently been suggested as a major component of criminality. Hormuth et al. (1977) using both questionnaires and experimental methods, were able to verify the prediction of less impulse control in delinquents with the former. The latter study also found positive results favouring the hypothesis. These data may be considered together with a related concept, namely that of risk-taking, which is often considered almost synonymous with impulsivity or lack of impulse control. A very thorough review of the literature is given by Lösel (1975), who found risk-taking more prominent among delinquents. The best available study on risk-taking, also giving a good summary of the literature, is by Schwenkmezger (1983); his conclusion is that results obtained by various investigators can best be interpreted in the sense that delinquent behaviour is favoured by impulsive, risky decision strategies, influenced more by hope of luck and chance than by realistic estimates of one's own abilities and possibilities.

Hostility and aggression are other traits frequently associated with criminality, and the Foulds scales (Foulds et al., 1960) have often been used as a measuring instrument. Data reported by Blackburn (1968, 1970), and Crawford (1977) suggest that positive relationships exist, with long-term prisoners generally having higher total hostility scores than normals, and violent offenders being more extra-punitive than non-violent offenders. Megargee's (1966) hypothesis contrasting over- and under-control would distinguish between extremely assaultive offenders (over-controlled) who would be expected to express less hostility than only moderately assaultive offenders. This theory was supported by Blackburn (1968) but not by Crawford (1977). Berman and Paisley (1984) compared juveniles

convicted of assaultive offences with others convicted of other types of offences, and found that the former exhibited significantly higher psychoticism, extraversion and neuroticism scores; sensation seeking scores were also significantly lower for the non-assaultive group of property offenders.

A French Canadian group was studied by Coté and Leblanc (1982). Using the Jesness Inventory (Jesness, 1972) and the Eysenck Personality Inventory, they studied 825 adolescents from 14 to 19 years old, and correlated personality measures with self-reported indices of delinquency. They found the following traits very significantly correlated with delinquency; psychoticism (0.36), manifest aggressiveness (0.34), extraversion (0.32), bad social adjustment (0.32), alienation (0.25), repression (-0.25), and some traits showing even lower but still significant correlations.

The Jesness Inventory, just mentioned, consists of 155 items, scored on ten subscales (social maladjustment, value orientation, immaturity, alienation, autism, withdrawal, manifest aggression, social anxiety, repression and denial), and a predictive score, the Anti-social index. The relationships between the Eysenck and Jesness Personality Inventories have been explored by Smith (1974). Some of the observed correlations are quite high, e.g. between social maladjustment, autism, manifest aggression, withdrawal, on the one hand, and N and P, on the other. Social anxiety is negatively correlated with E, and highly positively with N. Saunders and Davies (1976) found evidence for the validity of the Jesness Inventory, as did Mott (1969). The scales most diagnostic appeared to be social maladjustment, value orientation, alienation, manifest aggression, and denial. In addition, Davies (1967) found some evidence in his follow-up studies for the validity of the autism, withdrawal and repression scales.

There are many studies using MMPI profiles, such as those of Davies and Sines (1971), and Beck and McIntyre (1977). The scales usually involved are the psychopathic deviate and hysteria scales, hypochondriasis, masculinity/femininity interest patterns, and mania; these suggest neurotic extraversion in the main. A more detailed account of work with the MMPI will be found in Dahlstrom and Dahlstrom (1980). As regards anxiety, a typical report is that by Lidhoo (1971), who studied 200 delinquent and 200 non-delinquent adolescents, matched for age, sex and socioeconomic status; all the subjects were Indian. The main and highly significant differences observed were with respect to emotionality, with the delinquents more tense, more depressed, and more easily provoked, and sexual maladjustment.

With only one or two exceptions, all the studies so far considered have been published in English and relate to English and American populations. It may be useful to summarize the major findings before going on to the large body of German-speaking studies investigating the major theories here considered. Replication is the life-blood of science, and here we would seem to have an ideal opportunity to compare two sets of data, not just collected by different investigators, but collected in different countries and by means of different inventories, although the German inventory used in all these studies was explicitly based on the Eysenck Personality Inventory. Thus we would here seem to have a cross-cultural replication, and if similar results are obtained, we could feel much more secure in regarding these conclusions as being firmly based.

The first conclusion which seems appropriate is that while the earlier studies summarized by Passingham were not theory centred, often used inappropriate questionnaires, and paid little attention to important methodological requirements, later studies summarized in Eysenck (1977), were methodologically much superior, and gave much more definitive and significant support to the personality theory in question. Studies carried out since then have maintained this improvement, and are nearly all equally positive in the outcome. Our first conclusion therefore must be that we now have good evidence for the implication of psychoticism, extraversion and neuroticism as predisposing factors in juvenile and adult criminality, and even in juvenile anti-social behaviour not amounting to legally criminal conduct. These correlations are based both on self-reported anti-social behaviour and criminal activity, and on legally defined criminality.

It would seem that different types of criminal activity may show differential relationships to personality, but too little has been done in that field to be very definitive to one's conclusions. Males and females seem to have similar personality patterns, as far as criminality is concerned, but little seems to have been done in making deliberate gender comparisons.

While P, E and N are related to criminality at all ages, there seem to be definite patterns suggesting that N is more important with older criminals, E with younger criminals. Why this should be so is not clear, but the data definitely tend in that direction. Possibly N, as a multiplicative drive variable, assumes greater importance with older people in whom habits have already been settled more clearly than is the case with younger persons. Another possibility is that the largely incarcerated adult samples cannot properly answer the social activity questions which make up a large part of the extraversion inventory. A study specifically directed to the solution of this problem would seem called for.

### SUMMARY OF GERMAN STUDIES

A summary of 15 empirical German studies, using altogether 3,450 delinquents and a rather larger number of controls, has been reported by Steller and Hunze (1984). All these studies used the FPI (Freiburger Persönlichkeits Inventar) of Fahrenberg, Selg and Hampel (1978). In addition, Steiler and Hunze report a study of their own, using a self-report device for the measurement of anti-social conduct. The FPI contains nine traits and three dimensional scales, the latter being extraversion, emotional ability or neuroticism, and masculinity. The nine trait scales relate to nervousness, aggressiveness, depression, excitability, sociability, stability, dominance, inhibition and openness. Typical of the general findings are those of the special study carried out by Steiler and Hunze, where they found that delinquents showed higher scores on nervousness, depression, excitability, sociability, extraversion, and neuroticism. These results appeared separately on two alternative forms of the FPI.

In summarizing the results from all the other German studies, Steiler and Hunze point out that for the trait scales there is a very clear picture. Delinquents are higher on depression, nervousness, excitability and aggression. Regarding the major dimensions, a great majority show excessive degrees of neuroticism, and to a lesser extent extraversion. Sociability, as a major trait involved in extraversion, was significantly elevated in 25 per cent of all the comparisons, with criminals being more sociable. If we can use aggressiveness as an important part of psychoticism, then it is clear that these results agree very well with those of the English-speaking samples.

German studies show a similar differentiation between older and younger subjects, as far as neuroticism and extraversion are concerned. For the younger groups, delinquents are characterized much more clearly by greater sociability, dominance and openness; extraversion is implicated in almost every comparison between young delinquents and non-delinquents. This agrees well with the English-speaking data.

The German data give evidence also for the fact that the different types of criminality may be related differentially to personality, but the data are not extensive enough to make any definitive summary possible. There is, however, an interesting summary of data relating personality to the duration of incarceration, suggesting an increase in emotional instability with incarceration. However, there is also evidence that prisoners on probation showed increases in emotional instability. Clearly a more detailed investigation of this question is in order, particularly as Bolton et al. (1976) report discrepant findings.

It is sometimes suggested that possibly the differences between criminals and non-criminals might be due to the process of incarceration itself. This is unlikely, because several of the studies discussed compared the anti-social and criminal activities of children and juveniles none of whom were incarcerated at any time. Even more relevant and impressive is work showing that long before anti-social acts are committed, children who later on commit them are already differentiated from those who do not. Consider as an example the work of Burt (1965) who reported on the follow-up of children originally studied over 30 years previously. Seven hundred and sixty-three children of whom 15 per cent and 18 per cent respectively later became habitual criminals or neurotics, were rated by the teachers for N and for E. Of those who later became habitual offenders, 63 per cent had been rated as high on N; 54 per cent had been rated as high on E, but only 3 per cent as high on introversion. Of those who later became neurotics, 59 per cent had been rated as high on N, 44 per cent had been rated as high on introversion, but only 1 per cent as high on E. Similar data are reported by Michael (1956), and more recently Taylor and Watt (1977) and Fakouri and Jerse (1976) have published data showing that prediction of future criminal behaviour is possible from early school records. Thus the future criminal, like the future neurotic, is already recognizable in the young child.

Several of the studies summarized by Steiler and Hunze used self-reported delinquency, and found, very much as did the English-speaking studies, that very

similar personality correlates were observed here as in the case of legally defined delinquency.

The authors conclude that:

in agreement with Eysenck's hypothesis and findings, it was found that in many samples emotional instability ('neuroticism') and high extraversion were found (in delinquents). The corresponding increases in the FPI dimensional scales were found most clearly in juvenile samples, but for grown-up delinquents were found in the FPI trait scales which represent major components of dimensional scales emotional instability and extraversion. (1984: 107)

We may thus conclude that this essay in replication has been eminently successful, in that identical findings are reported from the German literature as we have found to be representative of the English-speaking literature. There seems to be little doubt, therefore, that personality and anti-social and criminal behaviour are reasonably intimately correlated, and that these correlations can be found in cultures other than the Anglo-American. Eysenck (1977) has reported such confirmatory studies from widely different countries, including India, Hungary, Poland, and others, as well as the German and French-speaking samples mentioned in this chapter. [...]

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