THE DIAGNOSIS AND CLASSIFICATION OF PERSONALITY DISORDERS

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by

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ABSTRACT

This investigation was undertaken to examine the utility of the typology of personality disorders proposed by the psychiatrist Schneider. Eighty-one subjects were examined. They were seen in the practice of one clinical psychiatrist during a one-year period.

The characteristics of the sample have been described. The commonest reason for referral was the development of neurotic symptoms. In 17 per cent of cases, no presenting problem could be identified other than direct manifestations of a personality disorder.

Summaries of the patients' histories and audio-recordings of them were presented to independent psychiatrists for diagnosis. Examples of eight of the ten personality disorders described by Schneider were identified with unanimous agreement. The exceptions were the fanatic and labile types.

Higher reliability was found for the diagnosis of personality disorders than was suggested by earlier reports. In typical cases, Schneider's typology was more reliable than the ICD-8 classification of personality disorders, but some of the types were able to be diagnosed more reliably than others.

An adjective check-list was completed for every patient and the adjectives were subjected to a principal components analysis. A set of rating scales was developed from the first five components and used to assign the patients to their most appropriate types. It proved to be able to discriminate between the types and evidence of its reliability and validity was found.

The profiles provided by a psychological test battery demonstrated the content validity of the typology. Predictions of anthropometric differences in certain types were not confirmed, except that female patients with affective personality disorders had greater body 'bulk' than the others.

Numerical taxonomy was performed on the clinical data provided by the sample. Highly significant associations were found between the resulting clusters of subjects and the diagnoses made with the rating scales.

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LIST OF ABBREVIATIONS

DSM -2 - 2nd. Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association)

EEG - Electroencephalography

EPI - Eysenck Personality Inventory - Scales -

- E - Extraversion
- N - Neuroticism
- L - Lie score

MNTS - Marke-Nyman Temperament Scale - Scales -

- Sol. - Solidity
- Stab. - Stability
- Val. - Validity

16PF - 16 Personality Factors - Scales -

- A - Sizothymia vs. Affectothymia
- B - Intelligence
- C - Lower vs Higher ego strength
- E - Submissiveness vs. Dominance
- F - Desurgency vs. Surgency
- G - Weaker vs. Stronger superego strength
- H - Threctia vs. Parmia
- I - Harria vs. Premsia
- L - Alaxia vs. Protension
- M - Praxemia vs. Autia
- N - Artlessness vs. Shrewdness
- O - Untroubled adequacy vs. Guilt proneness
- Q_1 - Conservatism vs. Radicalism
- Q_2 - Group adherence vs. Self-sufficiency
- Q_3 - Low integration vs. High self-concept control
- Q_4 - Low vs. High ergic tension

ANTHROPOMETRY

Physical anthropometry scales - SA - Surface area
PI - Ponderal index
H - Horizontal component

2nd Comp.) - Second and third
3rd Comp.) somatotype components

K - Kappa (coefficient of agreement)

RE - Random Error coefficient of agreement

W - Coefficient of concordance

WHO - World Health Organization

"The conclusion of the whole matter is somewhat gloomy. The diagnostic groupings of psychiatry seldom have sharp and definite limits. Some are worse than others in this respect. Worst of all is psychopathic personality, within its wavering confines". Sir Aubrey Lewis. 1974.

INTRODUCTION

The need for this study arose through the clinical experiences of the author and many colleagues. The clinical assessment of personality is an essential element in psychiatric diagnosis and is of major importance in determining the etiology and prognosis of many individual disorders. Yet this most important aspect of clinical practice presents the psychiatrist with some of his greatest difficulties. Its terminology is replete with the jargon of the many psychiatric 'schools'. There are no agreed definitions of, or reliable means of distinguishing, what is abnormal. Underlying these deficiencies, there is a lack of any universally acceptable theory of what personality is or how the medical model can be applied to the elucidation of its many reported disorders.

In an attempt to improve the reliability of psychiatric diagnosis and to facilitate communication between psychiatrists practising in different cultural settings, the World Health Organization (1968) provided a fresh classification of psychiatric disorders and also encouraged the publication in individual countries of glossaries containing definitions of its various categories. This classification will be referred to as the ICD-8 (8th. edition of the International Classification of Diseases).

The Canadian glossary of the ICD-8 (Dominion Bureau of Statistics, 1969) defines personality disorders as "characterized by deeply ingrained maladaptive patterns of behaviour that are perceptibly different in quality from psychotic and neurotic symptoms. Generally these are life-long patterns, often recognizable by the time of adolescence or earlier". There is as yet little information available about how this diagnostic label is used by Canadian psychiatrists. However, in 1964 Gray and Hutchinson published a survey of the opinions of a sample, who responded to a postal enquiry about their understanding of the meaning of 'psychopathic' personality disorders. There was little agreement between the psychiatrists about the essential features of such disorders. Furthermore, they found the concept to be of limited use in the clinical setting.

The major British textbook of psychiatry (Mayer-Gross et al., 1969, pp. 56-60) suggests the following as being the principal difficulties facing psychiatrists in this area: the adequate description of events in the affective and intellectual field; the relationship of personality to intelligence and of personality disorder to subnormality of intelligence; understanding the relationship of personality disorders to psychosis, neurosis and to normality; and the definition of psychopathy. Shepherd et al. (1974), reporting a series of 'clinics' on psychiatric diagnosis organized by the WHO, including one on personality disorders, emphasised:

the nosological aspects; the difficulties of case identification and of measuring the severity of such disorders; the need to estimate the importance of cultural factors in diagnosis; the role of organic factors and the uncertain status of personality changes due to cerebral disease; and the need to investigate the relationship between personality disorders and antisocial behaviour.

Summarising the American experience, Winokur and Crowe (1975) drew attention to: the absence of specific defining criteria for the personality disorders; the lack of information about their etiology, course and treatment; and the low reliability of this diagnosis. Thus, while acknowledging the many difficulties which beset this area of psychiatric diagnosis, the experts do not seem to be in agreement about which are of most immediate concern.

The Field of Clinical Psychiatry:

Psychiatric texts agree on the existence of distinctive psychopathological symptoms associated with organic brain diseases. Most also agree that there is another group of disorders in which there are strong indications of abnormal cerebral function, although it is not clear to what extent the dysfunction is causal and how much is the consequence of the associated psychopathological changes. These conditions are conventionally known as the 'functional psychoses'.

The psychoses, both organic and functional, have always been regarded as the most serious of the psychiatric disorders. They used to constitute the majority of conditions treated in mental hospitals and, indeed, the major syndromes, such as general paralysis, schizophrenia and the affective psychoses, were first described in this setting. However, with increasing success in the treatment of these illnesses and changing attitudes towards their victims in the community, there has developed a need to examine more closely the less disabling, but more prevalent, non-psychotic disorders.

According to one source (Gruenberg and Turns, 1975) neuroses, the most commonly diagnosed of the non-psychotic disorders, ranked first as causes of admission to designated psychiatric treatment facilities in the United States in 1970. Personality disorders ranked fifth as causes of admission, ahead of both organic brain syndromes and affective psychoses. Another source (Winokur and Crowe, 1975) estimated that personality disorders, excluding antisocial disorders, constituted about 20% of the conditions treated at their centre.

These figures provide no estimate of the frequency of such disorders in delinquent populations, where there is reason to suppose that all mental abnormalities, but especially personality disorders, are over-represented (Scott, 1975). There is also evidence that milder non-psychotic

disorders are present in large numbers of otherwise normally functioning adults in a wide range of social settings (Essen-Möller, 1956; Srole et al., 1962; Leighton et al., 1963).

Defining the area of study:

The ICD-8 recognises ten principal categories of psychiatric disorder, which are shown in Table 1. The present

Table 1

Principal categories of psychiatric disorder described in the ICD-8

1. Mental retardation
2. Organic brain syndromes
3. The functional psychoses
4. Neuroses
5. Personality disorders (inc. sexual deviations and addictions)
6. Psychophysiological disorders
7. Special syndromes
8. Transient situational disturbances
9. Behaviour disorders of childhood and adolescence
10. Non-specific conditions and social maladjustment not directly attributable to a psychiatric disorder.

study will not concern itself with categories number 1, 2 or 3 for reasons which have already been stated. Inspection serves to eliminate categories 7, 9 and 10. Category 8 can be removed next because it refers to reactions to severe stress in otherwise normal individuals. Finally, it was decided to eliminate the psychophysiological disorders, sexual deviations and addictions as these have become objects of special study. When a patient with one of these conditions was otherwise eligible for inclusion in the study (this applies especially to a number of alcoholic subjects) the examination focussed upon their pre-morbid personality characteristics and not the addiction itself. The two remaining categories, neuroses and personality disorders, require clarification.

The concept of neurosis had its origins in descriptions by internists and neurologists of the various manifestations of anxiety which they observed in the medical setting. Such disorders were at first believed to be neurological. However, their psychogenic component was delineated by Janet (1859-1947) and by Freud (1856-1939) and his followers, and this aspect has continued to dominate the literature on the subject up to the present time.

When the different forms of neurosis were described, it was recognised that they tended to arise in subjects who were predisposed by the possession of characteristic personality features (Mayer-Gross et al., 1969, pp. 77-154).

In particular, causal links were described between depressive and labile personality types and depressive neuroses; between neurasthenic personality features and the anxiety neuroses; between the hysterical personality type and conversion and dissociative reactions; and between the anankastic personality and the obsessive-compulsive states. While subsequent research has generally revealed less strong associations between personality types and specific neurotic disorders, the existence of such associations is still not disputed (Mayer-Gross et al., 1969; Anderson and Trethowan, 1973).

With the exception of psychoanalytically-oriented texts (which are reviewed in greater detail below, page 14), most English textbooks describe the neuroses, in etiological terms, as being due to an interaction between a patient with a personality disorder and a situation which gives rise to anxiety in them. Recent spectacular advances in understanding the pathophysiological basis of such anxiety (Lader and Marks 1971; Lader, 1975) have not been accompanied by comparable increases in our knowledge of 'personality'. As a result, the significance of the associations between personality types and neuroses is now a matter of speculation. In the ICD-8 the issue was resolved by placing the neuroses and the personality disorders in separate classes "perceptibly different in quality".

The Differences between neuroses and personality disorders:

The ICD-8 definitions emphasise two perceptible differences between the neuroses and the personality disorders. First, the neurotic disorders are dominated by the experience of anxiety. This may be experienced directly or compensated by adaptive psychological changes (phobias, dissociation, obsessional phenomena, depersonalization). On the other hand, anxiety is not a feature of the personality disorders. Instead, these disorders are manifested as maladaptive behaviour, presumably of sufficient intensity to distress those caught up in it and to arouse 'therapeutic concern' (Kraüpl-Taylor, 1971).

The assumption that patients with personality disorders do not experience anxiety while neurotics do, is not supported by clinical observation. For example, the self-insecurity of an anankast gives rise to considerable anxiety, as does the withdrawal of attention from a patient with a hysterical personality disorder. Conversely, not all neurotic reactions are accompanied by anxiety, e.g., hysterical conversion symptoms.

The second major difference in the definitions of the personality disorders and of the neuroses is that the former are seen as life-long features while the latter represent acquired psychological changes. This may be sufficient to explain why the neuroses have retained their

'disease' status, for discontinuity is one of the clearest indicators of bodily dysfunction and one of the most frequently used defining criteria of illness (Kendell, 1975).

However, patients with personality disorders are frequently admitted to short-stay psychiatric units. Such admissions are not usually for the purpose of enabling the patients to overcome life-long maladaptive patterns, but to deal with a crisis or with a set of acquired symptoms which produce distress and motivate them to seek treatment.

This differentiating feature between the neuroses and the personality disorders in the ICD-8 is also difficult to defend in the face of clinical observation. Unselected samples of neurotics include some patients whose symptoms have lasted so long that the differentiation of long lasting 'trait' from immediate 'state' becomes highly problematic. By the same token, it has long been recognized that personality disorders show periodic fluctuations in intensity, as well as a tendency towards improvement in later life (Craft, 1969). As Scott (1963) observed: "Psychopaths do not behave psychopathically all the time, and careful enquiry into the exact nature of the precipitating factors is of the utmost importance...."

It appears that the ICD-8 definition does not convey the essential differences between personality disorders and the neuroses. If personality disorders represent abnormalities in the constitution, while the neuroses represent ways in

which anxiety is experienced, then there are etiological differences between the two entities. The neuroses are, by definition, psychogenic in origin while the personality disorders represent constitutional abnormalities in which biological factors can be postulated. In addition, the personality disorders contribute to the etiology of the neuroses, insofar as they represent predispositions to react in ways which are described as 'neurotic'.

In the present investigation it was anticipated that many of the subjects studied would have histories of neurotic disorders, but it was also realised that the class of personality disorders has traditionally included individuals who present with problems related to antisocial conduct rather than frank neurotic symptoms.

HISTORICAL DEVELOPMENT OF THE CONCEPT OF PERSONALITY DISORDER

There is general agreement about the major historical landmarks, which have been recorded in a number of reviews including those of Partridge (1930), Henderson (1939), Maughs (1941), Schneider (1958), Anderson (1959a), Mayer-Gross et al. (1969) and Lewis (1974).

The first description of a specific type of personality disorder is attributed to Pinel (1745-1826) who termed it 'manie sans délire' and held that it was characterized by disorders of the affective functions e.g., impulsiveness and explosive violence, without major impairment of the intellectual functions or the presence of delusions and hallucinations. Prior to Pinel's report, it had been accepted that the intellect or judgment was always involved in cases of insanity and thus acceptance of his syndrome meant widening the whole field of mental disorder.

Pinel's account was amplified by writers in a number of countries, including Pritchard (1837) in Great Britain who reinforced the distinction between intellectual and 'moral' insanity. Pritchard's book ushered in a long period of debate between psychiatrists who accepted or disagreed with this distinction or offered alternative explanations, for example, that the abnormal affective states were really prodromal features of a psychosis.

Meanwhile, Koch (1891) introduced the term 'psychopathic inferiorities' to describe biological defects which "constitute the inferiority of the individual in the whole struggle of life". The concept included a number of psychiatric disorders with the personality disorders being prominent among them. Koch's biological theories were widely adopted in Europe, with the exception of Great Britain, and were carried to America by Adolph Meyer (1866-1950). There they enjoyed brief popularity before being swept aside by the theories of psychoanalysis. A new term 'psychopathic personality' appeared at this time and its use came to include "all varieties of distinctly pathological personality and more specifically the type recognised as morally or socially deviated" (Partridge, 1930).

In Britain, Pritchard's concept of moral insanity has, in various guises, continued to dominate the literature up to the present time. A very influential account was given by Henderson (1939), who used the term 'psychopathic states', as "the name we apply to those individuals who conform to a certain intellectual standard, sometimes high, sometimes approaching the realm of defect but yet not amounting to it, who throughout their lives, or from a comparatively early age, have exhibited disorders of conduct of an anti-social or asocial nature, usually of a recurrent or episodic type, which, in many instances, have proved difficult to influence by methods of social, penal and medical care and

treatment, and for whom we have no adequate provision of a preventive or curative nature." Henderson added that: "The inadequacy or deviation or failure to adjust to ordinary social life is not a mere wilfulness or badness ... but constitutes a true illness for which we have no specific explanation". This formulation was severely criticised by Anderson (1959a) on the grounds that Henderson's assumption that psychopaths were ill was entirely unjustified, and that it implied an equally unjustified association with mental retardation.

It seems that, since Pritchard's day, British clinicians have been in broad agreement about the existence of personalities whose abnormality lies in an incomprehensible tendency to indulge in antisocial behaviour. Scott (1963) suggested that there were four key elements in the majority of definitions: the absence of psychosis; long duration; disturbed behaviour; and the fact of appearing to others as being in need of treatment. However, in spite of agreement about the existence of the syndrome of psychopathy, British psychiatrists have never achieved a consensus about its nosological status, and detailed descriptions have been lacking. As Anderson (1959a) observed: "The English have in general shown little taste for refined and detailed psychological analysis".

In Britain, theories of the etiology of the psychopathic personality disorders have emphasised the interaction

between abnormal constitutional elements and environmental influences during personality development. The role of psychogenic factors has received little attention. In America, where the field has been dominated by psychoanalytic theory, the converse is true. As exemplified by two contemporary sources (Leaff, 1974; Rappeport, 1975), American concepts of personality disorder are dynamically orientated, emphasising their adaptive significance and the subject's avoidance of anxiety by the use of unusual mental mechanisms of defence, derived from an early stage of ego development. Genetically, personality disorders are seen as abnormal psychogenic developments resulting from unfavourable early family experiences.

Contemporary psychoanalysis attaches little importance to the differentiation of normal and abnormal states, and has become increasingly detached from the traditional medical model. The personality disorders are regarded as being equivalent to the neuroses in every respect except that, due to the operation of different mental mechanisms in the two states, the personality disorders are 'ego-syntonic' and their sufferers are less like to be motivated to persist with psychotherapy. The same approach covers both antisocial and other forms of personality disorder and a number of typologies have been proposed (Reich, 1949; Michaels, 1959).

Recently, a new class of patients has been defined by psychodynamically-orientated writers. They constitute the 'borderline syndrome' (Grinker, 1975; Chessick,1975). According to Grinker (1975) this syndrome is "a defect in psychological development". Its characteristics include an inability to engage in affectionate relationships; lack of consistent self-identity; hostile affect; and loneliness experienced as depression. Many such patients would certainly be diagnosed by European psychiatrists as having personality disorders.

In spite of the domination of American psychiatry by psychoanalytic concepts, a small number of researchers employing various strategies, have together succeeded in differentiating a syndrome of antisocial personality disorder closely resembling the classical psychopathic personality described by British writers (Robins, 1966; Cleckley, 1976). Woodruff et al. (1974) provided a list of nine ways in which the disorder may manifest itself including school problems, running away from home, trouble with the police, a poor work history, marital difficulties, fighting, sexual problems, vagrancy and lying. They suggested that a minimum of five such manifestations were necessary for a definite diagnosis to be made and that at least one of these should be present before the age of fifteen. With the support of American psychiatrists the disorder was incorporated in the WHO classification of the personality disorders.

To summarize, although the class of personality disorders recognized in the ICD-8 includes types that are linked conceptually to the neuroses its definition of personality disorders overlooks this. It emphasises instead the antisocial features, which are derived from the older term 'psychopathic personality'. Evidence will be presented later which suggests that the reliability of these diagnoses is low. It will also be proposed that a sounder basis for the classification and diagnosis of the personality disorders is to be found in the writings of phenomenological psychiatrists, especially those of Schneider (1958, 1959). First, however, it is necessary, as part of the process of defining the field of this study, to provide an introductory description of this work.

Phenomenological contributions

Schneider's contributions began with the publication of his 'Psychopathic Personalities' in 1923. This work went to 9 editions during the next quarter of a century and Schneider's final views were presented in the fifth edition of his 'Clinical Psychopathology', published in 1959.

Schneider was trained in the phenomenological approach to the study of mental disorders, which assumes that "there exists for many psychiatric symptoms a point beyond which further psychological analysis cannot go" (Anderson, 1959b). In the phenomenological examination the observer

attempts "to live into the patient's own morbid experiences as far as that is possible and to formulate this experience as precisely and definitely as the limitations of language allow" (Anderson, 1959b).

Schneider was able to build on the foundations of Jaspers (1963; 1974) who distinguished between disorders which were to be regarded as disease entities (the psychoses) and those that were better understood as being variations on normal experience. Both Jaspers and Schneider included the personality disorders in the category of variations. Schneider described as 'abnormal', any personalities that deviated from "some notion we have of normal personality". The number and variety of such abnormal personalities were many, so that some additional criterion was needed to help decide which were of medical importance. For this purpose Schneider invoked the criterion of suffering, defining as 'psychopathic' those abnormal personalities who "suffer from their abnormality or whose abnormality makes society suffer" (1959).

Schneider's definition of psychopathy (or personality disorder) thus differed considerably from those used previously. For Schneider psychopathy was not a form of mental illness, neither could it be regarded as intermediate between normality and psychosis, as Koch and Kraepelin had suggested (Lewis, 1974): "We make a fundamental and sharp distinction between abnormal personalities and cyclothymic and schizophrenic psychoses, which we have good reason to think are morbid

processes. In our opinion no transitions take place, though a few individual cases sometimes offer difficulties" (1959).

Schneider took care to emphasise the importance of experience in individual personality development, but he displayed a greater interest in the constitutional basis of personality disorders. He felt that many contemporary theorists failed to take account of the contribution made to experience by the disordered personality itself. "... attention should be paid to what really is the prelude of any experience, the qualities that are part and parcel of a person's endowment". The genetic basis of such variations in constitution was regarded as being in the form of a set of potentials leading to a final "realization of personality quite independent of the experience itself ..." (1959).

Another opinion which set Schneider apart from English-speaking psychiatrists was his rejection of the 'neuroses'. This group of disorders represented excessive reactions to stress and originated in "the abnormality disposed psychopathic personality, which is always at least one of the determining factors" (1959).

The potential clarification which Schneider's theories offer to the field of the non-psychotic disorders is considerable. He provided a definition of personality disorder which is capable of absorbing both the antisocial and the neurotic forms without relying on social criteria. The neuroses can be 'explained' in terms of the same

fundamental abnormality as the personality disorders, but the distinction between psychotic and non-psychotic disorders is absolute. Schneider's descriptions of the personality disorders benefited from the precision of the phenomenological method. The potential importance of Schneider's theories is underlined when the precision of our existing diagnostic concepts is examined.

The diagnosis of the personality disorders

The analysis of a clinical problem in such a manner that a diagnosis is achieved and communicated to those who are likely to benefit from knowledge of it is a fundamental aspect of the practice of medicine. By derivation the word diagnosis means to distinguish or differentiate. It has two main contemporary uses: "The former describes the decision process by which a particular disease is attributed to a particular patient, in preference to any of the other diseases potentially applicable to him, and the latter is the decision reached, the actual illness attributed to that individual" (Kendell, 1975).

Recently, the wisdom of making diagnoses on psychiatric patients has been questionned by a number of critics, both medical and non-medical. Reviews of their criticisms have been made by Zubin (1967) and by Kendell (1975). While a detailed discussion of all the issues is not relevant here, it is necessary to the objectives of the present study to

consider what is known about the accuracy with which diagnoses are made by psychiatrists dealing with patients with personality disorders.

In psychometrics, the concept of reliability is used to indicate the ability of a test to obtain consistent scores from the same subjects on successive administrations. Its application to psychiatric diagnosis was only attempted comparatively recently. However, there is a growing awareness of its importance: "To put the matter as a general principle, the accuracy of the prognostic and therapeutic inferences derived from a diagnosis can never be higher than the accuracy with which, in any given situation, that diagnosis can itself be made..." (Kendell, 1975).

Early studies of the reliability of psychiatric diagnosis employed different methods and suffered from the lack of a universally accepted means of recording diagnostic agreements. However, some of the results have been re-analysed by Zubin (1967) and by Spitzer and Fleiss (1974) to allow comparisons to be made. Zubin (1967) looked at inter-observer agreement using the 'average group' method. In this method agreement is expressed as a percentage, which is derived from the ratio of all concordant diagnoses (both for the presence and the absence of the condition) to the total number of pairs of diagnosticians. He found a wide range of agreement levels for the diagnosis of personality disorders, varying from 6 to 66 per cent. Agreement was somewhat higher

for sociopathic (antisocial) personality than for other forms. Zubin also found that the consistency of the diagnosis of personality disorders was low over time.

Spitzer and Fleiss (1974) selected six studies which could be adapted to give values for the reliability coefficient, Kappa (Cohen, 1960). This statistic (K) adjusts for the base rates at which diagnoses are made in a particular study and thus corrects for chance agreements. Values for K may range from -1 (negative agreement) through zero (no agreement) to +1 (perfect agreement).

Across the six studies (those of Schmidt and Fonda, 1956; Kreitman, 1961; Beck et al., 1962; Sandifer et al., 1964; Cooper et al., 1972 and Spitzer et al., 1974), Spitzer and Fleiss found values for K ranging from .24 to .63 for the combined category of personality disorder and neurosis, and values ranging from .19 to .56 for personality disorder alone. The mean value in the case of the latter diagnosis was only .32, compared with .77 for organic brain syndromes, .57 for schizophrenia and .41 for affective disorders. Spitzer and Fleiss pointed out that the conditions under which the studies were conducted probably resulted in higher agreement than would be found in the clinical setting.

These studies suggest that the reliability of psychiatric diagnosis is lower than that which is desirable for clinical and comparative purposes. Furthermore, diagnostic

agreement is lower for functional than it is for organic conditions, and lowest of all for the non-psychotic disorders. The personality disorders are characterized by a wide scatter of measures of agreement and a low average value. There is also anecdotal evidence of considerable cross-cultural variation in diagnostic practice, with European psychiatrists tending to diagnose personality disorders in many patients who are considered schizophrenic by psychiatrists trained in North America (Kendell et al., 1971).

There is much less information available about the reliability of the diagnosis of different types of personality disorders. Walton et al (1970) examined the usage of the then current classification of the personality disorders provided by the American Psychiatric Association. Unanimous decisions were reached by six psychiatrists in only seven out of forty cases. As five of the agreed diagnoses concerned the presence of hysterical personality disorders in women, and as the study also found the hysterical category to have been overused in female subjects, even this low amount of agreement may have been spuriously high. Much better reliability was found when the assessors used a set of descriptive rating scales.

Walton and Presly (1973) then examined the effect on reliability of providing their raters with a glossary containing descriptions of the 10 types of personality disorders listed in the classification.* Participating

* Dependent, detached, assertive (character disorders); obsessional, hysterical, schizoid, paranoid, cyclothymic (personality disorders); aggressive, inadequate (Sociopathy)

psychiatrists were also given instructions about the steps to be followed in reaching a diagnosis. Under these conditions, full agreement about the diagnosis was achieved by three psychiatrists in 48 per cent of cases and 2/3 agreement in a further 37 per cent. Walton and Presly did not feel that these levels of agreement were acceptable for clinical purposes. Reviewing this portion of their work they concluded that: "The evidence presented is that psychiatrists can rate reliably the degree of specific traits in a particular patient, but at the level of combining these agreed observations to reach a personality diagnosis they achieve very little concordance." (Presly and Walton, 1973).

Psychological tests in personality diagnosis

That diagnostic assessments are more reliable when based upon dimensions rather than upon categories of disorder, is an observation that was made some time ago by psychologists (Eysenck, 1970). Such dimensions have been included in a large number of psychometric procedures. An early example was the Minnesota Multiphasic Personality Inventory or MMPI (Dahlstrom and Welsh, 1960), a set of items selected for their ability to discriminate between patients with psychiatric diagnoses and normal subjects. The items contribute to a series of clinical scales which provide a profile of the individual tested. Although the MMPI is described as a personality inventory, in practice the scales measure a

combination of personality traits and other psychopathological symptoms.

A number of other diagnostic instruments are available which were developed using factor analytic methods. Some, such as the In-patient Multidimensional Psychiatric Scale (Lorr et al., 1962) and the Current and Past Psychopathology Scales (Endicott and Spitzer, 1972) provide profiles of psychopathological changes, while others were developed to assess personality features. The most widely used examples of the latter type are the Eysenck Personality Inventory, or EPI (Eysenck and Eysenck, 1964) and the 16 PF (Cattell, 1957; 1970).

The use of the EPI rests upon Eysenck's claim that a small number of orthogonal factors are sufficient to explain most of the variance in human personality (Eysenck, 1970; McGuire, 1973). The three dimensions he has proposed are: Neuroticism (N); Introversion/Extraversion (E); and Psychoticism (P). The first two constitute the major scales of the EPI and a new inventory incorporating the third scale has now been produced.

The 16PF provides a factor profile in terms of a subject's scores on sixteen dimensions. These were obtained by oblique factor solutions, although the correlations between them are low. Four higher order factors can also be scored, two of which correspond to Eysenck's N and E factors. The 16PF is used clinically to assess the similarity of a patient's

profile to those of various diagnostic criterion groups and as a measure of general personality functioning (MUN, 1975).

There is no doubt that such scales have markedly superior reliability to the existing categorical systems of psychiatric diagnosis. However, they have not yet been accepted into clinical psychiatric practice. In the area of the personality disorders, this is probably attributable to the difficulty experienced by clinicians in adapting them to clinical usage.

The MMPI offers the potential advantage of informing the psychiatrist of the diagnosis that would most likely be made on a particular patient by a large group of independent psychiatrists. However, the actual profile that emerges often arranges the scales in clusters which are rarely encountered in the clinical setting.

A major problem confronting the psychiatrist attempting to use the 16PF or the EPI is that of knowing just what the various dimensions measure. This confusion results partly from lack of familiarity with the nomenclature of such inventories, but underlying it is the lack of adequate understanding, shared by psychiatrists and psychologists, of the nature of 'personality', especially of its non-intellectual components.

A further criticism that can be made of the use of dimensions as opposed to categories in psychiatric diagnosis is that they have failed, in the field of the functional

psychoses, to make a significant contribution to understanding the nature of these disorders. The progress that has been made in this direction came about through the examination of the traditional nosological units. This includes the information obtained from genetic studies, that which has been gathered from the study of biochemical differences between psychotic patients and normals, and the results of numerous therapeutic trials. Psychopathology scales have refined the measurement of what was already defined as abnormal, but it is hard to think of any instrument of this kind that has led to a major revision of the underlying theory.

Although this observation may be less relevant for the study of personality and the personality disorders, it is nevertheless worth considering whether important advantages may not still come from the use of classificatory systems or typologies in this field also.

CLASSIFICATION OF THE PERSONALITY DISORDERS

In the standard ICD-8 system of psychiatric diagnosis, the section on personality disorders contains eight items which are listed in Table 2. The American version, the Second

Table 2

Personality disorders listed in the ICD-8

- Paranoid
- Schizoid
- Affective
- Explosive
- Hysterical
- Anankastic
- Asthenic
- Antisocial

Diagnostic and Statistical Manual or DSM-2 (American Psychiatric Association, 1968) contains two extra categories, the passive-aggressive and inadequate personality disorders, both of which were derived from psychoanalytic theory.

There are as yet no reports on the reliability of this system in its entirety. Validation of the hysterical and the obsessional (anankastic) personality disorders was claimed

by Lazare et al. (1966; 1970) using factor analytic methods, and of the passive-aggressive disorder by Small et al (1970) after a follow-up study. The antisocial personality disorder has also been validated by follow-up and genetic studies (Robins, 1966; Crowe, 1972; Schulsinger, 1972).

Prior to the publication of the ICD-8, other classifications of the personality disorders were proposed. Henderson (1939) suggested that psychopathic personalities (see page 12) be classified as aggressive, inadequate or creative, according to the prevailing pattern of their anti-social or unusual behaviour. However, a follow-up study by Gibbens et al. (1959) showed this classification to have little predictive value.

Curran and Mallinson (1944) proposed a somewhat similar classification of psychopaths into vulnerable, unusual or abnormal, and sociopathic sub-types, implying a continuum of severity from the first to the last-named. A similar continuum of severity was used by Walton and his colleagues in their initial studies (Walton et al., 1970; Walton and Presly, 1973) but it did not appear to improve the reliability of their categorical system. In fact, in 21 per cent of cases their raters departed from the suggested association of degree of severity with a particular type of personality disorder (Walton and Presly, 1973).

Partridge had previously observed (1930) that three sub-types of psychopathic personalities were repeatedly

described. The first group consisted of individuals regarded as socially inadequate. The second type were antisocial (sociopathic) in their behaviour, while the third "... although sociopathic in results, are not essentially sociopathic in motivation". These classifications illustrate the difficulties of describing psychiatric disturbances using predominantly behavioural criteria.

A further problem which may contribute to the low reliability of many psychiatric diagnoses, is the need for the classification to be both mutually exclusive and jointly exhaustive. When such a system is used, it may be difficult to assign individuals who are 'borderline' to the appropriate category: "... the aphorism about the art of classification consisting in learning to carve nature at the joints illustrates the dilemma that arises if no joints are to be found" (Kendell, 1975).

One possible way to overcome this problem might be through the adoption of typologies. Whereas a classification defines the boundaries between natural groupings, a typology defines their modal features. A set of types need not be mutually exclusive though they should be jointly exhaustive.

The use of typologies in the diagnosis of personality disorders

Jaspers (1963) distinguished between 'ideal' and 'real' personality types. Ideal types describe certain potentials which can be perceived in the individual and

provide them with a set of lasting qualities. Ideal typologies are usually represented by sets of polar opposites, e.g. introverts and extraverts. Real types, on the other hand, result from biological variation and are only partly understandable in their manifestations. They cannot be reduced to a set of dimensions and for this reason they are described as 'unsystematic'.

Jaspers described a number of different types of personality disorders, all of which were described as real. Some of the types represented extreme variations in basic dispositions such as temperament, will-power, drive and energy. Others were characterized by an unsatisfying sense of self, with a purposive wish to be different. These 'reflective' personalities included hysterics, hypochondriacs and insecure personalities.

Schneider (1958) described ten different types of personality disorders, which are listed in Table 3. They are also described individually in Appendix C.

Schneider's aim was to provide a series of clinical stereotypes of the most common personality disorders (which he had already defined collectively, see page 17). He emphasised that pure examples of these types were rare and that some patients would be seen who did not correspond to any of them. He also emphasised that his typology was unsystematic and he was opposed to attempts (such as that of

Table 3

Schneider's typology of the personality disorders

Depressive

Hyperthymic

Fanatic

Insecure

Attention-seeking

Labile

Explosive

Unfeeling

Weak-willed

Asthenic

Tramer, 1931, cited by Schneider, 1958) to systematize it.

Schneider also went to great lengths to emphasise that type descriptions could not succeed in conveying the full picture of an individual personality. For example, contrasting the clinical examination of psychopathic personalities with that of psychotics, he observed that: "With many psychopaths it is only the thought content that does matter, and without this we find nothing to work with but an empty shell of designation" (1959).

What Schneider appears to have been attempting was to find a means of assessing the constitutional basis of some types of variation in personality: "When making use of

a type description, one has in mind some persisting 'constitutional' deviation.... All development of personality rests on an inaccessible psychic ground of changing characteristics" (1959). Schneider thus opposed the psychoanalytic and those other theoretical schools which tended to disregard the role played by biological factors in personality development: "... we should avoid the ... trap of inquiring into instinctual conflicts and the patient's past history while ignoring the hidden movements of the psychic ground, the innate constitutional idiosyncrasies ..." (1959). At the same time, Schneider was searching for descriptive criteria which were non-judgemental. The principal application of this typology was to be in the clinical setting, as a means of obtaining a deeper knowledge of patients with personality disorders and of providing more effective psychotherapy for them.

Modifications of Schneider's typology were proposed by Leonhard (1964). The latter writer disagreed with Schneider's claim that pure forms of personality disorders could only be differentiated with great difficulty. He suggested that individual traits could be teased out and used to designate types. He also coined the term 'accentuated personalities' for those individuals who showed personality traits which went beyond the average range but which were not sufficiently developed to be regarded as abnormal. The recognition of such features was still important, however,

as they helped to determine the individual's reaction to stress. Such personalities would thus be common among neurotics.

To date there have been no attempts by English-speaking writers to validate these typologies or to adapt them for psychometric purposes. This may be due to lack of familiarity with them, but there has been little interest taken in typologies generally. In view of the many problems which beset diagnosis in the area of the personality disorders, it was considered worthwhile to attempt such a study.

OBJECTIVES OF THE PRESENT STUDY

The reliable diagnosis of the personality disorders poses considerable problems for the clinical psychiatrist. Some of the difficulties such as the lack of a satisfactory system of classification, uncertainty about the relative advantages of categorical and dimensional techniques of measurement and the theoretical differences between the various schools of psychiatry, are common to all functional psychiatric disorders. Others, such as the lack of adequate defining and diagnostic criteria and of clinically useful personality measures, apply particularly to this field of study.

The personality typology proposed by Schneider (1958) offers solutions to some of these difficulties. It provides precise personality descriptions through the phenomenological approach and avoids the use of social criteria in the recognition of people with personality disorders. In the clinical setting it provides a set of stereotypes upon which to base the assessment of the role of biological factors in individual personality development. Also, it unites the personality disorders and the neuroses in a common theoretical system, emphasising the essential continuity between them and normality, and the essential discontinuity between them

and the psychotic disorders.

The first aim of the present study was, therefore, to examine how reliable clinical judgments about the presence of the various types would be. The study also attempted to validate the typology, using multivariate statistical methods. The following are the hypotheses examined:

1. That patients corresponding to Schneider's type descriptions could be identified within a representative sample of English-speaking patients diagnosed as having personality disorders.
2. That the typology could be employed reliably in the diagnosis of such patients.
3. That groupings of patients corresponding to Schneider's types would be found by a taxonomic analysis of the whole sample, using variables which were independent of the type diagnoses themselves.

SECTION II

INVESTIGATIONS

The study evolved in a series of stages, each of which was an extension and development of the one before. It was appreciated from an early stage that an attempt to validate Schneider's typology could only be made if a reliable means of assigning patients to their appropriate types could be found. The achievement of this objective required a series of reliability studies and these were carried out using the patients who were available at the time. However, patients continued to be added to the final sample until it seemed large enough for the validation studies to be undertaken.

To describe these developments in their chronological sequence would be confusing to the reader and would involve considerable repetition. Therefore, the methods and results will be combined and reported in three sections, each of which will be complete in itself. The sections will be as follows:

A. A descriptive study of the final sample of patients.

B. Investigation of the reliability of Schneider's typology.

C. Investigation of the validity of Schneider's typology.

INVESTIGATION A

A descriptive study of the final sample of patients

Selection of subjects

The patients selected as subjects for the present study were seen in the author's clinical practice at St. Clare's Hospital during the period of 1 September, 1975 to 31 August, 1976. As was pointed out in the introductory section, there are no generally accepted defining criteria for the diagnosis of personality disorders and as a result the decision to include a subject rested on clinical judgement. In choosing subjects the investigator tried to follow Schneider's approach. A patient was suspected of having a personality disorder when he showed a variation upon the investigator's concept of what was broadly average in this segment of the Canadian population. As the abnormality had to be within the domain of 'personality', patients with mental retardation were not included. The requirement that the abnormality should result in suffering to the individuals concerned was, with the exception of one certified patient, implied in their decision to accept medical help.

When the patient's presenting complaint was of an acquired disorder, e.g. alcoholism or neurosis, he was included if it was judged that the personality disorder had made a significant contribution and would be listed as the

major predisposing factor in the etiological formulation. Finally, considerable emphasis was placed, in the mental status examination, on the exclusion of subjects with evidence of a psychotic process or defect state.

All the patients had been medically referred for psychiatric care or assessment. Both in-patients and out-patients were included. They were selected from three principal sources: some were patients under the care of the investigator at the time the study began; others were new referrals made to him in the course of his clinical practice; and finally, there was a group of patients who were referred by colleagues from St. Clare's or one of the other general hospitals in St. John's, especially for the study. The sources of the 81 subjects included in the final sample are shown in Table 4.

Table 4

Sources of subjects included in the final sample of patients

Old Patients	New Referrals	Referred for Study	Total
13 (16%)	41 (51%)	27 (33%)	81

The majority (54/81) were thus obtained from the author's day-to-day clinical practice. The second sub-group represented 23 per cent of the 177 new referrals made to him

during the year. Four other patients were approached but refused to participate. The third sub-group was selected from a total of 33 special referrals. The reasons for excluding the other 6 cases are shown in Table 5. The question was considered whether the inclusion of the

Table 5

Reasons for excluding referred patients from the study

Refused to participate or left before assessment completed	- 3	
Disagreement about diagnosis	- 3	- 1 schizophrenic 1 alcoholic without evidence of previous personality disorder 1 psychosis due to epilepsy

specially referred subjects might have biased the sample. Therefore, the specially referred sub-group was compared retrospectively with the remaining subjects for age, sex, hospital status and the distribution of Schneider's types (Table 45, page 153). The groups were evenly matched for age and sex. However, the proportion of in-patients in the specifically referred sub-group (81 per cent) was higher than that in the old patients and the new referrals combined (47 per cent). The difference was highly significant

($x^2 = 15.71$, $p < .005$). There were fewer insecure types among the special referrals (2) than among the other sub-groups (15) but the difference was not statistically significant. The other types were evenly distributed between the groups. Thus, apart from a possible excess of in-patients attributable to the specially referred sub-group, the sample appeared to be representative.

After the patients had been selected as suitable for the study, they were approached by the investigator and its nature and purpose were explained to them. Their agreement to participate was then obtained.

At the time the subjects were examined, their personality disorders were regarded as their primary diagnoses. Patients who had presented with neurotic symptoms were not examined until these had been treated and their condition was stable. Likewise, patients with a history of alcoholism or drug abuse were not seen until at least two weeks after their withdrawal from the drug concerned.

Interview and Recording

The clinical data were obtained during the course of an orthodox psychiatric interview and were recorded on a standard proforma (Appendix A). Whenever possible the patients' own accounts were compared with those recorded in their case notes, which might include information from informants as well as nursing observations and the notes of

the referring physician. Supplementary information such as the results of electroencephalographic (EEG) examinations were also recorded. At the end of the clinical interview, a mental status examination was performed.

When the clinical data had been collected, a short interview with each patient was recorded on an audio-cassette tape. As far as possible the content of the recordings was standardised, but care was taken that the patients' spontaneous descriptions of themselves were not interrupted. The recordings emphasised the subjects' personality features, following the headings shown in Table 6. The recordings were

Table 6

Headings employed when interviewing patients

Relationships with others
Self-assessment
Mood and energy level
Moral and ethical standards
Interests
Habits
Typical reaction to stress
Fantasies

subsequently edited to make them about 10-15 minutes in length. This had been judged to be the optimum time, by the

raters who had participated in the pilot study (page 71). The intention was to avoid tiring the raters without losing essential information. Of the final sample of 81 subjects, 16 (20 per cent) refused to be recorded.

Following the recording, an anthropometric examination was performed (see below) and the patients then completed a psychological test battery (see below, page 46). Finally, the investigator completed an adjective check-list (see below, page 83) on every subject.

The anthropometric examination

Anthropometric data were obtained for three reasons: 1. To achieve a more complete assessment of the individual subject, in recognition of the importance attached to physical constitution by phenomenological writers such as Jaspers (1963) who wrote of "the whole experienced as indivisibly one with the body". 2. Because of reports (reviewed by Rees, 1973) suggesting an association between body build and personality characteristics, including the predisposition to neurosis and to criminal behaviour. 3. To provide a means of validating Schneider's types or other groupings which might emerge from the taxonomic study.

However, as the study progressed, it became apparent that only a limited amount of anthropometric data would be available. It was difficult to persuade female subjects to submit to the full examination, especially as more measurements

were needed from women than from men to enable anthropometric indices such as the Rees-Eysenck Index of Body Build (described in Rees, 1973) to be calculated. It was also apparent from the literature that much less work had been done to establish the reliability of anthropometric indices in women than in men. Because of these difficulties, detailed anthropometric examinations were not performed on the female subjects. It also became apparent that the distribution of Schneider's types in the final sample would be such that the numbers of male subjects in the majority of them would be too small for statistical analysis.

Accordingly, it was decided to confine the anthropometric portion of the study to the examination of the following specific hypotheses: 1. Asthenic personalities would be more linear in physique and have a smaller body build than the other subjects (Bauer, 1921, cited by Mayer-Gross et al., 1969, p. 83). 2. Patients whose personality disorders were attributable to abnormalities of affect (depressive, hyperthymic and labile) would show greater body 'bulk' than other personalities.

This hypothesis was derived from Kretschmer's (1936) observation of an association between the pyknic body build and cyclothymic personality features. 3. Explosive personalities would be more muscular than the remainder. This hypothesis was derived from the author's clinical observations.

The anthropometric indices which were calculated are shown in Table 7. The somatotypes originally described by

Table 7

Anthropometric indices employed in the study

2nd. and 3rd. Somatotype Components

Ponderal Index

Surface Area

Horizontal Component

Sheldon (Hall and Lindzey, 1970, pp. 338-379) have subsequently been modified for anthropometric studies by Parnell (1958) and by Heath and Carter (1967). Heath and Carter's second somatotype component provides an assessment of relative musculo-skeletal development, while their third component describes the relative degree of linearity of the physique. Third component ratings are closely related to the Ponderal Index (height/$\sqrt[3]{\text{weight}}$).

The Surface Area (in metres) was calculated from the height and weight using the nomogram published in the Documenta Geigy Scientific Tables (1962). This is one method of forming an estimate of total body size, and correlates highly with the Rees-Eysenck Index of Body Size (Mellor, C., personal communication). A horizontal component of body build was determined by dividing the surface area by the measure of linearity, that is, the Ponderal Index. If

the Surface Area is expressed in square decimetres, then the values of the Ponderal Index, and Horizontal Component fall in the same range (approximately 10-20). The relationship is given by the formula:

$$\text{Horizontal Component} = \frac{\text{Surface Area (sq. m.)} \times 100}{\text{Ponderal Index}}$$

To enable these indices to be calculated, the height and weight of every subject were recorded. In addition, the following measurements were taken from male subjects:

Bone diameters - the distance between medial and lateral epicondyles of humerus and femur, detected by palpation with elbow and knee flexed.

Muscle girths - biceps - with arm flexed

calf - with knee flexed at 90 degrees
calf skinfold taken while leg in same position.
triceps skinfold taken with arm hanging loose.

All the measurements were taken from the right side of the body. The somatotype ratings were obtained from the rating forms developed by Heath and Carter (1967) - see Appendix B. The calf and triceps skinfolds are required for the calculation of the second component using Heath and Carter's modification of Parnell's (1958) technique.

Prior to the commencement of the study, the investigator took a course in physical anthropometry, at the end of which the reliability of his measurements was assessed. The measurements were taken from ten male

psychiatric patients chosen at random. Values for the Pearson Product-Moment Correlation Coefficient obtained for the second and third somatotype component ratings are shown in Table 8. The reliability of the measurements of height and weight approached unity and are not shown in the table.

Table 8

Values of the Pearson Product-Moment Correlation Coefficient obtained in reliability studies of the physical anthropometry measures

	Inter-observer Reliability	Re-test Reliability
Second component	.9314	.9914
Third component	.9986	.9945

The Psychometric examination

The psychometic tests employed in the study were the EPI (Eysenck and Eysenck, 1964), the 16PF (Delhees and Cattell, 1971) and the Marke-Nyman Temperament Scale (Nyman and Marke, 1962). The first two tests were described earlier (pages 23 - 26). The Marke-Nyman Temperament Scale (MNTS) was devised to measure the dimensions of personality described by the Swedish psychiatrist Sjöbring. Sjöbring's approach to psychology was similar to that of phenomenologists, emphasising the importance of subjective descriptions. He developed a theory of personality based upon neurophysiological principles

which has been described in publications by Nyman (1956), Coppen (1966) and Sjöbring (1973).

Sjöbring suggested that four dimensions were necessary to describe personality fully. These were as follows:

1. Capacity. This corresponds to intelligence and is not measured by the MNTS
2. Stability. This dimension resembles Eysenck's introversion/extraversion. The substable individual is warm and open but naive and weakly integrated. The superstable person is cold and inflexible.
3. Solidity. This dimension describes maturity. The subsolid individual is impulsive and emotionally labile, while the supersolid one is strong-minded, dependable, slow and consistent.
4. Validity. This is a dimension of effective energy. The subvalid individual is tense and meticulous, and tires easily, while the supervalid person is lively and enterprising.

These dimensions were thought to be independent of one another.

The MNTS consists of sixty items, twenty for each of the dimensions of Stability, Solidity and Validity. The English translation used in the present study was donated by Dr. A. Coppen who also provided a scoring key. Norms were taken from the tables provided in his paper describing the administration of the questionnaire to normal British subjects and to British psychiatric groups (Coppen, 1966).

The questionnaires were administered according to the instructions provided in their introductions or handbooks. The most frequently encountered difficulty was with patients who were unable to comprehend the instructions of the 16PF, which require the subject to choose one of three responses yet to try to avoid the use of the intermediate alternative.

Another source of difficulty was the culturally inappropriate content of some of the questionnaire items. These problems necessitated the intervention of the investigator on some occasions. In the case of four subjects who were illiterate, the questionnaires were read out to them. All the patients completed the EPI and the MNTS, but two failed to complete the 16PF.

CHARACTERISTICS OF THE SAMPLE

Sex and age

Altogether there were 81 subjects in the final sample, of whom 41 were females and 40 were males. Their ages ranged from 16 to 70 years, with a mean of 31.6 years and a standard deviation of 11.6 years.

Status

One subject (number 29) was admitted to hospital as a certified patient, the rest were informal. Fifty (62%) were in-patients, 6 of them on non-psychiatric services. Thirty-one (38%) were out-patients.

Reasons for referral to psychiatric care

These are shown in Table 9. The groupings are arbitrary but they provide an indication of the nature and

Table 9

Principal reason for psychiatric referral

Neuroses (other than depressive)	- 20 (25%)
Alcoholism (14) or drug dependence (1)	- 15 (19%)
Personality disorder alone	- 14 (17%)
Depression	- 12 (15%)
Overdose (8) or other self-destructive behaviour (3)	- 11 (14%)
Marital problems (3), child abuse (1), or requesting sterilization (1)	- 6 (7%)
Miscellaneous - sexual deviation (1) unexplained back pain (1) paranoid reaction (1)	- 3 (4%)
Total	- 81

severity of the difficulties which prompted the patients to seek treatment. Neurotic complaints (anxiety, phobias and hypochondriasis) were the most frequent reason for referral, followed by alcohol dependence. Depression was separated from other neurotic disorders because of the difficulty known to be experienced in distinguishing between the endogenous and reactive types (Kendell, 1968). While the exclusion of patients with clearly endogenous depressions was not expected to be a problem, it was thought that some difficulty might be encountered with mild or atypical cases.

Depression was the reason for referral in 15 per cent of cases and the associated problems of drug overdosage and other forms of self-destructive behaviour provided the reason in another 14 per cent. In 17 per cent of cases no presenting problem could be identified other than direct manifestations of a personality disorder.

Previous psychiatric history

Fourteen subjects (17%) had received psychiatric treatment in childhood (before the age of sixteen), 8 (10%) for neurotic and 6 (7%) for behaviour disorders. The frequency of previous psychiatric disorders in adult life is shown in Table 10. Because of the lack of easily accessible psychiatric treatment facilities in some areas of the Province, treatment by any physician (including a general practitioner) was adopted as the defining criterion of such a history.

Table 10

Previous psychiatric disorders

Drug or alcohol dependence	-	23 (28%)
Suicide attempt	-	20 (25%)
Anxiety neurosis	-	17 (21%)
Depressive neurosis	-	16 (20%)
Psychophysiological disorders	-	6 (7%)
Phobic neurosis	-	4 (5%)
Obsessional neurosis	-	2 (3%)
Hysterical neurosis	-	2 (3%)
Paranoid state	-	2 (3%)

The most frequent single disorder was drug or alcohol dependence, which was followed by attempted suicide. Neurotic disorders were also relatively frequent, though the fact that the categories in Table 9 are not mutually exclusive makes it impossible to assess their overall frequency. Altogether 49 (60%) of the patients had consulted psychiatrists prior to their present episode of treatment and 33 (41%) had been hospitalized at least once for a psychiatric disorder.

Childhood development

Five features of the early environments of the subjects which could be assessed with apparently good reliability are shown in Table 11. The period covered was

Table 11

Frequency of environmental disturbances before the age of 10 yrs.

Illegitimate or adopted	- 6 (7%)
Maternal absence of 6 months or more	- 5 (6%)
Paternal absence of 6 months or more	- 8 (10%)
Institutionalized for 6 months or more	- 6 (7%)
Parental mental illness	- 18 (22%)

the first ten years of life. A history of parental mental illness was reported in one or both of their parents by 22 per cent of the subjects (adoptive parents were included in this assessment).

The frequency of a number of abnormalities of childhood development, childhood psychiatric symptoms and deviant forms of behaviour are shown in Table 12. The criterion used to judge their significance was whether they were sufficient to attract comment, from the child's parents or other important adult figures, at the time. Exaggerated fears, phobias or hypochondriasis were the most frequently reported disturbances, but disciplinary problems, at home or at school, were commented upon in 16 per cent of cases.

Table 12

Frequency of developmental and behavioural disturbances in childhood

Phobias or hypochondriasis	-	22 (27%)
Disciplinary problems	-	13 (16%)
Separation anxiety	-	5 (6%)
Temper tantrums	-	4 (5%)
Enuresis	-	3 (4%)
Lying	-	3 (4%)
Stealing	-	3 (4%)
Truancy	-	3 (4%)
Stammer	-	2 (3%)
Sleep-walking	-	2 (3%)
Vandalism	-	2 (3%)
Delayed milestones	-	1 (1%)
Running away from home	-	1 (1%)
Cruelty	-	1 (1%)

Educational attainments

The highest school grades obtained by the patients are shown in Table 13. These are difficult to assess because of the varied educational opportunities which were available to the subjects. The proportion with Grade 11 or higher was only 25 (31%). Two subjects had university degrees. It seems likely that, as a whole, the sample was characterized

Table 13

Educational experiences and attainments

Grade or type of education	Number of subjects
No schooling	2
Grade 3	1
4	3
5	0
6	4
7	5
8	10
9	11
10	14
11 or higher	25
High school	4
Private school	2
Total	81

by below average educational attainments.

Work history

The present occupational status of the subjects is shown in Table 14. Again, the cultural pattern of employment in Newfoundland made it difficult to interpret features in their work histories. The proportion unemployed through

Table 14

Present occupational status

Regular employment - 1 year or longer	-	14 (17%)
Regular employment - less than 1 year	-	7 (9%)
Full-time housewife	-	10 (12%)
Part-time housewife	-	8 (10%)
Student	-	8 (10%)
Self-employed	-	3 (4%)
Retired	-	1 (1%)
Unemployed through illness	-	6 (7%)
Unemployed more than 6 months	-	11 (14%)
Never regularly employed	-	13 (16%)
Total	-	81

illness and the number who had previously held steady jobs but who had been out of work for more than six months, do not appear excessive in a province known to suffer from high levels of unemployment. Perhaps the most deviant group were those never regularly employed, who accounted for 16 per cent of cases. The item 'work instability due to the subject' (Appendix G) was rated as present in 24 (30%) of cases. Complaints of job dissatisfaction were frequent but it was not felt possible to record these reliably.

Criminal behaviour

Two subjects (3%) had histories of admission to correctional facilities. Serious assaults had been committed by 5 (6%) and crimes against property also by 5 (6%).

Sexual and marital histories

Seven items possibly indicative of sexual dysfunction or deviance were assessed by the investigator. They are shown in Table 15. Promiscuity was defined as 'frequent casual sexual encounters' but it may be of low reliability.

Table 15

Frequency of items indicating sexual deviation or dysfunction

Promiscuity	- 11 (14%)
Sterilization on psychiatric grounds	- 4 (10%)
Frigidity/impotence (ever experienced)	- 7 (9%)
Menstrual dysfunction	- 3 (7%)
Illegal abortion or abortion on psychiatric grounds	- 3 (7%)
Intercourse prior to age 17	- 5 (6%)
Adult sexual deviation	- 1 (1%)

The relatively low frequency with which sexual disorders were recorded may reflect unwillingness on the part of the subjects to divulge this information.

The marital status of the patients at the time of the examination is shown in Table 16. For a group with a

Table 16

Present marital status

Single	-	28 (35%)
Married	-	39 (48%)
Separated/divorced	-	11 (14%)
Widowed	-	3 (4%)

mean age of nearly 32 years, the proportion of single subjects (35%) seems high. However, the frequency of separation and divorce were not excessive. Marital disagreements were mentioned frequently but were not felt to be amenable to reliable recording.

Family history

The frequency of psychiatric disorder was assessed in parents and siblings and is shown in Table 17. The presence

Table 17

Frequency of psychiatric disorders in parents or siblings

Neurosis	- 15	patients	(19%)
Alcoholism	- 13	"	(16%)
Schizophrenia	- 3	"	(4%)
Affective psychosis	- 3	"	(4%)
Epilepsy	- 1	"	(1%)

of personality disorders in relatives could not be assessed accurately. While neurotic disorders may also be difficult to record reliably, their markedly higher frequency than psychoses supports the judgement of the investigator that this was a group of non-psychotic patients. The figure also provides an indirect measure of the frequency of personality disorders among the relatives. The prevalence of alcoholism was high, but there were a number of alcoholics in the sample.

The patients' families were often large. Fifty-one (63%) came from sibships of 5 or more members. Twenty-four (30%) of the patients occupied the first place in their birth-order.

Mental state findings

Table 18 shows the frequency with which abnormalities were found during the mental status examination conducted on each patient. No psychotic symptoms were recorded. The most common abnormal features were disturbances of affect.

Table 18

Mental state findings

Depression	-	33 (41%)
Anxiety	-	29 (36%)
Hypochondriasis	-	16 (20%)
Hostile affect	-	15 (19%)
Specific phobias	-	11 (14%)
Over-dramatization	-	10 (12%)
Ideas of reference	-	6 (7%)
Social phobias	-	5 (6%)
Belle indifference	-	3 (4%)
Obsessional phenomena	-	3 (4%)
Pseudo-hallucinations	-	2 (3%)
Depersonalization	-	2 (3%)
Morbid jealousy	-	1 (1%)

Neurological findings

One subject (number 24) was examined while recovering from a neck injury which left him with a hemiparesis. He was included because of clear indications of a personality disorder and after clinical and psychological testing had revealed no evidence of acquired intellectual impairment. Soft (non-localizing) neurological signs were noted in three patients (4%) and another three showed impairment of one of the special senses.

Medical findings

Probably because the patients were seen in a medical setting, physical abnormalities were frequently noted (Table 19). The abnormalities were mostly of an incidental kind,

Table 19

Number of patients with medical disorders

Orthopedic disorders	- 5
Alcoholic hepatitis or cirrhosis	- 4
Obesity	- 3
Cardio-vascular disorders	- 3
Peptic ulcer	- 2
Self-inflicted injury	- 2
Genito-urinary disorders	- 2
Endocrine disorders	- 2
Rheumatoid arthritis	- 1
Pregnancy	- 1
No. with medical abnormalities	- 25 (31%)

though they sometimes helped to bring out features of the patient's personality disorder, e.g. in their reaction to the illness or its treatment. It is emphasised that patients with evidence of organic psychosyndromes were excluded from the study.

One patient does require comment, however (Subject No. 49). He was first seen when recovering from an adrenalectomy for Cushing's syndrome, because of a severe psychogenic reaction to the post-operative regime, which included a period of isolation. This patient was observed for three weeks, during which time no evidence was seen of an endocrine or confusional psychosis. He was examined two days before his discharge from hospital, after the abnormal psychogenic reaction had resolved. Because the stigmata of Cushing's syndrome were still present at that time, he was not included in the anthropometric study.

EEG findings

EEG examinations were performed on 40 patients (half the sample). The factors which determined whether a patient received such an examination are not known. The results are presented because of the interest that has been taken in the EEG of patients with personality disorders (reviewed by Hill and Fenton, 1969; and by Fenton, 1974). The results are shown in Table 20.

The classification of the records was done by the author after studying the EEG report of each subject. Two systems of classification were adopted. Abnormalities in the records were identified as predominantly paroxysmal, focal, lateral, generalized or borderline. The last category was used only when the word 'borderline' appeared in the

Table 20

EEG findings

Type of abnormality		Stability	
Paroxysmal	- 8 (20%)	1 -	16 (40%)
Focal	- 5 (12%)	2 -	10 (24%)
Lateral	- 2 (6%)	3 -	7 (18%)
Generalized	- 3 (8%)	4 -	4 (10%)
Borderline	- 6 (14%)	5 -	3 (8%)
Normal	-16 (40%)		
Total	40	Total-	40

summary of the report. It was hoped that it would be of value in separating normal records from definitely abnormal ones. By this criterion, abnormal EEGs were present in 18 cases (46%), the most frequent abnormality being paroxysmal activity.

The stability scale interacts with the previous classification. It was devised by Davis (cited by Chusid, 1973). The value 2 was found to discriminate between normal (scores 1 and 2) and abnormal records (score 3 or over) in a study of EEG findings in a small series of patients with hysterical attack disorders (Standage and Fenton, 1975). The points on the scale are defined as follows: 1. Normal pattern. 2. Less stable or regular, alpha rhythm unusual in form. 3. Features exaggerated but not clearly abnormal.

4. Dysrhythmic or suspicious record, but abnormalities not diagnostic. 5. Abnormal dysrhythmias.

The number of records achieving scores of 3 or above was 14 (36%), all but one of which were independently assessed as abnormal by direct assignment. It can therefore be claimed with confidence that the number of abnormal EEGs found in those patients who had undergone the examination, was at least 13 (33%), with between 14 and 28 per cent of the other records being 'borderline'. In 10 records (25%) an abnormality with a predominantly temporal localization was recorded.

Distribution of personality types and diagnoses

The distribution of Schneider's types, based on the investigator's clinical diagnoses is shown in Table 21. The

Table 21

Distribution of Schneider's types (diagnosed clinically)

Depressive	- 6 (7%)
Hyperthymic	- 4 (5%)
Fanatic	- 4 (5%)
Insecure	-17 (21%)
Attention-seeking	-20 (25%)
Labile	- 6 (7%)
Explosive	- 5 (6%)
Unfeeling	- 6 (7%)
Weak-willed	- 2 (3%)
Asthenic	-11 (14%)
Total	-81

next table (Table 22) shows the distribution of diagnoses made according to the classification of personality disorders provided in the ICD-8.

Table 22

Distribution of ICD-8 diagnoses

Hysterical	-	23 (28%)
Asthenic	-	14 (17%)
Paranoid	-	10 (12%)
Affective	-	10 (12%)
Anankastic	-	8 (10%)
Antisocial	-	7 (9%)
Explosive	-	6 (7%)
Schizoid	-	3 (4%)
Total	-	81

Psychometric data

The mean scores obtained by the sample on the various psychometric scales are shown for male and female subjects in Tables 23 and 24. The EPI and the MNTS were completed by all the subjects, but one subject of each sex failed to complete the 16PF. The comparison groups are of normal subjects and were taken from Delhees and Cattell (1971), Eysenck and Eysenck (1964) and Coppen (1966).

Table 23

Psychometric test scores of female subjects

Test	Scale	Patients Mean	Patients S.D.	Comparison Group Mean	Comparison Group S.D.
16PF	A	8.10	1.95	8.84	2.34
	B	5.53	1.74	6.33	1.49
	C	6.58	2.73	10.39	2.99
	E	6.28	3.00	7.19	3.53
	F	6.58	3.15	8.41	3.09
	G	12.38	2.94	11.75	2.77
	H	5.38	4.03	7.58	4.08
	I	8.75	2.39	9.64	2.73
	L	9.00	2.36	8.79	2.66
	M	8.55	2.85	9.58	2.81
	N	10.15	2.70	7.91	2.51
	O	10.20	2.88	8.23	3.40
	Q1	6.66	3.56	7.94	2.39
	Q2	7.95	3.37	8.36	2.88
	Q3	8.18	3.61	9.04	2.92
	Q4	10.50	3.29	7.89	3.38
EPI	E	11.24	3.74	12.10	4.40
	N	17.46	4.56	9.00	4.80
	L	2.95	1.60		
MNTS	Sol.	10.00	3.17	10.40	3.80
	Stab.	8.24	3.13	6.40	3.70
	Val.	5.90	3.95	12.20	4.10

Table 24

Psychometric test scores of male subjects

Test	Scale	Patients Mean	Patients S.D.	Comparison Group Mean	Comparison Group S.D.
16PF	A	7.69	2.27	7.73	2.88
	B	5.15	2.15	6.33	1.49
	C	9.03	2.86	12.13	2.71
	E	7.23	2.75	9.32	3.32
	F	6.62	3.06	9.26	2.89
	G	10.95	3.30	11.04	3.62
	H	6.51	4.25	8.97	4.12
	I	7.08	2.95	6.98	3.29
	L	8.87	2.97	8.56	2.51
	M	7.72	2.82	8.69	2.77
	N	9.03	2.76	6.85	2.41
	O	8.38	3.22	6.12	3.06
	Q1	6.74	3.34	8.13	3.21
	Q2	7.90	3.08	8.49	3.42
	Q3	9.79	3.17	10.17	3.17
	Q4	9.21	2.50	6.79	3.47
EPI	E	11.33	4.06	12.10	4.40
	N	14.90	4.63	9.00	4.80
	L	3.23	1.87		
MNTS	Sol.	10.55	3.25	9.40	3.50
	Stab.	8.43	3.27	7.90	3.40
	Val.	8.63	3.92	12.80	4.10

Anthropometric data

The mean values of the various anthropometric indices are shown in Table 25. Thirty-seven male and 39 female subjects completed all the measurements. The third somatotype component scores are noticeably low (normal = 4), both for male and for female patients.

Table 25

Scores of the subjects on the anthropometric indices

		Males	Females
Second component	Mean	4.37	-
	SD	1.26	
Third component	Mean	2.09	2.37
	SD	1.33	1.24
Surface area	Mean	1.86	1.63
	SD	0.21	0.17
Ponderal Index	Mean	12.62	12.79
	SD	0.75	0.69
Horiz. component	Mean	14.84	12.84
	SD	2.43	1.82

SUMMARY OF THE RESULTS OF THE DESCRIPTIVE STUDY

The sexes were equally represented in this sample of mostly young adults with personality disorders, who were seen in the practice of one clinical psychiatrist during a one-year period. The sample did not appear to be biased by the inclusion of patients referred to the investigator by colleagues working in a similar setting.

In 14 cases (17%) no presenting problem could be identified except for the patient's personality disorder. The others reported a variety of complaints, although the sample showed more neurotic manifestations than antisocial ones. This was anticipated when the study began and reflects the medical setting in which the subjects were found. Neurotic symptoms were the reason for psychiatric referral in 40 per cent of cases altogether. They were also found frequently in the patients' previous psychiatric histories. In addition, the sample was characterized by a high prevalence of alcohol-related problems and self-destructive behaviour.

Many patients came from large families, but the frequency of specific early stress factors was not high. The exception was the relatively large number of patients (22 per cent) who had parents who were psychiatrically disturbed. It seemed probable that alcoholism and neurotic disorders were particularly common in these families.

When examined, the patients showed a variety of non-psychotic mental symptoms, abnormalities of affect (anxiety, depression and hostile affect) being particularly frequent. Medical disorders were found in a quarter of the sample, and a small number of patients demonstrated minor neurological signs. A high frequency of abnormal EEGs (33 per cent) was also observed. In particular, 25 per cent of EEGs showed changes which could be localized in the temporal regions.

Of the psychometric variables, the outstanding scores on the 16PF were the low scores of both sexes on C (Ego strength) and their high scores on Q_4 (Ergic tension) and on N(Shrewdness). The male patients had a low mean score on F(Surgency).

Both sexes obtained extremely high scores on the Neuroticism (N) scale of the EPI. On the MNTS the outstanding finding was the low mean score on the Validity (effective energy) scale. Generally, the psychometric findings were in accordance with the clinical ones in showing a high degree of predisposition to neurotic disturbance.

The clinical features which were described above were recorded with a view to their being incorporated into a taxonomic study. Thus, "within-group" differences were of greater interest than the sample characteristics as a whole. The clinical items were chosen so as to require a minimum of subjective interpretation on the part of the investigator.

The issue of whether the sample can be regarded as representative will be raised again in the discussion, where the distribution of Schneider's types and of the personality disorders described in the ICD-8 will also be considered.

INVESTIGATION B

Investigation of the reliability of Schneider's typology

This investigation will be described under the headings of Pilot Study, Diagnostic Studies 1 and 1a, and Diagnostic Study 2. Studies 1 and 1a made use of the Canadian glossary to the ICD-8 (Dominion Bureau of Statistics, 1969). A glossary prepared by the author (Appendix C) showing the salient features of the personality disorders described by Schneider (1958) was employed in all the studies.

THE PILOT STUDY

Methods

The objectives of this study were:

a) to see what levels of agreement could be reached for the diagnosis of personality disorders and

b) to obtain information about the sources of disagreement between diagnosticians.

Eight patients were selected who were believed to be suffering from personality disorders. Each patient was recorded on audio-cassette tapes, the interviews being about 30 minutes in length and unstructured in nature. The tapes were played to 10 raters who were stratified by clinical experience. There were three clinical clerks doing their

psychiatry rotation, three psychiatric residents and four psychiatrists (including the author). Having listened to the recording, the raters were asked to allocate each patient to one of Schneider's types or to indicate that they were unable to make a specific diagnosis. They were also asked to indicate their second-choice diagnosis and to note the presence of any other abnormal traits by making third-choices. The raters were permitted as many third-choices as they desired.

The reliability of the diagnoses was assessed using the reliability coefficient, K (page 21) and the Random Error Coefficient of Agreement (RE) described by Maxwell (1977). The latter statistic measures the excess of agreements over disagreements between two diagnosticians. Allowance is made for the agreement between the diagnosticians being different for cases in which a characteristic is present, to those in which it is absent. Agreement about presence can be shown separately from agreement about absence.

The procedures for calculating K and RE (Maxwell, 1977) were modified for the conditions of the present study as follows. A matrix was prepared showing the diagnosis made for each patient by each clinician. From this it was possible to see how many times each type was employed by the group of raters being examined.

For each patient the diagnoses which were concordant for the presence or the absence of the particular type were

counted. For example, if a type was diagnosed three times in one patient and once in another, there would be 3 + 0 = 3 agreements on the presence of that type among a group of four raters. In those patients there would be 0 + 3 = 3 agreements on the absence of the diagnosis. If a total of eight patients were diagnosed, there would be 3 + 36 = 39 agreements on absence altogether. There would also be 3 + 3 = 6 discordant diagnoses. The total number of pairs of diagnosticians would be 48.

The scores were converted to proportions and placed in a table as follows:

	+	-	
+	a	b	p_1
-	c	d	q_1
	p_2	q_2	1

a represented agreement on the presence and d agreement on the absence of a type. Values for b and c were obtained by dividing the proportion of discordant diagnoses by two. In terms of these proportions, K is given by

$$K = \frac{p_o - p_c}{1 - p_c}$$

where observed agreement, $p_o = a + d$, and chance agreement, $p_c = p_1p_2 + q_1q_2$. For the calculation of RE:

$$Pi \text{ (agreement on presence)} = \frac{(3a + d - 1)}{2}$$

$$Po \text{ (agreement on absence)} = RE - Pi$$

$$RE = (a + d) - (b + c)$$

Results

Table 26 shows the overall agreement levels reached for the first-choice diagnosis of each patient. The

Table 26

First-choice diagnosis of each patient (10 raters)

Patient	Type selected	Percentage agreement
28	Insecure	50
-*	Insecure	40
36	Insecure Labile	30
52	Insecure	40
63	Insecure	80
42	Insecure	60
75	Explosive	80
71	Depressive Weak-willed	30

distribution suggested a separation between two cases in which

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* This patient was recorded before the clinical phase of the study began and was not available for inclusion in the final sample.

80 per cent agreement was reached and the remainder, which were characterized by agreement levels of 60 per cent or less. On clinical grounds, the former two cases (63 and 75) were regarded as good examples of particular types of personality disorders.

Table 27 shows the proportion of diagnoses which were concordant in every patient, firstly, when only the first-choices were included and secondly, when agreement between either the first- or the second-choices was accepted. This modification produced an average increase in diagnostic agreement of 28 per cent.

Table 27

Proportion of concordant diagnoses made on each patient (expressed as a percentage of the diagnoses made by all possible pairs of raters). Effect of permitting both first- and second-choices.

	Concordant Diagnoses (%)	
Patient	1st.-choices	1st. and 2nd.-choices
28	24	67
-	16	44
36	16	40
52	22	71
63	62	76
42	40	49
75	64	89
71	18	51

These findings were interpreted as indicating that the highest levels of diagnostic agreement could be found for 'typical' patients and that disagreements were to be expected in patients showing mixtures of traits. It was predicted that the more 'typical' a patient seemed, the fewer would be the number of categories needed to describe him. This proved to be so. When all the categories used in the first-, second- and third-choice diagnoses of each patient were summed, it was found that only four were used to describe cases 63 and 75, while between 6 and 8 were employed for the other patients.

Of the different types of raters, the clinical clerks obtained the highest levels of agreement on their first-choices. They had full agreement in 5 cases and 2/3 agreement in 3. The residents never exceeded 2/3 agreement. The psychiatrists were in full agreement about the diagnosis in case 63 and achieved 3/4 agreement in 3 of the other cases (Table 28). Their average agreement level was 59 per cent.

Table 28

Agreement levels of the four psychiatrists

Level of agreement	Number of cases
100	1
75	3
50	3
0	1
Average 59%	Total 8

Table 29 shows the distribution of types in the first-choice diagnoses made by the different raters. The

Table 29

Number of times types were used for first-choice diagnoses

Category	Clerks (3)	Residents (3)	Psychiatrists (4
Depressive	4	3	1
Hyperthymic	-	-	-
Fanatic	-	1	1
Insecure	11	10	11
Attention-seeking	3	2	5
Labile	3	1	2
Explosive	3	2	5
Unfeeling	-	-	-
Weak-willed	-	1	2
Asthenic	-	-	2
Uncategorized	-	4	3
Number of choices	24	24	32
No. of types used	5	8	9

junior raters used fewer categories than the psychiatrists. This was especially true of the clerks, who used only 5 categories, compared with the residents' total of 8 and the psychiatrists' of 9. This tendency must be presumed to have

contributed to the clerks' high levels of agreement. The other trend that emerged was for all groups to overuse the insecure type.

The recorded agreement on the most likely diagnosis only provided a partial measure of the reliability of the assessors, as it did not take into account all the diagnoses given to each patient. A better estimate was obtained by finding the number of concordant diagnoses made and expressing this as a proportion of the total number of pairs of assessors. Table 30 shows that the clinical clerks achieved much higher inter-observer agreement than either of the other groups. A chi-square test on the number of concordant

Table 30

Diagnostic agreement within each group of raters (expressed as proportion of all diagnoses)

Type of rater	Concordant Diagnoses*	Discordant Diagnoses	Total number of pairs	Percentage agreement
Clerks	18	6	24	75
Residents	6	18	24	25
Psychiatrists	20	28	48	42

* $x^2 = 13.2 \quad p < .005$

diagnoses obtained by each group showed that there was a highly significant association between the type of rater and

the number of diagnostic agreements ($p < .005$). The residents proved to have the lowest reliability with the psychiatrists being intermediate between them and the clerks.

It appeared that the clinical clerks, while recording high levels of agreement, were not using the glossary to full advantage. What is more, when the psychiatrists' diagnoses were adopted as the criteria against which theirs were judged, the clerks had a tendency to make similar but incorrect diagnoses.

Table 31 shows the rankings of the different types in the first-, second- and third-choice diagnoses made by all the assessors. The insecure type does seem to have been

Table 31

Use of types for diagnosis of personality disorders (all raters)

Type	Ranks		
	First-choices	Second-choices	Third-choice
Depressive	4	1	3
Hyperthymic	10	6	9
Fanatic	8	9	7
Insecure	1	2	2
Attention-seeking	2	5	5
Labile	6	2	6
Explosive	2	6	8
Unfeeling	10	9	9
Weak-willed	7	6	3
Asthenic	8	4	1
Uncategorized	5		

overused, accounting for 40 per cent of first-choices and 18 per cent of second choices. It seemed probable that this overuse was due to a defect in the glossary, which did not provide a sufficiently precise definition of the insecure trait. It was decided, therefore, to divide the insecure type into its two sub-types, sensitive and anankastic, in the next diagnostic study.

Comparison of the rankings of the types as first-, second- and third-choices showed overall consistency. However, there was slight variation within the typology. While the explosive and attention-seeking types were more likely to be first-choice diagnoses than to be second- or third-choices, the converse was true of the depressive and asthenic types.

The values of the two reliability coefficients chosen for the study are shown in Table 32. Only the psychiatrists' first-choice diagnoses were employed in this analysis. It

Table 32

Values for the reliability coefficients, RE and K

Type	P_i	P_o	RE	K
Depressive	-.03	.91	.88	0
Hyperthymic	0	1.00	1.00	0
Fanatic	-.03	.91	.88	0
Insecure	.12	.51	.63	.56
Attention-seeking	-.04	.67	.63	.30
Labile	-.06	.82	.76	-.09
Explosive	.01	.71	.72	.44
Unfeeling	0	1.00	1.00	0
Weak-willed	-.02	.86	.84	.27
Asthenic	-.02	.86	.84	.27

should be noted that in the case of two types which were not diagnosed by any psychiatrist (Hyperthymic and Unfeeling), this fact was reflected in a zero value of K but in perfect agreement using the RE statistic, emphasising the value of the latter statistic in providing a measure of agreement on the absence of a diagnosis. However, in six of the types (Depressive, Fanatic, Attention-seeking, Labile, Weak-willed and Asthenic) negative values of P_i (agreement on presence) were obtained. This fact, plus the generally low values of K (Mean = .16), raised doubts about the reliability of the typology under the conditions of the study.

The only type in which good agreement was reached about its presence was the insecure type, but this was compensated by relatively poor agreement about its absence. Good agreement about their absence was noted for the depressive, hyperthymic, fanatic, labile, unfeeling, weak-willed and asthenic types.

Decisions reached as a result of the Pilot Study

Based upon the findings of the Pilot Study a number of modifications were made to the assessment procedure and to the overall objectives. These were as follows:

1. It was decided that patients who seemed 'typical' would be used to help develop a means of assigning the remaining patients to their appropriate types.

2. The reliability of the diagnoses made by psychiatrists would need to be improved before further attention could be paid to the junior raters.

3. The rating team was strengthened by the inclusion of a member of Faculty with considerable experience in the use of Schneider's typology.

4. The insecure type was divided into its sensitive and anankastic sub-types in Studies 1 and 1a.

5. The practice of making second- and third-choice diagnoses was abandoned.

6. The audio-recordings were edited to make them about 10-15 minutes long and they were supplemented by short typed summaries of each patient's history (an example of the summaries is shown in Appendix D).

DIAGNOSTIC STUDIES 1 AND 1a

Methods

Three raters participated, in addition to the author. They were all certified psychiatrists and were familiar with Schneider's concepts. They were given glossaries describing the ICD-8 and Schneider's types of personality disorders.

For this study, the investigator attempted to find one typical example of each of Schneider's types (including the sensitive and anankastic sub-types). For each patient there was a short summary of their psychiatric history and an audio-recording. Having studied these, the raters attempted to assign the patients to one of the types and, also, to one of the ICD categories of personality disorder. Finally, they were asked to select any adjectives from a check-list (see below) which they felt described the patient.

A core set of adjectives was obtained from Schneider's own descriptions of his types (1958). The list was then expanded by referring to Roget's Thesaurus. Altogether one hundred and five adjectives were used, ten for each type except for the insecure one. For the latter type, five general adjectives were used and another five for each of the sub-types, making a total of fifteen. The final check-list consisted of the 105 adjectives arranged in random sequence.

Full agreement among the psychiatrists was achieved for the diagnoses of seven of the eleven patients. As the series of patients with personality disorders was only half-complete at the time the study commenced, it was felt that some of the rarer types might not have been encountered sufficiently often for typical examples to be found. Therefore, the procedure was repeated with a further four patients, one for each type with less than complete agreement in Study 1. This was Study 1a.

Results of Study 1

Table 33 (page 85) shows the levels of agreement reached for the most likely diagnosis of each patient. For Schneider's typology, there was 100 per cent agreement in 7 of the 11 patients. Two of the disagreements between the author and the other psychiatrists were of an understandable kind. Patient 17, who was chosen as an anankastic personality, was diagnosed as sensitive by the three other psychiatrists. Patient 61, who was selected as a labile personality, was diagnosed as attention-seeking by two raters, but she was given the ICD diagnosis of hysterical personality disorder by all the psychiatrists.

The disagreements between the investigator and the other assessors were less understandable in the fanatic and hyperthymic types. Only one independent psychiatrist agreed with the diagnosis in the case of the former and none did so

Table 33

Levels of agreement on diagnosis of eleven 'typical' cases by four psychiatrists

Case	Investigator's Diagnosis	Overall Diagnosis (Schneider)	Overall Diagnosis (ICD-8)
69	Attn.-seeking	Attn.-seeking (100%)	Hysterical (100%)
63	Sensitive	Sensitive (100%)	Schizoid (50%)
3	Explosive	Explosive (100%)	Explosive (100%)
31	Fanatic	Fanatic (50%)	Schizoid (50%)
79	Asthenic	Asthenic (100%)	Asthenic (100%)
12	Hyperthymic	Fanatic (50%)	Paranoid (100%)
40	Depressive	Depressive (100%)	Affective (75%)
17	Anankast	Sensitive (75%)	Anankast (75%)
61	Labile	Attn-seeking (50%) Lab (50%)	Hysterical (100%)
32	Unfeeling	Unfeeling (100%)	Antisocial (100%)
33	Weak-willed	Weak-willed (100%)	Asthenic (50%)

in the case of the latter.

The average level of agreement among the psychiatrists for the diagnosis of Schneider's types was 84 per cent. In the Pilot Study the investigator's diagnoses had the effect of increasing the overall levels of agreement (page 76) but this was not the case in Study 1. The average agreement between the three other participating psychiatrists was 85 per cent. For the ICD classification, there were 6 cases with 100 per cent agreement and the average level of agreement per case was 82 per cent.

The values of the reliability coefficients for Schneider's and the ICD classifications are shown in Tables 34 and 35 (pages 87 and 88). There was a considerable improvement in the reliability of Schneider's typology compared with the Pilot Study. The Random Error statistic was above .80 for all of the types except the attention-seeking one, which recorded the lowest level of agreement on absence. The number of negative values for P_1 (agreement on presence) was three. Negative values were recorded for the hyperthymic, anankastic and labile types. K values showed perfect agreement for five types and the mean value of K was .61.

Allowing for the fact that the patients were not selected for their resemblance to the diagnostic stereotypes listed in the ICD-8, the latter system also performed creditably. For two categories (explosive and anti-social) both RE and K indicated perfect agreement. A negative value

Table 34

Reliability of Schneider's typology

Type	P_i	P_o	RE	K
Depressive	.09	.91	1.00	1.00
Hyperthymic	-.03	.94	.91	.17
Fanatic	0	.82	.82	.25
Sensitive	.10	.71	.81	.38
Anankast	-.03	.94	.91	.17
Attn.-seeking	.03	.65	.68	.48
Labile	-.01	.88	.87	.33
Explosive	.09	.91	1.00	1.00
Unfeeling	.09	.91	1.00	1.00
Weak-willed	.09	.91	1.00	1.00
Asthenic	.09	.91	1.00	1.00

Table 35

Reliability of ICD-8 classification

Category	P_i	P_o	RE	K
Paranoid	.05	.79	.84	.65
Affective	.03	.89	.92	.69
Schizoid	-.08	.65	.57	.05
Explosive	.09	.91	1.00	1.00
Anankastic	0	.80	.80	.44
Hysterical	.16	.75	.91	.86
Asthenic	.06	.74	.80	.63
Antisocial	.09	.91	1.00	1.00

of P_i was found for the schizoid type. The mean value of K was .48.

The adjective check-list

The investigator took the adjective lists which had been completed by the psychiatrists and gave a score of 1, each time an adjective was used. The Schneider type for which the largest number of appropriate adjectives had been checked was recorded in each case.

The use of the adjectives by the individual psychiatrists was then examined. For the purpose of this examination ties were ignored. If more than one type was diagnosed using the adjectives, agreement between any of the types chosen and the criterion diagnosis was accepted as a match. This system of scoring favoured the adjective check-list.

The diagnosis made by the first psychiatrist with the adjective list agreed with her clinical diagnosis in 6 cases. In a seventh case there was disagreement about the sub-types of the insecure personality. In the four cases where there was disagreement between her and the investigator, her adjectival diagnosis only matched his clinical diagnosis once.

The second psychiatrist agreed with his clinical diagnosis using the adjectives in 7 cases, with 2 insecure sub-type disagreements. There were 3 cases in which his clinical diagnosis disagreed with the author's, and in only one of

these did the diagnoses match when his adjective diagnosis was substituted.

The third psychiatrist supported his own diagnosis using adjectives in 6 cases, with 3 insecure sub-type disagreements. In 3 cases about whom he disagreed with the investigator, only 1 agreement was reached when his diagnosis using adjectives was substituted.

It seemed that there was usually agreement between an individual assessor's diagnosis made on clinical grounds and that obtained using the adjective check-list. However, in cases of disagreement between him and the investigator, the use of the check-list did not seem to bring about better agreement. This finding, plus the large number of tied scores, suggested that the adjective check-list could not be employed to assign patients to types unless it was modified.

Before the discriminatory power of the adjectives was assessed, it was decided to collect adjective lists from further examples of the types about which there had been less than perfect agreement in Study 1. This constituted Diagnostic Study 1a.

Results of Study 1a

Of four patients examined by the psychiatrists, two were diagnosed unanimously. These were the hyperthymic and anankastic types (cases 14 and 53). There was also complete agreement about the assignment of these patients to the

affective and anankastic categories of the ICD classification.

The patient presented as a typical fanatic (Number 67) was diagnosed as sensitive by one psychiatrist and labile by another. Three of the four psychiatrists agreed on the paranoid personality as his most appropriate ICD diagnosis. The other patient (Number 25) was presented as a labile personality but was given a different diagnosis by each of the other psychiatrists. However, there was again a 3/4 consensus that his most appropriate ICD diagnosis was that of affective personality disorder.

Discriminating adjectives

Combining the results of Studies 1 and 1a, it was possible to identify examples of nine of the eleven types and sub-types described by Schneider, using the criterion of unanimous diagnostic agreement among four senior psychiatrists. The adjectives used to describe these patients were now inspected. As nine patients had been assessed by four raters, any one adjective might have been used up to 36 times. It was decided that an adjective would be regarded as having discriminatory power if it had been used at least three times to describe a typical case and less than three times in the description of all the other cases. By these criteria, twenty adjectives were found to be discriminatory. They are listed in Table 36 (page 92). Inspection of these adjectives suggested that some bore close resemblance to the names of

Table 36

Adjectives with discriminatory power

Type*	Discriminating adjectives
Depressive	joyless, pessimistic, bitter
Hyperthymic	optimistic, cheerful, energetic, good-humoured
Sensitive	scrupulous
Anankast	compulsive
Attention-seeking	histrionic, attention-craving
Explosive	fiery, assaultive, explosive
Unfeeling	amoral, cold
Weak-willed	weak-willed, easily-led
Asthenic	delicate, frail

* There were no typical examples of Fanatic or Labile paychopathy.

their types and that they might not have been chosen independently, in spite of the efforts made to guard against such a bias by presenting them in random sequence. This observation lent support to the attempt to find another means of assigning the patients to types.

The principal components analysis

The adjective check-lists which the investigator had completed on every patient were subjected to a principal components analysis. As the programme employed (NIE et al., 1975) could only handle 100 items, 5 adjectives which had not been checked were discarded. The remaining adjectives are shown in Appendix E. Another adjective was removed by the programmer during the course of the analysis.

The factoring method which was selected employed principal factoring with iteration and the Varimax method of orthogonal rotation. After rotation, thirty factors accounted for the total variance. Of these factors, the first five, which each accounted for 5 per cent or more of the variance, were selected for further study. The nature of the factors was determined by inspecting the factor loadings of the 99 adjectives and by plotting the factor scores of the 81 subjects.

Table 37 (page 94) shows the highest positively and negatively loaded adjectives. The six highest were included whenever possible. However, it was generally found that

Table 37

Highest loadings for the first five factors

Factor	Variance Explained	Loadings	Adjectives
1	15.2%	.36308	Volatile
		.34473	Excitable
		.33370	Explosive
		.31859	Assaultive
		.28321	Hot-headed
		.24250	Quarrelsome
		-.11124	Apprehensive
		-.12446	Histrionic
		-.17397	Compulsive
2	7.5%	.46056	Optimistic
		.43899	Good-humoured
		.36432	Impressionable
		.29715	Cheerful
		.20814	Amiable
		.14899	Histrionic
		-.11349	Insensitive
		-.12482	Docile
		-.13846	Delicate
3	6.7%	.47921	Imperturbable
		.43989	Amoral
		.31223	Cold
		.29660	Shameless
		.25673	Insensitive
		.20663	Unfeeling
		-.13907	Romantic
		-.14434	Correct
		-.14631	Impulsive
		-.18137	Apprehensive
4	6.4%	.37536	Exacting
		.36396	Dismal
		.36395	Long-suffering
		.29589	Skeptical
		.28807	Bitter
		.26344	Joyless
		-.11334	Overburdened
		-.11776	Hypochondriacal
		-.13843	Unpredictable
5	5.0%	.46666	Lacking-resistance
		.46501	Easily-led
		.42145	Weak-willed
		.20963	Irresolute
		.16542	Unreliable
		.16415	Uncontrollable
		-.12684	Changeable
		-.19241	Hypochondriacal
		-.20989	Oversensitive

positive loadings were higher than negative ones. In the case of the latter only values above .10 are shown.

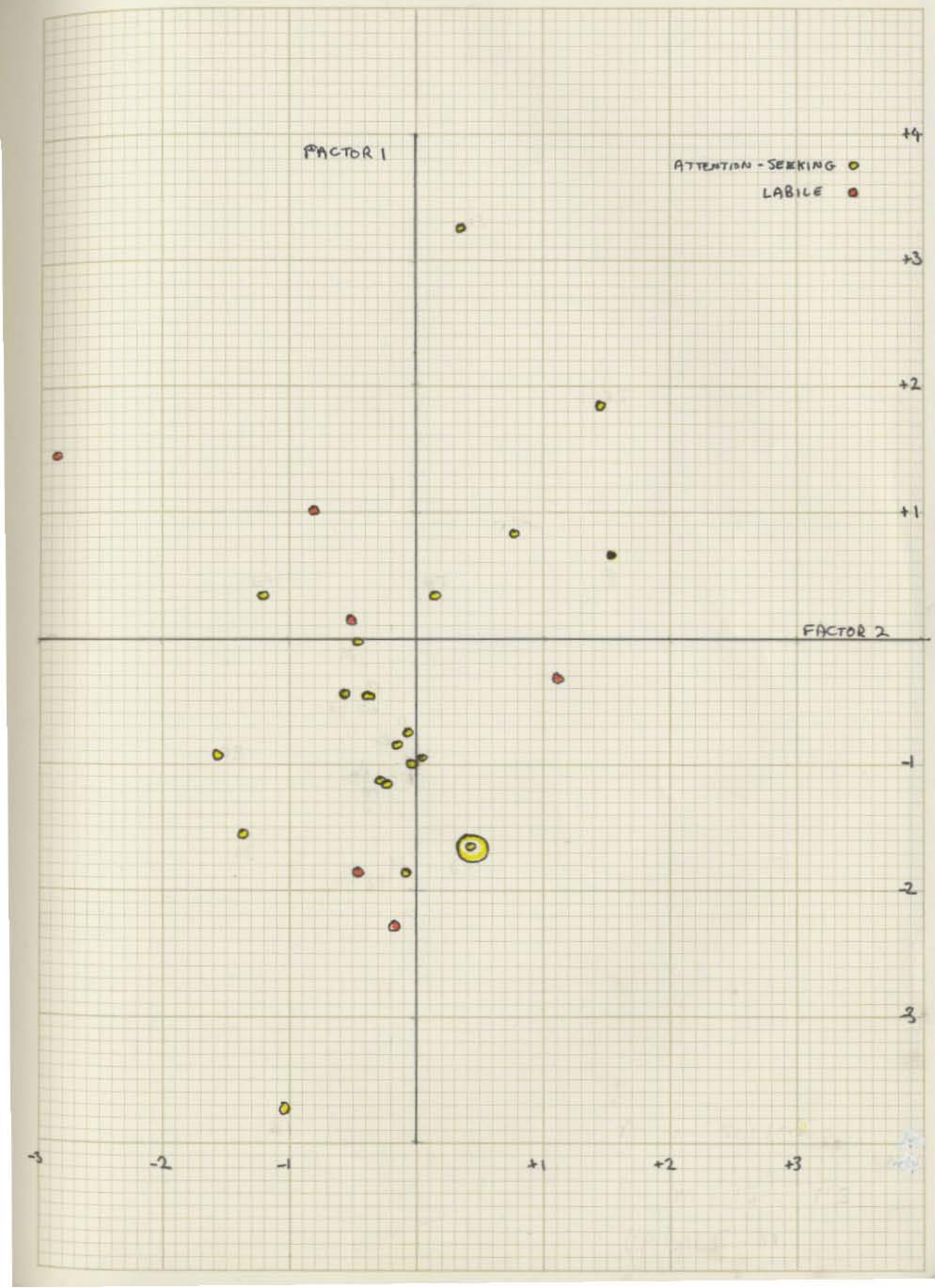
Initial inspection of the patients' factor scores revealed that scores in excess of 2.0 were obtained on factor 1 by two patients with histories of assaultive behaviour. The highest score on factor 2 was obtained by the typical hyperthyme and the two highest-scoring patients on factor 3 were both diagnosed as unfeeling types. No patients obtained scores above 2.0, either positive or negative, on factor 4. All the patients with high scores on factor 5 showed weak-willed features.

It seemed possible, from these findings, that the factors might provide a means of discriminating between Schneider's types. The factor scores of all the patients were then set out in the following series of plots (Figures 1 to 30, pages 96 to 127). The type diagnoses employed were those of the investigator. The typical cases were identified by circling them. Factor 4 was not included in this portion of the study because there was little variance between patients' scores on this factor.

Type
Depressive (n = 6)
Hyperthymic (n = 4)
Fanatic (n = 4)
Sensitive (n = 10)
Anankast (n = 7)
Attention-seeking (n = 20)
Labile (n = 6)
Explosive (n = 5)
Unfeeling (n = 6)
Weak-willed (n = 2)
Asthenic (n = 11)

Figures 1 to 30, pages 98 to 127. Scores of the patients on Components 1, 2, 3 and 5. Types identified by colour code. 'Typical cases' circled.

FIGURES 1 - 30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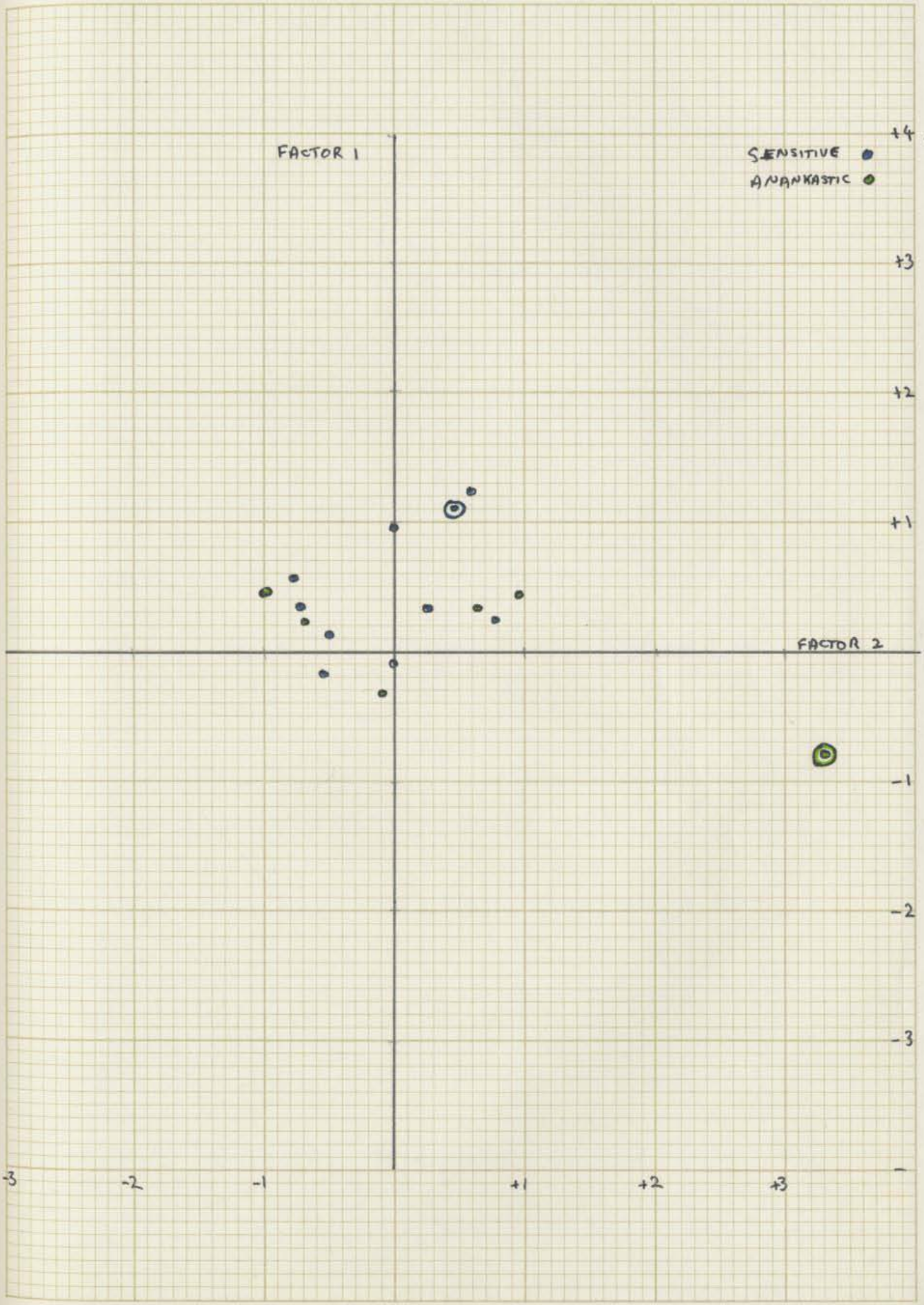
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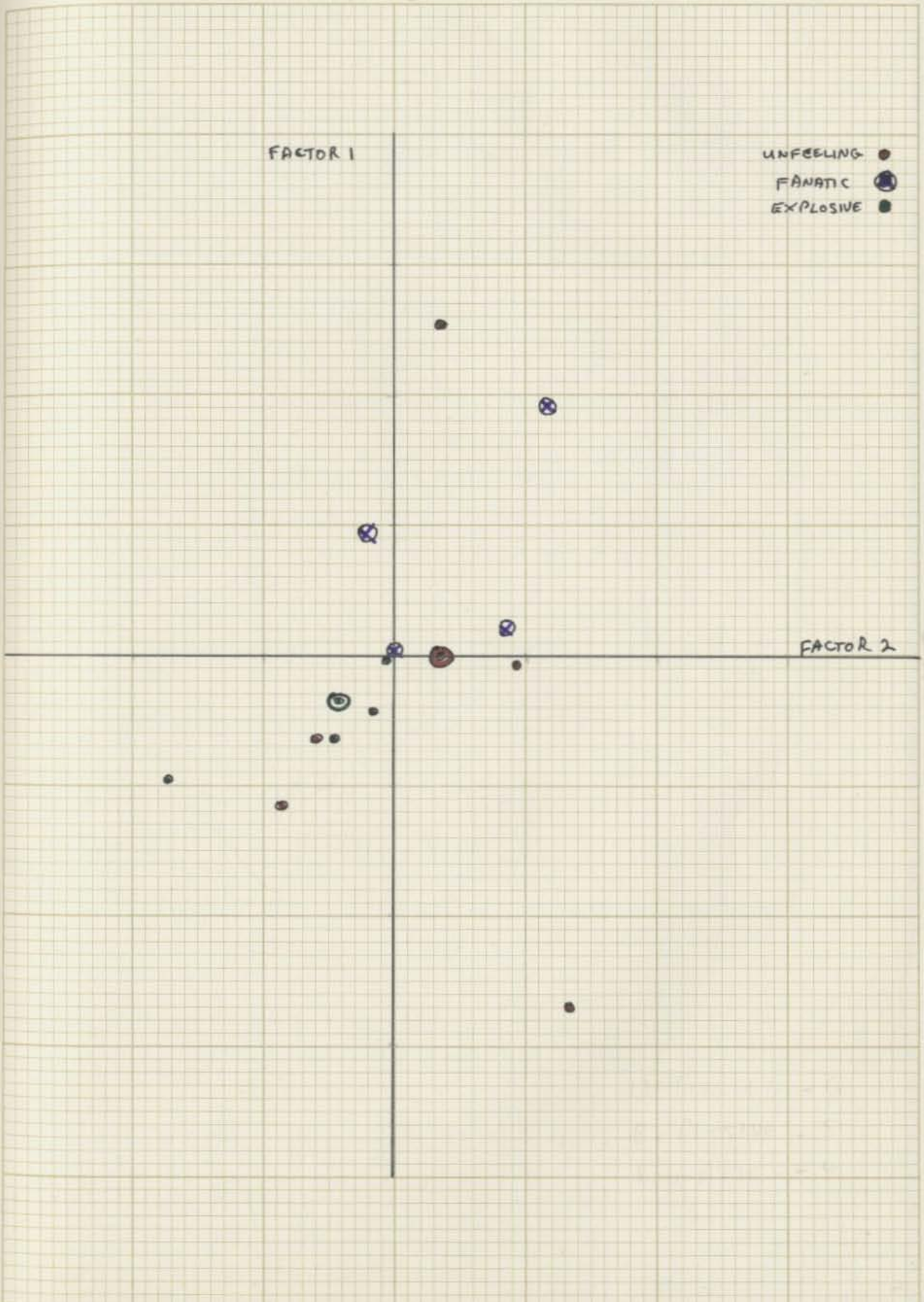
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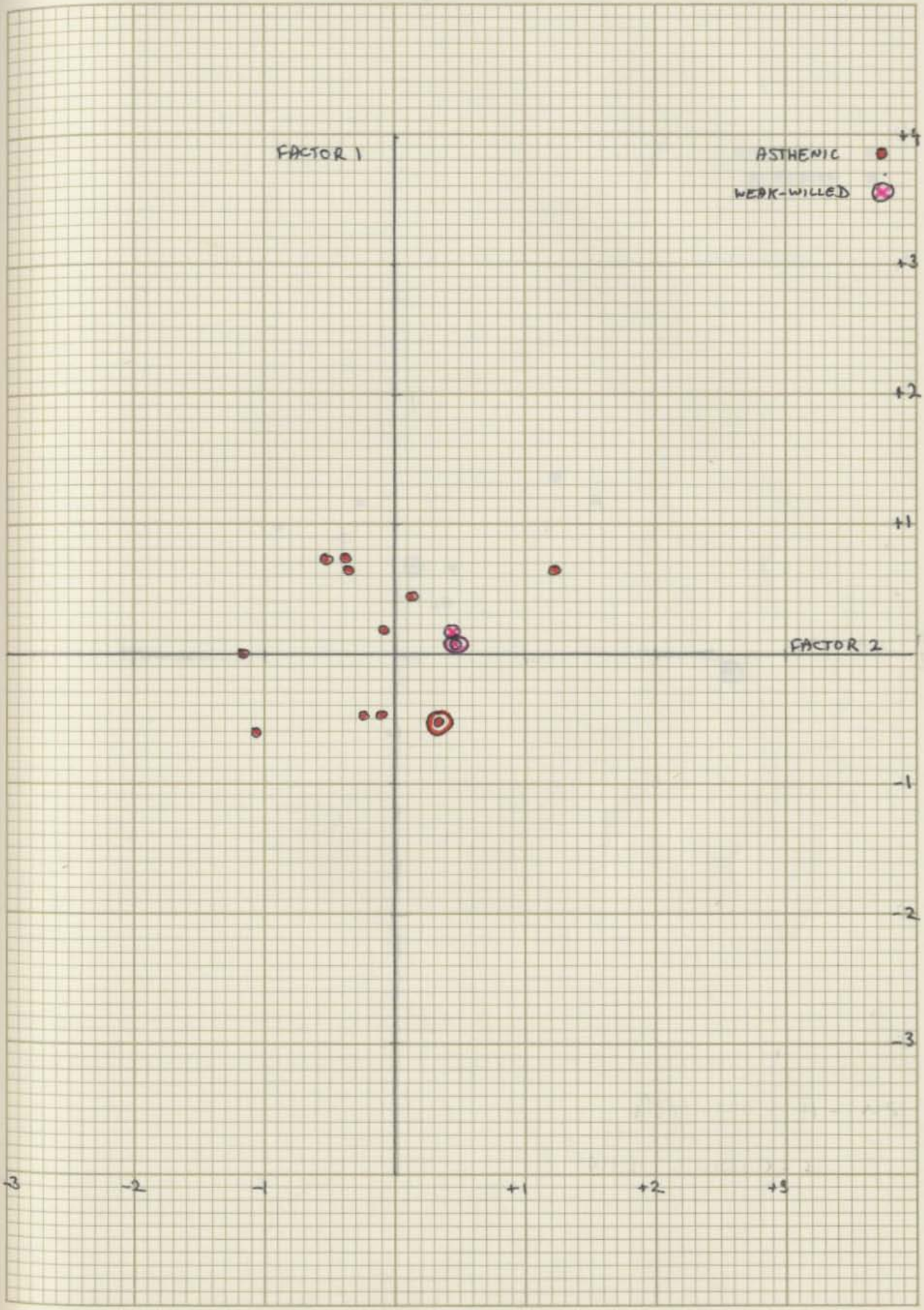
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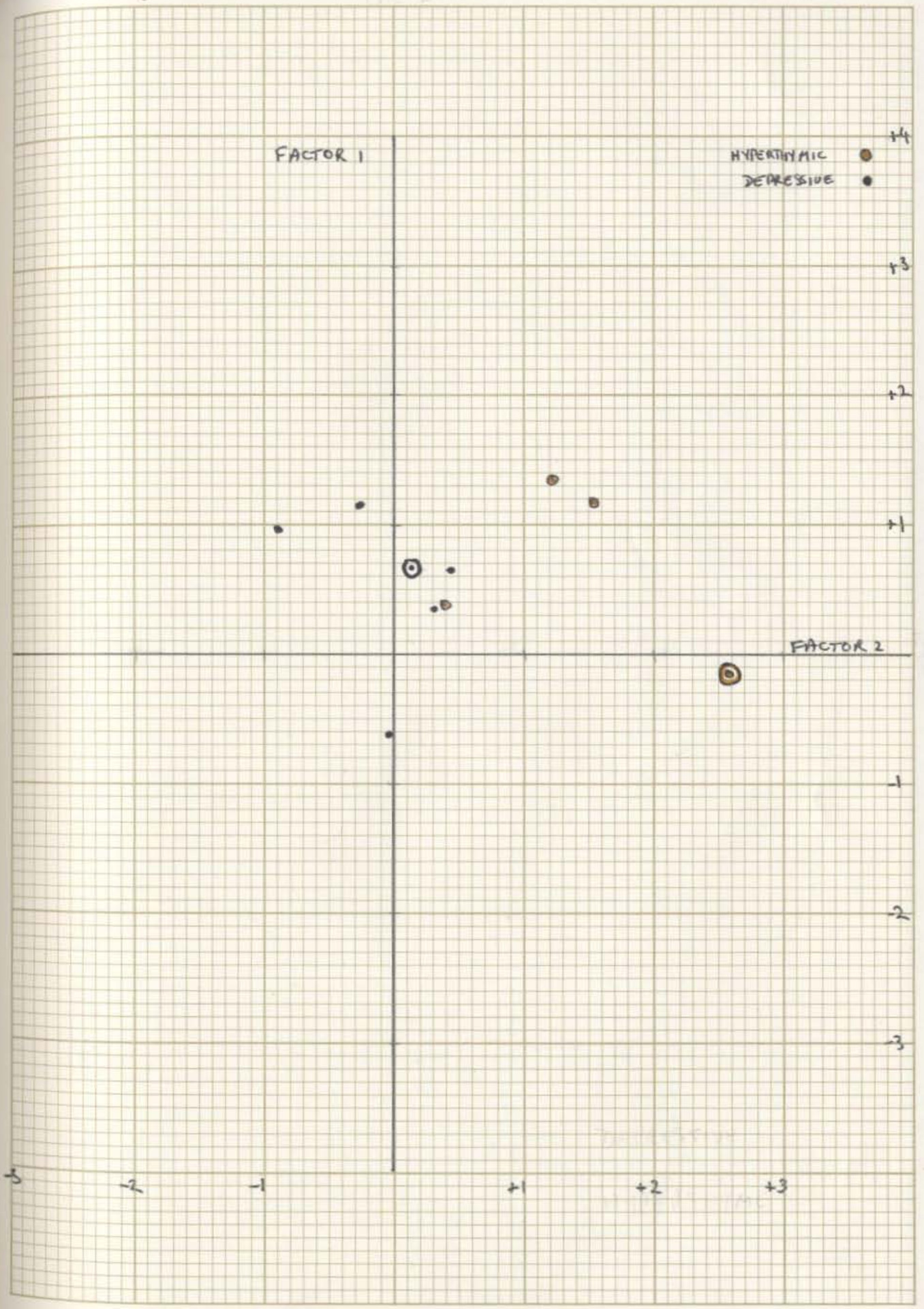
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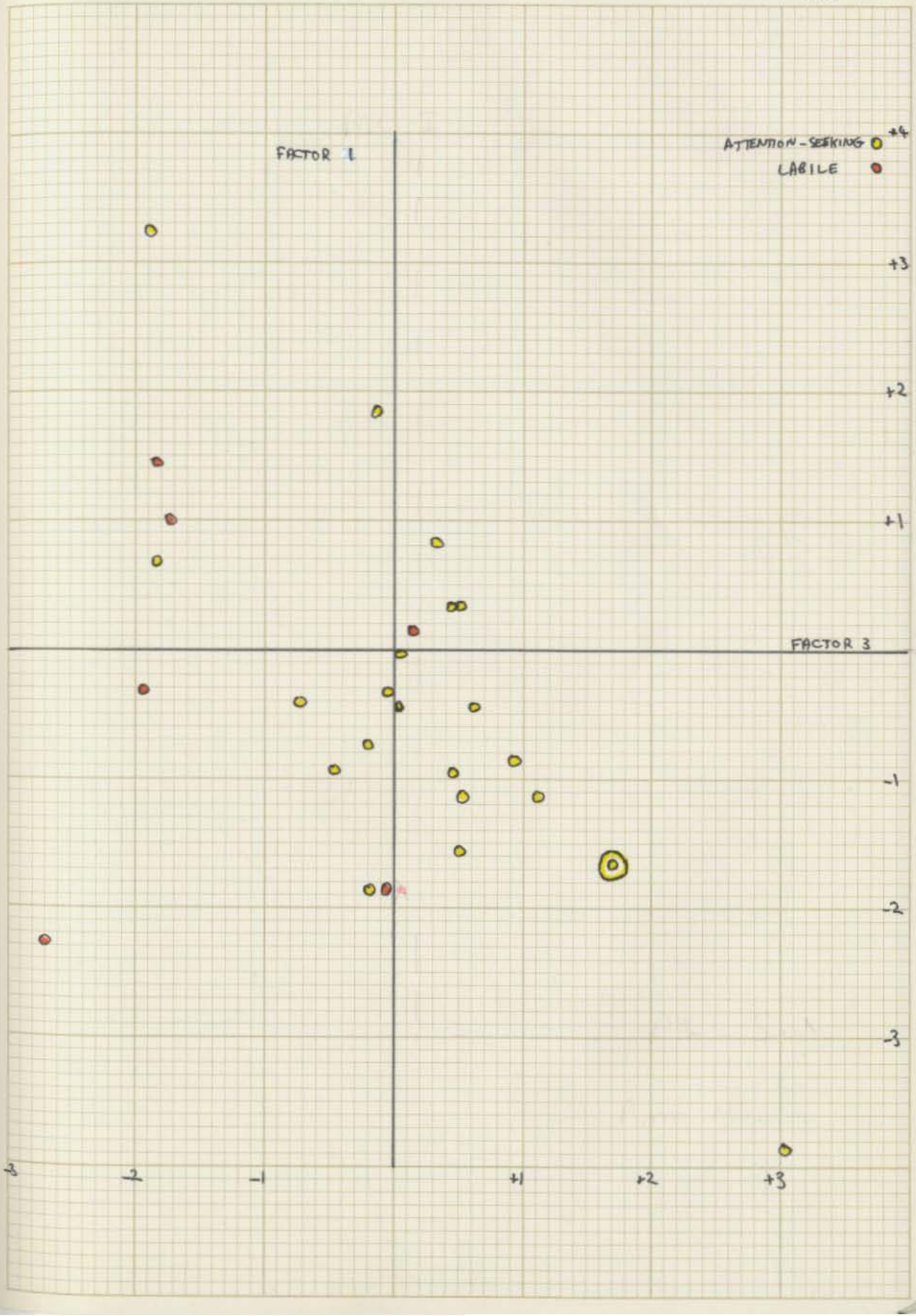
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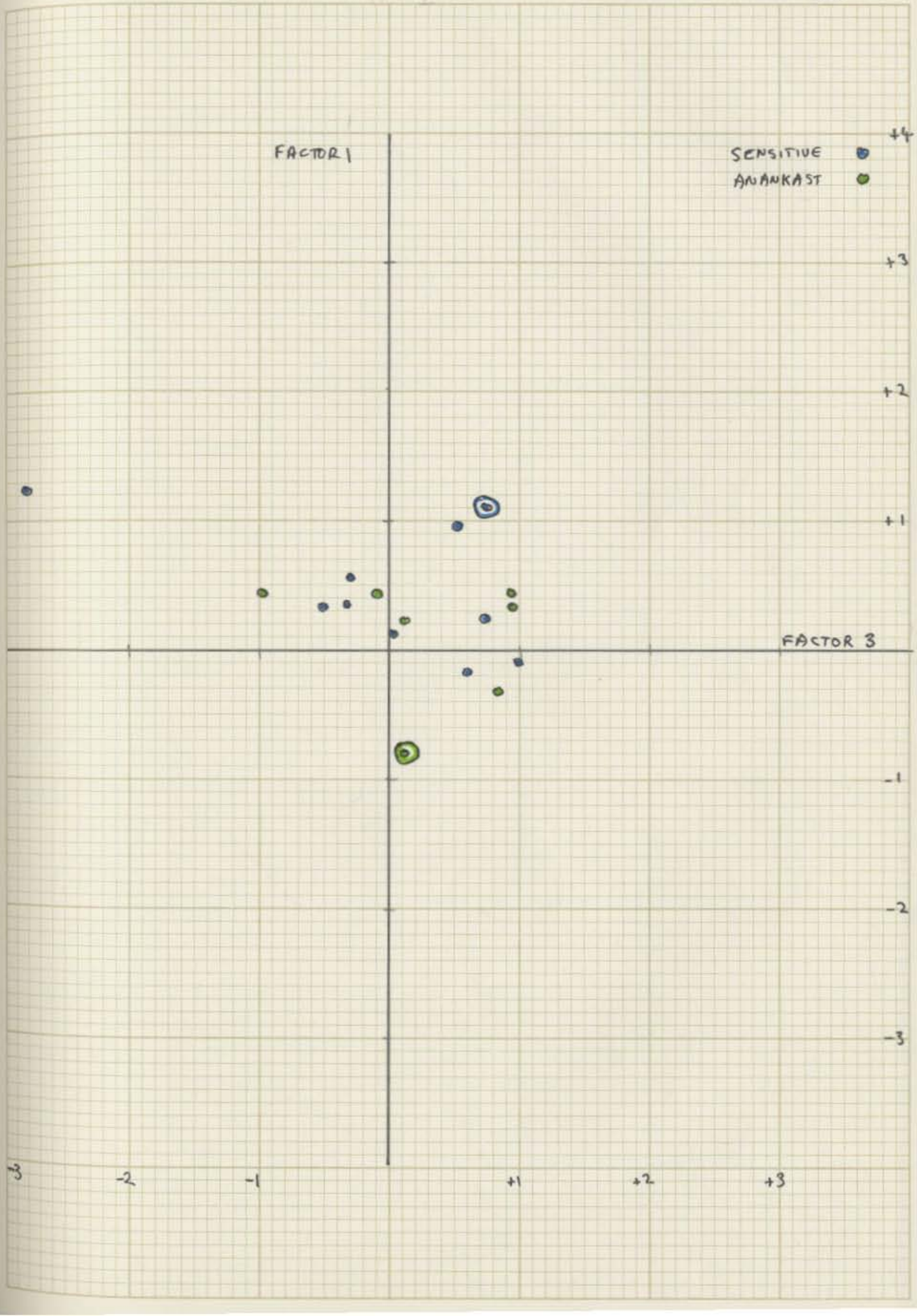
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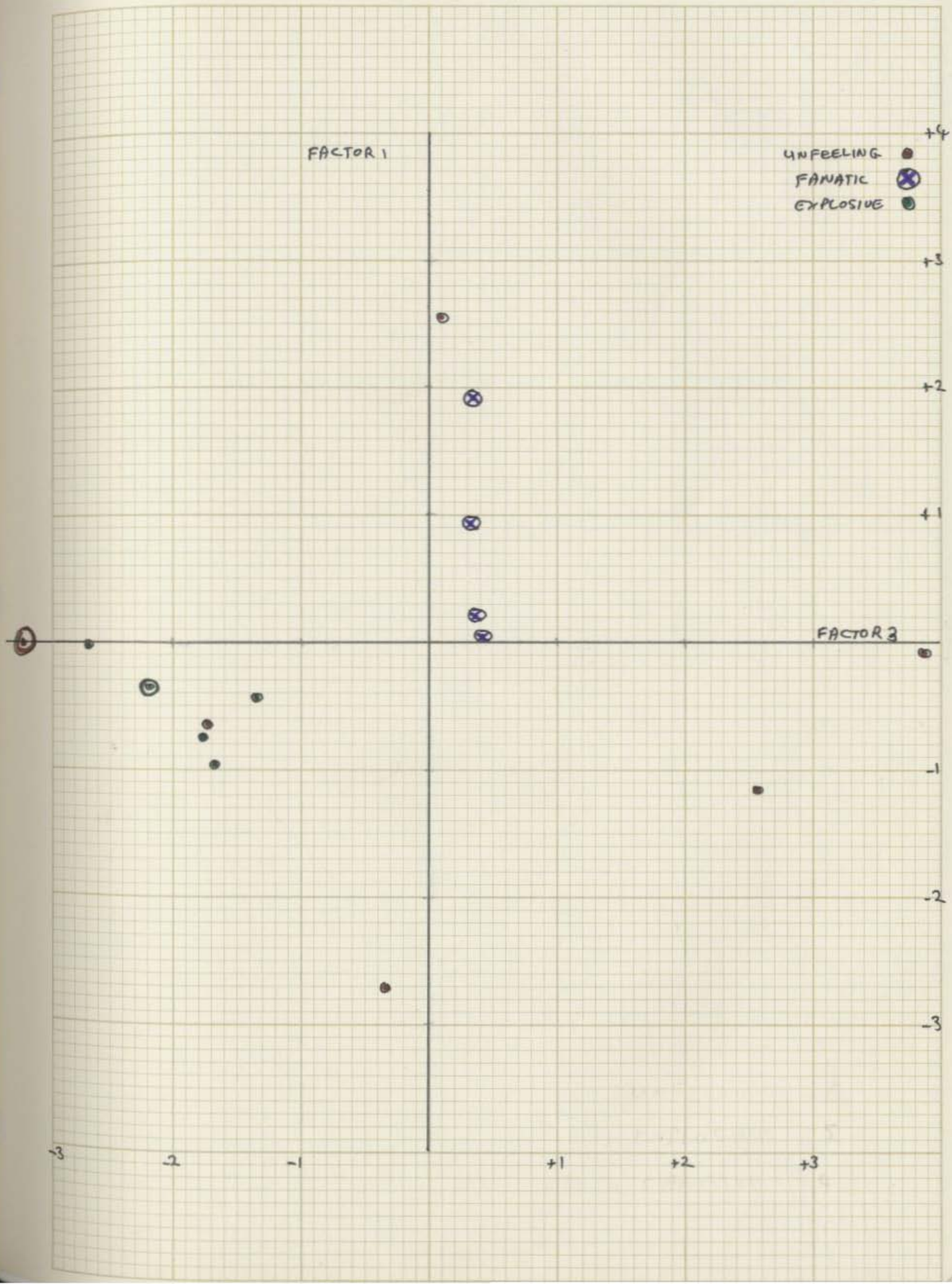
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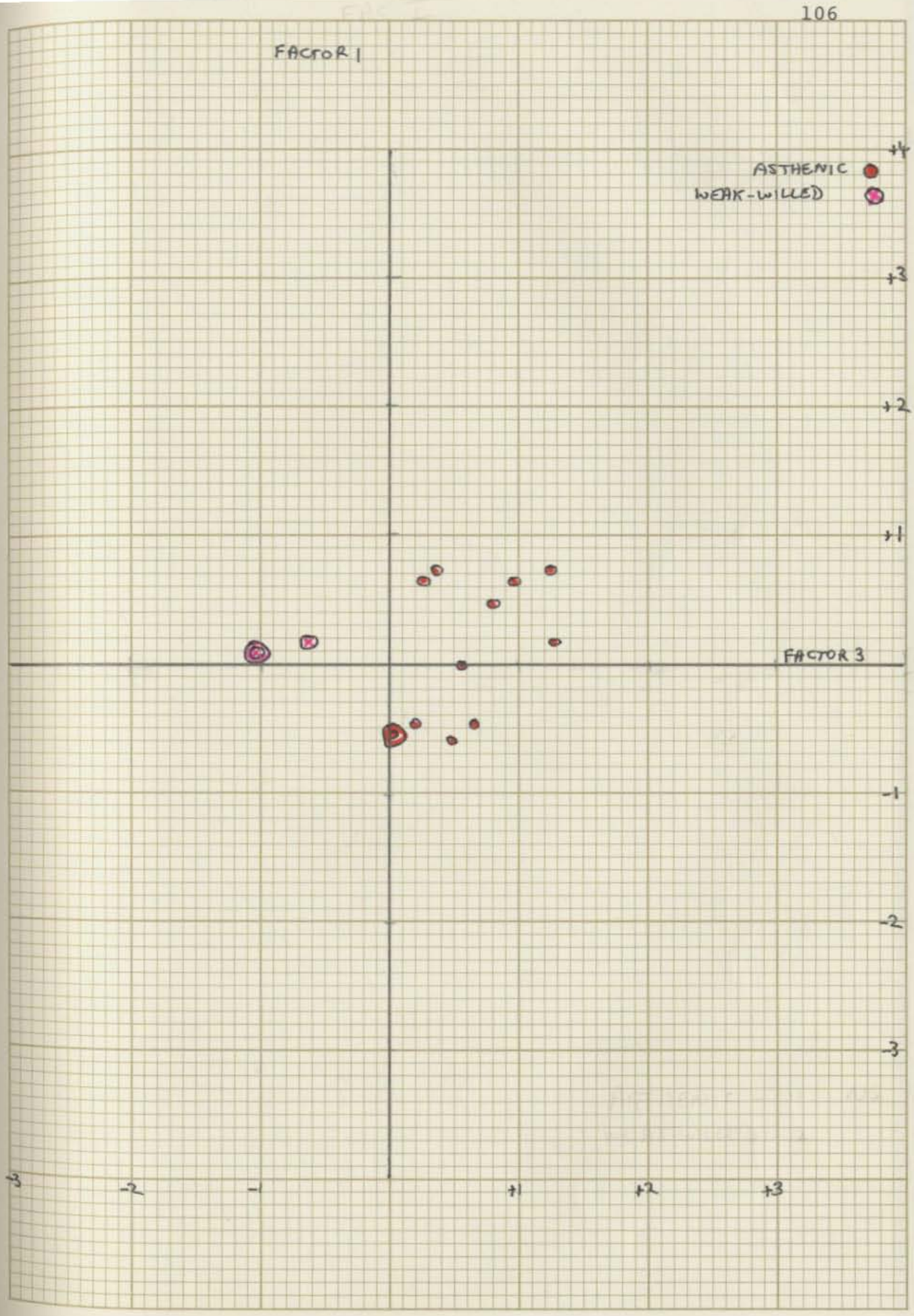
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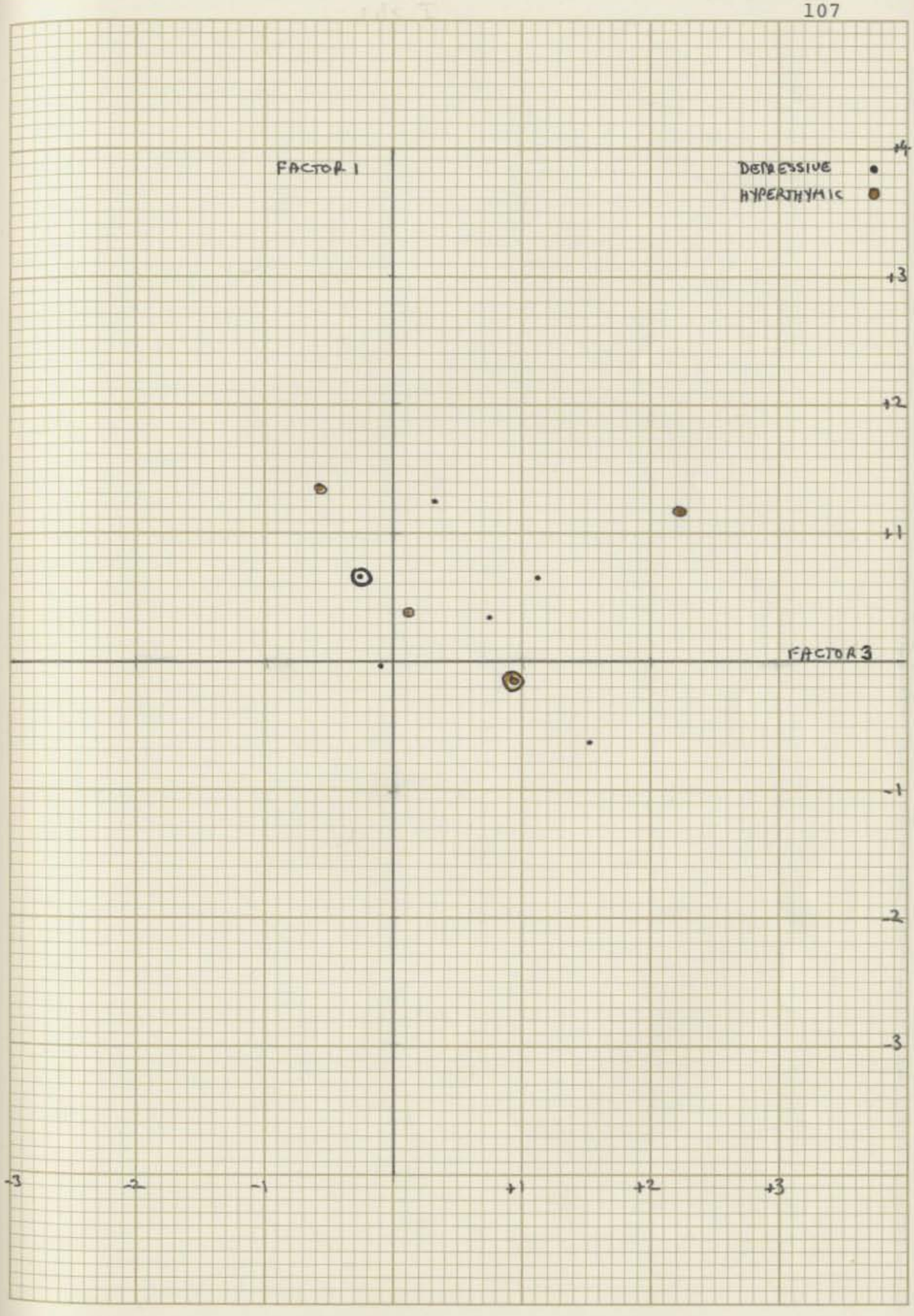
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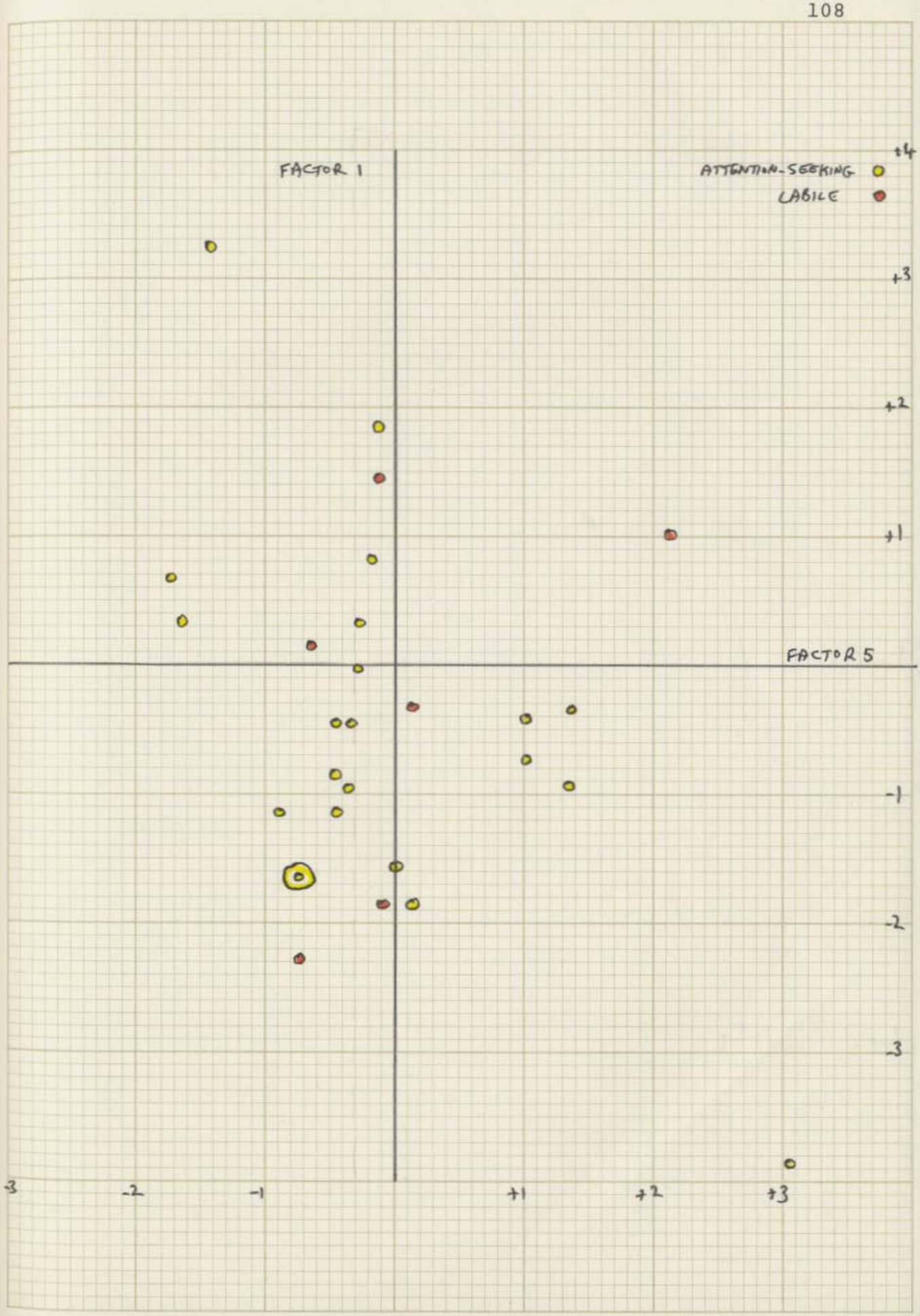
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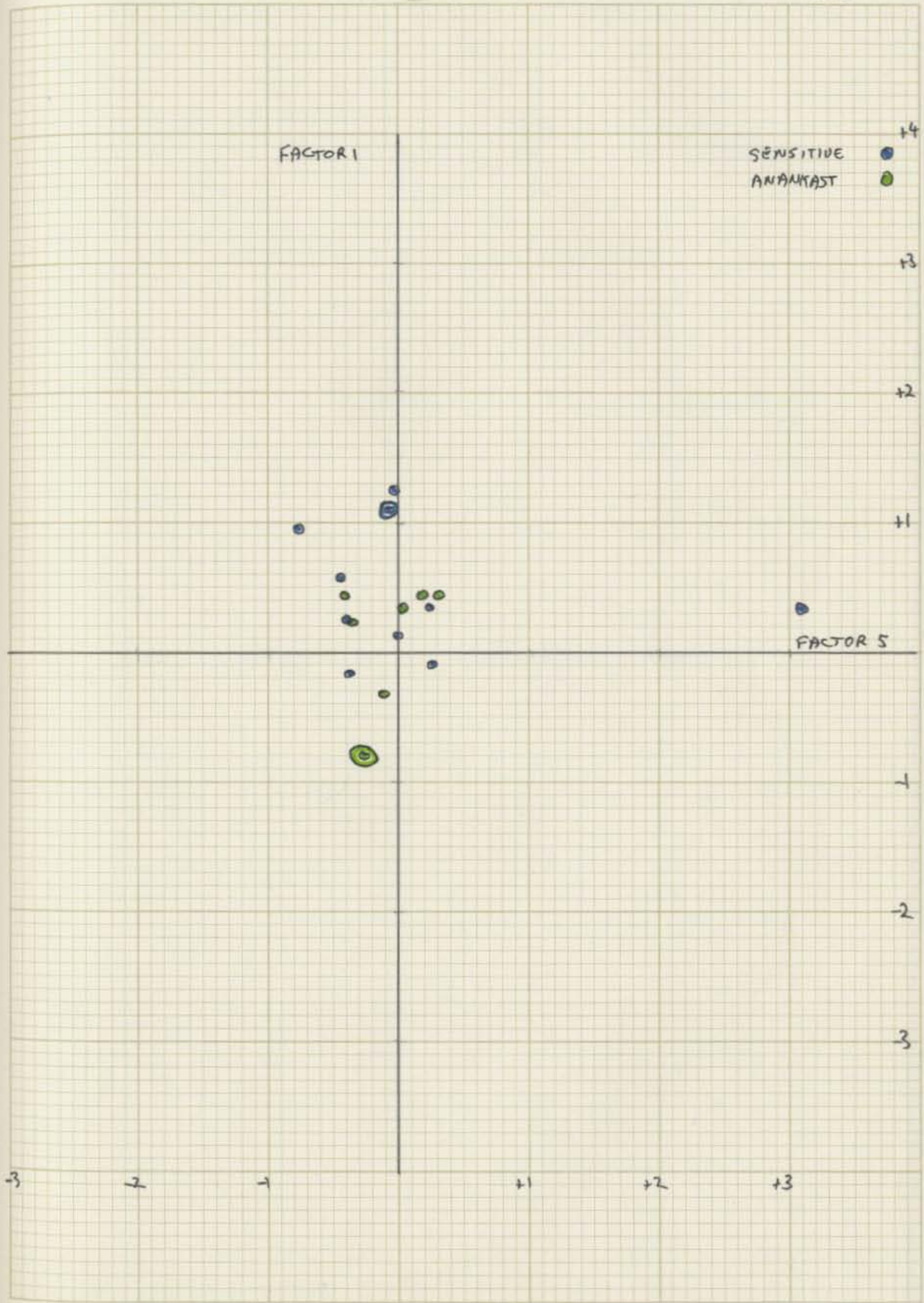
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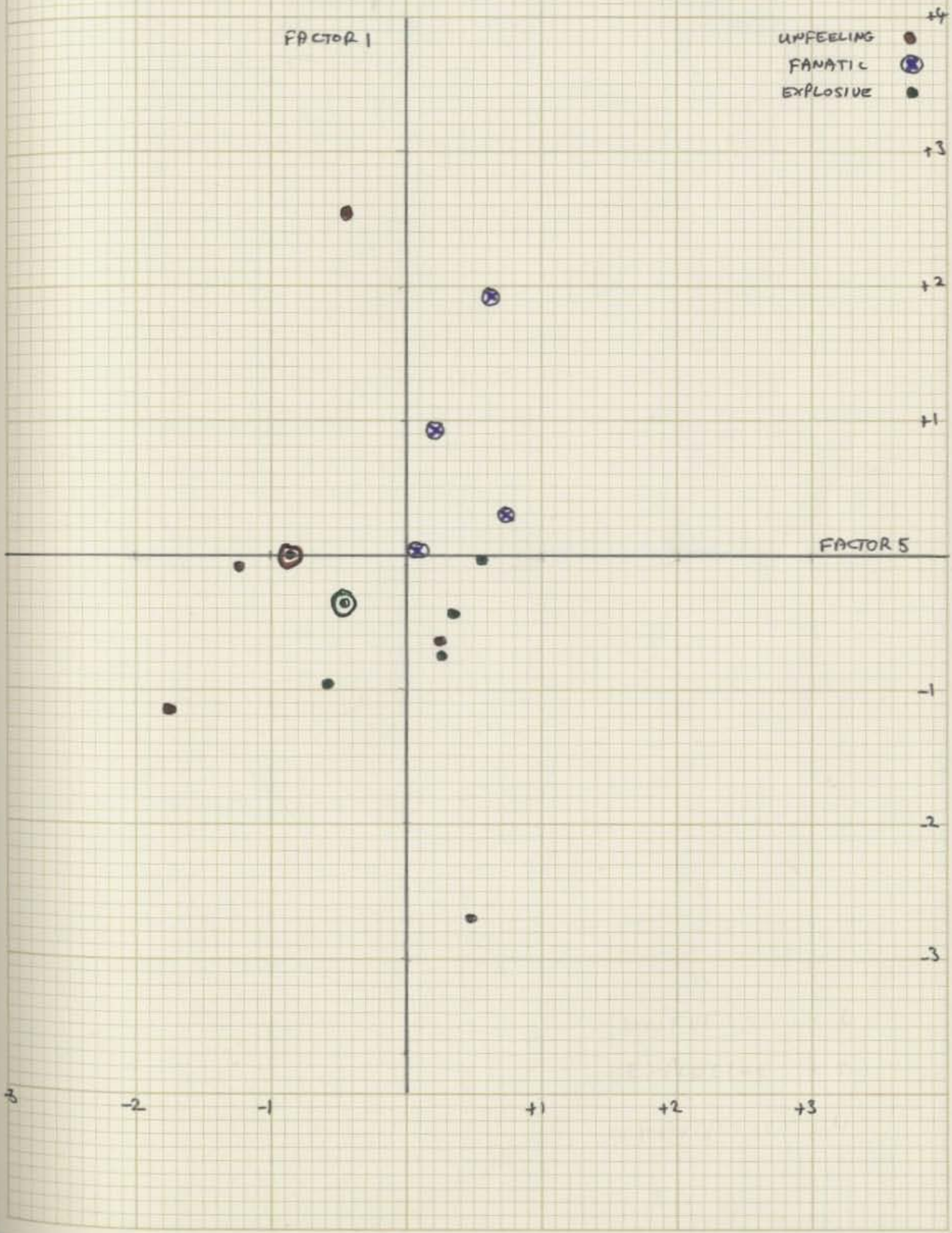
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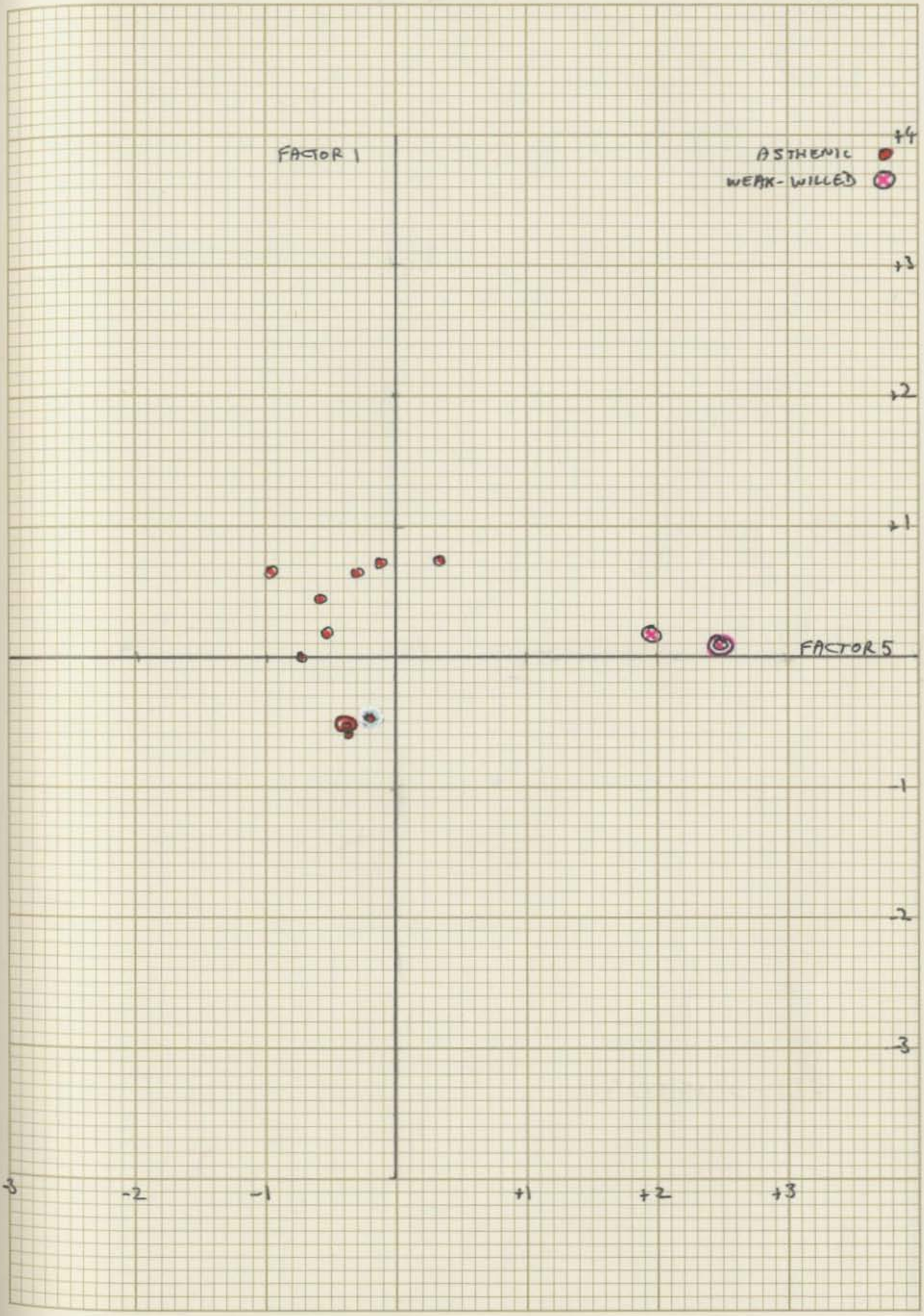
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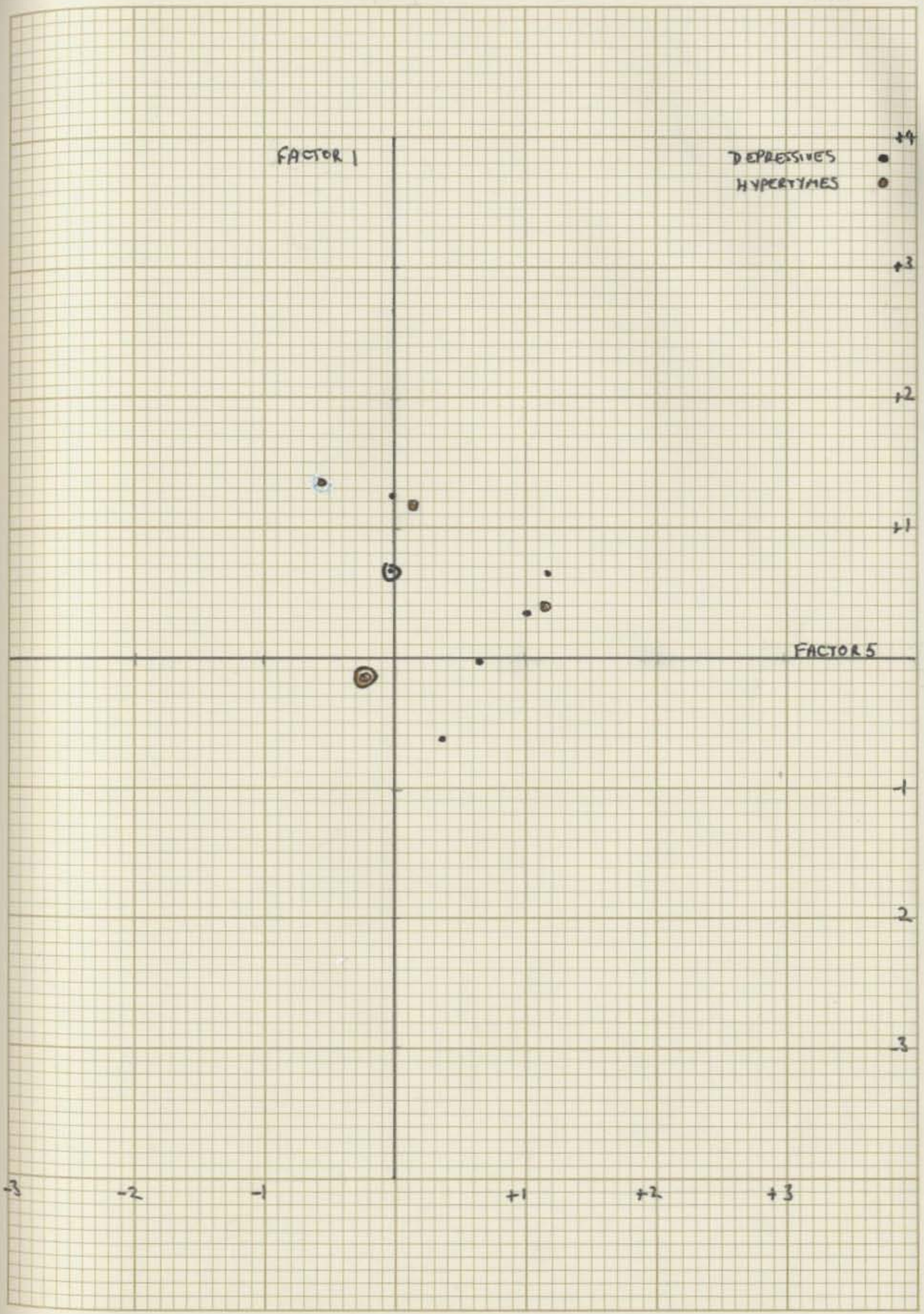
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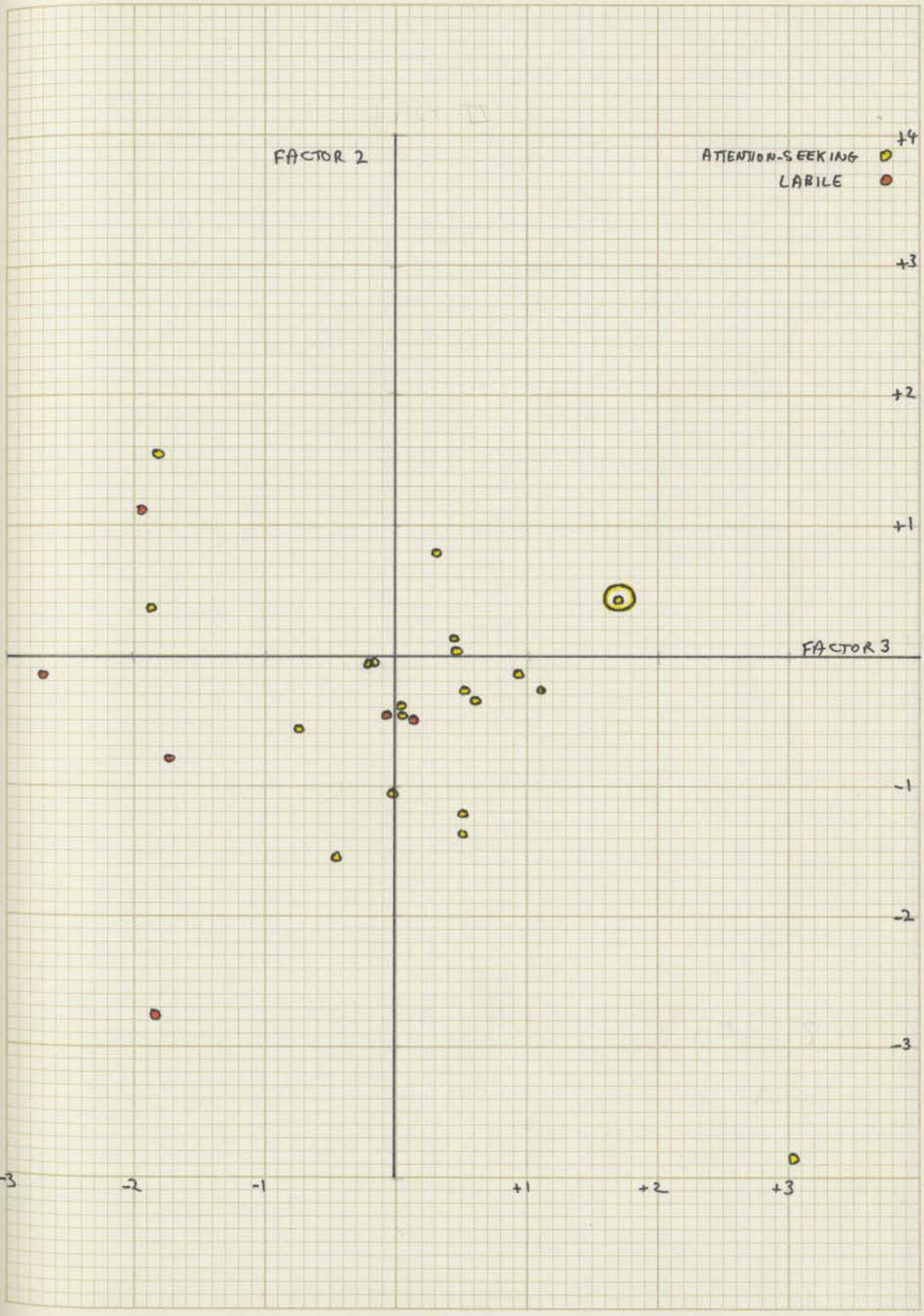
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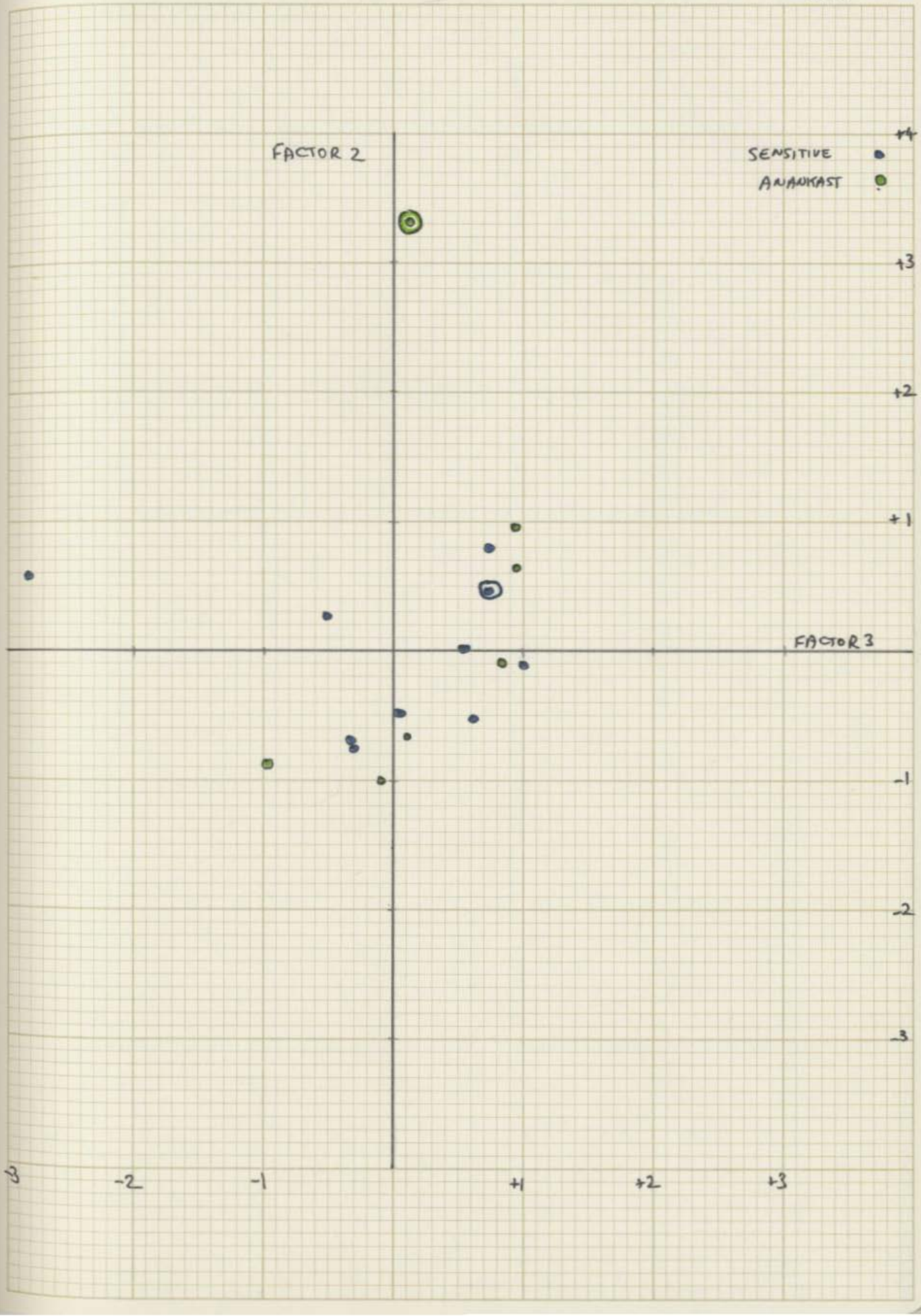
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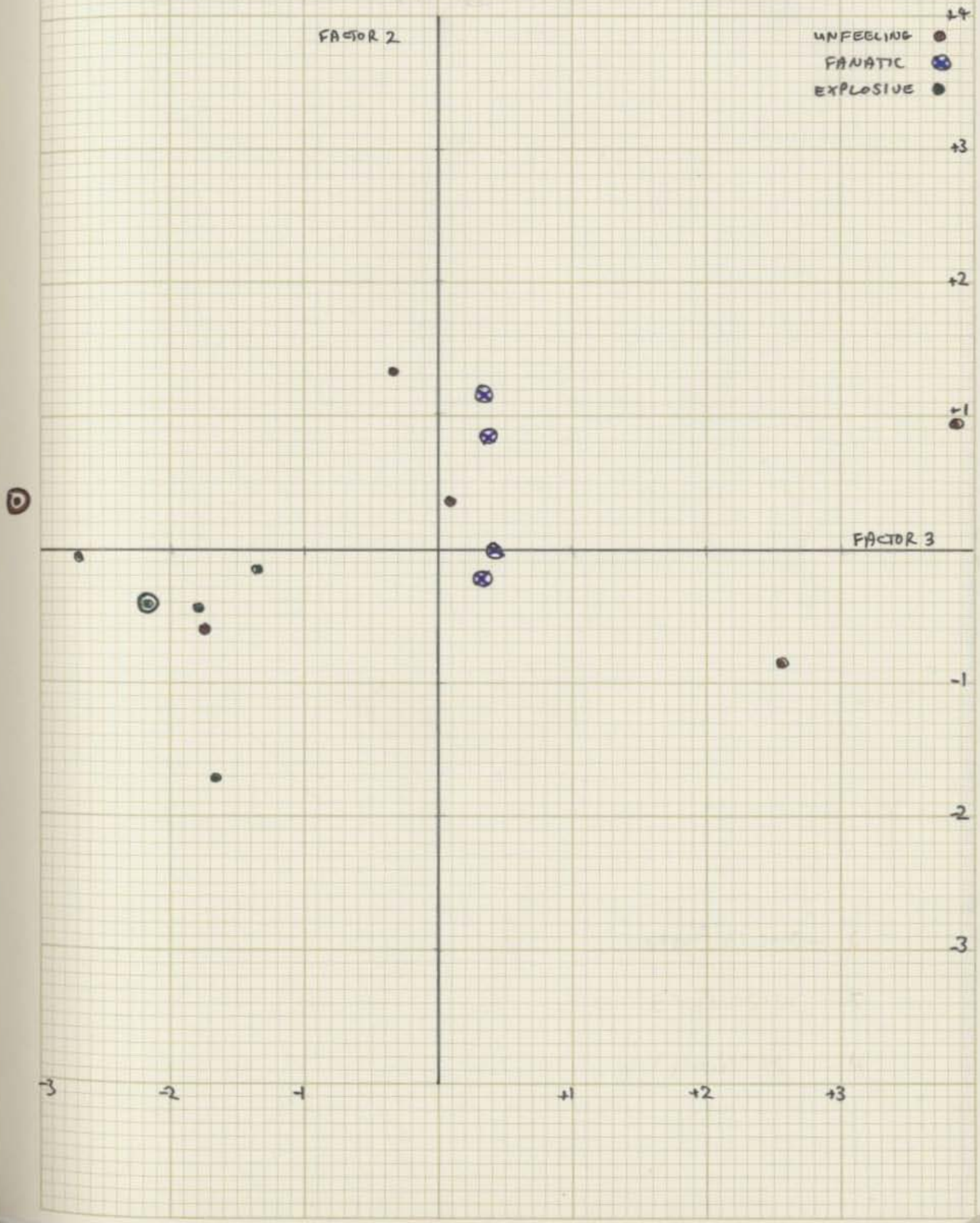
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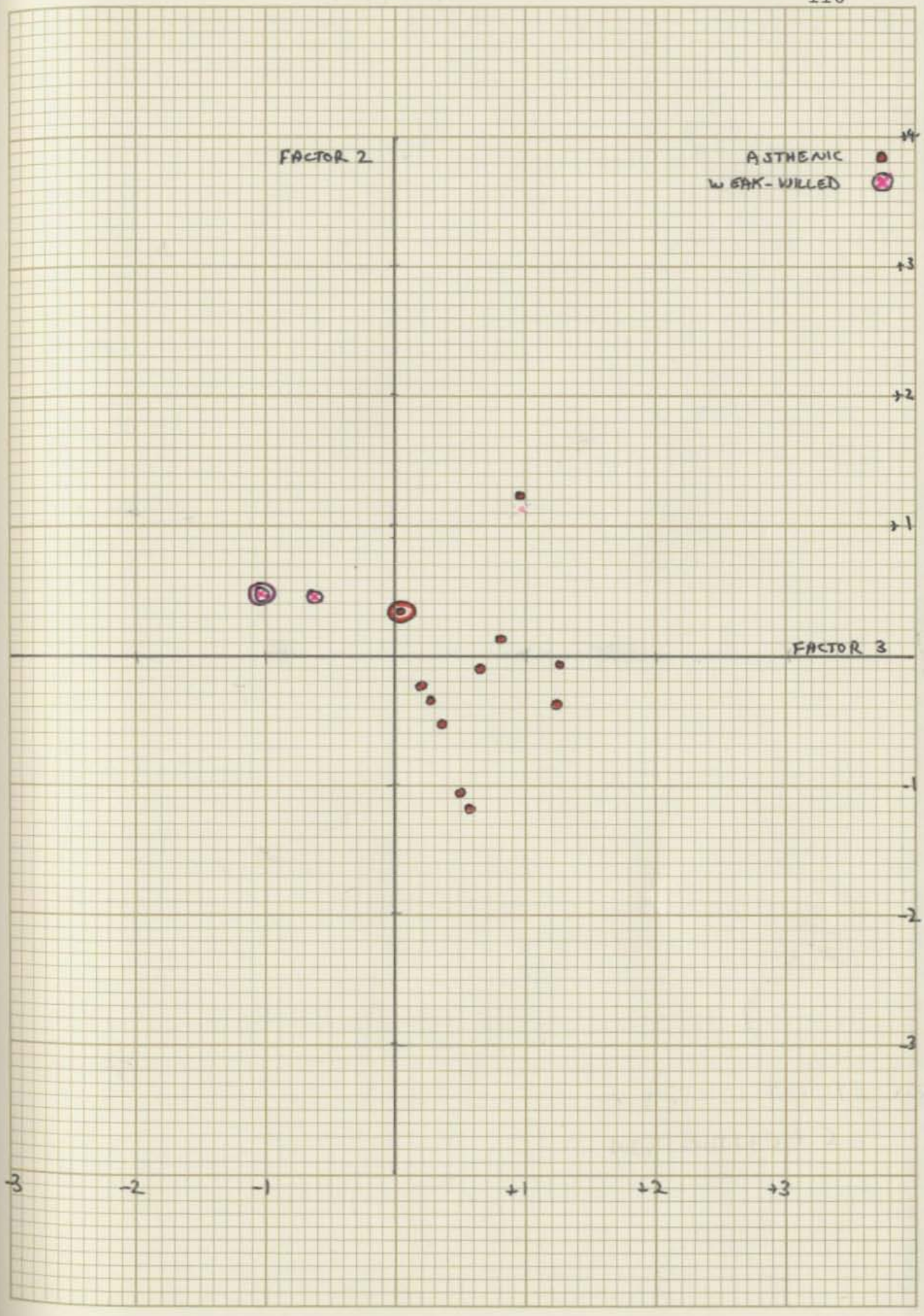
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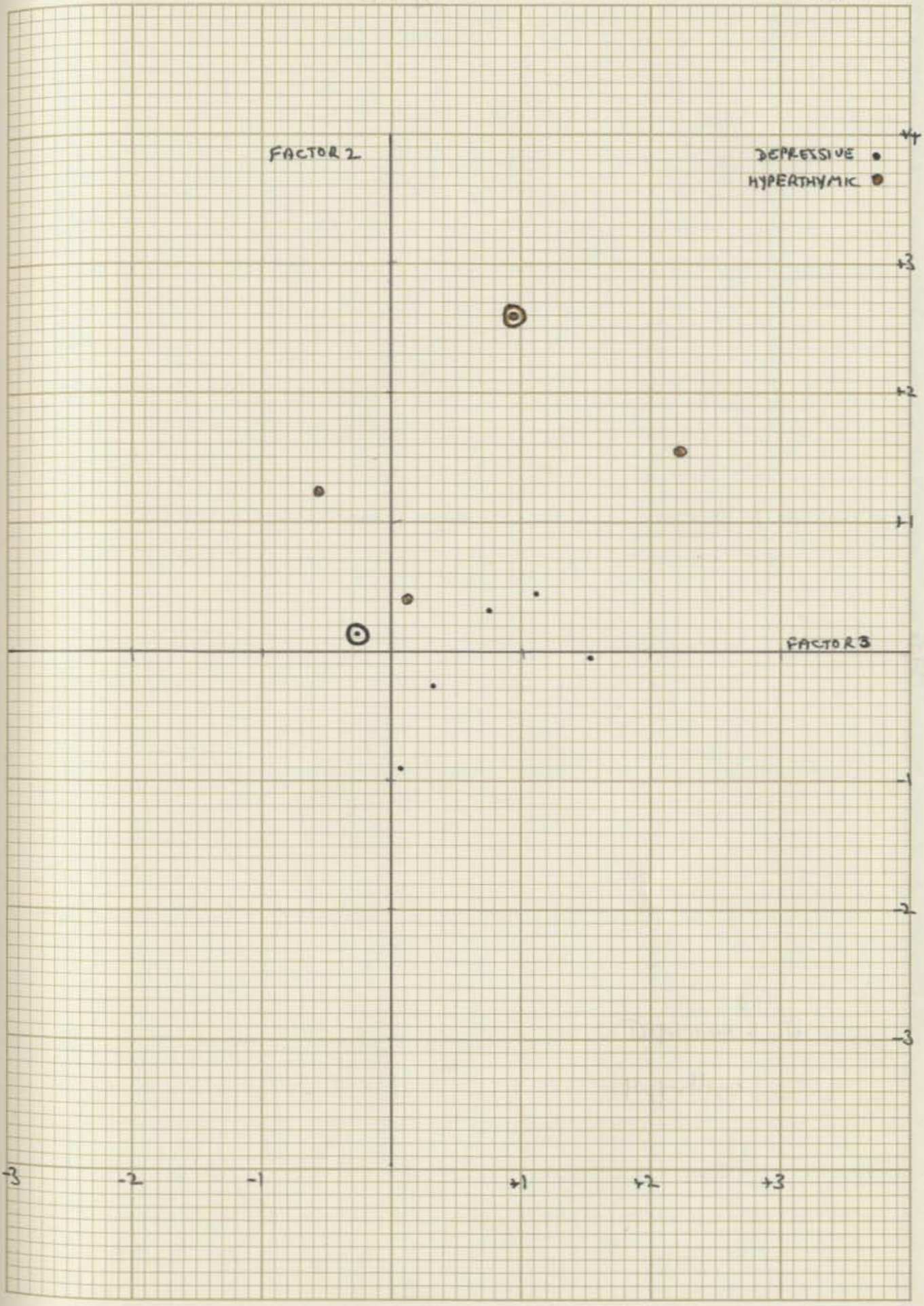
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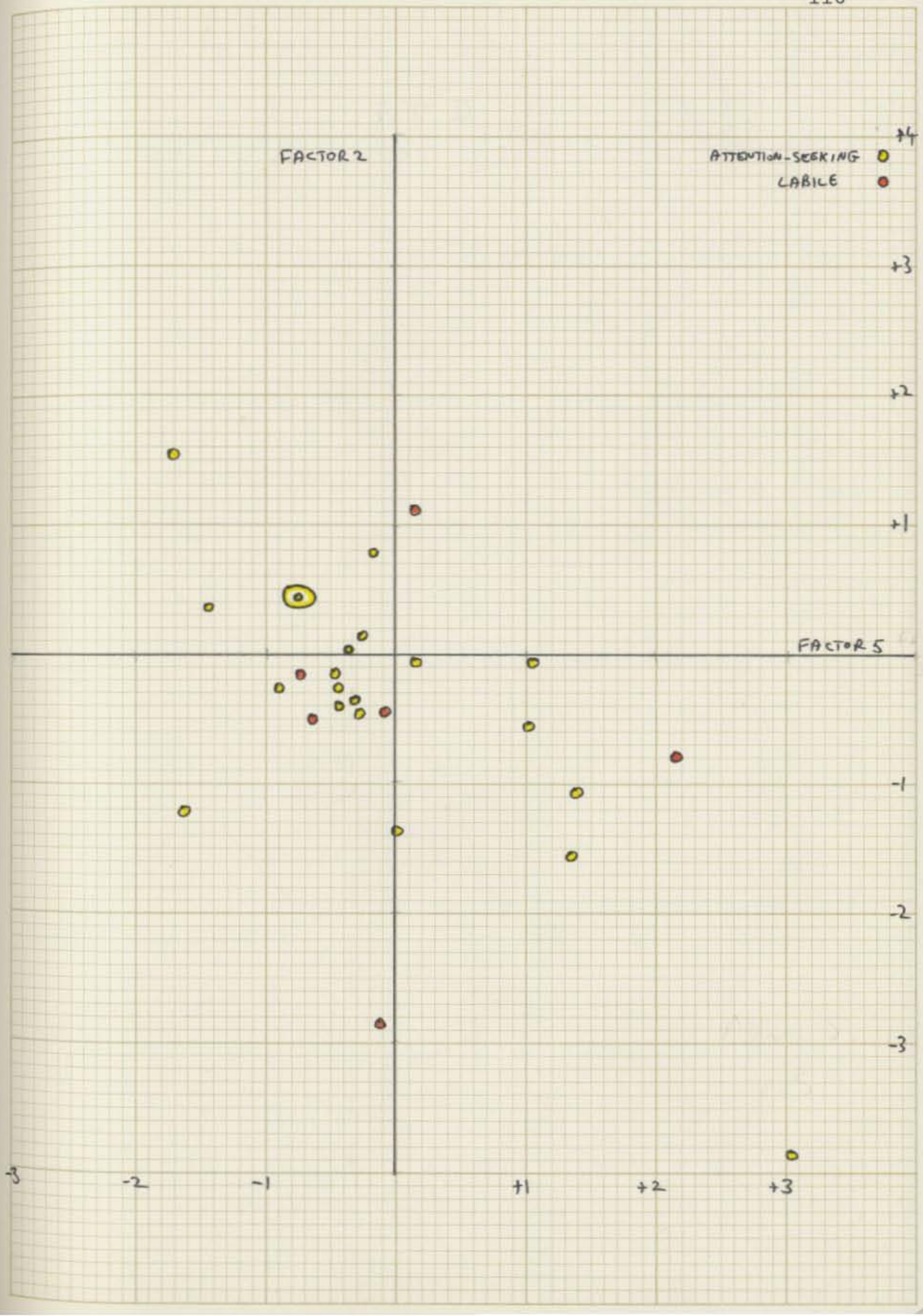
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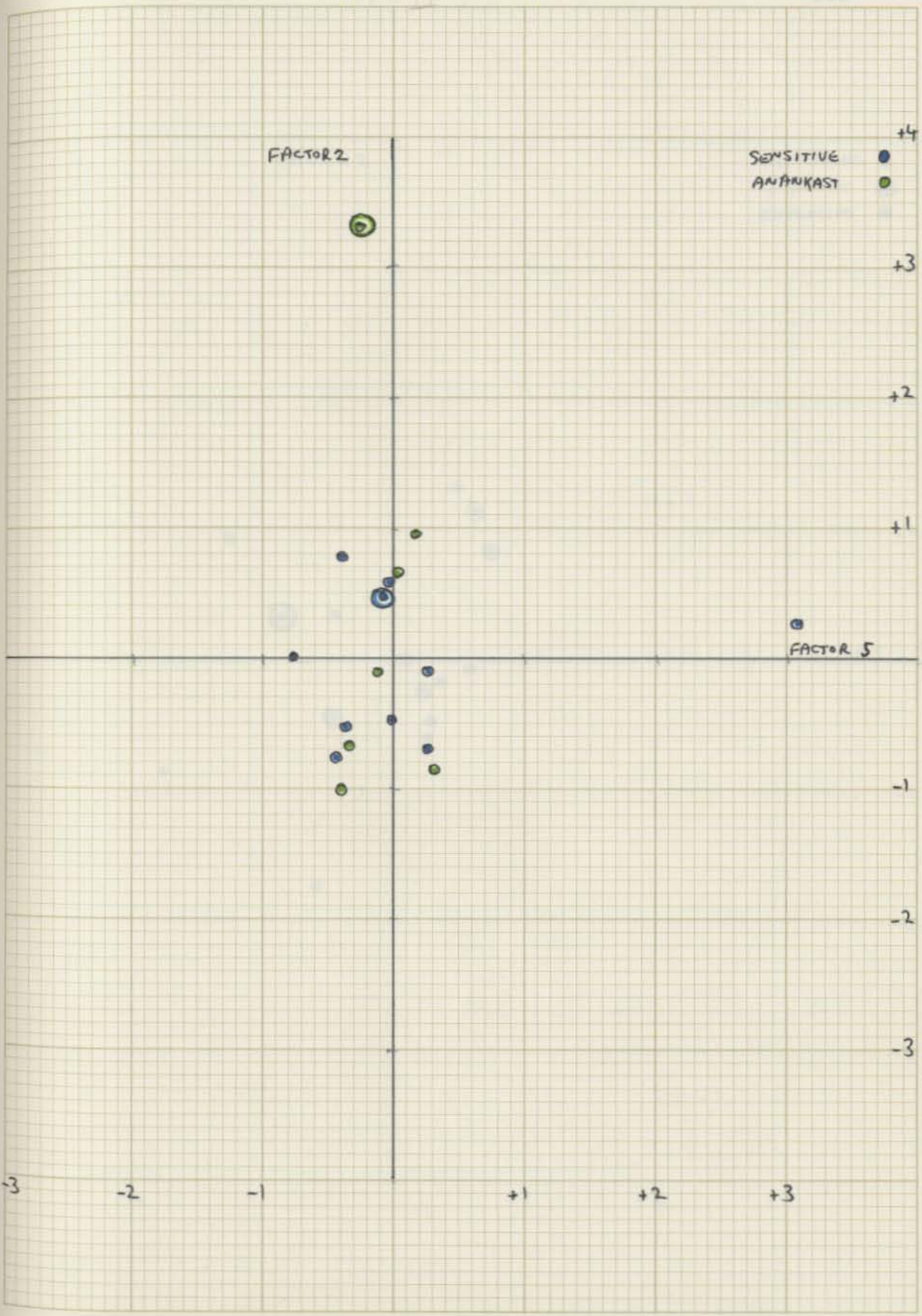
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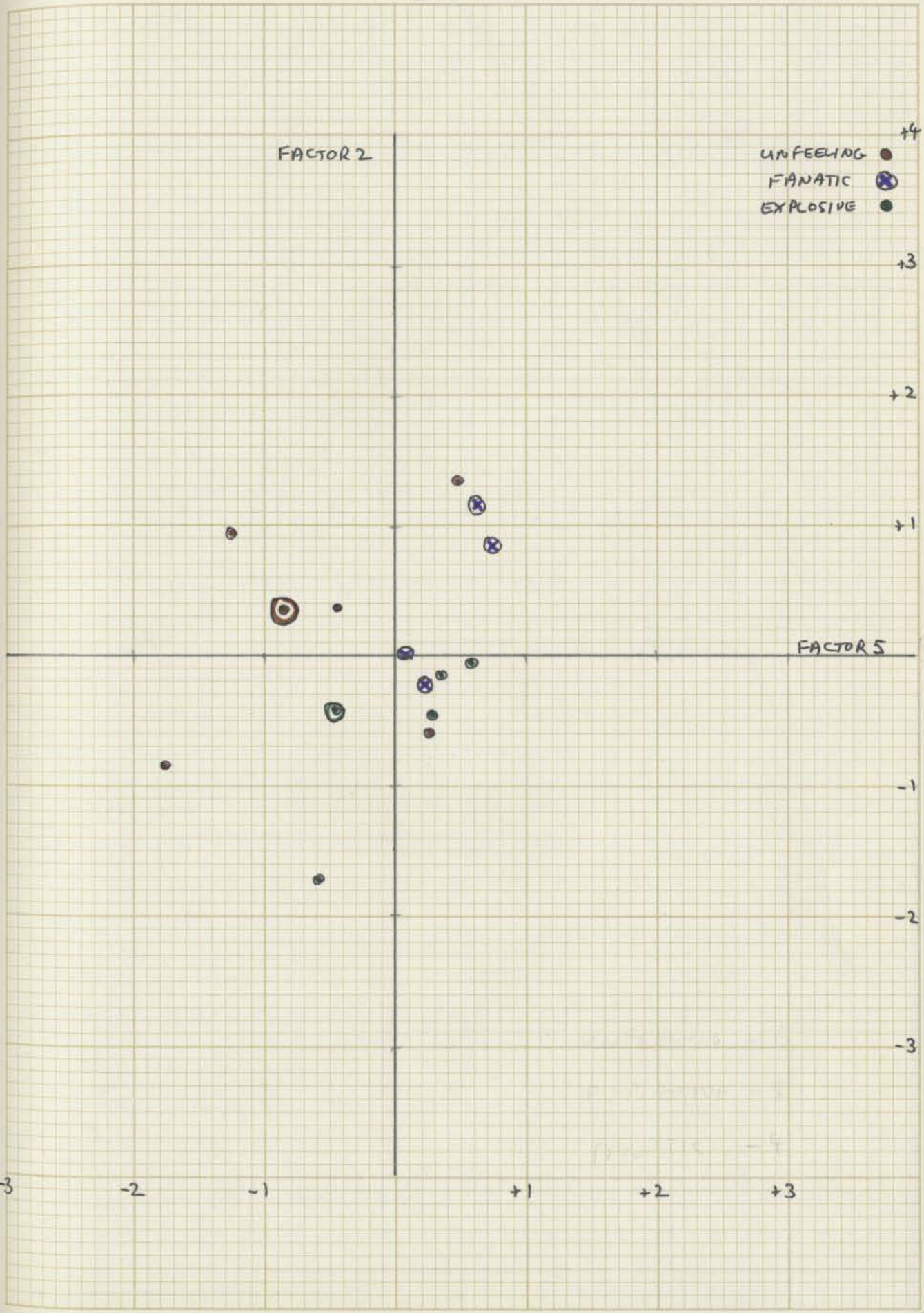
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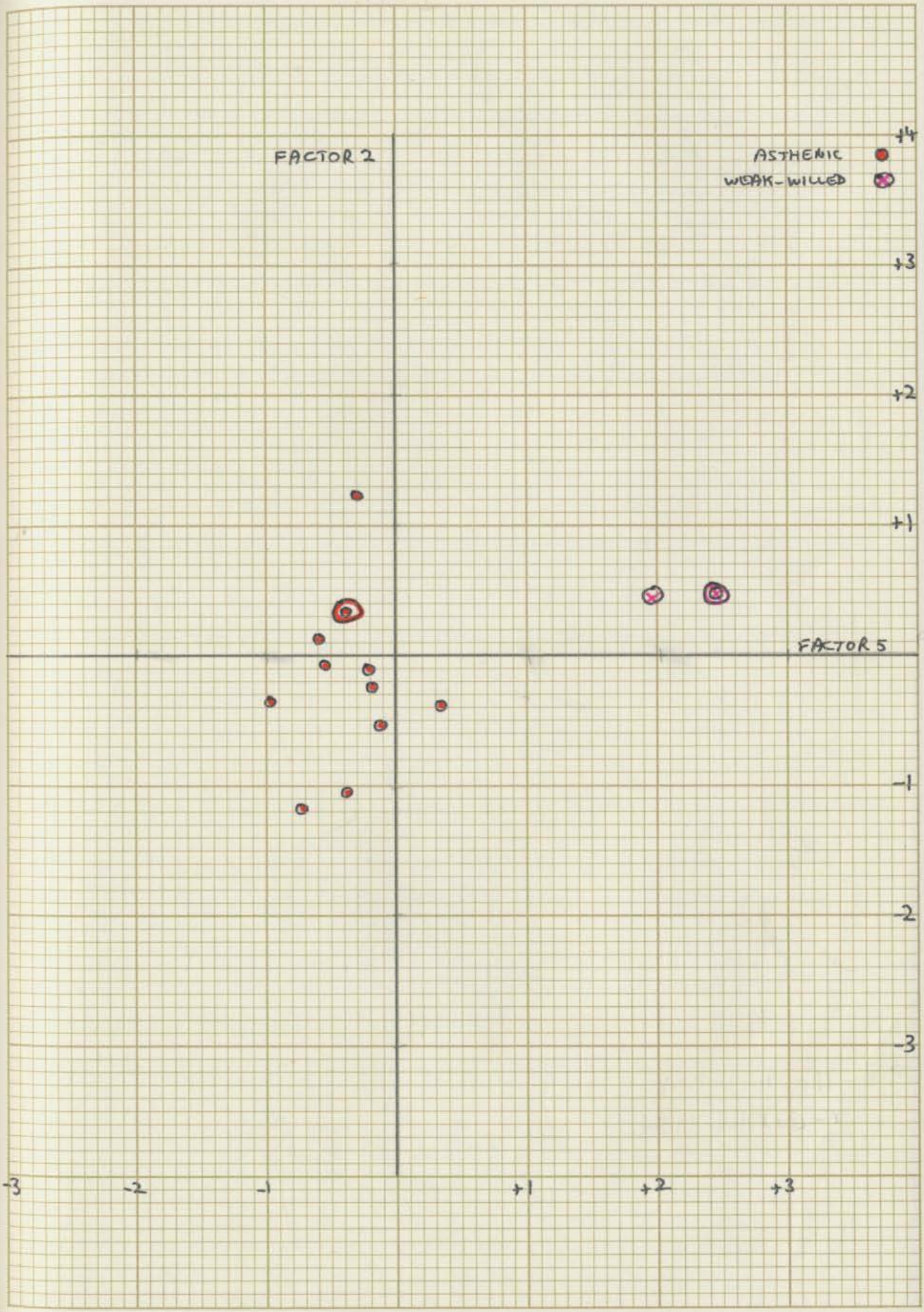
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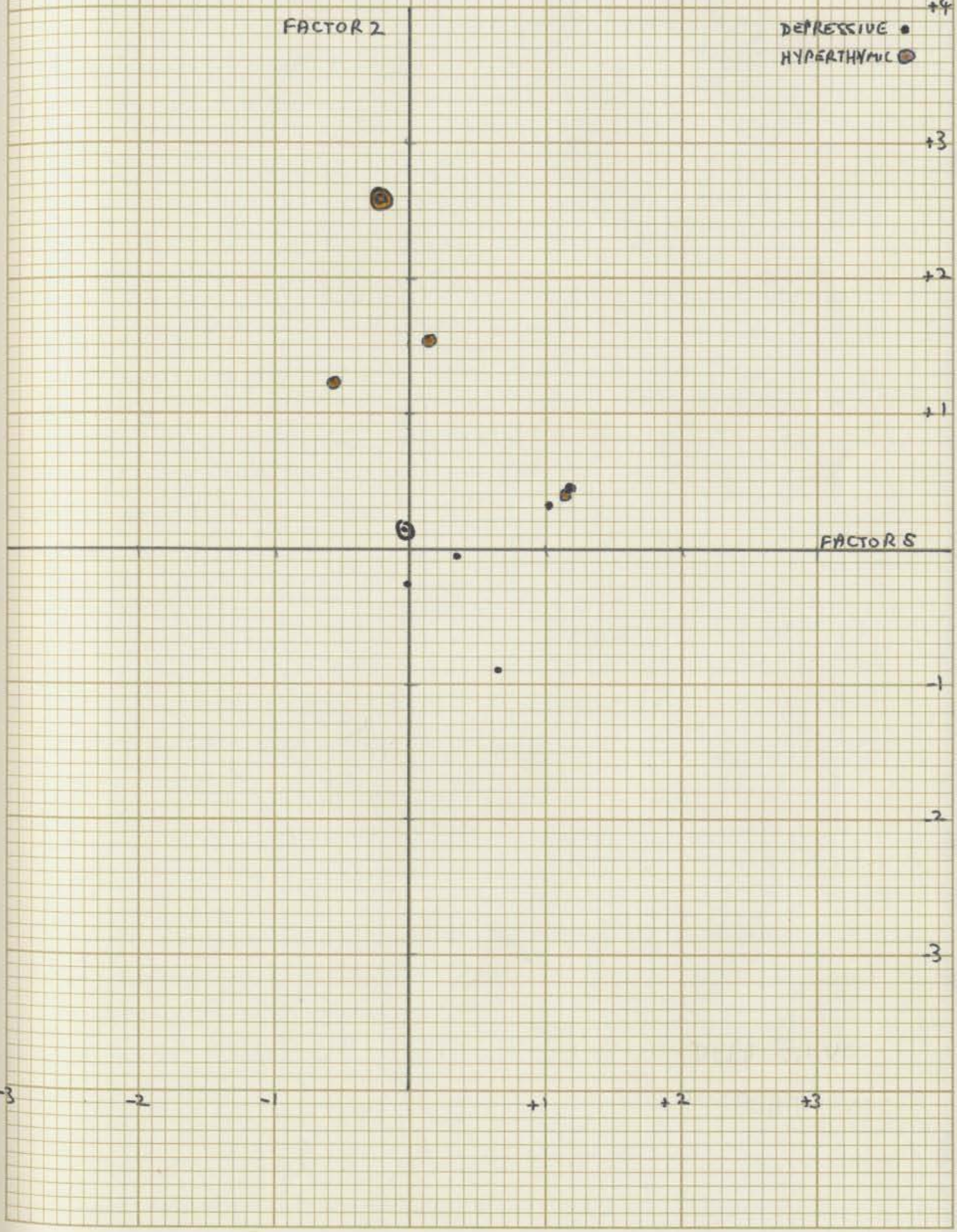
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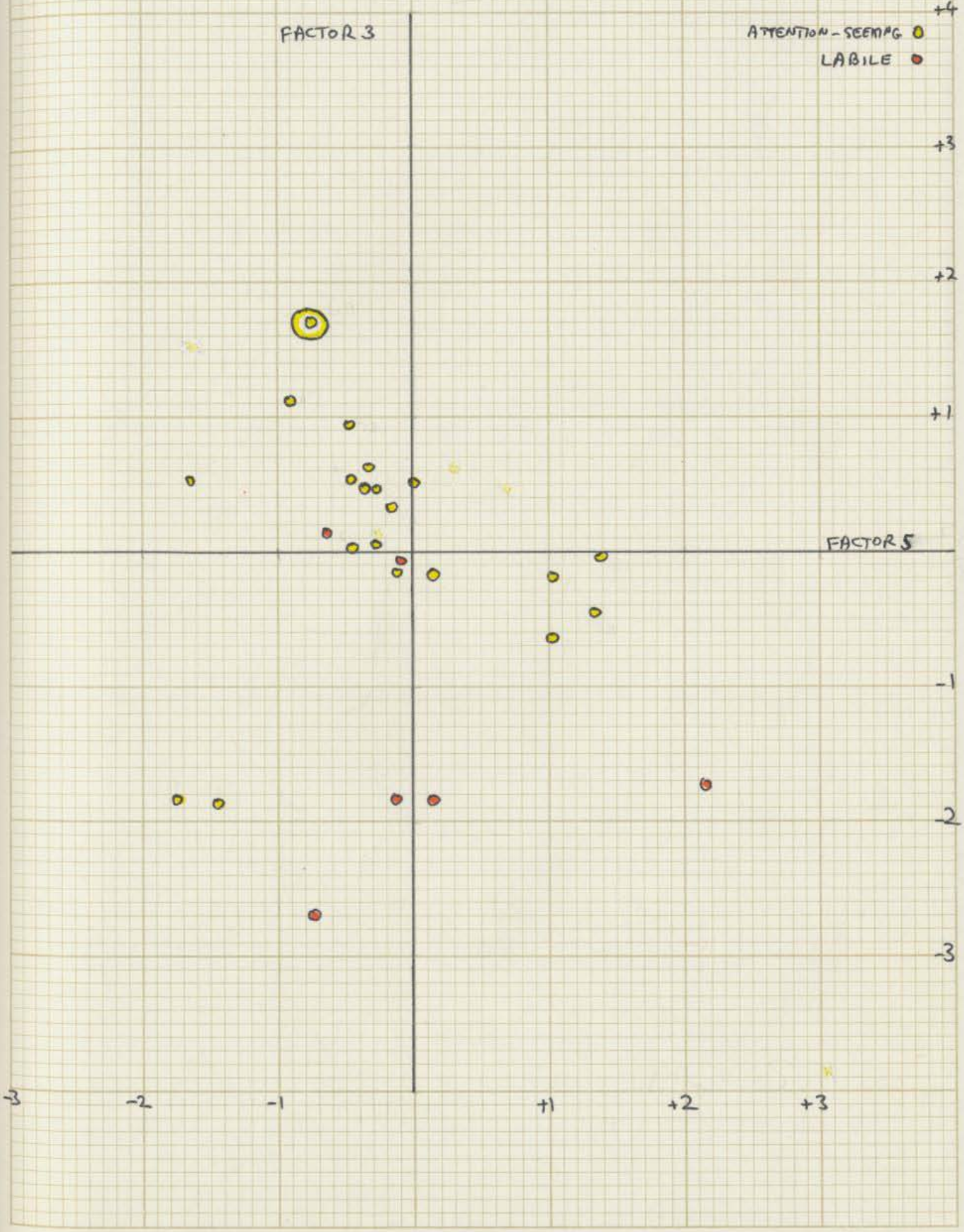
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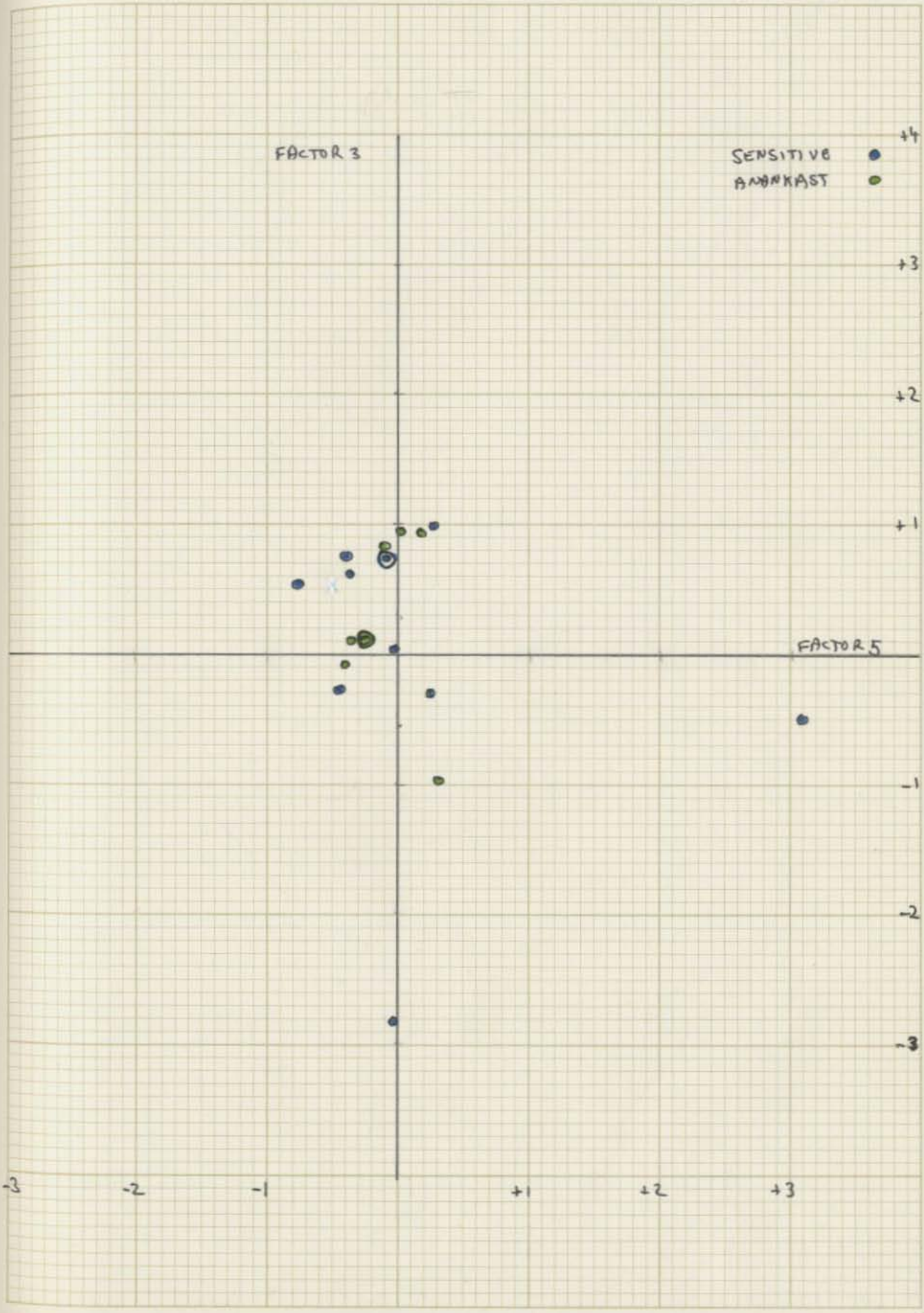
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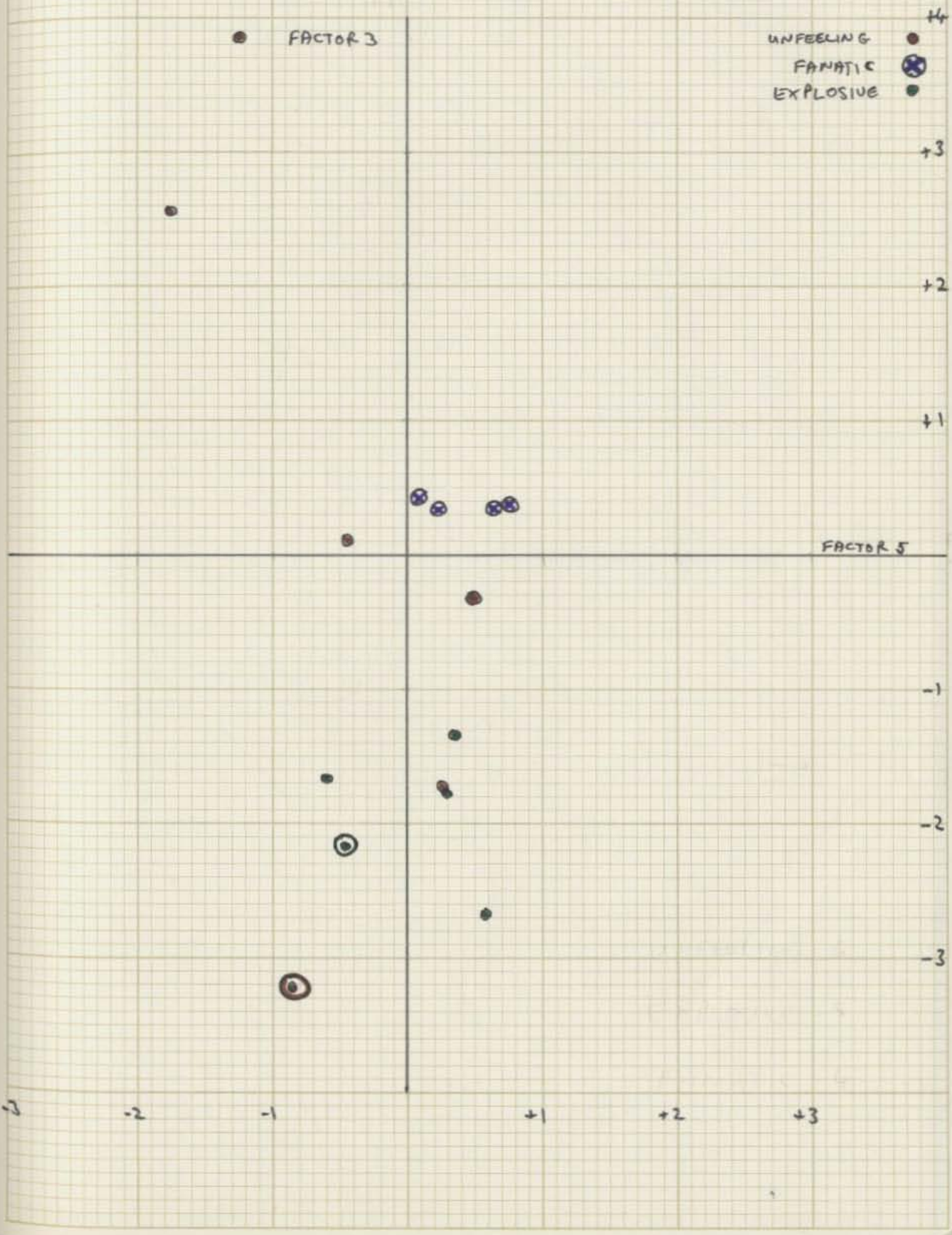
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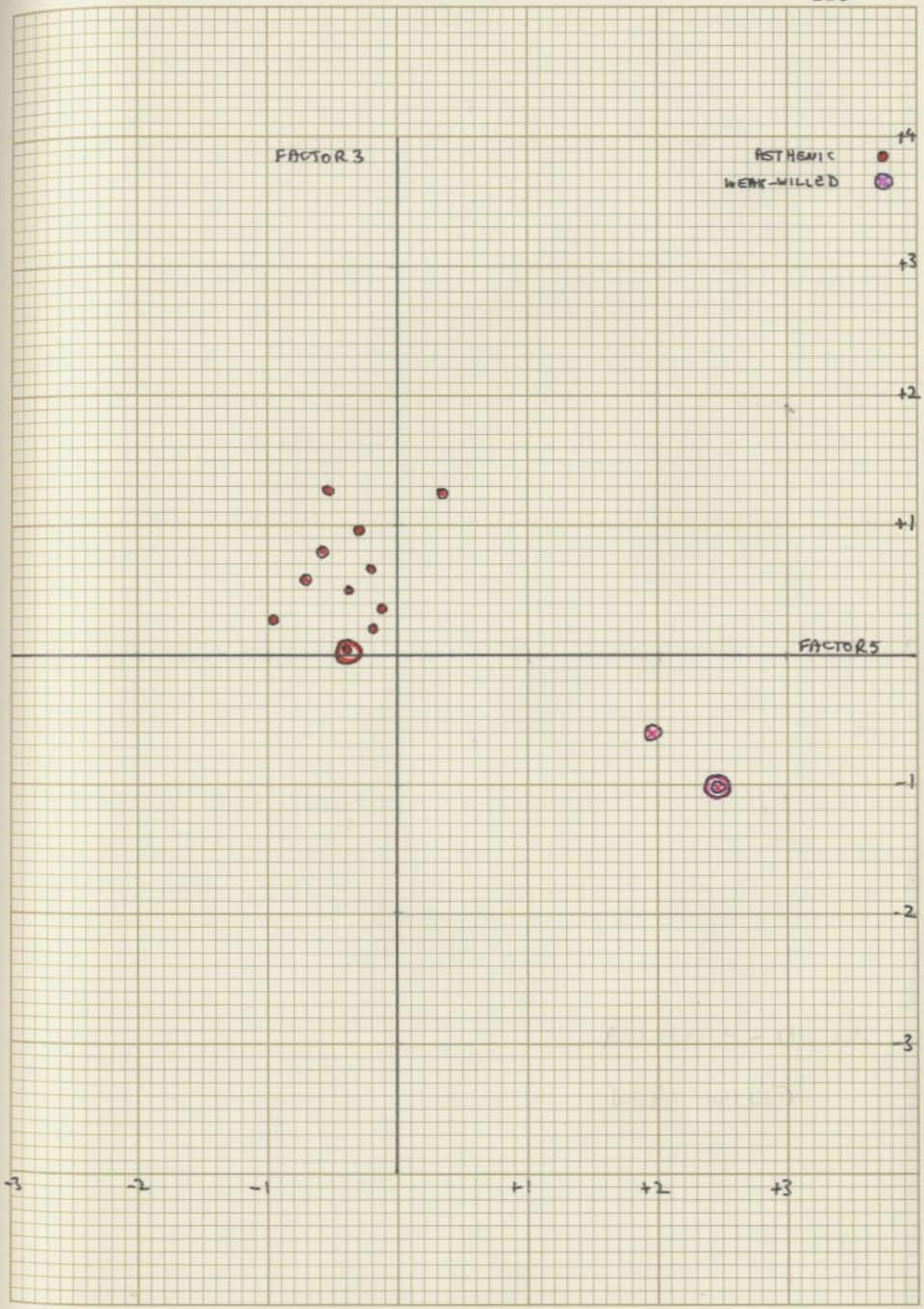
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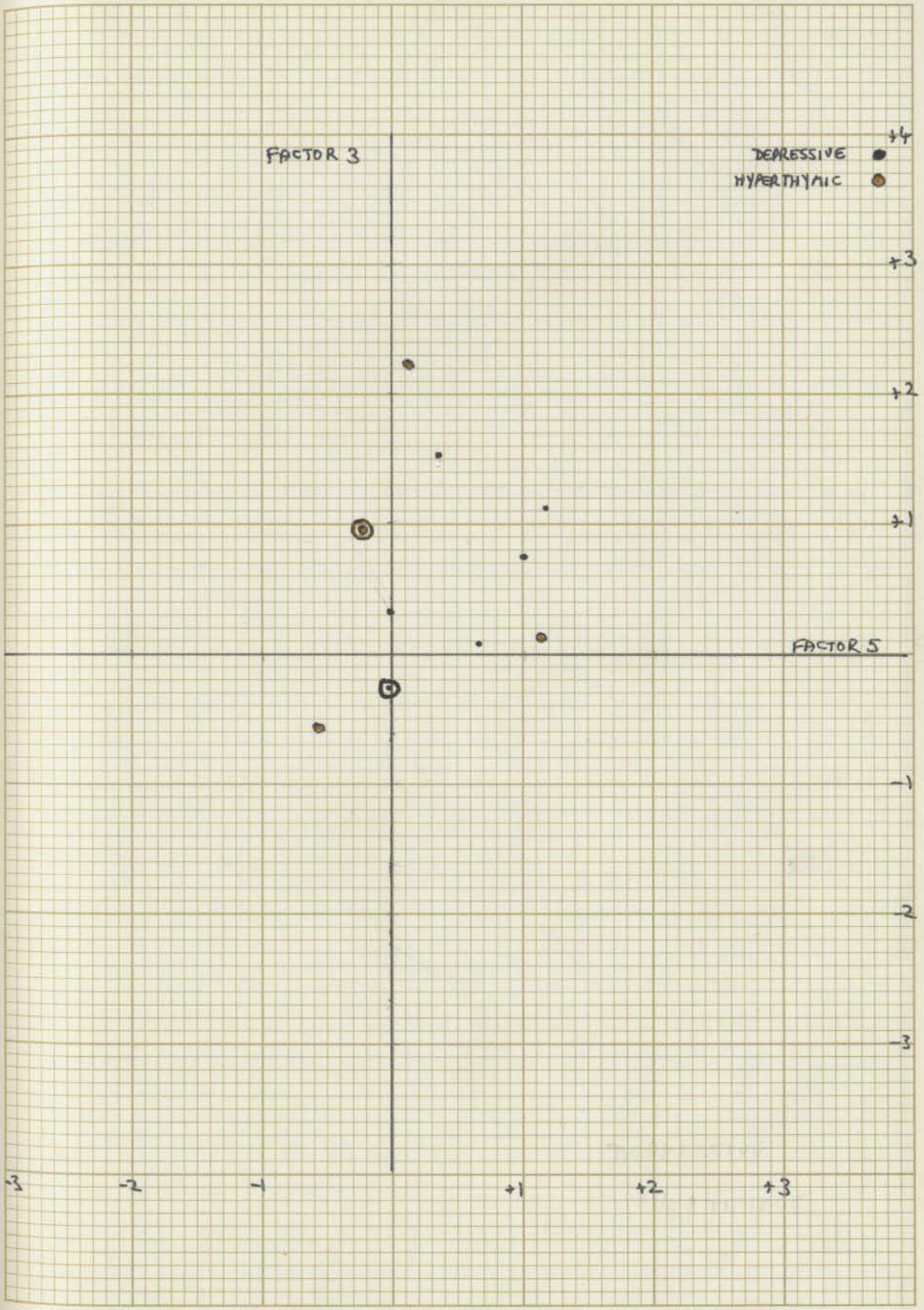
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+3

The major findings with respect to Schneider's typology can be summarized as follows:

Depressives. 5/6 scored positively on factor 1. Generally, they did not cluster together.

Hyperthymes. All obtained positive scores on factor 2, the highest score on this factor being obtained by the typical case.

Fanatics (no typical case). Clustered well together and all obtained positive scores on factors 1, 3, and 5.

Insecure types. Generally clustered around the intersects. Sub-types could not be differentiated.

Attention-seeking type. 14/20 scored positively on factors 1 and 5. An apparent positive correlation between their scores on factors 1 and 2 was not statistically significant. Neither was an apparent negative correlation between their scores on factors 1 and 3.

Labiles (no typical case). 5/6 obtained negative scores on factor 3. This separated them from the attention-seeking types.

Explosives. All obtained negative scores on factors 1, 2 and 3. They clustered well.

Unfeeling types. They were widely dispersed along factor 3. Generally, they did not cluster well.

Weak-willed. Only two patients received this diagnosis. They clustered together throughout. Both had negative scores on factor 3, but they were distinguished most clearly by

their high positive scores on factor 5.

Asthenics. 8/11 had negative scores on factor 2; all had positive scores on factor 3; 10/11 had negative scores on factor 5. They clustered well together.

Based on the factor loadings and the distribution of the scores of the various types on the factors, the following set of factor descriptions was developed.

Factor 1. General factor of explosiveness and poor impulse control.

Factor 2. Highly correlated with adjectives describing the hyperthymic trait.

Factor 3. Positively correlated with adjectives suggesting resistance to stress and absence of concern for others. Negatively correlated with adjectives suggesting deep emotionality.

Factor 4. Positively correlated with items describing the depressive trait.

Factor 5. Strongly correlated with adjectives suggesting social inadequacy and absence of willpower. Selected patients with weak-willed features regardless of type.

The adjectival ratings on which the principal components analysis was performed had been made by the investigator. At this stage it was felt desirable to relate the findings to the list of adjectives which had proved to be of value in discriminating between the types in diagnostic studies 1 and 1a. The factor loadings of this set of adjectives are shown in Table 38.

Table 38

Factor loadings of the discriminating adjectives (absence of underlining indicates that highest loading was from a factor other than those shown)

Type	Adjectives	Factor loadings 1	2	3	4	5
Depressive	Joyless	.0024	-.0346	.0941	.2634	-.0813
	Pessimistic	-.0112	-.0320	-.0394	.2264	-.0386
	Bitter	.0085	.0389	.0508	.2881	-.0445
Hyperthymic	Optimistic	.0767	.4606	.0159	.0016	.0159
	Cheerful	-.0269	.2972	-.0128	-.0197	-.0220
	Energetic	.1228	.1362	.0560	.0469	.0532
	Good-humoured	-.0661	.4390	.0394	-.0158	.0066
Insecure (sensitive)	Scrupulous	-.0046	.0520	-.0162	.1591	-.0084
Insecure (anankast)	Compulsive	-.1740	-.0276	-.0487	-.0579	.0584
Attention-seeking	Histrionic	-.1245	.1490	.0149	.0252	-.0015
	Attention-craving	.0255	-.0190	.0504	.1382	-.0056
Explosive	Fiery	.1296	-.0071	.0190	-.0955	-.0530
	Assaultive	.3186	.0357	-.0510	.0045	-.0029
	Explosive	.3337	.0347	-.0076	.0086	.0073
Unfeeling	Amoral	-.0147	.0315	.4399	.0033	.1103
	Cold	.0031	-.0407	.3122	.0379	-.0572
Weak-willed	Weak-willed	.0286	.0347	.0410	.0818	.4215
	Easily-led	-.0448	-.0307	-.0262	-.0454	.4650
Asthenic	Delicate	-.0638	-.1385	-.0795	.1394	-.0343
	Frail	-.0042	-.0221	.0308	.0273	.0476

It was apparent that there was a relationship between the factors and the discriminating adjectives. In particular, the adjectives describing the depressive, hyperthymic, explosive, unfeeling and weak-willed types had their highest loadings from factors 4, 2, 1, 3 and 5 respectively. In addition, the adjectives describing the asthenic type had their highest loadings from factor 9, a factor accounting for only 3.7 per cent of the total variance which had not been examined closely.

DIAGNOSTIC STUDY 2

The main objectives of this study were to assess the reliability and the clinical utility of a set of rating scales derived from the principal components analysis described in Study 1.

Development of the rating scales

The results of the principal components analysis suggested that a factor profile might provide a means of discriminating between Schneider's different types of personality disorders. However, the five factors only accounted for 41 per cent of the total variance. Furthermore, it was apparent from inspection of the factor loadings of the discriminating adjectives that no single factor would be sufficient to indicate the presence of the attention-seeking, sensitive or anankastic personality disorders, which are among the more important types encountered in clinical practice. The factor profile brought to mind Jaspers' (1963) distinction between personality disorders representing variations in the basic drives and dispositions, and the self-reflective types of disorders. It seemed likely that a scale measuring self-assessment could be included with advantage.

Accordingly, a set of seven 7-point rating scales was developed from the principal components. It was designed to make maximum use of the factors and of the discriminating

adjectives, in anticipation of its being used to assign patients to Schneider's types. The scales were bipolar, each pole representing an abnormal degree of variation on the average range of a particular quality. The scales were given names and each pole was identified by an adjective, but detailed descriptions were avoided until more information could be gathered about what they would measure. They were derived empirically and thus did not represent a preconceived attempt to systematize Schneider's typology. The ultimate test of their utility was to be their ability to discriminate, at acceptable levels of reliability, between his various types. The derivation of each scale is outlined briefly below.

The first scale was named Impulse control and it was taken directly from factor 1. The adjectives used to identify the poles, explosive and compulsive, had high positive and negative loadings respectively for factor 1 and they were both discriminating adjectives. It was anticipated that the scale would identify the explosive and insecure types of personality disorders.

The second scale represented a fusion of factors 2 and 4. The identifying adjectives (optimistic and pessimistic) were antonyms with discriminating power. The scale was named Prevailing Mood and it was designed to detect the depressive and hyperthymic types. An independent scale was developed to assess Lability of Mood, in the expectation that it would identify the labile personality disorder.

The fourth scale was derived from factor 3 to assist in the recognition of the unfeeling and the attention-seeking types. It was named Empathy. The negative pole was easily identified by the adjective 'cold' but description of the other extreme was more difficult. Neither of the discriminating adjectives for the attention-seeking type could be used, as 'histrionic' was positively correlated with factor 2 and 'attention-craving' with factor 4. The adjective 'romantic' was chosen as it had a high negative loading with factor 3 and also because it was an appropriate adjectival opposite of 'cold'.

The fifth scale was devised to identify Schneider's asthenic type and made use of the discriminating adjective 'frail'. It was named Drive strength. A separate scale was devised to measure Drive deflection, i.e., the ability of an individual to be deflected from a goal once their striving towards it has been aroused. This scale was designed to detect the weak-willed type, but it was anticipated that it might also help to diagnose the fanatic type.

The final scale was one to assess Self-appreciation. It was thought that such a scale would complete the description of the individual and would also facilitate the recognition of Schneider's insecure, attention-seeking and asthenic types.

Methods

This diagnostic study was similar to Studies 1 and 1a. The subjects were again chosen as examples of each of Schneider's types. As none of the adjectives or of the factors derived from them appeared to discriminate between the sensitive and anankastic sub-types of the insecure personality disorder, this distinction was now abandoned.

The four assessors were again given summaries of the case-histories and they also listened to audio-recordings of the patients. They were asked to rate each patient on the series of 7-point scales (Appendix F) and to assign them to one of Schneider's types. The raters could make use of their ratings in the assignment procedure, but they were asked not to make a type diagnosis before completing the scales. In this way it was hoped to avoid the ratings being biased by the assessor's choice of type.

Ten patients were assessed. Eight of them were new, one (number 71) had taken part in the Pilot Study and another (number 67) had been included in Study 1a, where he had been diagnosed as a fanatic type by two of the psychiatrists. These patients were included because of a shortage of recorded patients of their putative types ('weak-willed' and 'fanatic', respectively).

Results

Table 39 (page 137) shows the levels of agreement reached on the most likely diagnosis. There was a considerable drop in the amount of agreement compared with Study 1. Only three cases were able to be identified as typical, by the criterion of full agreement by the four participating psychiatrists. The average agreement level was 68 per cent.

The lower overall agreement in this study compared with Studies 1 and 1a was reflected in the values of the reliability coefficients, which are shown in Table 40 (page 138). Values of P_i were negative for the hyperthymic, fanatic, labile and weak-willed types. RE values below .80 were recorded in the insecure and attention-seeking types and the mean value of K was .51.

Reliability of the rating scales

The Kendall coefficient of concordance (W), corrected for tied scores (Siegel, 1956), was used as the measure of the reliability of the rating scales. The values of W for the scales are shown in Table 41 (page 139). Missing scores were given a score of 4. All the values of W were significant at the 5 per cent level or less.

The summed ranks of each patient on each scale were used to assess the ability of the scales to discriminate between the different types. The results are set out in

Table 39

Levels of agreement on diagnosis of second set of typical patients

Patient	Investigator's Diagnosis	Overall Diagnosis (Schneider)
30	Asthenic	Asthenic (100%)
34	Unfeeling	Unfeeling (75%)
47	Attention-seeking	Attention-seeking (75%)
49	Labile	Labile (50%)
60	Hyperthymic	Hyperthymic (50%)
		Attention-seeking (50%)
70	Explosive	Explosive (100%)
67	Fanatic	Fanatic (50%)
		Insecure (50%)
71	Weak-willed	No agreement
72	Depressive	Depressive (75%)
77	Insecure	Insecure (100%)

Table 40

Reliability coefficient values for Schneider's typology

Type	P_i	P_o	RE	K
Depressive	.03	.87	.90	.64
Hyperthymic	-.01	.89	.88	.33
Fanatic	-.01	.89	.88	.33
Insecure	.04	.64	.68	.50
Attention-seeking	.01	.75	.76	.48
Labile	-.01	.89	.88	.33
Explosive	.08	.82	.90	.77
Unfeeling	.03	.87	.90	.44
Weak-willed	-.01	.89	.88	.33
Asthenic	.08	.82	.90	.77

Table 41

Values of the coefficient of concordance (W) for the rating scales

Scale	W	p
Impulse control	.51	$<.05$
Prevailing mood	.73	$<.01$
Lability of mood	.71	$<.01$
Empathy	.56	$<.02$
Drive strength	.56	$<.02$
Drive deflection	.53	$<.05$
Self-appreciation	.75	$<.01$

Table 42 (page 141). The patients are positioned on each scale from the lowest extreme to the highest. The positions thus indicate which of the ten patients is most likely to be the explosive, depressive, etc., according to the combined judgments of the assessors. The investigator's diagnoses and those reached by consensus are shown for comparison.

The patients chosen as examples of types in this way corresponded with the diagnoses of the majority of psychiatrists in every instance except cases 60, 67 and 71. Patient 60 was 'correctly' identified as the hyperthyme by her position on scale 2, but she was also selected as most likely to be the attention-seeking personality. This discrepancy was reflected in the clinical judgments of the raters, two of whom diagnosed her as hyperthymic and two as attention-seeking. The 'real' attention-seeking personality (patient 47) was ranked second to her on scale 4.

Patient 67 was confirmed as a fanatic by the procedure, though two psychiatrists diagnosed him as insecure. Similarly, patient number 71 was selected as the weak-willed personality.

The mean scores of the patients on the seven scales are shown in Table 43 (page 142). There was again good differentiation between the types. Each patient obtained his or her most extreme score on the appropriate scale except for: patient 60 (hyperthymic), who obtained her highest score on scale 4 and her second highest on scale 2; patient 71 (weak-willed), who obtained his most extreme score on scale 5

Table 42

Positions of subjects on scales, derived from summed rankings

Patient	Investigator's Diagnosis	Overall Diagnosis	Scale number 1	2	3	4	5	6	7
30	Asthenic	Asthenic	3	9	2	8	10	4	7
34	Unfeeling	Unfeeling	9	5	8	10	5	8	3
47	Attention-seeking	Attention-seeking	4	4	7	2	4	7	2
49	Labile	Labile	8	2	1	6	6	4	5
60	Hyperthyme	Hyperthyme Attention-seeking	5	1	8	1	2	2	1
70	Explosive	Explosive	10	3	3	9	1	9	4
67	Fanatic	Fanatic Insecure	7	6	5	5	3	10	8
71	Weak-willed	No agreement	2	8	10	3	8	1	6
72	Depressive	Depressive	5	10	4	4	9	4	8
77	Insecure	Insecure	1	7	5	7	7	3	8

TABLE 43

Mean scores of each subject on the rating scales

Patient	Investigator's Diagnosis	Scales						
		1	2	3	4	5	6	7
30	Asthenic	4.25	2.75	6.00	4.50	1.25	4.00	2.25
34	Unfeeling	3.00	3.75	4.75	2.00	4.25	3.25	4.75
47	Attention-seeking	3.75	4.00	4.50	5.50	4.50	3.75	5.00
49	Labile	3.25	4.50	6.25	4.25	4.25	4.00	4.00
60	Hyperthyme	3.50	6.00	4.75	6.25	5.00	4.25	5.25
70	Explosive	1.25	4.00	5.50	3.75	5.00	3.75	3.75
67	Fanatic	3.50	3.50	5.50	4.25	4.75	1.75	2.00
71	Weak-willed	4.50	3.00	3.75	4.50	2.50	5.00	3.75
72	Depressive	3.50	1.50	5.50	4.50	2.75	4.00	2.00
77	Insecure	5.25	2.75	5.50	4.25	3.50	4.00	2.00

and his second most extreme score on scale 6; and patient 77 (insecure), who obtained his most extreme score on scale 7, followed by scales 3 and 1.

It appeared that the seven scales had considerable discriminating power, but that they would have to be modified before they could be used to assign all the patients to their appropriate types. A scoring key was devised which is shown in Figure 31 (page 144).

A criterion group of patients was assembled, containing the nine cases that had been identified as typical in Studies 1 and 1a, to which were added all ten patients from Study 2. In view of the lower agreement about the diagnoses of the second set of patients, the diagnostic criterion adopted was that of the summed ranks (Table 42). An arbitrary decision was taken to regard patient 60 as a hyperthymic personality. Thus the sample of 19 patients contained 3 insecure personalities, 1 labile personality, 1 fanatic and 2 patients from each of the other types.

The investigator's ratings were then used to assign each of the 19 patients to a type. Every patient was assigned correctly except for patient 71, who was diagnosed as weak-willed by the ranking method and as attention-seeking by the investigator's ratings.

Scale		Score					
		1	2	5	6	7	
1	Explosive	++	+	+	++	++	Insecure*
2	Depressive	++	+		+	++	Hyperthymic
3					+	++	Labile
4	Unfeeling	++	+		+	+++	Attention-seeking**
5	Asthenic	++	+				
6	Fanatic	++	+		+	++	Weak-willed
7							

* Insecure - add + or ++ if scores 2 or 1 on scale 7.

add + if ideas of reference recorded in mental state.

subtract + if scores 6 or 7 on scale 7.

** Attention-seeking - add + or ++ if scores 2 or 1 on scale 7.

add + if scores 6 or 7 on scale 6.

Deviant scores on scales 4 and 7 (Attention-seeking) take precedence over deviant scores on scales 1 and 7 (Insecure).

In the event of a tie between a low score on scale 1 and a high score on scale 3, the diagnosis is that of an explosive type.

Figure 31. Scoring key used to assign patients to types

Validity of the rating scales

Values of the Pearson product-moment correlation coefficient, showing the extent of the relationship between the rating scales and the various scales of the 16PF, the EPI and the MNTS, are shown in Table 44 (page 146). The correlations between the scales and B (Intelligence) from the 16PF were not calculated. The number of significant correlations (47) greatly exceeded the number to be expected by chance.

The first scale, Impulse control, was positively correlated with C (Ego strength), G (Superego strength), N (Shrewdness) and Q_3 (High strength of self-sentiment); and negatively correlated with E (Dominance) and with I (Premsia) on the 16PF. It also had a highly significant positive correlation with the Solidity (maturity) scale of the MNTS and negative correlations with Eysenck's Extraversion and with the Validity scale of the MNTS.

The second scale, Prevailing mood, was significantly positively correlated with E (Dominance) and Parmia (measuring social boldness and lack of inhibition); and negatively correlated with Protension (suspiciousness), O (Guilt proneness) and Q_4 (Ergic tension) on the 16PF. It also had highly significant correlations with Extraversion and Validity and a negative correlation with Neuroticism.

Lability of mood, the third scale, had few significant correlations. It obtained positive correlations

Table 44

Correlations between the rating scales

and the psychometric measures

		Scale						
	Scale	Impulse Control	Prevailing Mood	Lability of Mood	Empathy	Drive Strength	Drive Deflection	Self Assessment
16PF	A	.0154	.1799	-.1081	.0292	.0424	.0802	.2446*
	C	.2345*	.1796	-.1656	-.0774	.2220	-.0695	.0535
	E	-.2430*	.3040**	.0958	-.0677	.4265**	-.2826*	.4440**
	F	-.1951	.0903	.1042	-.0620	.4208**	-.0724	.2015
	G	.3815**	-.0713	-.1766	.3322**	-.2456*	.2690*	-.1857
	H	-.2024	.4672**	.1496	-.2083	.4471**	-.2330*	.4223**
	I	-.2807*	.1137	.0746	.2214	.2141	.1345	.1742
	L	.0784	-.2247*	-.0953	-.0061	-.0430	.0229	-.2107
	M	-.0567	.0684	.1725	.3388**	.1666	.0835	-.0550
	N	.3242**	-.1934	-.1300	.1700	-.3180**	.3475**	-.2862*
	O	.0026	-.3477**	.1256	.1343	-.2801*	.2428*	-.4534**
	Q1	-.1896	-.1772	.1725	-.0602	.0640	.0017	.0456
	Q2	-.1274	.0364	.0636	.0130	.1388	-.0973	.4376**
	Q3	.2675*	.1820	-.2896*	.0148	-.1184	.1975	.0464
	Q4	-.0614	-.3912**	.2609*	-.0410	-.1717	-.0324	-.0962
EPI	E	-.3446**	.3972**	.2341*	-.1011	.3980**	-.0848	.3308**
	N	.0561	-.2969*	.1336	.0413	.2354*	.2275*	-.3796**
MNTS	Sol	.3084**	-.0059	-.1818	.0411	-.1268	.1390	-.2263*
	Stab	-.1271	-.1421	.0923	-.2035	.1120	.0580	.1492
	Val	-.2414*	.4194**	.0845	-.1655	.3890**	-.2101	.4594**

* $p < .05$

** $p < .01$

with Q_4 (Ergic tension) and Extraversion; and a negative one with Q_3. Low self-sentiment integration (Q_3) is said to be associated with undisciplined self-conflict and a tendency to follow one's urges (Delhees and Cattell, 1971).

The Empathy scale had two correlations which were highly significant. These were with G (Superego strength) and M (Autia) from the 16PF. This combination of scales would appear to discriminate between individuals who are conscientious, moralistic, imaginative and bohemian at one extreme, and those who are expedient, practical and down-to-earth at the other.

The fifth scale, Drive strength, was positively correlated with E (Dominance), F (Surgency) and H (Parmia); and negatively correlated with G (Superego strength), N (Shrewdness) and O (Guilt proneness) from the 16PF. It was also positively correlated with both EPI scales and with Validity (effective energy). The sixth scale, Drive deflection, was positively correlated with G (Superego strength), O (Guilt proneness) and N (Shrewdness); and negatively correlated with E (Dominance) and Parmia, all these scales belonging to the 16PF.

The final scale, Self-appreciation, had highly significant positive correlations with E (Dominance), H (Parmia), Q_2 (Self-sufficiency), Extraversion and Validity. It correlated negatively with N (Shrewdness), O (Guilt proneness) and with Neuroticism.

SUMMARY OF THE RESULTS OF THE RELIABILITY STUDIES

1. In Diagnostic Studies 1, 1a and 2, by the criterion of full agreement among four psychiatrists, it was possible to identify examples of all the types described by Schneider, except for the fanatic and labile types. It was possible to identify probable examples of the latter types using a set of empirically-derived rating scales.

2. For Schneider's typology, the mean values of the reliability coefficient, K, obtained in Studies 1 and 2 were .61 and .51. For the ICD classification of personality disorders a mean value of K of .48 was obtained in Study 1.

3. High reliability was found for the diagnosis of Schneider's depressive (K=1.00, 0.64), explosive (K=1.00, 0.77) and asthenic (K=1.00, 0.77) types, in Studies 1 and 2. Values of K of 1.0 were found for the unfeeling and weak-willed types in Study 1.

Poor reliability, indicated by negative values of P_i, was found for the hyperthymic and labile types in both studies.

4. A set of rating scales was developed to assist in the diagnosis of Schneider's types. It proved able to discriminate between the types and evidence was found of its reliability. A large number of statistically significant and clinically meaningful correlations were found between the

rating scales and independent psychometric variables, providing evidence of their concurrent validity.

INVESTIGATION C

Investigation of the validity of Schneider's typology

Traditionally, four kinds of test validity have been described (Wilson, 1975).

1. Predictive validity refers to the ability of a test to predict a particular outcome.

2. Concurrent validity describes the correlations between the test and others accepted as measures of the variable concerned.

3. Content validity reflects the extent to which the test seems likely, from inspection and from familiarity with it, to measure what it was constructed to measure.

4. Construct validity is provided by the accumulation of experimental evidence supporting the theory believed to explain the test's performance.

The ultimate test of a medical diagnosis is its ability to predict outcome and response to treatment. However, it was not considered feasible to examine the predictive validity of Schneider's typology in the present study. Apart from the difficulty that would be experienced in finding suitable outcome criteria in a study of personality disorders, such an investigation would require the passage of more time than was available, unless a group of previously diagnosed patients could have been followed up. This was not possible when the study began.

The content validity of the typology was assessed by examining the psychometric profiles of the individual types, which were obtained from their mean scores on the personality inventories. Direct validation of some of the types was attempted with the anthropometric data. The concurrent validity of the typology was also examined indirectly by means of a taxonomic analysis, using objective clinical data that was independent of the type diagnoses made on the patients.

TYPE CHARACTERISTICS

Every patient (except for those already rated in Studies 1 and 2) was re-assessed by the investigator from their clinical data and the audio-recordings. The rating scales were completed and used to assign the patients to their appropriate types, using the scoring key (Figure 31, page 144). When ties occurred the diagnoses were recorded as 'unclassified'.

The final distribution of types in the sample is shown in Table 45 (page 153). The re-assignment produced a change from the investigator's original diagnosis (Table 21, page 63) in 30 cases, 14 of which represented changes to the unclassified category. The characteristics of the types are shown in Tables 46 and 47. Table 46 (page 154) shows the age and sex characteristics of the ten types (the mean age of the sample was 31.6 years and the sexes were equally represented overall). It can be seen that the mean ages of the depressives, hyperthymes and fanatics were in excess of the sample mean, while those of the labile, explosive, unfeeling and weak-willed types were lower.

The sex distributions of most of the types were markedly dissimilar. Men were over-represented in the fanatic, insecure, explosive and unfeeling types, while there was an excess of women among the depressive, attention-seeking, labile and asthenic types.

Table 45

Final distribution of types in the sample

Depressive	4 (5%)
Hyperthymic	3 (4%)
Fanatic	4 (5%)
Insecure	17 (21%)
Attention-seeking	12 (15%)
Labile	5 (6%)
Explosive	6 (7%)
Unfeeling	5 (6%)
Weak-willed	2 (3%)
Asthenic	9 (11%)
Unclassified	14 (17%)
Total	81

Table 46

Age and sex characteristics of Schneider's types

Type	Sex distribution		Mean age (yrs.)
Depressive	M 1	F 3	35.8
Hyperthymic	M 1	F 2	39.0
Fanatic	M 4	F 0	35.0
Insecure	M 15	F 2	32.2
Attention-seeking	M 0	F 12	33.6
Labile	M 1	F 4	24.6
Explosive	M 4	F 2	24.3
Unfeeling	M 4	F 1	26.2
Weak-willed	M 2	F 0	24.5
Asthenic	M 3	F 6	31.2
Unclassified	M 5	F 9	34.3

The mean scores of the types on the different psychometric scales are shown in Table 47 (page 156). Considering only the highest and lowest-ranked types on each scale, it can be seen that the depressives obtained the most extreme scores on C (Lower ego-strength), G (stronger superego), N (Shrewdness), O (Guilt-proneness), Introversion and Super-stability. The hyperthymes, whose scores contrasted markedly with those of the depressives on many of the scales, obtained the most extreme scores for A (Affecto-thymia), E (Dominance), H (Parmia), Q_1 (Conservatism), Q_4 (Low ergic tension) and sub-stability.

The fanatic type obtained the most extreme scores on C (Ego strength), L (Suspicious-trusting dimension) and super-validity. They also had the lowest score for Neuroticism.

The insecure personalities only obtained one extreme score, for I (Premsia; tender-mindedness). However, comparison with the sample means and the set of norms provided in Table 24 (page 66) shows them to have deviant scores for C (Low ego strength), E (Submissiveness), H (Threctia - shy and timid), Neuroticism and sub-validity.

The attention-seeking types had extreme scores for scales I and M of the 16PF, which describe them as tender-minded and imaginative. Their other scores approximated the sample means. The unfeeling personalities, with whom they were contrasted on the Empathy scale, obtained extreme scores for F (Surgency), M (Practical concerns), O (Untroubled

TABLE 47

Psychometric profiles of personality types described by Schneider

16PF Scales

Type	A	C	E	F	G	H	I	L	M	N	O	Q_1	Q_2	Q_3	Q_4
Depressive	8.00	5.33	5.33	4.67	13.67	4.33	8.00	11.00	8.33	13.33	13.00	9.33	7.00	8.00	11.67
Hyperthyme	10.33	9.00	10.33	8.00	10.67	14.33	8.67	9.33	8.67	8.67	7.00	3.33	6.67	10.00	5.33
Fanatic	8.75	10.25	9.50	8.00	10.00	8.50	9.25	11.75	7.75	7.75	7.00	7.75	10.00	9.75	9.00
Insecure	8.24	7.88	5.76	5.76	12.53	4.06	5.88	9.35	8.47	10.06	8.94	6.47	7.76	9.24	9.35
Attention-seeking	7.83	7.50	6.50	7.83	13.08	6.08	10.33	9.08	9.42	10.75	9.50	6.58	8.25	8.58	10.00
Labile	7.40	8.40	8.60	7.20	10.60	4.80	7.80	9.80	9.40	7.20	8.20	11.00	11.80	7.20	11.80
Explosive	6.80	5.40	6.40	7.00	8.40	6.60	7.60	7.80	7.40	6.60	10.00	7.20	7.00	5.40	10.20
Unfeeling	8.60	9.40	8.60	8.80	8.60	10.80	8.60	8.60	5.60	8.00	6.80	7.60	7.80	8.80	9.60
Weak-willed	9.00	9.50	4.50	8.50	9.00	2.50	9.00	6.00	7.50	8.50	10.50	7.50	5.50	9.00	9.00
Asthenic	8.56	6.22	4.89	3.89	12.89	3.78	7.89	8.78	7.11	11.00	10.44	5.22	7.22	10.22	11.33

	EPI		MNTS		
Type	E	N	Sol.	Stab.	Val.
Depressive	8.75	21.25	8.75	11.75	3.50
Hyperthyme	14.33	12.33	10.00	6.33	10.00
Fanatic	10.25	10.75	11.75	11.50	11.75
Insecure	10.65	16.59	11.29	7.94	6.47
Attention-seeking	11.83	16.67	10.50	7.67	6.50
Labile	10.80	16.60	10.60	10.00	8.40
Explosive	14.33	17.33	7.83	10.00	8.50
Unfeeling	15.00	13.00	8.40	9.00	11.40
Weak-willed	13.50	15.50	9.50	8.00	4.50
Asthenic	9.78	17.56	10.78	7.33	5.33

adequacy) and Extraversion.

The labile types obtained extreme scores for Q_1 (Radicalism), Q_2 (Self-sufficiency) and Q_4 (High ergic tension). The explosive group obtained their extreme scores on A (Sizothymia), G (Weaker superego strength), N (Artlessness), Q_3 (Low self-sentiment integration) and sub-solidity.

The two weak-willed personalities obtained the most extreme average scores for E (Submissiveness), H (shyness versus venturesomeness), L (describing them as trusting) and Q_2 (Group adherence). The asthenic type was the most sober (F) and controlled (Q_3). Comparison with Table 23 (page 65) also showed them to be low on Ego strength (C), shy (H), high on Ergic tension (Q_4) and introverted.

Physical anthropometry

Three hypotheses were examined in this portion of the study:

1. Asthenic personalities would be more linear in physique and have a smaller body build than the other subjects.

2. Patients whose personality disorders represented abnormalities of affect would show greater body 'bulk' than other personalities.

3. Explosive personalities would be more muscular than the remainder. The results are set out in Tables 48-50 (page 159).

The final group of asthenic personalities contained 3 men and 6 women. It was only possible to test the hypotheses of more linear physique and smaller body build in the latter. The results are shown in Table 48. None of the differences was statistically significant.

The combined group of depressive, hyperthymic and labile personalities (affective personality disorders) consisted of 3 men and 9 women. However, anthropometric data was missing from one of the women. The values of the various indices for the remaining female affectives are shown in Table 49. The women with affective personality disorders had significantly lower scores than the remainder for the Ponderal Index and the third-component rating, and a significantly higher mean score for the Horizontal measure. The results lend support to the hypothesis of greater body bulk in the female patients with affective personality disorders.

It was argued, retrospectively, that the labile personality disorder was less obviously a disorder of affect than the depressive and hyperthymic types. As these types were older than the remaining subjects (Table 46, page 154), values for the third component rating, which is corrected for age (Heath and Carter, 1967), were again calculated, this time for the group of affective disorders without the labile personalities. The difference was again significant (mean, affectives = 1.10; mean, others = 2.41; $F = 5.42$; $df = 1,36$; $p < .05$).

Table 48

Anthropometric indices in female asthenics

Index	Mean (asthenics)	Mean (others)	F	df	p
Third component	2.17 (n = 6)	2.23 (n = 32)	.01	1,36	ns
Ponderal index	13.07	12.87	1.08		ns
Surface area	1.63	1.61	.07		ns
Horiz. measure	12.52	12.78	.14		ns

Table 49

Anthropometric indices in female affective personalities

Index	Mean (affectives)	Mean (others)	F	df	p
Third component	1.44 (n = 8)	2.45 (n = 30)	4.62	1,36	$< .05$
Ponderal index	12.21	12.92	8.21		$< .01$
Surface area	1.67	1.59	1.55		ns
Horiz. measure	13.78	12.41	5.00		$< .05$

Table 50

Anthropometric indices in male explosives

Index	Mean (explosives)	Mean (others)	F	df	p
Second component	5.19 (n = 4)	4.31 (n = 32)	1.66	1,34	ns
Horiz. measure	15.93 (n = 4)	14.71 (n = 33)	.89	1,35	ns

The final group of explosive personalities consisted of 4 males and 1 female. The mean scores of the men for the second somatotype component and the Horizontal measurement are shown in Table 50. The explosives tended to be broader and to show a greater degree of musculo-skeletal development, but the differences were not significant.

THE NUMERICAL TAXONOMY

Methods

A cluster analysis was carried out on the clinical data from all the cases in the sample. The data were independent of the rating scales which had been used to assign the patients to types. The aim was to see whether clusters of patients would emerge from the analysis which could be identified with Schneider's types of personality disorders.

Seventy-one items derived from the clinical data (Appendix G) were subjected to an unpublished numerical taxonomy programme which was available in the Department of Computer Services at Memorial University. The programme employed the matching coefficient of Jaccard, which does not take account of negative matches (Sneath and Sokal, 1973). The cluster analysis itself used the 'group-average' method of clustering and the results were represented by a dendrogram. The information statistic of Williams, Lambert and Lance (1966) was used to estimate the homogeneity of the clusters selected for detailed study.

The clusters were compared with the type diagnoses which had been made on the same patients by the author, using the rating scales. In addition, the validity of the new groupings was examined by comparing their scores on the psychometric variables.

Results

The dendrogram sequence is shown in Figure 32 (page 163). The low level of similarity at which the clusters formed is believed to reflect the similarity coefficient used in the study (which only recognized positive matches). After inspection of the dendrogram, it was decided to examine the groupings (dendrons) formed at the .15 level of similarity or higher. The information statistics associated with the dendrogram were examined to determine the most homogeneous set of dendrons.

Seven dendrons were extracted using the information statistics. They are shown in Tables 51 to 58 (pages 164 to 171). Following the convention described by Sokal and Sneath (1973), the dendrons were numbered in terms of the subjects occupying their left- and right-hand extremes.

The tables show the attributes of the respective dendrons, including the types of personality disorders associated with them. Note is made of those attributes for which the dendrons were heterogeneous, that is, those that were associated with a 'gain' in information which was significant at the 5 per cent level.

The seven dendrons included 68 of the 81 subjects. A further grouping of interest was noted (Table 58, page 171). Dendron 1-56 formed at the .13 level of similarity and thus was not eligible for inclusion in the analysis. This group of three subjects was made up entirely of patients diagnosed

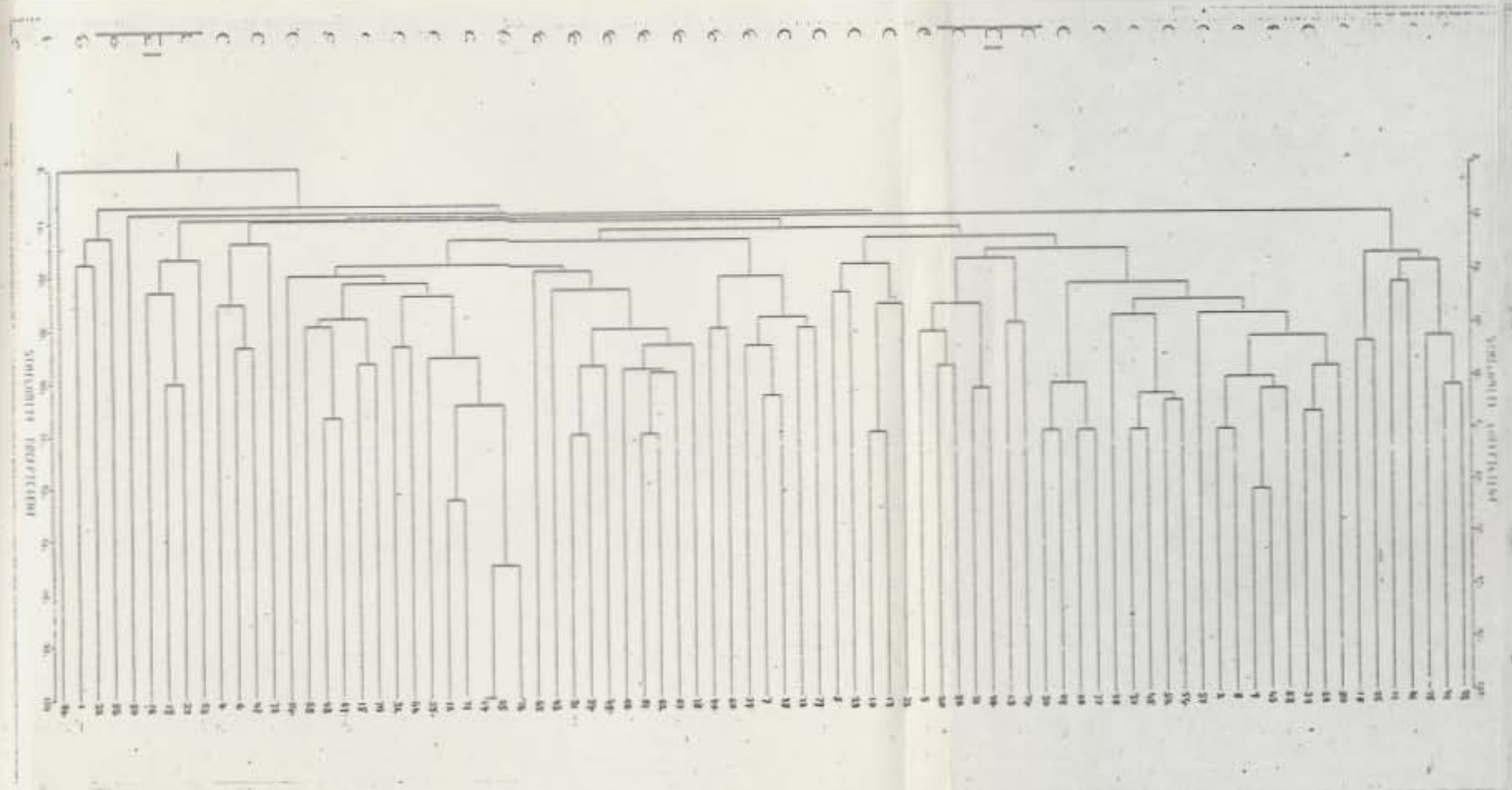

Figure 32 Numerical taxonomy - dendrogram sequence

Tables 51 to 58
Clusters formed at .15 similarity level or above
* Dissimilarities at $p < .05$ level or less within cluster for these items

Table 51

Dendron 18-81. Antisocial-Explosive (n=7)

Formed at 16.8% level of similarity.

Attributes -

Disciplinary problems in childhood - 7 (100%)
Treatment for childhood behaviour disorder - 6 (86%)
Oldest sibling - 4 (57%)
Temper tantrums in childhood - 4 (57%)
Friends few - 4 (57%)*
Sibship of 5 or more - 3 (43%)
Stealing in childhood - 3 (43%)
Lying in childhood - 3 (43%)*
Cannabis use or glue sniffing - 3 (43%)
Paternal absence in childhood - 2 (29%)*
Institutionalized in childhood - 2 (29%)
Alcoholism in 1st. degree relative - 2 (29%)*
Parental mental illness - 2 (29%)*
Vandalism in childhood - 2 (29%)
Work instability - 2 (29%)
Suicide attempt - 2 (29%)
Friendships superficial - 2 (29%)
Overdramatization - 2 (29%)

Type distribution - 3/6 explosive ($x^2=9.4$, $p < .005$)
1 labile, 1 weak-willed, 1 attention-seeking, 1 unfeeling.

Table 52

Dendron 30-80. Neurotic (n = 18)

Formed at 22.1% level of similarity.

Attributes -

- Anxiety - 17 (100%)
- Sibship of 5 or more - 15 (83%)
- Hypochondriasis - 12 (67%)*
- Specific phobias - 10 (56%)*
- Depression - 10 (56%)*
- Fears/phobias/hypochondriasis in childhood - 7 (39%)
- Neurosis in 1st. degree relative - 7 (39%)*
- Previous anxiety neurosis - 7 (39%)
- Parental mental illness - 6 (33%)
- Friendships superficial - 6 (33%)
- Friends few - 6 (33%)
- Non-smoker - 6 (33%)
- Oldest sibling - 5 (28%)
- Frigidity/impotence - 5 (28%)
- Separation anxiety in childhood - 3 (17%)
- Previous phobic neurosis - 3 (17%)*
- Treatment for childhood neurosis - 2 (11%)
- Previous depressive neurosis - (11%)
- Abuse of medical drugs - 2 (11%)
- Depersonalization - 2 (11%)
- Obsessional phenomena - 2 (11%)

Type distribution - 9/17 insecure (x^2_2=25.76, p< .005)
6/9 asthenic (x^2= 8.86, p< .005)
3/12 attention-seeking

Table 53

Dendron 3-74. Neurotic-Labile (n = 7)

Formed at 17.5% level of similarity.

Attributes -

Oldest sibling - 7 (100%)

Anxiety - 6 (86%)

Friends few - 4 (57%)*

Neurosis in 1st. degree relative - 3 (43%)*

Fears/phobias/hypochondriasis in childhood - 3 (43%)

Hostile affect - 3 (43%)*

Disciplinary problems in childhood - 2 (29%)

Treatment for childhood neurosis - 2 (29%)

Work instability - 2 (29%)

Friendships superficial - 2 (29%)

Crime against property - 2 (29%)

Ideas of persecution - 2 (29%)*

Type distribution - 3/5 labile ($p < .005$, Fisher test).
2 insecure, 1 explosive, 1 unclassified

Table 54

Dendron 5-33. (n = 5)

Formed at 18.3% level of similarity.

Attributes -

Friends few - 5 (100%)

Friendships superficial - 5 (100%)

Social phobias - 3 (60%)

Neurosis in 1st. degree relative - 2 (40%)

Paternal absence in childhood - 2 (40%)*

Oldest sibling - 2 (40%)

Hostile affect - 2 (40%)*

Type distribution

2 Unclassified, 1 fanatic, 1 insecure, 1 weak-willed.

Table 55

Dendron 40-79. Affective (n = 7)

Formed at 20.4% level of similarity.

Attributes -

Previous depressive neurosis - 7 (100%)

Depression - 6 (86%)

Sibship of 5 or more - 5 (71%)

Suicide attempt - 3 (43%)

Paternal absence in childhood - 2 (29%)

Childhood fears/phobias/hypochondriasis - 2 (29%)*

Birth trauma or asphyxia - 2 (29%)*

Previous anxiety neurosis - 2 (29%)

Hostile affect - 2 (29%)

Type distribution - 3/4 Depressive ($p < .005$, Fisher test)

1 hyperthyme, 1 asthenic, 1 attention-seeking, 1 unclassified

Table 56

Dendron 65-78. Hysterical (n = 10)

Formed at 19.2% level of similarity.

Attributes -

- Sibship of 5 or more - 9 (90%)
- Alcoholism in 1st. degree relative - 8 (80%)
- Parental mental illness - 8 (80%)
- Depression - 8 (80%)
- Friendships superficial - 7 (70%)
- Suicide attempt - 7 (70%)
- Friends few - 6 (60%)
- Menstrual dysfunction - 5 (50%)
- Promiscuity - 5 (50%)*
- Fears/phobias/hypochondriasis in childhood - 4 (40%)
- Work instability - 4 (40%)
- Intercourse prior to age 17 - 4 (40%)
- Alcohol or drug dependence - 4 (40%)
- Hostile affect - 4 (40%)
- Anxiety - 3 (30%)
- Frigidity/impotence - 2 (20%)
- Sterilization on psychiatric grounds - 2 (20%)
- Previous anxiety neurosis - 2 (20%)
- Previous depressive neurosis - 2 (20%)
- Cannabis or glue sniffing - 2 (20%)
- Labile mood - 2 (20%)

Type distribution - 2 asthenic, 2 attention-seeking, 1 unfeeling, 1 labile, 1 depressive, 3 unclassified.

Table 57

Dendron 24-76 (n=14). Socially unstable/Drug abusing

Formed at 20.0% level of similarity.

Attributes -

- Work instability - 13 (93%)
- Alcohol or drug dependence - 12 (86%)*
- Sibship of 5 or more - 12 (86%)
- Suicide attempt - 6 (43%)*
- Birth trauma - 4 (29%)*
- Friendships superficial - 4 (29%)*
- Alcoholism in lst. degree relative - 3 (21%)
- Fears/phobias/hypochondriasis in childhood - 3 (21%)
- Disciplinary problems in childhood - 3 (21%)
- Parental mental illness - 2 (14%)
- Truancy in childhood - 2 (14%)*
- Friends few - 2 (14%)
- Crime against the person - 2 (14%)
- Previous depressive neurosis - 2 (14%)*
- Cannabis use or glue sniffing - 2 (14%)*
- Use of hallucinogens - 2 (14%)*
- Depression - 2 (14%)*
- Ideas of reference - 2 (14%)
- Ideas of persecution - 2 (14%)

Type distribution - 2/4 fanatic; 2/5 unfeeling; 2/6 explosive. 1 each of hyperthymic, insecure, attention-seeking. 5 unclassified.

Table 58

Dendron 1-56[+] (n = 3).

Attributes -

Drug or alcohol dependence - 3/3

Oldest sibling 2/3

Illegitimate or adopted 2/3

Abuse of medical drugs - 2/3

Social phobias - 2/3

Type distribution - all paranoid personalities (ICD)
all insecure types (Schneider).

[+]Formed at 13.0% level of similarity

as insecure personalities by Schneider's system and as paranoid personalities using the ICD-8. Two had social phobias and they were all dependent on alcohol or drugs.

The demographic and psychometric characteristics of the dendrons are shown in Tables 59 and 60 (pages 173 and 174). When F-ratios were significant it was assumed that the highest and lowest mean values in the range were significantly different.

Dendron 18-81 consisted of 7 patients who resembled one another by virtue of persistent or recurring behaviour disorders (Table 51). They were the youngest group (Table 59) and they were all either single or separated. The EEGs of the five patients who had undergone this examination were abnormal in four cases, all of the latter having scores on the EEG stability scale of 3 or higher. Two of the abnormalities were focal and two were paroxysmal. Only three ICD-8 classes of personality disorder were diagnosed in this group and three subjects were placed in each of the categories 'hysterical' and 'antisocial'. Three of the six patients with a Schneider diagnosis of 'explosive personality disorder' were found in this grouping ($p < .005$).

Dendron 18-81 had the highest mean score on Extraversion, contrasting it with Dendron 30-80 (Neurotic - see below). It also achieved the lowest scores for G (Superego strength) and N (Shrewdness), the highest scoring group on these scales being Dendron 40-79 (Affective - see below).

Table 59

Demographic and psychometric characteristics (1)

Dendron	Age	Sex	Source	Mar. Stat.	EEG	ICD-8 Diagnosis
18-81	M=20.0 S= 5.9	M-57% F-43%	1.-14% 2.-43% 3.-43%	Sing.- 57% Mar. - 0 Sep. - 43% Wid. - 0	Not done-29% Normal- 20% Bord. - 0 Abnorm.- 80% Stab. - 1 - 20% 2 - 0 3 - 40% 4 - 20% 5 - 20%	Antis.-3(43%) Hyst. -3(43%) Expl. -1(14%)
30-80	M=30.6 S= 8.1	M-50% F-50%	1.-28% 2.-67% 3.- 5%	Sing.- 28% Mar. - 61% Sep. - 6% Wid. - 6%	Not done-44% Normal -60% Bord. - 0 Abnorm. -40% Stab.-1 -60% 2 -10% 3 -20% 4 - 0 5 -10%	Anank.-5(28%) Asth. -6(33%) Hyst. -5(28%) Par. -1(6%) Schiz.-1(6%)
3-74	M=35.9 S=19.1	M-29% F-71%	1.-14% 2.-43% 3.-43%	Sing.- 29% Mar. - 43% Sep. - 14% Wid. - 14%	Not done-57% Normal -33% Bord. -67% Abnorm. - 0 Stab.-1 -33% 2 -67%	Expl. -2(29%) Hyst. -3(43%) Anank.-1(14%) Schiz.-1(14%)
40-79	M=39.6 S= 9.0	M-29% F-71%	1.-14% 2.-57% 3.-29%	Sing.- 0 Mar. - 71% Sep. - 14% Wid. - 14%	Not done-86% Normal - 0 Bord. - 0 Abnorm. -100% Stab. -1- 0 2-100%	Aff. -4(57%) Antis.-1(14%) Hyst. -1(14%) Asth. -1(14%)
65-78	M=25.4 S= 7.4	M-40% F-60%	1.-10% 2.-50% 3.-40%	Sing.-50% Mar. -30% Sep. -20% Wid. - 0	Not done-50% Normal -40% Bord. -20% Abnorm. -40% Stab. -1-40% 2-20% 3-20% 4-20%	Antis.-1(10%) Hyst. -3(30%) Expl. -1(10%) Asth. -2(20%) Schiz.-1(10%) Par. -1(10%) Aff. -1(10%)
24-76	M=33.9 S=11.2	M-79% F-21%	1.-14% 2.-36% 3.-50%	Sing.-43% Mar. -29% Sep. -29% Wid. - 0	Not done-43% Normal -38% Bord. -25% Abnorm. -38% Stab.-1 -38% 2 -50% 3 -13%	Par. -2(14%) Aff. -1(6%) Expl. -2(14%) Asth. -3(21%) Antis.-2(14%)

Source - 1=old patient
2=new referal
3=ref. for study

Table 60 Demographic and psychometric characteristics (2)

		16 PF Scales													
Dendron		A	C	E*	F	G*	H*	I	L	M	N*	O	Q_1	Q_2	Q_3	Q_4
18-81	M	8.17	6.17	8.00	8.67	7.17↓	8.67	8.83	8.00	8.00	6.00↓	9.50	10.17	8.17	5.83	10.67
	S	2.32	2.23	3.95	2.25	1.94	4.08	2.71	3.22	3.22	3.29	3.08	3.60	3.49	3.66	1.86
30-80	M	8.17	6.89	5.17↓	5.89	13.11	3.83	7.11	9.56	7.44	11.00	10.17	6.94	7.17	9.44	10.50
	S	2.43	3.05	2.43	3.45	1.81	2.62	2.72	2.12	2.41	2.14	2.64	2.73	3.71	3.78	3.11
3-74	M	8.86	8.00	6.86	5.29	11.29	3.71↓	7.14	7.86	8.43	7.71	9.86	7.43	9.86	7.71	11.14
	S	1.68	4.24	1.57	2.98	3.25	2.69	1.77	2.67	1.99	2.36	3.13	4.08	3.67	4.61	3.89
40-79	M	9.17	7.33	9.17↑	7.17	13.33↑	9.50↑	8.83	10.00	9.50	12.00↑	10.33	6.67	7.17	11.00	8.50
	S	1.33	2.25	2.64	3.54	0.82	4.89	1.17	1.79	3.08	2.10	2.88	2.88	2.93	1.90	1.97
65-78	M	7.20	6.60	5.70	6.50	11.90	4.10	8.40	8.40	8.90	11.00	9.00	7.50	8.80	8.00	11.70
	S	2.25	3.34	2.83	3.31	3.00	2.47	2.27	2.27	2.77	2.00	3.50	3.92	2.90	3.06	2.41
24-76	M	7.64	9.00	8.21	6.50	10.57	8.07	7.86	9.07	7.93	9.07	8.50	5.43	7.36	10.00	8.64
	S	1.98	2.83	2.08	3.28	3.41	3.67	3.18	2.13	3.34	2.76	2.85	3.46	2.17	3.86	2.47

			EPI		MNTS	
		N	E*	Sol.	Stab.	Val.*
18-81	M	18.14	15.86↑	7.00	9.71	9.71
	S	4.53	1.57	3.96	2.63	3.86
30-80	M	17.11	9.72↓	11.17	7.28	4.33↓
	S	5.72	3.64	2.83	2.89	3.55
3-74	M	16.86	10.14	11.57	9.43	5.86
	S	1.46	4.14	3.99	2.51	2.91
40-79	M	18.29	10.86	9.71	8.00	7.14
	S	2.98	3.13	1.80	3.79	3.13
65-78	M	17.40	10.60	9.60	9.50	6.70
	S	4.93	1.90	2.12	3.44	4.35
24-76	M	14.14	14.29	10.00	8.29	9.86↑
	S	3.63	3.45	4.24	2.76	2.71

*F - Ratio significant $p < .05$

↑ - Highest mean score

↓ - Lowest mean score

The group achieved extreme mean scores on C (Low ego-strength), F (Surgency), Q_1 (Radicalism), Q_3 (low integration), sub-solidity and super-validity (Table 60).

In summary, Dendron 18-81 appears to be made up of young patients who display a proclivity towards antisocial conduct and who lack impulse control. For convenience, the dendrons have been given names, the name chosen for 18-81 being Antisocial-Explosive.

Dendron 30-80 consisted of 18 patients with neurotic manifestations (Table 52). Two-thirds of them were married or widowed (Table 59). Ten had EEGs, of which four were abnormal. Two abnormalities were focal and two paroxysmal. However, the stability scores tended to be lower than in Dendron 18-81, only three members having scores of three or above. Sixteen patients were accounted for by one of three ICD diagnoses: asthenic, anankastic or hysterical. Highly significant associations were found between membership of this dendron and Schneider's insecure and asthenic types (Table 52).

The members of Dendron 30-80 had the lowest mean scores for E (Dominance), Extraversion and Validity (Table 60). These scores contrasted them with Dendrons 40-79 (Affective), 18-81 (Antisocial-Explosive) and 24-76 (Socially unstable/Drug abusing - see below) respectively. The members of this dendron were also the most tough-minded (Scale I) and practical (M) and had the lowest score for

Stability. The Dendron was named Neurotic.

Dendron 3-74 (7 members) combined features of the first two groups and fused with Dendron 30-80 at the .16 level of similarity (Figure 32). However, there were several clinical items in terms of which Dendron 3-80 was heterogeneous, including hypochondriasis and social phobias (greater in Dendron 30-80); and disciplinary problems, crime against property, hostile affect and ideas of persecution (all greater in Dendron 3-74). It was felt justified, therefore, to treat Dendron 3-74 as a separate unit.

This mixed neurotic and antisocial cluster was older, on the average, than either of the previous groups (Table 59). None had EEGs which were clearly abnormal. Their most common ICD diagnosis was hysterical personality disorder. Membership of this dendron was associated with a diagnosis of labile personality, using Schneider's typology (Table 53). They were the group with the lowest mean score for H, indicating shyness and sensitivity to stress, a finding which contrasted them with the Affective dendron (see below). They also had the most extreme scores for F (Desurgency), L, Q_2 (Self-sufficiency) and Solidity (Table 60), through these scores were not associated with significant values of F. The title Neurotic-Labile was chosen for the dendron.

Dendron 5-33 was characterized by a history of few and superficial friendships and of social phobias (Table 54).

It was not associated with any of Schneider's types. It was not studied in detail because of its small size.

Dendron 40-79 consisted of 7 members whose outstanding features were depression of mood and a history of a previous depressive neurosis (Table 59). Four of them had an ICD diagnosis of affective personality disorder (Table 59). This group contained 3 of the 4 depressive types ($p < .005$), as well as 1 hyperthymic personality.

Dendron 40-79 achieved the highest mean scores on E (Dominance), G (Superego strength), H (Parmia) and N (Shrewdness). These differences were all associated with significant F values. They also obtained extreme scores on A (Affectothymia), L (Protension), M (Autia), O (Guilt proneness), Q_3 (High self-concept control) and Neuroticism (Table 60). They were named the Affective dendron.

Dendron 65-78 (10 members) is difficult to describe except for its relatively high prevalence of items indicating sexual dysfunction (Table 56). Five members had EEGs, of which 2 were clearly abnormal (Table 59).

Group membership was not associated with any of Schneider's or the ICD types, though the commonest ICD diagnosis was hysterical personality. The group did not obtain any extreme scores on psychometric scales which were associated with significant values of F (Table 60). They did obtain non-significant extreme scores on A (Sizothymia) and Q_4 (High ergic tension). Dendron 65-78 was tentatively

named Hysterical.

Dendron 24-76 consisted of 14 members whose outstanding features were work instability and alcohol or drug dependence. They also had a high prevalence of previous suicide attempts (Table 57). Eleven (71%) were males and a similar proportion were either single or separated (Table 59). Eight had EEGs and 3 of these were abnormal, though none had a stability score above 3. This group was heterogeneous in terms of type diagnoses (Tables 57 and 59). It did contain an excess of individuals from Schneider's fanatic, unfeeling and explosive types but these associations were not statistically significant.

The group achieved the highest mean score on Validity, which contrasted them with the Neurotic dendron (Table 60). They also had extreme scores on C (Ego strength) and Q_1 (Conservatism). This dendron was named 'Socially unstable/Drug abusing'.

SUMMARY OF THE RESULTS OF THE VALIDATION STUDIES

1. The content validity of Schneider's types was supported by the pattern of their scores on psychometric variables.

2. The anthropometric study provided evidence which supported the hypothesis of an association between increased body bulk and the affective personality disorders, in female subjects.

3. A numerical taxonomy performed upon independent clinical data generated clusters of patients which showed significant associations with Schneider's types.

SECTION III

Discussion and summary

The study set out to examine three hypotheses about the clinical use of the typology of personality disorders proposed by Schneider (1958). These were:

1. That patients corresponding to Schneider's type descriptions could be identified within a representative sample of English-speaking patients diagnosed as having personality disorders.
2. That Schneider's typology could be employed reliably in the diagnosis of such patients.
3. That groupings of patients corresponding to Schneider's types would be found by a taxonomic analysis of the whole sample, using variables which were independent of the type diagnoses themselves.

The discussion will therefore examine the evidence that has been obtained in support of, or against, these hypotheses.

Hypothesis 1. The existence and distribution of types

In the two Diagnostic Studies, by the criterion of full agreement among the participating psychiatrists, it was possible to identify examples of all the types described by Schneider except for the fanatic and labile types. Furthermore, probable examples of the latter types were identified using the rating scales.

The fact that personality types which were first described among patients living in pre-war Germany can also be found in the members of a Canadian province at the present time is of considerable significance. These two groups have little in common except the fact of receiving psychiatric care and of being regarded as suffering from disorders which are not psychotic in quality. Provided the validity of the diagnoses can be supported by other evidence, in addition to the possibly biased opinions of the psychiatrists involved in the study, the implication of this finding is that the types are present across cultures. This in turn suggests that they are indeed 'real' types based upon biologically-determined differences.

There are difficulties in deciding what is a representative sample of patients with personality disorders. Certainly, much will depend on the setting in which the investigator is working. In particular, the psychiatrist working on a forensic service is likely to encounter a different spectrum of disorders to the clinician working in a

hospital setting. The former has to deal with patients whose disorders result in conflict with the law while the latter is primarily concerned with disorders which constitute a threat to health. It is not surprising, therefore, that forensic reports emphasise the antisocial manifestations of the personality disorders and that researchers attempting to classify such disorders do so employing predominantly behavioural criteria.

On the other hand, there is a growing recognition among forensic psychiatrists that there is a significant overlap between antisocial and neurotic disorders (Scott, 1963; Gunn and Robertson, 1976). This fact, plus their dissatisfaction with existing instruments for the diagnosis of antisocial disorders, may prompt a new look at Schneider's typology, which is able to link both kinds of disorder together in a common framework. An important extension of the present study would be to examine the distribution of Schneider's types, reliably diagnosed, in a group of criminal subjects with personality disorders.

The sample of patients obtained in the present study was representative in that it sampled the practice of one clinician during a one-year period. Some patients were included who were specially referred for the study and who would not otherwise have been examined by the author during that year. However, the only demonstrable difference between the specially referred patients and the others was that the

former group contained an excess of in-patients. This difference is probably attributable to the greater ease in obtaining referrals to an experimental programme from in-patient services than from physicians working in private offices. The importance of the difference in the proportions of in-patients in the two sub-groups is diminished further when it is remembered that the risk of requiring in-patient care at least once was high in the sample (41 per cent of cases had been hospitalized prior to the present referral) and that many of the author's patients changed their status during the period of the study. Those who had been seen both as in- and as out-patients were classified according to their status at the time the major diagnostic evaluation was completed.

Comparison with other samples of patients with personality disorders is made difficult by cross-cultural and theoretical differences between researchers in Europe and North America and, indeed, by the scarcity of studies on the descriptive and diagnostic aspects of these disorders. Winokur and Crowe (1975) reported the frequencies of various types of personality disorders diagnosed at the Iowa Psychopathic Hospital but, unfortunately, they used the nomenclature of an earlier system of classification employed in the United States, the DSM-1. Their figures for the frequency of the hysterical (29%), anankastic (6%),

paranoid (4%), antisocial (9%) and schizoid (8%) disorders are similar to the figures found for the same categories in the present study (Table 22, page 64). However, there are considerable differences in the frequencies of some of the other disorders.

The asthenic personality disorder was diagnosed in 17 per cent of the author's cases but only in one patient in the Iowa series. Patients described as inadequate personalities in the latter series accounted for 5 per cent of diagnoses and such cases are called asthenic in the ICD-8. However, it is more difficult to place the so-called passive-aggressive and passive-dependent personalities of Winokur and Crowe, which together accounted for 30 per cent of their cases.

These differences raise doubts about the extent to which terms can be used interchangeably and comparison can be made between studies. However, based upon the findings of the present study, brief comment will be made on the distribution of different types of personality disorders among non-psychotic patients examined in the clinical setting. The most frequently diagnosed disorders were the insecure (21%), attention-seeking (15%) and asthenic (11%) types of Schneider. The equivalent types in the ICD-8 (Paranoid and anankastic combined; hysterical; and asthenic) were diagnosed with comparable frequency except for the hysterical personality, which accounted for 28 per cent of

ICD-8 diagnoses. As this diagnosis is almost certainly overused (Walton et al., 1970) it seems likely that the use of Schneider's attention-seeking type would refine the description of this group of patients.

Walton and his colleagues (Walton et al., 1970; Presly and Walton, 1973) have drawn attention to the tendency for psychiatrists to diagnose male patients as 'sociopathic' and females as having 'hysterical' personality disorders, and have advanced this as an argument against attempting to classify these disorders (see below, page 191). However, the issue of sex differences in the prevalence of non-psychotic disorders is a complex one, and one about which there is a surprising lack of scientific information (Marks, 1973; Winokur and Crowe, 1975). Though it is widely assumed that neurotic disorders are diagnosed and treated more often in women than in men, at least one epidemiological study (Cooper, 1972) has produced evidence to the contrary. That study found an excess of women only in patients with depressive neuroses. Although hysterical traits tend to be identified in the female sex (Chodoff and Lyons, 1958) there are also exceptions to this rule (Luisada et al., 1974).

Even when such sex differences in the frequency of non-psychotic disorders are found, it may be incorrect to dismiss them as due to stereotyping or other forms of rater bias. For example, genetic studies indicate that there is

a real excess of hysterical traits among women in certain families and that alcoholism and sociopathy characterize their male relatives (Woerner and Guze, 1968; Cloninger and Guze, 1975).

In the present study, there were marked differences in the distributions of the sexes among the different types of personality disorders (Table 46, page 154). The ratio of 9 women to 3 men among patients with 'affective' personality disorders (depressive, hyperthymic and labile) contrasts with Schneider's impression (1958) that hyperthymic and depressive patients were usually male. There was also an excess of women among the asthenic personalities. However, neither of these differences was statistically significant. All 12 patients diagnosed as having attention-seeking personality disorders were women and this difference was highly significant ($x^2 = 11.84$, $p < .005$).

Conversely, there was a significant excess of males (15/17) among the insecure personalities ($x^2 = 11.08$, $p < .005$). Most of the explosive and unfeeling types and both of the weak-willed personalities were also men.

Thus the study lends support to the observation of Presly and Walton (1973) that there are important differences in the frequency with which different personality disorders are diagnosed in the two sexes. However, there do not appear to be firm grounds for attributing these differences to biases in the diagnosticians or to deficiencies in the

nomenclature. It may be significant that the sexes had similar overall frequencies in the sample.

The sex differences found in the present study can be compared with those reported by Helgason (cited by Winokur and Crowe, 1975) in the population of Iceland. He found the most frequent personality disorders among women to be Schneider's asthenic, labile, attention-seeking and depressive types. These were also the most common types among female patients in the present study (Table 46, page 154).

However, the most common types found by Helgason among men were the weak-willed and explosive personalities. In the present study, the insecure type was by far the most frequent in men, followed by the fanatic, explosive and unfeeling types.

These differences, especially the high prevalence of insecure personalities in the St. John's sample, are difficult to explain. Diagnostic error seems unlikely for these particular types unless they undergo considerable cross-cultural modification. While such differences could readily be explained in terms of the processes of selection which determine whether patients will be referred to hospital, it is hard to see why they should bias a sample of males but not one of females. Probably, more information about these variations can only be resolved by a comparison of more appropriately matched samples. For example, it would be valuable to determine the prevalence of Schneider's types,

diagnosed in the same way as in the present study, in the general population of Newfoundland.

Hypothesis 2: The diagnosis of personality disorders

It was not one of the objectives of the study to determine the reliability of the diagnosis of 'personality disorder' or to attempt to validate it. Instead, the study set out to investigate the clinical utility of a typology of such disorders. This fact needs to be kept in mind when comparisons are made with other studies, most of which have been concerned with the former question. The psychiatrists who took part in the present study were free to reject the diagnosis of a personality disorder in any of the patients, but in fact they did not do so.

The results of the Pilot Study revealed that care has to be taken over the use of Schneider's typology. In the hands of clinicians who are not familiar with it, its reliability may be low. Alternatively, spuriously high levels of diagnostic agreement may be reached, for example, by the diagnosticians using only a small number of the available types.

Nevertheless, the findings of Diagnostic studies 1 and 2 show that high reliability is possible in the diagnosis of personality disorders. The overall levels of the reliability coefficients obtained in the two studies indicate much higher inter-observer agreement than was found in the Pilot Study or in the 6 studies analysed by Spitzer and Fleiss (1974). For example, the average values of K found for Schneider's typology in Studies 1 and 2 were .61

and .51 respectively, compared with .16 in the Pilot Study and the average found by Spitzer and Fleiss of .32. The fact that higher values of K were found for Schneider's typology than for the ICD-8 classification (.48), indicate that the greatest diagnostic precision can be achieved with the former system.

The increased reliability found for the typology in Study 1 compared with the Pilot Study, is easily explained by the changes made to the assessment procedure (page 81), the recruitment of an expert diagnostician to strengthen the rating team and, above all, by the fact that the patients employed in the latter study were chosen as typical examples of Schneider's types. However, the drop in reliability found in Study 2, where the experimental conditions were identical, is puzzling. The only comment made by the psychiatrists afterwards was that the patients used in Study 2 were less 'typical' than those in Study 1.

It seems that 'typicality', though difficult to define, may be an important factor in determining the levels of agreement that can be achieved in type diagnoses and that typical subjects may need to be employed in studies where high reliability is essential, even though such cases are not representative of the majority of patients given the diagnosis of a personality disorder. One clue about the nature of 'typical' cases was the finding, in the Pilot Study, that such patients solicited fewer trait descriptions than

the others.

The study that most closely parallels the present one was that of Walton and Presly (1973) who investigated the American classificatory system that preceded the DSM-2. They found agreement between 3 psychiatrists about the most likely type of personality disorder in 48 per cent of cases and between 2/3 psychiatrists in 37 per cent. By comparison, in Study 1, agreement about the ICD-8 diagnosis was complete in 6 out of 11 cases (55%), 3/4 in 2 cases (18%) and 2/4 in 3 cases (27%). In no case was agreement less than 50 per cent. The improvement may reflect the superiority of the more recent classification.

In the case of Schneider's typology, combining both diagnostic studies, full agreement was achieved in 10 cases (48%), 3/4 agreement in 4 (19%), 2/4 agreement in 6 (29%) and no agreement in one (5%). Although the selection of patients may have favoured Schneider's system in these studies, the smaller number of categories in the ICD-8 would have resulted in greater levels of agreement for this system.

Presly and Walton (1973) attempted to analyse the sources of disagreement in their classificatory system. They highlighted: 1. Rater bias. 2. Confusion about the meaning of terms. 3. Inadequate delineation between normal and abnormal degrees of variation in a trait. 4. The fact that the use of a category may leave important elements out of the diagnosis. 5. The observation that their system

operated differently for men than for women. They also argued that personality features were a different order of phenomena than symptoms. They favoured the development of sets of orthogonal dimensions over the use of the categorical systems in personality diagnosis.

However, if traits represent a different order of phenomena to symptoms then sharp delineation between normal and abnormal in the case of the former should not be anticipated, nor is it essential in clinical work. The question becomes, not whether a symptom is present, but how much of a trait does a person have, or, how closely do they match a type description?

Biases can affect all diagnostic systems and there is no particular reason to expect them to be greater in the case of a personality typology. A typology developed using phenomenological methods could be expected to facilitate precise descriptions of the patients studied, though adequate reliability may require special training in the method. In addition, the use of a typology rather than a set of categories avoids the need for forced-choice diagnoses and allows for overlap between different types.

The two diagnostic studies indicated that some types of personality disorders can be diagnosed more reliably than others. In Study 1, perfect agreement was found for the ICD-8 diagnoses of the explosive and antisocial personality disorders and a high value of K (.86) was found for the hysterical

personality disorder (Table 34, page 87). In the case of Schneider's typology, combining Studies 1 and 2, high reliability was found for the depressive (K=1.00, 0.64), explosive (K=1.00, 0.77) and asthenic (K=1.00, 0.77) types. In addition, in Study 1 alone, values of K of 1.0 were found for the unfeeling and weak-willed types. On the other hand, negative values of P_i, which Maxwell (1977) suggested should raise serious doubts about reliability of a diagnosis, were found for the schizoid personality disorder in Study 1, in both studies for Schneider's hyperthymic and labile types, and in one study for his fanatic, anankastic and weak-willed types.

In the case of the anankastic personality in Study 2, there was good agreement on the 'correct' diagnosis of the sensitive form of insecure personality disorder, while the failure to find two good examples of the weak-willed type might be a reflection of the low frequency with which that type was encountered in the study. The fanatic type was also diagnosed infrequently and no typical example could be identified. Thus, the negative values of the anankastic, weak-willed and fanatic types may not indicate serious deficiencies in the typology. However, there is doubt about the reliability of the hyperthymic and labile types.

While the results of the diagnostic studies lend support to the use of Schneider's typology as an alternative to existing classifications of the personality disorders, the

overall reliability of the typology was still too low for such diagnoses to be made confidently by a researcher working independently. This led to a search for other means of assigning patients to their most appropriate type. The two methods that were developed for this purpose were the adjective check-list and the set of rating scales.

The adjective check-list (Appendix E) was the preferred method at the beginning of the project. However, it was abandoned as a means of assigning patients directly to types because it produced a high number of ties and because it seemed to reflect the prior diagnosis of the psychiatrist rather than an independent evaluation of the interview.

The other means of assigning patients to types was the set of seven rating scales described on pages 132 to 134 The scales were derived from the adjective check-list by a principal components analysis, although the components were modified to make them more comprehensive and clinically meaningful. Maximum use was made, in their development, of the adjectives with high loadings from the original factors, and of the adjectives which had been shown to have discriminating power in the hands of three independent assessors, as well as those of the investigator.

The rating scales produced fewer ties than did the original check-list. No single diagnosis was possible using them in 14 per cent of cases, although in only one

patient were more than two alternatives suggested.

The rating scales were believed to show adequate reliability because they all achieved significant values of W. However, the values were rather low in some instances, e.g. Impulse control and Drive deflection. The scales did not represent an attempt to systematize Schneider's typology and the ultimate justification for their use was that they enabled the investigator to assign the patients from Studies 1 and 2 to their correct diagnosis, i.e., that achieved by consensus, in 18 out of 19 instances (22 per cent of the sample). In addition, they were validated, to a considerable extent, by comparison with independent psychometric variables (Table 44, page 146).

Therefore, an unusual feature of the present study was that it used a series of dimensional measures, not as an alternative to a set of categories, as Presly and Walton (1973) suggested, but as a means of assigning patients to their most appropriate category. In this way it was possible to combine the greater reliability of the dimensional approach to diagnosis with the superior description provided by the typology.

The set of rating scales has provisionally been named the Self-experience Personality Rating Scale. It follows Schneider's approach to psychiatric diagnosis in two ways. Firstly, it is derived from empirical data and is not based upon any theoretical scheme of personality disorders.

Secondly, it utilizes the subjects' description of themselves in seven areas of personality function.

This rating scale also has the advantage of being free from the use of social criteria for judging abnormal behaviour. Finally, it enables one to make a precise judgment that a patient cannot be classified into a definite personality type, rather than leaving this in a state of uncertainty.

Hypothesis 3: The validity of Schneider's typology

Although the numbers of subjects in some of the types were too small for statistical analysis (Table 45, page 153), the descriptions of the types provided by their scores on the personality inventories were of great interest and also reflected the 'content' validity of the typology. In identifying the 'ideal' form of a type, it was sometimes necessary to extrapolate the test scales beyond their postulated range in the general population. The three tests employed in the study, the EPI, the 16PF and the MNTS, can all be regarded as providing measures of the patients' self-descriptions, while the rating scales represented the clinical judgments of the investigator. The scores on the personality inventories were taken from Table 47 (page 156).

The depressives and the hyperthymes were recognised by their extreme scores on the Prevailing mood scale, a scale which also appears to measure social disinhibition, introversion-extraversion and effective energy (Table 44, page 146). The depressives saw themselves as introverted, worldly and calculating. In contrast, the hyperthymic personalities felt themselves to be outgoing, assertive, venturesome and at ease socially.

The fanatics were identified by their low scores on Drive deflection. Although this scale was less reliable than most of the others (Table 41), it was validated by significant correlations with several scales of the 16PF

(Table 44). The fanatics had the lowest scores for Neuroticism and also obtained extreme scores on C (Ego strength), L (Protension) and Validity. They might thus be described as suspicious, reality-bound, energetic and as not easily made anxious.

The scale used to detect the insecure type was Impulse control. Its poles were defined by the adjectives 'explosive' and 'compulsive' and it was found to be correlated with a large number of psychometric scales, including Ego strength, Superego strength, Strength of self-sentiment, Solidity (maturity) and tough=mindedness. This scale was derived from the first component of the principal components analysis, which accounted for 15 per cent of the total variance. That such a general factor should emerge from the adjectival descriptions of a representative sample of patients with personality disorders is interesting in view of the finding of Blackburn (1968) that extremely violent psychiatric offenders tended to be more controlled, introverted and conforming than moderately assaultive offenders. Such individuals were often less likely to be recognised as having personality disorders and their extremely violent assaults upon their victims were in marked contrast to their usual behaviour.

The insecure types in the present study saw themselves as self-reliant and tough, but also as being meticulous, conforming, shy and affected by their feelings. Their

extreme score on scale I of the 16PF contrasted them with the attention-seeking group.

However, the extreme score of the attention-seeking type on the M(Autia) scale contrasted them with the unfeeling type. Thus they see themselves as imaginative and sensitive to the needs of others. This self-description may be at variance with that of the external observer, who sees such individuals as gushing and romantic.

It may be that the self-descriptions of insecure and attention-seeking personalities are less reliable than those of other types. As they are among the most frequently diagnosed types (Table 45, page 153), further work to improve the reliability of these diagnoses seems desirable. A more careful phenomenological analysis of a further sample of typical cases would be valuable for this purpose. That an interaction of traits may be involved in the psychic structure of the insecure personality type was suggested by the study of Brooks (1969) who found 4 first-order factors underlying performance on a questionnaire devised to measure the insecure trait when it was administered to a group of normal people, and three extra factors in neurotic subjects. Because of the latter finding he questioned the postulated continuity between normal and neurotic personalities.

Brooks failed to find satisfactory correlations between his factors and the scales of the EPI and the 16PF.

Because of this, and also because of the apparent discontinuity between his normal and neurotic subjects, he questioned the value of the EPI and the 16PF in the diagnosis of personality disorders. Such was not the finding in the present study. The psychometric scales, almost without exception (Table 44, page 146), were significantly and meaningfully correlated with the clinical rating scales, though it was the author's impression that Schneider's concept of 'abnormal' began somewhat beyond the range described in some instances.

The diagnosis of the labile personality disorder of Schneider presented difficulty throughout the study. No typical case was identified. The lability of mood scale was not derived from any of the principal components but was invented for the sake of completeness. It did, however, obtain a small number of meaningful correlations with the scales of the personality inventories (Table 44) and its reliability proved to be high.

The labile personalities saw themselves as being the most radical type, which might be a reflection of their young age (Table 46). They also saw themselves as self-sufficient, though tense and overwrought. They obtained a low mean score on Q_3 (Low self-sentiment integration), though the most extreme score on this scale was obtained by the explosive type.

The explosives, who were mostly young men, saw themselves as likely to disregard rules, forthright and sub-

solid (impulsive and emotionally labile). They also obtained extreme score on A (Sizothymia), indicating that they find themselves to be reserved and aloof. This feature does not appear in descriptions of the explosive type, perhaps because it is one that is present between explosive outbursts. It reflects the difficulty that was encountered in distinguishing between the explosive and unfeeling types in the present study. This was especially difficult when there was a history of aggressive behaviour in the latter, when much emphasis tends to be placed on the reported presence of appropriate remorse, a judgment that can be difficult to make retrospectively.

In other ways the psychological profiles of the explosive and unfeeling types were quite different. The latter patients experienced themselves as being happy-go-lucky, practical, self-assured and extraverted. In contrast, the outside observer is impressed by their 'coldness' and their absence of empathic understanding of the needs of others.

Though the number of weak-willed personalities was small, their psychometric profile was clinically meaningful. They obtained extreme scores for E (Submissiveness), H (describing them as shy and threat-sensitive), L (describing them as trusting) and Q_2, indicating that they see themselves as followers rather than as leaders.

The asthenic personalities were recognised by their low scores for Drive strength, a scale that also appears to

measure aspects of mood and social boldness (Table 44). The asthenics saw themselves as low in Surgence (F) and as being controlled and socially correct (Q_3). Their mean score for Validity was considerably below the quoted norm (Table 22, page 64) but it was less deviant than the scores of the depressive and weak-willed types.

Although these profiles do not in themselves provide a complete validation of Schneider's typology, they resemble the type descriptions to a remarkable extent (Appendix C). They thus support the content validity of the typology. They also indicate that detailed self-description of the personality disorders is possible in the majority of types and that there is little justification for the continuing tendency to classify these disorders using behavioural criteria.

The results of the anthropometric examinations were less satisfactory. The small numbers in most of the types made a detailed comparison of within sample differences impossible. The hypotheses of greater linearity of physique and of smaller body build in asthenic personalities were not confirmed (Table 48, page 159) and, while the male explosives were broader and showed relatively greater musculo-skeletal development than the other types, the differences were not significant (Table 50).

The one significant finding that did emerge was that personality disorders attributable to abnormalities of affect (depressives and hyperthymes, with or without labile personalities) showed lesser degrees of linearity of physique than the other patients in the sample. This finding is in accordance with Kretschmer's (1936) classical observation that the pyknic body build is associated with cyclothymic personality features and the predisposition to affective disorders.

The other means used to validate the typology was numerical taxonomy (Sneath and Sokal, 1973). The use of clustering methods to validate nosological systems in psychiatry is now established (Strauss et al., 1973; Kendell, 1975) though different solutions are likely to be obtained with different clustering methods (Everitt 1964). The study utilized a programme that was already available at Memorial University, in which the familiar dendrogram print-out was supplemented with a set of information statistics. These are not frequently encountered in clinical studies, having been developed primarily for use in ecological work (Lambert and Williams, 1966). However, they proved useful as they provided a means of estimating the degree of homogeneity of the dendrons shown in the dendrogram at the chosen level of resemblance.

The principal finding of the taxonomic study was that there was an association between the type diagnoses made by

the investigator with the rating scales and the clusters produced by the analysis of independent clinical data generated by the same patients. Furthermore, the clusters showed significant and meaningful differences on several independent psychometric variables (Table 60, page 174) as well as consistent differences in the distribution of ICD diagnoses of personality disorders (Table 59, page 173).

The clusters were larger than the types and tended to become more heterogeneous and less clinically meaningful as one progressed from the right- to the left-hand end of the dendrogram sequence (Figure 32, page 163). Using what are clearly behavioural rather than subjective descriptions, the analysis tends to distinguish most clearly between neurotic and antisocial manifestations.

The first group to emerge from the analysis was the Antisocial-Explosive Dendron (Table 51). The group consisted chiefly of young patients with conduct disorders. They lacked impulse control and tended to be diagnosed as anti-social personalities if they were males and hysterical personalities if they were females. Although the numbers were small, they proved to have a high prevalence of EEG abnormalities and it is therefore of interest that this dendron was specifically associated with Schneider's explosive type.

In marked contrast to this group was the Neurotic dendron (Table 52). Their psychometric profile emphasised

submissiveness, introversion and sub-validity. Membership of this dendron was associated with the diagnoses of asthenic, anankastic and hysterical personalities (ICD-8) and of the asthenic and insecure personality disorders of Schneider. The latter associations were highly significant ($p < .005$).

Dendron 3-74 (Table 53) manifested both neurotic and antisocial features, yet remained distinct from the Antisocial-Explosive and the Neurotic dendrons. Three of the five Schneider labile personalities were included in it ($p < .005$) while the most frequent ICD diagnosis was hysterical personality disorder. No abnormal EEG's were observed in its members. The psychometric and clinical profiles, including such features as hostile affect, ideas of persecution and sensitivity to stress, bore some resemblance to the so-called borderline syndrome (page 15).

Dendron 40-79 seemed to attract patients with histories of depression and showed a highly significant affinity with affective personality disorders (Table 55, page 168). The findings of differences between such patients and the others throughout the study must raise the issue of whether some of them were suffering from mild or atypical affective illnesses and also casts some doubts upon Schneider's assertion (1958) that there are no transitional states between the affective psychoses and the depressive and hyperthymic personality disorders. On the other hand,

there was no apparent overlap between the subjects of this study and patients with schizophrenia.

The remaining two dendrons (65-78 and 24-76, Tables 56 and 57) were the most heterogeneous. The former may have contained a number of atypical hysterical personalities. The predominance of males in dendron 24-76, together with the relatively advanced age of its members and the high prevalence of alcohol abuse among them, raise the suspicion that they represented a cluster of alcohol addicts.

No single validation study provided unequivocal evidence of the validity of Schneider's typology. However, the correlations between the rating scales and the psychometric data; the psychological profiles of the types; and the associations found between the typology and the taxonomic groupings; together provide powerful evidence of its construct validity.

Suggestions for further research

The investigation goes some way towards opening up the field of the personality disorders for scientific study. However, further work is needed to improve the reliability of the Self-experience Personality Rating Scale. A possible development would be an interview schedule specifically designed to elicit the experiences needed to make the ratings. Also, a more sophisticated scoring method would enable the whole personality profile to be employed in reaching a type

diagnosis rather than just the most extreme scalar scores.

Examination of the reliability of Schneider's typology in the present study was confined to the agreement between observers. However, it is also important to check the reliability of clinical judgments using the re-test method. As one of the features of a personality disorder is its continuity in time, a follow-up study of the sample should be undertaken in the future and this form of reliability can then be assessed.

In the present study, an attempt was made to operationalize the concepts which Schneider employed for making the diagnosis of a personality disorder. The clinician needs to have lived among the population being sampled and to have a broad concept of the personality features which are encountered in it. He must be able to recognise extreme variations in such qualities and be sensitive to the forms of suffering which they can produce. He must also endeavor to eliminate underlying causes of the disorder such as mental retardation, organic brain disease and the functional psychoses.

Little is known, however, about how the clinician arrives at the diagnosis of a personality type. Does he first diagnose the personality disorder and then attempt to match the patient with a type description or do the two processes proceed in parallel? Further studies of the diagnostic process would help to shed light on this question

and thus facilitate the development of the kind of diagnostic instrument that was alluded to above.

SUMMARY

The development and clinical application of the concept of personality disorder has been described, with emphasis upon the contributions of Schneider. It was suggested that Schneider's typology offered several important advantages over other methods of diagnosing personality disorders. Descriptive, diagnostic and taxonomic studies were then conducted to examine the clinical utility of the typology in a contemporary setting.

The subjects employed in the study were 81 patients seen in the clinical practice of one psychiatrist during a one-year period. The sample appeared to be representative of patients with personality disorders receiving psychiatric care, although it did contain some patients who were specially referred for the study by the author's clinical colleagues.

The characteristics of the sample have been described. The commonest reason for referral was the development of neurotic symptoms. The patients also had a high prevalence of alcohol-related problems and of self-destructive behaviour. In 17 per cent of cases, no presenting problem could be identified other than direct manifestations of a personality disorder. There were

indications that the patients frequently came from families in which neuroses and alcoholism were common.

A number of psychopathological features were noted in the mental state examinations conducted on the patients. Especially common were disturbances of affect such as anxiety, depression, emotional lability and hostile affect. A high frequency of EEG abnormalities was observed among patients who underwent this examination (which was not a part of the assessment procedure). In particular, 25 per cent of EEGs showed changes that could be localized in the temporal regions.

Summaries of the patients' histories and audio-recordings of them were presented to a team of psychiatrists in a series of diagnostic studies. Examples of most of the types of personality disorders described by Schneider were identified by unanimous agreement. The exceptions were the fanatic and labile types. High diagnostic agreement was found for patients who were 'typical' in the sense of conforming to the 'ideal' type description and of only showing features of one type.

Higher reliability was found for the diagnosis of personality disorders than earlier reports had suggested. In typical cases, Schneider's typology was more reliable than the ICD-8 classification of personality disorders.

Variation was found in the reliability of specific type diagnoses. High reliability was found for the depressive,

explosive, asthenic, unfeeling and weak-willed types. Low reliability was found for the hyperthymic and labile types. The two sub-types of the insecure personality disorder, anankastic and sensitive, could not be differentiated. The descriptions of the types provided by their scores on the 16PF, the EPI and the MNTS suggested that less reliable self-descriptions could be obtained from the insecure and attention-seeking personalities than from other types.

A set of seven rating scales, derived from a check-list of adjectives by a principal components analysis, was developed to facilitate the diagnosis of Schneider's types. It was able to discriminate between the types and evidence was found of its reliability and validity.

The psychometric profiles of the types showed that the typology has adequate content validity. Predictions of anthropometric differences in certain types were not confirmed, except that female patients with affective personality disorders showed greater body bulk than the others.

A numerical taxonomy study revealed highly significant associations between membership of the clusters of subjects derived from the clinical data and the independent type diagnoses made with the rating scales. These differences, the psychological profiles of the types and the correlations found between clinical ratings and the patients' self-assessments using personality inventories, combined to produce powerful

construct validation of the typology.

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APPENDIX A

CLINICAL INFORMATION SHEET

Project No.

Name Address

Date of Birth Age Sex

Occupation

Reason for Referral

Family History

- Sibship size
- Birth Order
- Family history of mental illness
- Parental mental illness
- Quality of family life

Personal History

- Birth
- Early development
- Childhood illnesses
- Childhood mental health

Education

Work

Sexual practice past present

Marriage

Pregnancy

Previous Medical History

Previous Psychiatric History

Personality

Relationships with others

Attitudes to self

Moral and Religious attitudes

Mood and energy

Interests

Habits

Fantasy life

Reaction to stress

Mental State Findings

Physical Findings

Intelligence

EEG

Diagnosis

APPENDIX B

HEATH-CARTER SOMATOTYPE RATING FORM

E _____ AGE _____ SEX: M F HGT. _____

UPATION _____ ETHNIC GROUP _____ DATE _____

JECT: _____ MEASURED BY: _____

olds (mm):
ceps
xcapular
xaliac
AL SKINFOLDS
lf

TOTAL SKINFOLDS (mm)

Upper Limit	10.9	14.9	18.9	22.9	26.9	31.2	35.8	40.7	46.2	52.2	58.7	65.7	73.2	81.2	89.7	98.9	108.9	119.7	131.2	143.7	157.2	171.9	187.9	204.0
Mid-point	9.0	13.0	17.0	21.0	25.0	29.0	33.5	38.0	43.5	49.0	55.5	62.0	69.5	77.0	85.5	94.0	104.0	114.0	125.5	137.0	150.5	164.0	180.0	196.0
Lower Limit	7.0	11.0	15.0	19.0	23.0	27.0	31.3	35.9	40.8	46.3	52.3	53.8	65.8	73.3	81.3	89.8	99.0	109.0	119.8	131.3	143.8	157.	172.0	188.0

FIRST COMPONENT ½ 1 1½ 2 2½ 3 3½ 4 4½ 5 5½ 6 6½ 7 7½ 8 8½ 9 9½ 10 10½ 11 11½ 12

nt (in.) =	55.0	56.5	58.0	59.5	61.0	62.5	64.0	65.5	67.0	68.5	70.0	71.5	73.0	74.5	76.0	77.5	79.0	80.5	82.0	83.5	85.0	86.5	88.0	89.5
: Humerus =	5.19	5.34	5.49	5.64	5.78	5.93	6.07	6.22	6.37	6.51	6.65	6.80	6.95	7.09	7.24	7.38	7.53	7.67	7.82	7.97	8.11	8.25	8.40	8.55
) Femur =	7.41	7.62	7.83	8.04	8.24	8.45	8.66	8.87	9.08	9.28	9.49	9.70	9.91	10.12	10.33	10.53	10.74	10.95	11.16	11.37	11.58	11.79	12.00	12.21
le: Biceps =	23.7	24.4	25.0	25.7	26.3	27.0	27.7	28.3	29.0	29.7	30.3	31.0	31.6	32.2	33.0	33.6	34.3	35.0	35.6	36.3	37.1	37.8	38.5	39.3
ceps skinfold) Calf =	27.7	28.5	29.3	30.1	30.8	31.6	32.4	33.2	33.9	34.7	35.5	36.3	37.1	37.8	38.6	39.4	40.2	41.0	41.8	42.6	43.4	44.2	45.0	45.8
lf skinfold)																								

SECOND COMPONENT ½ 1 1½ 2 2½ 3 3½ 4 4½ 5 5½ 6 6½ 7 7½ 8 8½ 9

ht (lb.) =

$\sqrt[3]{\text{Wt.}}$ =

mogram),

Upper limit	11.99	12.32	12.53	12.74	12.95	13.15	13.36	13.56	13.77	13.98	14.19	14.39	14.59	14.80	15.01	15.22	15.42	15.63	
Mid-point	and	12.16	12.43	12.64	12.85	13.05	13.26	13.46	13.67	13.88	14.01	14.29	14.50	14.70	14.91	15.12	15.33	15.53	
Lower limit	below	12.00	12.33	12.54	12.75	12.96	13.16	13.37	13.56	13.78	13.99	14.20	14.40	14.60	14.81	15.02	15.23	15.43	

THIRD COMPONENT ½ 1 1½ 2 2½ 3 3½ 4 4½ 5 5½ 6 6½ 7 7½ 8 8½ 9

	FIRST COMPONENT	SECOND COMPONENT	THIRD COMPONENT
Anthropometric Somatotype			
Anthropometric plus Photoscopic Somatotype			

BY: _____

RATER: _____

APPENDIX C

PERSONALITY DISORDERS

(Descriptions of Schneider's Types)

Schneider described as abnormal any personalities that deviated from the average by showing an excess or deficiency of one or more personality attributes. However, the term personality disorder should be reserved for special types of abnormal personalities in whom the deviation produces suffering or leads directly to anti-social behaviour. The diagnosis is not made in individuals showing evidence of psychosis or acquired cerebral damage.

(1) HYPERTHYMIC PERSONALITY DISORDER

These personalities were described by Schneider as showing "a natural good-humour accompanied usually by optimism and a sanguine temperament". Adjectives used to describe them include amiable, imperturbable, cheerful, kindly, active, equable and optimistic. They are energetic and may be physically overactive.

Hyperthymes tend to be genial and informal. They are practical and efficient but like variety. They have high self-esteem and easily become overconfident and uncritical in their judgments. In its more extreme form hyperthymia may lead to various forms of social

instability, such as lying, boasting, or shiftless behaviour.

(2) DEPRESSIVE PERSONALITY DISORDER

These personalities are characterized by an abnormal basic mood producing a constantly pessimistic and gloomy outlook. Adjectives used to describe them include skeptical, serious, distrustful and self-effacing. They have little capacity for enjoyment and show no lightening of their prevailing mood even in pleasurable circumstances. They are prone to worrying and self-doubt, though some are able to conceal these feelings by displays of cheerfulness and activity. In company they are usually hesitant, quiet and formal.

Depressives have a strong sense of duty and are burdened by responsibilities. However, they are generally uncomplaining and may take suffering as a mark of quality, drawing invidious comparisons between themselves and others.

(3) INSECURE PERSONALITY DISORDER

The central disturbance in these personalities is a deeply-felt sense of self-insecurity, doubt and uncertainty. This usually gives rise to compensatory perfectionism and the adoption of exaggerated ethical and moral standards. Sexual drive is often deviant or excessive, producing intense inner conflict. There are two major sub-types:

(a) Sensitive Personalities: Highly impressionable individuals who are unable to give vent to their feelings. They dwell excessively on their experiences and have a strong tendency to self-reference, feeling that the deficiencies they see in themselves are also recognized by others.

(b) Anankastic Personalities: Socially correct individuals whose indecision and uncertainty come to the fore when they feel threatened. They display a marked preference for orderliness and structuring of their lives, with a low tolerance of change. Compensation for their insecurity is unnatural and constrained so that they appear pedantic, cautious or over-conscientious.

(4) FANATIC PERSONALITY DISORDER

Central to the description of this type is the capacity to experience "over-valued ideas" - ideas or complexes which are highly emotionally charged and dominate the individual's psychic life. Such ideas produce a characteristic assertiveness and combativeness in the personality. All the efforts of the subjects are concentrated on obtaining restitution, especially after personal differences or in civil disputes. Two sub-types are described:

(a) Combative fanatics - described as active, tenacious, and "uninhibitedly aggressive". They publicly profess their ideas and are actively litiginous.

(b) Eccentric fanatics - whose over-valued ideas are more private and often of a fantastic, exaggerated or impractical nature. They tend to be quiet and secretive, though their eccentricity may be revealed in unorthodoxy of dress or manner.

(5) ATTENTION-SEEKING PERSONALITY DISORDER

The outstanding feature of this personality is the need "to seem more than one is" (Jaspers) which may be met in a variety of ways, e.g. egocentricity, exaggeration, boasting or lying, without the motivation being clear to the subject. Vanity, roleplaying and craving for attention are extreme accompaniments. Such individuals believe that they feel very deeply yet they appear "shallow" to outsiders. Deviant behaviour, when it occurs, is motivated by the need for attention, not personal gain.

Features described by other authors include emotional lability, suggestibility, impulsive behaviour, histrionics, failure to establish deep or lasting relationships, and an increased susceptibility to dissociative reactions.

(6) LABILE PERSONALITY DISORDER

These personalities are characterized by abrupt, reactive changes of mood, this lability being constitutionally determined. The mood disturbance is typically depressive in type, but is sometimes irritable. Lability may be manifested by deviant or impulsive behaviour. Labile psychopaths are prone to sudden restlessness and urge for change, and therefore tend to be shiftless and socially unstable.

(7) EXPLOSIVE PERSONALITY DISORDER

The basic disturbance of these personalities is a liability to "short-circuit reactions" - sudden outbursts of aggression in response to minimal or no provocation. The outbursts are unpredictable and not a constant feature of the personality. Explosiveness may be released by small amounts of alcohol in susceptible individuals. Criminal behaviour and suicide attempts sometimes result from explosive outbursts.

(8) UNFEELING PERSONALITY DISORDER

These personalities show emotional blunting and lack the capacity to experience feelings for others. Terms used to describe them include pitiless, ungracious, cold, surly, insensitive and brutal. They are able to comprehend and learn a moral code but seem indifferent to it, or adapt it to their own ends. In positions of responsibility they

are ruthless and fearless. Their lack of feeling cannot be influenced by education or experience. Criminal behaviour is common and is characterized by lack of concern for the victims and absence of remorse.

(9) WEAK-WILLED PERSONALITY DISORDER

These personalities show a "general lack of resistance and weakness of will". They are extremely susceptible to internal or external influences, lacking an awareness of the consequences of their actions. Terms used to describe them include shiftless, docile, unstable and easily led. They are equally responsive to good and bad influences and are readily exploited for criminal purposes. They are generally amiable and show regret for their lapses, but their good intentions are easily overcome.

(10) ASTHENIC PERSONALITY DISORDER

This term is used to describe a category of individual "whose personality induces in them a bodily flagging and a feeling of psychic inadequacy and weakness". Asthenics tend to "look into rather than out of themselves" and are haunted by fears of illness, magnifying slight discomforts and disorders of function out of all proportion. They also worry excessively about their mental efficiency. Schneider describes a "characteristic sense of estrangement"- distinct from depersonalisation - extending to all vital activities. Anxiety and depression are common developments

and patients readily become dependent on analgesics or euphoriant drugs.

APPENDIX D

Example of summary of a history
(as used in Diagnostic Studies)

--. Male, 27 yrs.

Admitted for treatment of a gunshot wound which he said was self-inflicted, though he could not remember how or why he did it. Is alcohol dependent. He vigorously denied any previous difficulties but informants described a life-long history of antisocial behaviour including a poor school-record, unstable work history and numerous convictions for minor offences. He appeared never to have formed any friendships or stable attachments.

In hospital, apart from his dissimulation, the outstanding features that he showed were suspiciousness, surliness and unfriendliness, such that nobody felt at ease in his company.

APPENDIX E

The Adjective check-list

OVER-SENSITIVE	PROUD	DOCILE
SANGUINE	ROMANTIC	APPREHENSIVE
HISTRIONIC	JOYLESS	GOOD-HUMOURED
UNRELIABLE	CONTRARY	SOLEMN
UNCONVENTIONAL	SHAMELESS	INDIFFERENT
UNFEELING	WEAK-WILLED	INCONSTANT
INSENSITIVE	BOASTFUL	UNGRACIOUS
DISSENTING	TEMPERAMENTAL	UNPREDICTABLE
IMPETUOUS	PLIABLE	DISINGENUOUS
LIFELESS	CHEERFUL	CORRUPTIBLE
INADEQUATE	EMOTIONAL	ASSERTIVE
AMORAL	FIERY	NON-DURABLE
DELICATE	INSECURE	PESSIMISTIC
VOLATILE	IMPERTURBABLE	BITTER
HASTY	ENERGETIC	MERCURIAL
DISMAL	VENAL	LACKING-RESISTANCE
UNCERTAIN	IMPULSIVE	LITIGIOUS
HUMOURLESS	ETHICAL	COLD
SKITTISH	PEDANTIC	ASSAULTIVE
IRRESOLUTE	CALLOUS	FRAIL
OPTIMISTIC	PONDEROUS	IMPRESSIONABLE

SCRUPULOUS	SHIFTLESS	LUGUBRIOUS
STRAINED	CHAMELEON-LIKE	OVERBURDENED
SURLY	DEFEATIST	CONSTRAINED
VAIN	HOT-HEADED	AMIABLE
GUSHING	CORRECT	WEAK
SKEPTICAL	LABILE	EASILY-LED
INHIBITED	COMPULSIVE	AMBITIOUS
RETIRING	EXACTING	HYPOCHONDRIACAL
IRRITABLE	PARTISAN	PITILESS
EXPLOSIVE	SUGGESTIBLE	EXCITABLE
OBSTINATE	QUARRELSOME	CAREFREE
PUNY	CHANGEABLE	TOUCHY
EXPANSIVE	TENACIOUS	ATTENTION-CRAVING
RESTLESS	UNCONTROLLABLE	LONG-SUFFERING

APPENDIX F

The Self-experience Personality Rating Scale

SUBJECT RATER

SCALE	ADJECTIVAL DESCRIPTION	SCORE Low Av. High	ADJECTIVAL DESCRIPTION
IMPULSE CONTROL	EXPLOSIVE		COMPULSIVE
PREVAILING MOOD	PESSIMISTIC		OPTIMISTIC
LABILITY OF MOOD	PHLEGMATIC		MOODY
EMPATHY	COLD		ROMANTIC
DRIVE STRENGTH	FRAIL		ENERGETIC
DRIVE REFLECTION	TENACIOUS		EASILY-LED
SELF APPRECIATION	UNCERTAIN		OVERCONFIDENT

APPENDIX G

Items employed in numerical taxonomy

Item No.	Item Description	Item Definition	Proportion with Item
1	Schiz. in lst deg. rel.	Parents and sibs only	4%
2	Aff. dis. in - - -		4%
3	Ep. - - - -		1% Excluded
4	Neurosis - - - -		19%
5	Delinq. in - - -	Documented conviction	1% Excluded
6	Alc. in - - -		16%
7	Sibship 5 or more		63%
8	Oldest sibling		30%
9	Illegit. or adopted bef. age 10		7%
10	Mat. abs. 6 mos. or more bef. age 10		6%
11	Pat. abs. 6 mos. or more bef. age 10		10%
12	Institut. 6 mos. or more bef. age 10.	Excludes 10 and 11 unless sep. incidents	7%
13	Parental ment. illness	Inc. step-parents	22%
14	Delayed milestones		1% Excluded
15	Childhood enuresis	After age 5	4%
16	Stammer		3%
17	Sleep-walking		3%
18	Night terrors		1% Excluded
19	Childhood fears, phobias, hypochondriasis		27%
20	Separation anxiety		6%
21	Lying	Suff. to attract comment	4%
22	Stealing	- - - -	4%
23	Running away from home		1% Excluded
24	Truancy	From school	4%
25	Disciplinary problems	Suff. to attract comment	16%
26	Temper tantrums		5%
27	Vandalism		3%
28	Cruelty		1% Excluded

Item No.	Item Description	Item Definition	Proportion with Item
29	Childhood neurosis	Suff. to merit Rx. Age limit-16	10%
30	- behav. dis.	- - - - - - -	7%
31	Work instability	Due to subject	30%
32	Avoidance of work responsibility	Spontaneously mentioned	3%
33	Friends few		35%
34	Friendships superficial		33%
35	Correctional facility		3%
36	Assaults on others		6%
37	Crime against property		6%
38	Sexual deviation		1% Excluded
39	Intercourse before age 17		6%
40	Promiscuity	Frequent, casual sexual encounters	14%
41	Frigidity/Impotence	Ever experienced	9%
42	Menstrual dysfunction		4% of total
43	Psych. or illegal abortion		4% - -
44	Sterilization on psych. grounds		5% - -
45	Birth trauma/asphyxia/ prem. birth		12%
46	Rheumatic fever in childhood	Before age 10	5%
47	Encephalopathy/Meningitis	- - -	3%) Combined
48	Epilepsy	- - -	3%)
49	Permanent physical handicap	Onset before age 10	3%
50	Severe head injury	Before age 10	0 Excluded
51	Prev. anxiety neurosis	Suff. to merit Rx	21%
52	- phobic -	- - - -	5%
53	- depress. -	- - - -	20%
54	- obsess. -	- - - -	3%
55	- hyster. -	- - - -	3%
56	- paranoid state	- - - -	3%
57	- suicide attempt	- - - -	25%
58	- drug or alc. depend.	- - - -	28%
59	- psychophysiological dis,	- - - -	7%
60	Non-smoker		12%
61	Drinking to relieve social anxiety		3%

Item No.	Item Description	Item Definition	Proportion with Item	
62	Cannabis/glue sniffing		11%	
63	Hallucinogens/amphetamines		6%	
64	Abuse of medical drugs		7%	
65	Soft neurological signs	Non-localizing	4%)	Combined
66	Impairment of special senses		4%)	
67	Anxiety	As part of pres. compl. or on exam.	36%	
68	Depression	- - - - - - - -	41%	
69	Hostile affect	- - - - - - - -	19%	
70	Blunting of affect	Absence of feeling	5%	
71	Dissociation of affect	As part of pres. compl. or on exam.	4%	
72	Ideas of reference	- - - - - - - -	7%	
73	Morbid jealousy	- - - - - - - -	1%	Excluded
74	Hypochondriasis	- - - - - - - -	20%	
75	Pseudo-hallucinations	- - - - - - - -	3%	
76	Specific phobias	- - - - - - - -	14%	
77	Social phobias	- - - - - - - -	6%	
78	Depersonalization	- - - - - - - -	3%	
79	Obsessional phenomena	- - - - - - - -	4%	
80	Lability of mood	- - - - - - - -	5%	
81	Over-dramatization/ path. lying/attention-seeking	Delib. att. to impress observer	12%	
82	Over-val. ideas of persec.	As part of pres. compl. or on exam	12%	