Empirical Classifications of Types among Delinquent Referrals to a Child Guidance Clinic

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A MAJOR difficulty in formulating treatment programmes for juvenile offenders is the multiplicity of causes and circumstances of anti-social behaviour. This study uses factor and cluster analysis to search for syndromes of cause and circumstance among 107 young people referred to a Dublin child guidance clinic for anti-social behaviour. Results are compared with those for 150 Dublin boys on probation who were tested by Hart at about the same time.[1]

The Department of Child Psychiatry at the Mater Hospital, Dublin,[2] records details of referrals on a 200 item assessment sheet based on the Maudsley Hospital checklist. Items relate to environmental, constitutional and behavioural factors. To gain a sample of actual and likely offenders, we selected all cases over a three year period where the child had been given at least one of the following ratings—"Manifest disturbance in society-delinquency", "Brought before juvenile court at any time" and "To Approved School at any time for anti-social behaviour". Ninety-two boys and 15 girls were thus selected. Table 1 shows how the sample compared on four socio-economic variables with the probationers. These latter came more often from poor families, the difference in proportion poor being statistically significant ($p < \cdot 05$). This is particularly noteworthy since the definition

1. Ian Hart, *Factors Relating to Reconviction among Young Dublin Probationers*, ESRI, First Draft, August, 1973.

2. We wish to acknowledge the close co-operation of the Department of Child Psychiatry, Mater Hospital in this project, in particular, the assistance of Miss Thérèse Brady, Clinical Psychologist.

TABLE 1: *Child Guidance Group and Probationers by Four Socio-Economic Variables*

	Child Guidance Group (n=107) per cent	*Probationers (n=150) per cent*
Rated Poor	20*	34
In Overcrowded Dwellings	27*	41
With Working Mothers†	22	33
Aged under 14 years	46	45

*Indicates a difference between proportions significant at the ·05 significance level.

†The percentage shown for the Child Guidance Group is an over-estimate: 22 per cent of that group suffered a partial lack of maternal company due to the mother going to daily work or *for any other reason.*

of poverty for the clinic referrals was in relative or subjective terms (poverty being defined as the existence of financial obstacles to the standard of living aimed for by the parents), whereas that for the probationers was on an objective basis, having to do with the proportion at home unemployed, the number of children under 14, and the absence of the father from the home. It is thus probable that the difference between the two groups in terms of objective poverty is even greater than indicated. Probationers were also more subject to overcrowding at home (for which the same definition[3] was used) and more of their mothers were at work. The greater affluence of the clinic sample suggests that guidance clinics rather than juvenile courts or institutions may be society's treatment of choice for anti-social children not from deprived groups. However, there was no supporting evidence from within the clinic sample that this was so: poor children in the clinic sample were less likely than better-off children to have been before the juvenile court or to have been sent to an institution for anti-social behaviour. As regards age distribution, the child guidance and probationers' sample were very alike.

Ninety-one of the 200 items of the checklist were excluded from consideration as being irrelevant to the causes and forms of anti-social behaviour. Another 45 items were excluded since, as individual factors, they characterised less than 10 per cent of the sample. Thus 64 items were retained for factor analysis. In the first analysis the 107 subjects were factored over the 64 items. This, as we learned, was a dubious procedure as the condition of a smaller number of subjects than tests was not observed. However, because of their theoretical interest, we show in Table 2 the subject groups arising from varimax principal components analysis of subjects. Subjects were grouped according to the factor on which they were most heavily loaded. Subject groups were then identified by considering each group in terms of the number characterised by each of the 64 items. The 5 groups

3. Overcrowding was considered present if more than two persons, adult or children, slept in one room, or if the kitchen or accepted living room was also the sleeping quarters of any of the family, or if more than one family shared the kitchen or if the parental bedroom was shared with a child.

TABLE 2: *Child Guidance Sample and Five Factor Groups Within It (after Varimax Rotation) by Incidence of Ratings on Certain Items of the Maudsley Hospital Checklist*

Factor Group	Item	per cent incidence					
		Total Sample	Factor Group I	II	III	IV	V
I	Poor standard reached in schoolwork	47	86†	63	47	81†	73
	Member of anti-social gang	25	62*	16	18	50	9
	Overcrowding at home	27	71†	16	53†	19	27
II	Manifest disturbance in relation to father or father substitute	35	14	84‡	47	56	0*
	Manifest disturbance in relation to mother or mother substitute	36	24	79†	18	63*	9*
	Manifest disturbance in relation to siblings	26	19	79‡	29	31	0*
	Perceptual and/or motor disturbance	21	29	63†	24	25	9
III	Paternal anxiety (over subject's delinquency) less than justified	14	24	5	65†	25	0
	Paternal irritation, manifest resentment or hostility greater than justified	17	14	26	59†	25	9
	Pronounced psychopathy (mainly alcoholism of father) in parents, grandparents, parental siblings, own siblings	37	67*	21	76*	19	36
IV	Disobedience	34	33	63	35	94‡	27
	Lying	34	19	42	18	75*	27
	Truanting or wandering from home	56	62	74	71	94†	45
	Discipline in home inconsistent	31	29	42	41	75†	9
V	Institutional Upbringing	16	0	11	0	13	73†
	N=	107	21	19	17	16	11

*$p < .10$.
†$p < .05$.
‡$p < .01$.

of Table 2 seemed the most clinically significant of 8 groups containing at least 10 subjects with loadings of ·25 (absolute value) on the factor.

When subjects' addresses were considered, almost half of Group I cases were seen to come from Corporation flats in poor, central city areas. Although social class did not differentiate any of the five groups, 6 of 16 fathers living at home in the case of Group I subjects were unemployed. Mean number of children in

Group I families was 7·53. This group because of its characteristics of gang membership, central city addresses and overcrowding resembles the socialised delinquent group of Hewitt and Jenkins.[4] Group II families were much smaller than those of Group I, averaging only 5·44 children and addresses were well scattered through the city. Faulty family relationships seemed characteristic and there was a slight resemblance to the "unsocialised, aggressive" category of Hewitt and Jenkins as an item present almost at the ·10 significance level was "Aggressive, overactive and restless". Group III was intermediate between I and II, having a high incidence of overcrowding and frequent faulty relations between child and father. Eight of 14 fathers at home were unemployed and 5 had serious drinking problems. Mean number of children was 8·07. Overcrowding was, however, less evident than in Group I as more of Group III families lived in Corporation houses. Groups II and IV resembled each other in that both were characterised by faulty relations within the family, Group IV being more related to the consequences than the causes of such deficiencies. Mean number of children for Group IV was 6·47 and the group was again well dispersed through the city. Group V was an institutionalised group: items present at near the ·10 significance level were "At Approved School at any time for anti-social behaviour", "Maternal deprivation before five" and "Paternal deprivation before five".

Since the items of Table 2 suggested useful clinical distinctions, a factor analysis was made of those items plus three further items—"Aggressive, overactive and restless", "At Approved School at any time for anti-social behaviour" and "11–14 years of age". The first 2 of these 3 items were added because they characterised certain groups of Table 2 at near the ·10 significance level. The third item was added because of the possibility of the existence of a group of pre-teenage, emotionally disturbed youngsters. Table 3 gives the loadings of items on the first six unrotated principal components. These components accounted for about 60 per cent of the variance of items.

There is evidence here for such types as disturbed child (Factor I), disturbed family with inadequate father (Factor II), institutionalised (Factors III and VI), educational failure and possible brain damage (Factor IV), and gang member (Factor V). These types resemble quite closely those identified by factor analysis among 150 young Dublin probationers. The latter types were labelled "socially maladjusted", "disturbed family", "separation experience (from parents or parent figures)", "educationally retarded" and "slum-boy". The factor solution of Table 3 is not very satisfactory, however, because Factors V and VI have each only two variables heavily loaded on them[5] and the percentage of variance accounted for declines very rapidly after the third component. Consequently, the first four factors (accounting for 46 per cent of the variance) were varimax rotated, producing the

4. L. Hewitt and R. Jenkins, *Fundamental Patterns of Maladjustment*, D. H. Green, Michigan, State of Illinois, 1946.

5. Factor V represents the dimension of gang membership by older children. In this respect clinic referrals differed from probationers. Among the latter the correlation between age and the variable "many delinquent friends" was not significant.

TABLE 3: *Factor Loadings on First Six Principal Components* for Child Guidance Sample*

	Factor					
	I (17 per cent Variance)	*II (12 per cent Variance)*	*III (9 per cent Variance)*	*IV (8 per cent Variance)*	*V (7 per cent Variance)*	*VI (7 per cent Variance)*
Poor standard in schoolwork	·30	—·08	—·30	—·64	·16	—·14
Member of anti-social gang	·29	·37	—·27	—·03	·58	—·30
Overcrowding	·20	·55	·11	—·45	·03	—·05
Manifest disturbance with father or father substitute	·71	—·04	·27	·19	·08	·23
Manifest disturbance with mother or mother substitute	·62	—·32	·11	—·14	·23	·06
Manifest disturbance with siblings	·56	—·27	·30	·00	—·06	·28
Perceptual and/or motor disturbance	·32	—·07	·47	—·54	·09	·15
Paternal anxiety less than justified	·15	·51	·10	—·06	—·35	—·05
Paternal irritation etc. greater than justified	·27	·39	·35	·25	—·20	·31
Pronounced psychopathy (mainly paternal alcoholism) in related categories	·15	·75	·01	·08	·20	·11
Disobedience	·71	—·13	—·34	·10	—·15	—·21
Lying	·52	—·37	—·30	·07	—·24	—·25
Truanting or wandering from home	·58	·14	—·28	—·03	—·33	·14
Discipline in home inconsistent	·51	·30	—·16	·39	—·08	—·28
Institutional upbringing	—·12	—·21	—·53	·09	·18	·57
Aggressive, overactive, restless	·28	—·32	·24	·12	·25	·04
At Approved School at any time for anti-social behaviour	·08	·24	—·53	—·14	·04	·56
11–14 years of age	—·11	—·05	—·12	—·38	—·60	—·01

*Unrotated.
Note: Loadings of ·4 or over (absolute value) underlined.

factor matrix shown in Table 4. What is evident here is a behaviourally disturbed, gang member type (Factor I), a family disturbed type (Factor II) and an emotionally disturbed type, showing hostility to other family members (Factor III). Factor IV suggests the existence of a school failure group characterised by perceptual or motor disabilities. To obtain distributions of factor scores for the first three factors, separate factor analyses were made of three sets of high loading items. Table 5 indicates that none of the three distributions of factor scores was normally distributed; behavioural disturbance had a rather U-shaped distribution

TABLE 4: *Factor Loadings on First Four Principal Components* for Child Guidance Sample*

Item	Factor I	II	III	IV
Poor standard in schoolwork	·31	·02	·13	—·69
Members of anti-social gang	·45	·30	—·08	—·04
Overcrowding	·08	·66	—·01	—·34
Manifest disturbance with father or father substitute	·27	·20	·67	·24
Manifest disturbance with mother or mother substitute	·24	—·07	·66	—·16
Manifest disturbance with siblings	·09	·01	·68	·03
Perceptual and/or motor disturbance	—·23	·30	·54	—·44
Paternal anxiety less than justified	·11	·54	—·05	·03
Paternal irritation etc. greater than justified	·01	·49	·19	·37
Pronounced psychopathy (mainly paternal alcoholism) in related categories	·23	·68	—·22	·18
Disobedience	·69	—·09	·39	·02
Lying	·49	—·33	·38	—·04
Truanting or wandering from home	·60	·16	·23	·06
Discipline in home inconsistent	·55	·24	·15	·39
Institutional upbringing	·29	—·43	—·27	—·04
Aggressive, overactive, restless	—·04	—·15	·46	·13
At Approved School at any time for anti-social behaviour	·47	·06	—·32	—·21
11–14 years of age	—·04	—·04	—·10	—·39

*Varimax rotated.
Note: Loading of ·4 or over (absolute value) underlined.

while family and emotional disturbance scores were positively skewed.

If those scoring more than one standard deviation above the mean exemplify a particular type, then the sample of 107 contains 26 behaviourally disturbed cases, 21 cases from disturbed families and 25 cases of emotional disturbance. Yet this allocation of two-thirds of the sample to different types looks more useful than it really is: because of cases falling in more than one syndrome, there were only 9 pure cases of behavioural disturbance, only 12 pure cases of family disturbance and 11 pure cases of emotional disturbance. As in the case of probationers, only about one-third of cases could be allocated to independent syndromes. Unlike the case of the probationers, poverty did not characterise the majority of the syndromes established through factor analysis. Among clinic referrals the behaviourally and emotionally disturbed groups were more likely to be better-off

TABLE 5: *Factor Scores Among Child Guidance Sample*

Frequency	*Score*
(A) *Behaviourally Disturbed Syndrome*	
13	M+1·50 s — M+1·99 s
13	M+1·00 s — M+1·49 s
3	M+0·50 s — M+0·99 s
17	M — M+0·49 s
30	M—0·50 s — M—0·01 s
0	M—1·00 s — M—0·51 s
31	M—1·50 s — M—1·01 s
(B) *Disturbed Family Syndrome*	
4	M+2·00 s — M+2·49 s
7	M+1·50 s — M+1·99 s
10	M+1·00 s — M+1·49 s
5	M+0·50 s — M+0·99 s
29	M — M+0·49 s
6	M—0·50 s — M—0·01 s
46	M—1·00 s — M—0·51 s
(C) *Emotionally Disturbed Syndrome*	
4	M+2·00 s — M+2·49 s
10	M+1·50 s — M+1·99 s
11	M+1·00 s — M+1·49 s
9	M+0·50 s — M+0·99 s
5	M — M+0·49 s
22	M—0·50 s — M—0·01 s
46	M—1·00 s — M—0·51 s

Notes: "M" indicates Mean, "s", Standard Deviation. Constituent variables of each syndrome are: A—Disobedience, Lying, Truanting or Wandering, Inconsistent discipline at home; B—Overcrowding, Paternal anxiety less than justified, Paternal resentment more than justified, Pronounced psychopathy in related categories; C—Manifest disturbance in relation to father, Manifest disturbance in relation to mother. Manifest disturbance in relation to siblings, Aggressive, overactive, restless, Perceptual and/or motor disturbance. Each distribution deviated significantly from the normal distribution, $p\ (x^2) < \cdot 001$ in each case.

(p about ·06 for significance of difference in proportion poor) than the family disturbed group.

A factor analysis of probationers in respect of measures very similar to those of Table 4 reveals a quite different factor structure (Table 6). Factor I suggests an inadequate family combined with educational failure, Factor II, an inadequate father, Factor III, a child given to wandering, and Factor IV, a behaviourally disturbed child. The last factor is the only one with a fairly close resemblance to a factor of Table 4. The difference in factor structure is probably related to two

TABLE 6: *Factor Loadings on First Four Principal Components* for Probationer Sample*

Item	Factor I	II	III	IV
Score below average on English Comprehension Test	·84	—·09	·17	·07
Score below average on Arithmetic Comprehension Test	·85	—·05	·14	·06
More than half friends in trouble with law	·26	·43	—·02	·00
Overcrowding	·57	·00	·01	—·16
Manifest disturbance with father	—·16	·78	·11	·17
Manifest disturbance with siblings	·22	—·19	—·26	—·44
Paternal anxiety less than justified	·09	—·19	·29	·18
Paternal irritation etc. greater than justified	—·07	·70	·07	·16
Alcoholic problem in parent	·36	·30	—·36	—·20
Other sibling delinquent	·40	·23	·07	—·18
Disobedience	·09	·14	·01	·69
Lying	—·02	·05	·00	·79
Truanting or wandering from home	·15	·11	·92	·01
Discipline in home inconsistent	·45	·16	—·02	·15
Institutional stay for more than one month (excluding hospital stays)	·25	·46	—·10	·05

*Rotated

Note (1) Loading of ·4 or over (absolute value) underlined.
(2) Some items of Table 4 are omitted and some equivalent items are used because of different assessment systems. Items are listed in similar order to Table 4.

other differences between the clinic and probation group which should be mentioned. Fully 36 per cent of the former were overtly hostile to their mother or mother substitute whereas only 1 of 150 probationers showed such hostility. Although more than half the probationers had very little communication with their mothers, they rarely abused or threatened them. A second difference between the groups concerned the proportions with perceptual or motor disturbance. Twenty-one per cent of the clinic sample showed such disturbance compared to only 3 per cent of the probationers, indicating, possibly, a higher incidence of brain damage among the clinic sample.

One further classification of the items of Table 3 was made, this time using Tryon's modification of Holzinger and Harmon's method of cluster analysis[6]. Table 7 gives the clusters formed and the B-coefficient of each cluster, indicating

6. B. Fruchter, *Introduction to Factor Analysis*, Van Nostrand, 1954, p. 13.

the ratio of the average intercorrelation within a cluster to the average intercorrelation between variables of the cluster and other variables. It will be noted in this form of classification that each variable is placed as a unit in a cluster, whereas in factor analysis the variance of each variable is broken up between different factors.

TABLE 7: *Item Clusters for Child Guidance Sample and Their B-Coefficients*

Cluster	*B-Coefficient*
1. Manifest disturbance with father, manifest disturbance with mother, manifest disturbance with siblings, disobedience, lying, truanting or wandering, discipline in home inconsistent	3·04
2. Overcrowding, paternal anxiety less than justified and pronounced psychopathy in related categories	2·77
3. Institutional upbringing, to approved school at any time for anti-social behaviour	3·54
4. Poor standard in schoolwork, member of anti-social gang, 11–14 years*	4·57
5. Aggressive, overactive, restless, perceptual and/or motor disturbance	1·61

*11–14 years was correlated negatively with the other two items of Cluster 4.

Behavioural and emotional disturbance tend to merge (Cluster 1) whereas family disturbance remains intact as a syndrome (Cluster 2). Cluster 3 recalls the institutionalised group of Tables 2 and 3 and Cluster 4 the gang membership group of Table 3. Cluster 5 suggests a brain damaged group. All but one item—paternal resentment more than justified—was fitted into a cluster. Some 33 subjects had at least 4 characteristics of Cluster 1 and 21 had at least 2 characteristics of Cluster 2. Ten had both characteristics of Cluster 3, 15 had the first 2 characteristics of Cluster 4 and lacked the third, and 10 had both characteristics of Cluster 5. If such subjects are regarded as belonging to particular groups, some 89 cases are thus assigned to groups. However, 43 of these 89 belong in more than one group. Nineteen belong only in the first cluster-group, 12 in the second, 7 in the third, 4 in the fourth and 4 in the fifth. Although the result is better than that of factor analysis, only 43 per cent of the sample could be assigned to independent groups.

Comment

The most significant finding is the relatively small proportion which can be allocated by factor or cluster analysis to exclusive groups. This recalls the fact that Hewitt and Jenkins could place only 39 per cent of their child guidance sample in exclusive behavioural categories[7] and that a very similar result was

7. *Op. cit.* pp. 27-30.

recently obtained by Field in a test of the Hewitt-Jenkins behavioural categories among British Approved School boys.[8] Categorisation of delinquents in terms of the behavioural items commonly used seems of limited significance as a guide to treatment. The longitudinal approach, employed with the sample of probationers mentioned above, may provide more implications for treatment than cross-sectional analysis.

The fact that the clinic sample had quite a different factor structure from the probationers raises doubts about generalisations based on clinic groups. It also suggests that for proper comparison between, say, a probationer and a clinic group, only the same set of items should be used: the 6 factor solution of Table 3 suggests types similar to those found among probationers but when the latter were assessed with very similar items (Table 6), a quite different structure of types emerged. Factor-analytic results depend heavily on what is put into the factor analysis.

The distinction between emotional and behaviour disturbance in Table 4 recalls the correlation among younger probationers between serious recidivism and an impunitive or intropunitive reaction on the Rosenzweig Picture-Frustration Study. Blandness of response or a self-blaming reaction to frustration may go with a pronounced conduct problem. Thus clinic cases manifestly disturbed at home may have a better prognosis. As noted, however, what holds for one deviant group may not hold for another.

In conclusion, cluster analysis produced the best results in the sense of allocating more of the sample to exclusive groups. It suggests five groups. The main one is made up of subjects in overt conflict with people at home, particularly parents, and who are given to disobedience, lying and truanting from school or wandering from home. It is probable that inconsistency of discipline at home is a factor in such cases. This might be regarded as the archetypal child guidance group and such children presumably require fairly lengthy play therapy, psychotherapy and family casework. Family casework is even more indicated for the second group, those who come from overcrowded homes where fathers are unconcerned about the family and tend to drink heavily. This we might roughly term a "subcultural" group. Social action involving rehousing, parental education and anti-alcoholic programmes is particularly needed here. Group 3 consists of those with an institutional upbringing who have been sent back to an institution for anti-social behaviour. Here the need would seem to be for a greater use of adoption, fosterage and an improved system of institutional care. Group 4 seems another "sub-cultural" phenomenon and suggests the need for curriculum reform in schools, community facilities for youth and the use of unattached social workers. Group 5 may represent the *rôle* of brain damage but may also indicate the avoidance behaviour which Stott suggests constitutes a psychological defence against the

8. E. Field, *A Validation Study of Hewitt and Jenkins' Hypothesis,* London, Her Majesty's Stationery Office, 1967.

awareness of unpleasant facts.[9] The group indicates the importance of careful neurological and psychological testing. Taken altogether, the groups show the wide range of influences at work in the growth of delinquency and the equally wide scope for remedial action. Rather like traditional psychiatric categories, however, such groups are rarely represented in pure form. The pure "family disturbed" or "subcultural" delinquent exists more in theory than practice. A final implication for the treatment of delinquency would seem to be that preventive and remedial action need to be co-ordinated on a very wide variety of fronts.

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9. D. Stott, *Delinquency and Human Nature,* Carnegie, Dunfermline, 1950.