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The Association between Family Atmosphere and Hospital Career of Schizophrenic Patients

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Summary: The content analysis was made of special thirty minute discussions between each of 30 acute male schizophrenics and their parents to determine features of parental personality. All patients were discharged, but after 2 years 13 of them had been readmitted. Compared with those not readmitted their fathers expressed more outward-directed hostility and hostility projected on to others, and their mothers expressed more inward-directed hostility as well as guilt anxiety and shame anxiety. Both parents were emotionally more unstable during the course of the discussion. The emotional interaction between mothers and sons was of symmetrical type (whereas it was complementary between mothers and sons who had not been readmitted).

During the last two or three decades a lively debate has taken place concerning the nature of schizophrenic disorders. While schizophrenia has been regarded by some as a biologically determined disease, it has been seen by others as a psychological and communicational phenomenon whose causative factors must be found in the psycho-social environment. Recently a compromise between these two extreme positions seems to have been developing. One aspect, however, has in my opinion been given insufficient consideration in this discussion, that is that the schizophrenic disorder like any other chronic disturbance of the physical or psychological state of an individual represents a psycho-social fact with which the social environment and especially the family has to deal, and does so uninfluenced by any of the aetiological hypotheses proposed by experts.

Schizophrenic disorder has many psychological, social and economic consequences for the family, most of them negative in their effect. The members of the family are burdened with problems the extent of which can only be guessed at. Much is demanded of them in the way of adaptation and coping and their success or failure in these tasks may have great influence on the further course of the illness.

The relationship between the patient and his family is clearly of special importance in this respect. In a series of studies carried out at the Medical Research Council's Social Psychiatry Unit in London over the past 20 years a constant relationship has already been established between the outcome of schizophrenia and the emotional atmosphere in the home generated by the patient's key relative (Brown *et al*, 1962, 1972; Vaughn and Leff, 1976; Leff and Vaughn, 1980, 1981). In these studies the emotional atmosphere was assessed by means of individual interviews within about a week of the patient's admission into a psychiatric hospital. The crucial measurements were the number of critical comments made and the extent of hostility and emotional over-involvement shown by the key relative. These data were used to construct an index of Expressed Emotion. The consistent finding in all these studies was that patients returning to live with relatives with a high level of Expressed Emotion had a much greater risk of relapse than those returning to homes with low Expressed Emotion.

In our research we too have studied the relationship between the emotional atmosphere prevailing in the family and the course of the schizophrenic illness. Our methodological approach is, however, totally different from that chosen by the English research workers. While the English group investigated the emotional family climate somewhat indirectly by means of interviews, we chose to investigate it through direct observation of family interaction.

Method

At the time that the schizophrenic son was due to be discharged from hospital, we invited each family to a joint discussion about problems of daily family life. The schizophrenic son and both his parents participated in the sessions, which took place in the Hannover Medical School. The discussions were stimulated by means of Strodtbeck's (1951) revealed differences technique. Each of the three

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family members was asked to fill out a questionnaire with 40 problem situations in daily family life. For each situation two possible solutions were given, one of which had to be chosen. In a pretest these items had proved to be strongly dissonant. The family members were then brought together and asked to discuss those problems for which they had suggested different solutions and to try to arrive at a consensus. The discussion lasted 30 minutes, during which time the families were left on their own. The discussion was recorded on video- and audiotape and verbatim transcripts of the latter provide the source of data for this study. Two years later each family was contacted again. In about half of them the schizophrenic son had been readmitted, and in half not. These two groups were compared in a number of ways.

For the assessment of the emotional situation in all these families we used the Content Analysis Scales developed by Gottschalk and Gleser (1969). We consider this method especially useful for our research purposes as it allows a quantitative analysis of two emotional qualities, anxiety and hostility, which in view of the studies quoted above could be expected to be relevant to the course of the schizophrenic illness.

The theoretical approach of Gottschalk and Gleser, is an eclectic one. According to the authors their content analysis is derived from several theories, mainly from psychoanalytic theory but also from learning theory and linguistics. The scales are mainly based on the following assumptions:

- On the basis of verbal content alone, the type and magnitude of any one psychological state at any period of time are proportional to three primary factors: the frequency of occurrence of categories of thematic statements; the degree to which the verbal expression directly represents or is pertinent to the psychological activation of the specific state; the degree of personal involvement attributed by the speaker to the emotionally relevant idea, feeling, action or event.
- The degree of direct representation can be represented mathematically by a weighting factor.
- The occurrence of suppressed and repressed feelings can be inferred from the content of verbal behaviour by noting the appearance of a variety of defensive and adaptive mechanisms.
- The product of the frequency of use of relevant categories of verbal statements and the numerical weights assigned to each thematic category provides an ordinal measure of the magnitude of the psychological state.

Gottschalk and Gleser differentiate between six forms of anxiety:

- death anxiety: references to death, dying, threat of death, or anxiety about death;
- mutilation (castration) anxiety: references to injury, tissue or physical damage, or anxiety about injury or threat of such;
- separation anxiety: references to desertion, abandonment, ostracism, loss of support, falling, loss of love or love object, or threat of such;
- guilt anxiety: references to adverse criticism, abuse, condemnation, moral disapproval, guilt, or threat of such;
- shame anxiety: references to ridicule, inadequacy, shame, embarrassment, humiliation, overexposure of deficiencies or private details, or threat of such;
- diffuse or non-specific anxiety: references by word or phrase to anxiety and/or fear without distinguishing type or source of anxiety.

According to Gottschalk and Gleser the following forms of hostility can be differentiated:

- hostility directed outward overt (HDOO): references to destructive, injurious, critical thoughts and actions to others and emanating from the speaker himself;
- hostility directed outward covert (HDOC): references to destructive, injurious, critical thoughts and actions which are attributed to others as either active agents or passive recipients;
- hostility directed inward (HDI): references to self-destructive, self-critical thoughts and actions;
- ambivalent hostility (AH): references to destructive, injurious, critical thoughts and actions of others to self.

For reasons of space the technique of content analysis and the calculation of the final scores cannot be described in detail here (for this see Gottschalk *et al*, 1969; Schöfer, 1980). The total discussion time was divided into six segments of 5 minutes duration, but in fact the last segment varied in duration and was, therefore, eliminated from the analysis. For each segment, the magnitude of the various affective qualities was ascertained using the following formula:

$$\sqrt{\frac{100 \times (f \times w + 0.5)}{N}}$$

where f is the frequency per segment of any relevant type of thematic verbal reference, and w is the weight applied to such verbal statements. The varying rate of speech is corrected by adding 0.5 to the raw scores, multiplying by 100, and dividing by the number of words spoken (N). By using the square root it is aimed to reduce the skewness of the score distribution,

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making the measurement more amenable to parametric statistical treatment.

In addition to the scores attributed to the individual segments a total score for the whole discussion time has been calculated using the formula:

$$\sqrt{\frac{100\,(f_1 \times w_1 + f_2 \times w_2 + \ldots f_5 \times w_5 + 0.5)}{N}}$$

All transcripts were scored by two raters independently and blindly.

For all scales, the inter-rater reliability reached a satisfactory level: death anxiety $r = .80$, mutilation anxiety $r = .78$, separation anxiety $r = .79$, guilt anxiety $r = .85$, shame anxiety $r = .84$, diffuse anxiety $r = .85$, overt hostility directed outward $r = .80$, covert hostility directed outward $r = .80$, hostility directed inward $r = .88$, ambivalent hostility $r = .85$.

Group investigated

Taking the four psychiatric hospitals in the Hannover region (West Germany), we recorded all male patients:

(1) who were admitted for the first time with a diagnosis of schizophrenia,

(2) who lived in the city of Hannover or one of the more adjacent districts (Hannover, Burgdorf or Neustadt), and

(3) who fulfilled the other predefined selection criteria described below.

The sampling period lasted from January 1st, 1975 to June 30th, 1977. After the first year only two such index cases could be found in one of the hospitals and none at all in another one, and so we restricted the case-finding procedure to the two remaining institutions (University Medical School, Hannover, and Lower Saxony State Hospital, Wunstorf). In this way we recorded a total of 34 index patients and their families. Four families refused to take part in the family study resulting in a response rate of 88 per cent. We investigated all 30 remaining families. This number represents about 77 per cent of all families in which a son was admitted for the first time for psychiatric treatment of schizophrenia in the 2½ years of the study and who fulfilled the selection criteria. To estimate this percentage it was assumed that 95 per cent of all the inhabitants of Hannover requiring inpatient psychiatric treatment were admitted to the four institutions named above (Siede, 1973).

Selection criteria

Only patients who were given the diagnosis of schizophrenia by the admitting doctor were included. Patients with the diagnosis borderline case, schizo-affective psychoses, alcohol-induced or narcotic-induced psychoses, organic brain disorder (including epilepsy) or mental defect were excluded from the study.

The following demographical and biographical criteria had to be fulfilled: the patient should be between 15 and 30 years old and unmarried. He should have grown up with his parents and have had close contact with them until the time of the investigation. Both natural parents should still be living together as a married couple. The language of communication in the family should be German.

Diagnostic procedure

As a rule we interviewed each patient in the week following admission, using the Present State Examination of Wing *et al* (1974). The agreement between two raters gave a value for r of 0.85 for the 'section values' of the interview. Checking stability in the assessment of the interviews video-recorded at the beginning and at the end of the investigation revealed a value for r of 0.81. We only included those patients in the sample who showed at least six of the total of twelve symptoms which best discriminate schizophrenia from other psychiatric disorders. With this cut-off-point, the risk of a false positive diagnosis is 4 per cent (Carpenter *et al*, 1973).

Results

Two years after the session with the family we regularly contacted the parents. We met them either at home or at the hospital and asked them among other questions whether their son had to be re-admitted to a psychiatric hospital in the intervening time. We also checked the files of all four psychiatric hospitals in and around Hannover. Thirteen out of the 30 patients included in our series had to be re-admitted for psychiatric treatment within two years from the first admission. We were interested to find that in spite of our different operational methods, our re-admission rate for the two-year period was almost exactly the same as the relapse rate found by Leff and Vaughn (1981) for the same period (43 per cent and 44 per cent).

Comparing the psycho-pathological states found at the first admission there was little difference between the re-admitted and the non-readmitted patients (Fig 1). The re-admitted patients had shown less depression but more diffuse anxiety, retardation and residual syndromes. There was, however, no statistically significant difference in any factor between the two groups (Chi squared test, Fisher's

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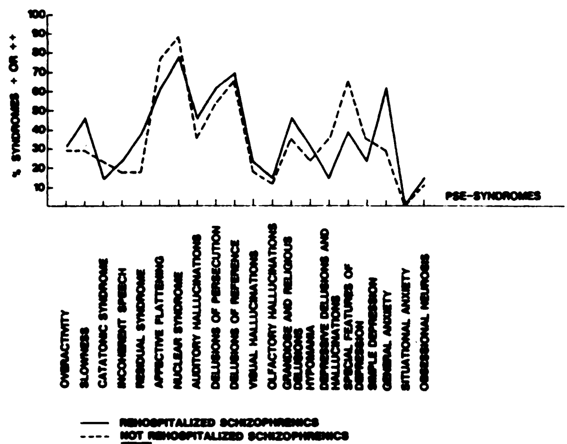

FIG 1.—Initial syndrome profiles of patients re-admitted (N = 13) and not readmitted (N = 17) up to two years later.

exact test). With regard to productive psychotic features the two profiles were practically identical.

TABLE I

Diagnoses and admission details of patients followed over two years. All figures absolute number of cases, except duration of stay in days

	Not re-admitted (n = 17)	Re-admitted within 2 years (n = 13)
Subcategories of schizophrenia		
— schizophrenia simplex (295.0)	1	1
— hebephrenic form (295.1)	5	2
— catatonic form (295.2)	–	2
— paranoid type (295.3)	9	6
— unspecified schizophrenia (295.9)	2	2
pre-morbid social adjustment		
good	6	5
poor	11	8
first admission to		
University Hospital	6	6
State Hospital	11	7
first admission (duration of stay in days)		
$\bar{x}$	126.4	99.1
s	100.3	65.5
first admission		
voluntary	11	10
compulsory	6	3
stay in a psychiatric hostel	2	3

We could establish no statistically significant differences with regard to the level of pre-morbid social adjustment (Harris, 1975) or assignment to schizophrenic subcategories (Table I). Nor did duration or place of psychiatric treatment (University Hospital or State Hospital) or type of admission (voluntary or compulsory) have a noticeable influence on the subsequent course of the illness. In both hospitals treatment had a pronounced social-psychiatric orientation, in combination with neuroleptic medication. We have, unfortunately no details of each patient's follow-up treatment but in general they received depot neuroleptics and assistance in coping with their social problems (family, profession and leisure). None of our patients received intensive psychotherapy during the two-year period nor was any of them involved in systematic family therapy.

Five patients lived for a time at least in a psychiatric hostel. Three of them had to be re-admitted. Here too there was no significant difference between them and the two who were not.

Various sociodemographic characteristics were also found to be statistically unconnected with the course of illness (Table II), as was the number of children in each family. Six re-admitted patients and ten non-readmitted patients were first children, three and four second, and four and three third or later children, so birth order was not significant.

Thus none of these psychiatric or socio-demographic variables influenced the risk of re-admission within two years.

Mean affect scores of individual family members

The results of former studies on the relationship between the emotional atmosphere in families of schizophrenics and the course of the schizophrenic illness allowed us to formulate the global hypothesis that parents of re-admitted patients would show a higher level of anxiety and hostility than the others, as assessed by means of the Gottschalk-Gleser scales.

Table III shows the comparison between the mean affect scores, each individual affect score being calculated separately for each parent using the whole discussion as source of data. Readmission mothers verbalized significantly more guilt anxiety and shame. They also showed a slight tendency towards a greater degree of diffuse anxiety. The inwardly directed hostility in the sense of marked autoaggressive and self-punitive tendencies expressed verbally was significantly more. On the other hand, there was no relationship between son's readmission and either form of outwardly directed hostility or 'ambivalent' hostility (that is hostility projected on to others). The picture presented by the fathers was in some ways diametrically opposed to that of their wives.

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TABLE II

Sociodemographic characteristics

		Of the father		Of the mother		Of the son	
		Son not re-admitted	Son re-admitted	Son not re-admitted	Son re-admitted	Not re-admitted	Re-admitted
Age (years)	x̄	56.2	53.9	53.8	49.5	22.2	21.1
	s	9.8	9.3	10.0	8.1	4.5	3.6
Education							
elementary		10	5	11	6	9	5
ordinary		4	2	5	7	3	4
advanced/University/Technical College		3	6	1	—	5	4
Occupation							
lower lower class		4	1	2	—	—	—
upper lower class		5	3	1	2	3	1
lower middle class		4	2	3	2	1	—
middle middle class		1	5	—	—	—	—
upper middle class		3	2	1	—	—	—
unemployed		—	—	10	9	13	12

The Education and Occupation data are the numbers of people in each category, for mode of occupational status rating see Kleining and Moore, 1968.

Neither χ^2-test (elementary versus higher levels of education; lower class versus middle class) nor t-tests (age) established any statistically significant differences.

Number of children in family	1	2	3	4+	Total
son readmitted	3	3	5	2	13
son not readmitted	4	6	4	3	17

TABLE III

Affect scores for mothers and fathers of the two groups of patients

	Mothers of readmitted (n = 13)		Mothers of not readmitted (n = 17)		One-tailed t-test	Fathers of readmitted (n = 13)		Fathers of not readmitted (n = 17)		One-tailed t-test
	x̄	s	x̄	s		x̄	s	x̄	s	
Death anxiety	0.43	0.09	0.45	0.17	—	0.44	0.15	0.47	0.20	—
Mutilation anxiety	0.74	0.46	0.87	0.47	—	0.60	0.44	0.73	0.45	—
Separation anxiety	0.56	0.30	0.67	0.57	—	0.55	0.33	0.57	0.25	—
Guilt anxiety	0.71	0.34	0.43	0.24	.01	0.69	0.32	0.59	0.30	—
Shame anxiety	1.04	0.56	0.52	0.49	.05	0.56	0.34	0.52	0.28	—
Diffuse anxiety	0.98	0.73	0.67	0.37	.10	0.56	0.26	0.70	0.42	—
HDOO	1.30	0.50	1.53	0.82	—	1.53	0.61	1.15	0.54	.05
HDOC	1.61	0.61	1.82	0.64	—	1.56	0.73	1.77	0.66	—
HDI	0.79	0.31	0.56	0.22	.05	0.49	0.13	0.49	0.21	—
AH	0.69	0.30	0.59	0.28	—	0.57	0.19	0.40	0.17	.05

Means calculated over the total discussion time for the various Gottschalk and Gleser assessments (see text for details).

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The groups of schizophrenic patients themselves only differed in the amount of hostility expressed. Patients who later had to be re-admitted surprisingly verbalized *less* inwardly directed and *less* ambivalent hostility, that is, their behaviour at the time of discharge from hospital was less depressed and less paranoid than that of their counterparts with a better prognosis!

Emotional lability of individual family members

In addition to the amount of verbally expressed emotion we expected the emotional consistency of the parents to play a part in the subsequent career of the schizophrenic son. As a measure of emotional lability we used the standard deviation of the means of the affect scores allocated to the five 5-minute segments of family discussion. Results are shown in Table IV. As was expected, the mothers of re-admitted patients had shown more variation in the level of total anxiety during the assessment discussion, and more inwardly directed hostility. The fathers of these patients were much more unstable as regards openly directed hostility than were the fathers of the patients who avoided readmission. Unlike their parents the schizophrenic patients themselves showed no differences in degree of emotional consistency.

Stepwise discriminant analysis between parents of re-admitted and non-readmitted patients

So far we have examined the emotional characteristics of the family members considered separately. We were, however, also interested in the relative contribution of each parent to the differences between the two groups and we therefore carried out a stepwise discriminant analysis. For this we used as independent variables the values which both parents scored on the six anxiety and the four hostility scales. Table V contains the emotional qualities and their discrimination revealed by the analysis.

We established that the emotional content of the mother was primarily responsible for the differentiation between parents of re-admitted and non-readmitted schizophrenic patients. In accordance with the results of mean-value comparisons the inwardly directed hostility, and feelings of guilt and of shame were the most important. As far as the father was concerned, the outwardly directed hostility, this time however in covert form, was paramount which also accords with the mean-value comparisons.

The discriminant analysis permitted a clear separation between re-admitted and non-readmitted patients. All parental couples in the two groups investigated were correctly allocated when re-classified according to these factors.

Process analysis

Our analysis of family interaction has been until now limited to summary or aggregate measurements, that is to measurements totalled and averaged out for the whole time of the discussion. Any conclusions as to the actual dynamics of the emotional relationship between family members during the discussion could only be drawn with considerable reservations. We shall, therefore, attempt to study more explicitly the dynamics of the emotional interplays during the course of family discussions. For this purpose we calculated the mean values for affect scores for each 5-minute segment of the discussion lasting 30 minutes in each group.

Figs 2-6 give these mean values for the four hostility scales and for the total anxiety scale against time.

TABLE IV

Comparison of standard deviations as a measure of emotional lability

	Mothers of re-admitted (n = 13)		Mothers of not re-admitted (n = 17)		One-tailed t-test	Fathers of re-admitted (n = 13)		Fathers of not re-admitted (n = 17)		One-tailed t-test
	$\bar{x}$	s	$\bar{x}$	s		$\bar{x}$	s	$\bar{x}$	s	
Anxiety total	0.46	0.19	0.31	0.13	.05	0.37	0.20	0.27	0.20	.10
HDOO	0.27	0.12	0.34	0.17	—	0.38	0.17	0.23	0.13	.01
HDOC	0.40	0.20	0.47	0.20	—	0.41	0.22	0.40	0.22	—
HDI	0.16	0.11	0.09	0.07	.05	0.07	0.05	0.07	0.07	—
AH	0.14	0.11	0.10	0.09	—	0.09	0.08	0.07	0.08	—

Gottschalk and Gleser affect scales, as before (see text).

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TABLE V

Stepwise discriminant analysis between parents of re-admitted and not re-admitted schizophrenic patients. Scores of Gottschalk-Gleser Scales of both parents are independent variables (variables with F values < 1 are eliminated from analysis). Details about the calculation of the values mentioned below can be found in Klecka (1975)

	Variable	Parent	F	Wilk's Lambda	Change of Rao's V	Significance of change of Rao's V
1	HDI	Mother	9.19	.753	9.19	.002
2	Guilt anxiety	Mother	6.21	.696	8.04	.001
3	Shame anxiety	Mother	5.67	.571	8.78	.003
4	HDOC	Father	2.24	.524	4.39	.036
5	Guilt anxiety	Father	5.24	.430	11.67	.001
6	Diffuse anxiety	Mother	2.56	.387	7.26	.007
7	HDOO	Mother	5.17	.313	17.01	.000
8	AH	Mother	5.40	.249	22.96	.000
9	Separation anxiety	Mother	1.72	.230	9.21	.002
10	Mutilation anxiety	Father	1.57	.214	9.45	.002
11	HDOC	Mother	1.87	.195	12.91	.000

Eigenvalue 4.138; Canonic correlation .90; Wilk's Lamba .194; P = .000.

Using the scale values for each 5-minute segment, we also carried out a multivariate trend analysis for repeated measurements with orthogonal polynomial transformations as given in the MANOVA procedure of the CDC-version of SPSS (Nie *et al*, 1975). This permits the calculation of the quadratic in addition to that of the linear component, and of the components of third and fourth degree. Because of difficulties in interpretation we waived the fourth degree polynomial. The values for each trend defined separately for the two family groups were checked for statistically significant differences, using univariate analysis of

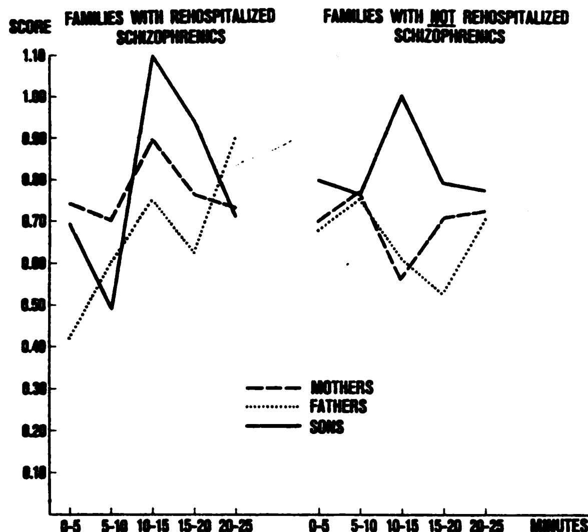

FIG 2.—Profiles of mean values for each 5-minute segment: Total anxiety.

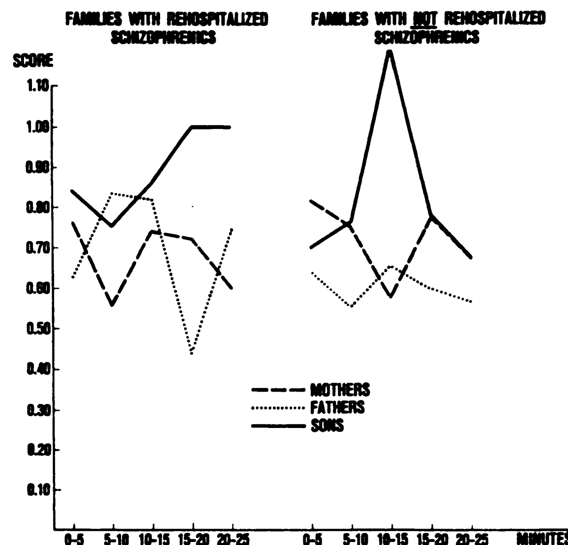

FIG 3.—Profiles of mean values for each 5-minute segment: Hostility directed outward overt (HDOO).

variance (the levels of significance are mentioned in the following paragraph).

The most important result was as follows. Between the profiles of the mothers of re-admitted sons and those of their sons in the five emotional dimensions investigated (exempting that for ambivalent hostility) there were no significant differences, but we did observe distinct differences in the emotional interaction between the mothers of the other group and their (not re-admitted) sons. The profiles of inwardly directed hostility differed with regard to the linear trend ($P < .05$), those of total anxiety and outwardly

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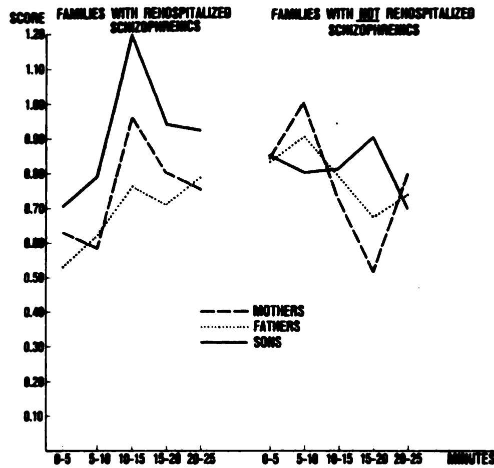

FIG 4.—Profiles of mean values for each 5-minute segment: Hostility directed outward covert (HDOC).

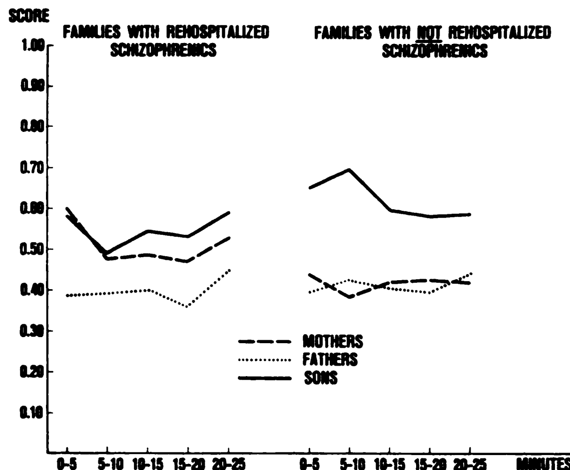

FIG 5.—Profiles of mean values for each 5-minute segment: Hostility directed inward (HDI).

directed hostility of the open type differed in its square component (P <.10 and P <.05), that of outwardly directed hostility of the covert type differed with regard to the third degree component (P <.01). As inspection of the profiles presented in Figs 3 to 6 shows, the scores of the mothers on the emotional scales always dropped to their lowest value whenever the scores for the sons reached their highest value. In other words, while the mothers of re-admitted sons and their sons showed a symmetrical relationship with regard to the emotional dimensions we investigated, the mothers of the not re-admitted sons and their sons showed a mainly complementary type of relationship.

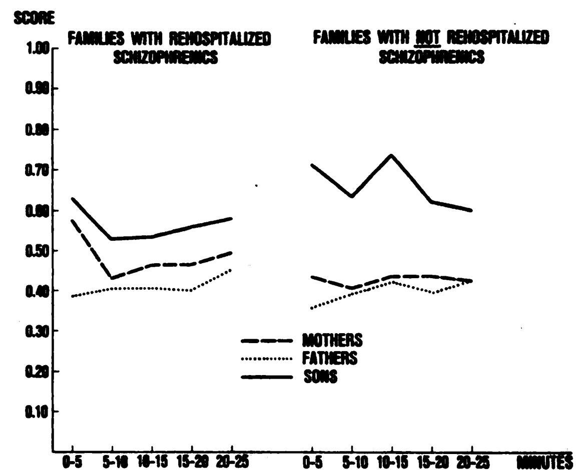

FIG 6.—Profiles of mean values for each 5-minute segment: Ambivalent hostility (AH).

The relationship between the emotional interaction between father and son and the re-admission risk was less clear. There was, however, similar to the situation between mother and son, an inverse relationship between inwardly directed and ambivalent hostility of the father and these qualities in the not re-admitted son (P for linear trend <.05). On the other hand, the trends of total anxiety and outwardly directed hostility of the open type differed significantly between fathers and re-admitted sons in their component of third degree (P <.01).

The separate comparison of the various emotional qualities in the two groups also produced some interesting results. While the total anxiety in fathers of re-admitted sons increased during the course of conversation, it tended to decrease in the fathers of non-readmitted patients (P for linear trend <.05). The outwardly directed hostility of a covert type in both parents of re-admitted patients increased during the conversation, that of the parents of the other group tended to decrease (P for linear component <.10, for the mothers additional P for the component of third degree <.01.)

Discussion

The results of the quantitative content analysis which we made of the family discussions point to a relationship between the emotional atmosphere in the family of the schizophrenic patient and his subsequent career. We can also show differences between the two parents in their emotional behaviour which seem to have a bearing on the son's psychiatric outcome by two years.

(1) With the fathers we found that openly expressed

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criticism and anger and a disparaging and rejecting attitude, with a tendency to project negative feelings on to others, seemed to have a bad influence on the son.

(2) With the mothers, on the other hand, aggressive impulses in the form of self-criticism and self-rejection similar to those seen in depression, and also feelings of guilt, feelings of inferiority associated with fear of disgrace, fear of the low opinion of others and of stigmatization by society, seemed to be bad for the son. Thinking in terms of the psychodynamic model, we can expect the guilty feelings above all of the mother to lead to an accentuation of the caring attitude which the illness of the son automatically brings out in her and she, therefore, becomes over-protective and emotionally over-involved.

These conclusions show interesting parallels to the results obtained by the research group in London under completely different circumstances.

If we consider the actual situation in the family, we should not be surprised to discover from the discriminant analysis that the emotional state of the mother has a greater influence than that of the father on the prognosis of the son. In the everyday life of a family mother and son usually have a much closer contact with one another than do father and son. The mother is much more frequently confronted with the difficult behaviour of her son, who for his part is much more subject to her emotional state. The father in a normal family usually has a somewhat less central position and the changes in the family structure brought about by the son's illness tend to emphasize this state of affairs (Angermeyer and Döhner, 1980).

The mother's influence is further elucidated by analysis of the course of the family discussion. In the readmitted group the emotional relationship between mother and son showed a symmetrical configuration, that is when the son expressed anxiety, then the mother expressed anxiety too. In the not readmitted the mother tended to behave in a complementary manner towards her son: when he was particularly anxious and aggressive in his utterances, she held herself back as if to compensate for him. Our data do not allow us to say whether this is a behaviour pattern which was present even before the psychosis became manifest or whether the mother who was complementary had learned thus during the process of adjustment to her schizophrenic son (Kuipers *et al*, 1981).

The results which we present here are, of course, only provisional until they can be reproduced in another study of families with schizophrenics. I wish nevertheless to discuss possible implications for psychiatric practice.

As I have been able through the examinations and analyses of patient's records to show (Angermeyer, 1982), the adoption of psychodynamic and family-oriented ideas about the role of the family in the pathogenesis of schizophrenia has led to a very one-sided view of the situation. In everyday practice theories usually over-simplified and presented as facts are all too often deployed against the relatives. The parents already feel guilt about having a son with schizophrenia, as they would with a son suffering from any other chronic illness, but the doctor's attitude can make them feel even more guilty. This is particularly so for the mother since her role involves carrying particular responsibility for the upbringing of the children. Let us now recall our finding that guilty feelings in the mother are apparently often closely associated with a poor prognosis for the son: psychiatrists who see only the pathogenic side of the family are in danger of fatally sabotaging their own efforts at therapy and rehabilitation.

Special groups for relatives give an extremely valuable opportunity to become more aware of the stresses and strains which relatives have to bear. We have in these groups the chance to learn more about their worries and needs as well as about their successful and unsuccessful attempts to cope with the situation. Such groups can be used to modify those emotional attitudes in the parents which have been shown to increase the risk of re-admission. Thus the group may relieve the individual's guilt and shame at stigma, reduce anger over disappointments and lessen aggression and depression by mutual sympathy and increasing understanding.

Finally we must mention the *limitations* of the methods used in this project. The use of re-admission as an indication of the course of an illness is not without difficulties. The emotional attitudes of parents towards their sick children must influence whether the child comes to re-admission or not, indeed their aggressive feelings towards him bear on their readiness to sanction his re-admission to hospital. On the other hand, re-admission to a psychiatric hospital is a special event with important consequences for the patient, and we felt justified in using it.

The families which we examined represented a group which was highly selected by type and by sex and position of the patient. Families with a sick daughter, for example, might present a completely different picture. Our results should not, therefore, be taken as valid for all schizopresent families.

Also the family interaction was observed under unnatural laboratory conditions, which do not allow us to draw direct conclusions about the pattern of interaction in the family at home (Bronfenbrenner, 1977; Moustakas *et al*, 1956; O'Rourke, 1963).

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A further problem concerns the validity of the Gottschalk-Gleser scales. A number of studies have furnished evidence of the validity of the original American version (Gottschalk and Gleser, 1969; Gottschalk *et al*, 1976) as also recently a German version (Schöfer *et al*, 1979). In a final analysis, however, the proviso in Koch's carefully formulated statement (1980) concerning the validity of these scales holds good. He pointed out that the content which can be recorded by means of the Gottschalk-Gleser scales is limited to that which corresponds to certain psychological theories about anxiety and aggression (Koch, 1980).

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