The Efficacy of Psychoanalysis for Children with Disruptive Disorders

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ABSTRACT

Objective: This paper describes a chart review of 763 cases of child psychoanalysis and psychotherapy at the Anna Freud Centre, and illustrates its usefulness by examining predictors of treatment outcome in children with disruptive disorders. **Method:** 135 children and adolescents with a principal diagnosis of disruptive disorder were individually matched with others suffering from emotional disorders. Outcome was indicated by diagnostic change and change in overall adaptation (clinically significant improvement or return to normal functioning). **Results:** Improvement rates were significantly higher for the emotional than for the disruptive group. Within the disruptive group, significant improvement was more frequent among children with oppositional defiant disorder (56%) than those with attention deficit hyperactivity disorder (36%) or conduct disorder (23%). However, 31% of the children terminated treatment within 1 year. Of those disruptive children who remained in treatment more than 1 year, 69% were no longer diagnosable on termination. Fifty-eight percent of the variance in outcome ratings could be accounted for within this group. The crucial variables in predicting attrition and symptomatic improvement were found to be quite different in the disruptive and emotional groups. **Conclusion:** Although the study has several methodological limitations, it does suggest demographic, clinical, and diagnostic characteristics of those disruptive children most likely to benefit from intensive and nonintensive psychodynamic treatment. *J. Am. Acad. Child Adolesc. Psychiatry*, 1994, 33, 1:45–55. **Key Words:** psychoanalysis, outcome research, disruptive disorders, chart review.

Many clinical reviews have addressed the efficacy of psychoanalytic treatment for diverse pathology (e.g., S. Freud, 1937; A. Freud, 1954; Schlessinger, 1984; Tyson and Sandler, 1971). A few systematic studies of analyzability have been conducted with adult patients (most recently, Kantrowitz, 1987; Wallerstein, 1989; Weber et al., 1985). These studies have been reviewed by Bachrach et al. (1991) who are somewhat pessimistic

about the extent to which therapeutic benefit can be predicted at initial consultation for cases considered suitable for analysis. Length of treatment, high pretreatment level of functioning, and patient-analyst complementarity repeatedly have emerged as predictors of good outcome.

The literature includes almost no studies of the effectiveness of insight-oriented treatments for children. Heinicke and Ramsey-Klee (1986) evaluated psychoanalytic treatment for latency children referred for learning disturbances. In separate groups, the frequency of treatment sessions was either one or four times per week. Both treatments led to gains in self-esteem, adaptation, and the capacity for relationships, but the gains were significantly greater for the more intensive treatment. Moran and his colleagues (1991) examined the efficacy of child psychoanalytic interventions with children with extremely poorly controlled diabetes. Significant improvements in blood glucose control were observed in a group of 12 patients treated in three or four times weekly psychoanalytic psychotherapy, relative to an untreated control group.

There has, however, never been a major study that has attempted to identify predictors of success in child analytic treatment. At the moment, we have no definite evidence as to which group of children, at what age, with what pathology, and in what kind of family circumstances are most suitable for child analysis. Psychoanalysis is the only psychological treatment that sets itself the ambitious goal of restructuring the components of the individual's adaptation and aims to address all aspects of the patient's personality. Perhaps because of the scope of its ambitions, attempts at operationalizing the process and outcome of child analysis are at very early stages of development. Yet knowledge gained from the work in child analysis remains the primary source of information about the nature of all types of dynamic psychotherapy with children, as well as the foundation of psychodynamic understanding of developmental processes in childhood, adolescence, and adulthood (Cohen, 1992).

Anna Freud was a pioneer in developing methods for accumulating specific information about children during the course of analysis. Because of her commitment to the scientific method and to systematic records, The Anna Freud Centre (AFC) has unique documentation on the children and adolescents who have undergone analyses during the past four decades. Over the past 2 years, we have been working on the first stages of a systematic study of child psychoanalysis. The starting point for this study is the extensive documentation on over 800 cases treated at this center. These cases represent children from the preschool through adolescent phases of development and the major domains of developmental psychopathology (emotional, disruptive, and developmental disorders).

Our database permits us to investigate a number of interesting questions. Here we report a study where the outcomes of the psychoanalysis of children with disruptive and with emotional disorders were compared. Studies of the natural history of these two groups of disorders (see Pepler and Rubin, 1991; Robins and Rutter, 1990) have shown that disruptive behavioral problems have a high level of persistence and frequently predict later antisocial tendencies (e.g., Robins, 1981; Weiss and Hechtman, 1986) even when the childhood disorder takes a less serious form (e.g., Havinghurst et al., 1962). By contrast, children with emotional disorders are almost as likely to be normally adjusted in adulthood as those without psychiatric difficulties in

childhood (Kohlberg et al., 1984; Rutter and Sandberg, 1985).

Corresponding with such differences in natural history, treatment responses of these groups also clearly differ, with long-term treatment outcomes tending to be limited for the disruptive disorder group (Dumas, 1989; Kazdin, 1987). Systematic reviews of the relative responsiveness of these groups to psychodynamic treatments have not been reported.

METHOD

Subjects

The sample of closed treatment files available for study numbers 763 cases. This represents approximately 90% of cases treated at the AFC. It excludes cases where treatment was not recommended or did not commence after a diagnostic assessment. It also excludes children of well-known individuals whose files have not been made available for study for reasons of confidentiality and a small number of cases (less than 5% of the total sample) where the documentation of the case was insufficient to enable meaningful analysis.

The sample is unique in several respects, the most important being that the majority of patients (76%) received intensive treatment (four or five times a week). Secondly, the present database includes reports of a large number of psychoanalyses and psychotherapeutic treatments performed by experienced staff as well as by trainees (nearly 40% of the cases were treated by highly experienced analysts).

The Hampstead Disruptive Disorder Sample. There were 135 children with *DSM-III-R* principal diagnosis of disruptive disorder (58% oppositional defiant disorder, 8% attention-deficit hyperactivity disorder (ADHD), 23% conduct disorder, and 10% with a V code of antisocial behavior).

Of these children 67% were offered and accepted intensive psychoanalytic treatment (four or five times weekly), the remainder were seen one or two times per week. Allocation to intensive or nonintensive treatment appeared to be made largely on pragmatic grounds (e.g., distance from the AFC) as opposed to diagnostic considerations. We checked this impression by performing a stepwise discriminant analysis (Jennrich, 1977) to distinguish between intensive and nonintensive cases. We found that only four variables were associated with allocation to intensive treatment: serious marital difficulties between the parents, the child attending the AFC's day-care program, father being relatively well-functioning (GAF score), and father having a history of anxiety symptoms. However, identification of the nonintensive cases, using this discriminant function, was poor; only a slightly above chance number (40%) of nonintensive cases could be correctly predicted on the basis of information available at assessment. We concluded that there were few systematic differences between the groups on the information recorded.

This group was individually matched with 135 children treated for emotional disorder at the clinic during this period. The match included gender, age, socioeconomic status, Children's Global Assessment Scale (CGAS) score (Shaffer et al., 1983), and number of sessions per week. The control sample was selected using a computer algorithm from 368 cases treated for emotional problems. For 95% of cases perfect matches were found. For 5% the stringency

of one of two matching criteria (socioeconomic status or CGAS score) was relaxed. The control group comprised children with a principal diagnosis of overanxious disorder or generalized anxiety disorder (28%), separation anxiety disorder (17%), dysthymia or major depressive disorder (18%), phobic or avoidant disorders (17%), sleep disorders (8%), obsessive-compulsive disorder (6%), and post-traumatic or adjustment disorders (6%). The major demographic characteristics of the two groups are shown in Table 1.

There were many differences between the groups of potential relevance to treatment outcome. The disruptive children had fewer mothers with a psychiatric history (F for linear trend = 4.15, df = 1,270, $p < .05$) and more children from foster or residential care, χ^2 = 6.35, (df = 1, N = 270), $p < .02$. They were also more likely to drop out of treatment, χ^2 = 12.14 (df = 3, N = 270), $p < .01$, and therefore their average treatment length was shorter: 2 rather than 2.5 years, F = 5.45, df = 1,266, $p < .02$.

The documentation available for coding charts was: (1) the standard diagnostic profile (A. Freud, 1962). This is based on at least two social history interviews with parents, full (verbatim) report of two interviews with the child, projective and cognitive psychological tests (at least the appropriate Wechsler Intelligence Scale for Children and the Children's or Thematic Apperception Test), and school reports; in addition, in 20% of cases, longitudinal observations also were available from the AFCs preventive services for children with high-risk backgrounds: day care program (10%), toddler group (3%), and pediatric clinic (7%) (these provided a significant proportion of the referrals). (2) Weekly process reports. (3) Reports of regular interviews with parents. (4) Lengthy formal reports of the treatment. (5) Terminal diagnostic profile.

Measures

The measures we report here fall into four categories.

Demographic measures include extensive biographical and social information on the child and on his or her family (e.g., the structure of the family unit, the family's cultural background, socioeconomic status).

Diagnostic information includes *DSM-III-R* Axis I and II psychiatric classifications for the past, the time of referral, and for termination. The reliability of these judgments was checked by three senior child psychiatrists, independent of the chart review, working in the United States and the United Kingdom. The overall reliability was consistently high, κ (Cohen, 1960) ranged between 0.8 and 0.9 for major categories. The reliability for specific diagnoses was somewhat lower but still in the satisfactory to excellent range (0.53 to 1.00). Information on presenting symptomatology was recorded retrospectively using Child Behavior Checklist (CBCL) protocols (Achenbach and Edelbrock, 1986). Coders rated all symptoms clearly identified in assessment material as somewhat or very characteristic of the child. This method of coding on CBCLs does not produce a profile comparable with that derived from parents' ratings. We assessed this by asking parents and therapists to complete the CBCL on 25 current referrals, and these ratings were contrasted with data obtained from the charts by two raters using the procedure above. The level of agreement between the two chart raters was high (mean r = .85); however, neither rater showed good agreement with the mother or therapist (mean r = .55). The reason appeared to be that the chart raters used stricter criteria, providing conservative symptom profiles relative to parents and therapists. Agreement between all raters for severe symptoms was high ($r > .8$).

Level of functioning was rated at the beginning and at the end of treatment on the CGAS instrument developed by Shaffer and colleagues (1983). This is a 100-point rating scale with anchor points at each decile. Scores higher than 70 are regarded as falling within the normal range. A score less than 30 indicates severe impairment, probably requiring hospitalization. Children rated at 55 or less would be clearly in need of some form of therapeutic help and often special educational provision. The mean CGAS score in each of the matched groups was 54. The interjudge reliability of the CGAS scores at the beginning and end of treatment and the change in CGAS ratings were computed separately on a randomly selected sample of 50 cases. Intraclass Rs computed on the basis of the ratings of four board certified child psychiatrists, were high (R = .77 for initial and end of treatment ratings, and R = .88 for change scores).

Relevant clinical information on each case includes a limited number of potentially significant etiological factors such as: losses of important figures, separations from the caregivers, significant disturbances in family relationships, medical history, and hospitalizations. We also collected data on the child's behavior and performance at school, previous treatment for psychological disturbance, and psychiatric histories and treatment of the child's parents. Information on the child's treatment covered the referral, the treatment (frequency, duration, interruption, changes of therapist, etc.) and the therapist (e.g., gender, years of experience). We also classified the reasons for termination. The data were recorded on a standardized form that included operational definitions to help raters make judgments on each item. Four raters took part in data collection; each rater's reliability was independently assessed by one of us (M.T.), to a criterion of 95% agreement. Interrater reliability coefficients were calculated for 100 of the charts, and intraclass agreements in excess of .9 were found for all clinical variables used in subsequent analysis. The agreements for psychiatric diagnoses of the parents were somewhat lower than this, and in line with those found for the children.

Outcome Measures

There is no simple way of assessing the outcome of child analysis. Psychoanalysts may feel that the assessment of effectiveness in

TABLE 1
Demographic Characteristics of Matched Groups of Disruptive and Emotionally Disordered Children in Psychoanalytic and Psychotherapeutic Treatments at the Anna Freud Centre

Variable	Disruptive	Emotional	Statistics
Sample	135	135	
Male	75%	75%	
Mean age in years			
(SD)	9.0 (3.6)	9.0 (3.7)	$F < 1.0$
(Range)	(3.2-17.4)	(2.7-18.0)	
Mean IQ (SD)	111.6 (14.4)	115.8 (17.6)	$F = 3.6$
(Range)	(69-141)	(53-163)	
Social Class I & II	56%	69%	$\chi^2 = 4.7,$ $df = 1$
Mean CGAS[a]			
(SD)	53.6 (8.1)	54.3 (7.0)	$F < 1.0$
(Range)	(32-70)	(38-70)	

[a] CGAS = Children's Global Assessment Scale.

terms of improved adaptation and reduced symptomatology falls far short of the scope of the psychoanalytic enterprise. Reliable and valid measures of "structural change" (alterations in the child's presumed psychic apparatus) are unavailable for children (but see Wallerstein, 1988). In any case, they could be applied to chart data only with great difficulty. Furthermore, the value of this database may be increased by outcome assessments not unique to it but involving indices in current use in modern psychiatric research.

Three measures of outcome are used in this report. First, diagnostic caseness at the end of treatment, defined as the presence of any diagnosable psychiatric disorder together with an adaptation level rating less than 70.

Second, the child could be considered to be still a case on the ground of maladjustment (i.e., CGAS score at termination). We used the Jacobson and Truax criteria (1991) for clinically significant improvement. These authors propose three methods for determining cutoff points, all of which in our case yielded similar results. We used the Jacobson and Truax formula for calculating the relative likelihood of being in the functional or dysfunctional population, based on the point of equal distance between the means of these two populations, weighted by the distributional properties of each population. The formula for calculating this cutoff is given by Jacobson and Truax as:

$$\text{weighted relative likelihood index} = \frac{s_0 \times M_1 + s_1 \times M_0}{s_0 + s_1}$$

where s_0 is the standard deviation (SD) of the normal group, and M_1 is the central point of the dysfunctional group. We used data from Bird et al. (1987) using the CGAS scale to estimate the SD and mean of the normal population. We used our own sample to estimate population means and SDs for a dysfunctional group. CGAS ratings at termination of fewer than 68 identified cases who still belonged to the dysfunctional group. The two distributions were clearly discrete.

Third, we categorized cases according to the presence of statistically reliable change in adaptation level, based on the method proposed by Jacobson et al. (1984), and modified by Christensen and Mendoza (1986). This uses the SD of the dysfunctional group together with interjudge reliability of the measure to indicate the size of change necessary to identify cases where change could not be owing to measurement error and chance fluctuations. The index of reliable change in CGAS ratings is given by the formula:

$$\text{reliable change} = 1.96 \times \sqrt{2} \times s \times \sqrt{(1 - r_{xx})}$$

where r_{xx} is the best estimate of interrater reliability. In our data, this gives a reliable change index of 7.5 points for the emotionally disordered group and 8.5 for the disruptive disordered children. We took a difference of 8 points or more between ratings at the beginning and end of treatment to indicate a statistically significant change.

We also used the change in CGAS ratings as a continuous variable in predictions of the extent of improvement.

Statistical Analysis

Our statistical analysis commenced with examination of the distributions of our variables; a number of variables showed highly skewed distributions requiring data transformations (Mosteller and Tukey, 1977). Missing data were estimated following the recommendations of Cohen and Cohen (1975) using regression procedures to estimate values. The two groups were contrasted using BMDP2V analysis of variance procedure or BMDP4F procedure for two-way frequency tables (Dixon, 1988). Stepwise multiple

regressions were performed using the BMDP2R procedure, using statistical significance as the criterion for entering and removing variables. Stepwise discriminant function analyses were performed using the BMDP7M procedure, with classifications based on the jackknifed classification matrix, which excludes the case being classified from the computation of the matrix.

RESULTS

Rates of Improvement

Psychoanalysis and psychotherapy were associated with a significant improvement in functioning in both groups. The number of diagnosable cases decreased from 100% at the beginning of treatment to 33% at termination in the total sample. However, this reduction includes 34% of cases from whom insufficient information was available at termination for a conclusive diagnosis. As we had CGAS scores at termination for all but 9% of cases, improvement rates based on adaptation are a better guide to changes during treatment.

There were large differences in improvement rates between the two groups according to all three criteria (Table 2). The number of children without diagnosis was significantly greater in the control group than in the disruptive group, $\chi^2 = 11.0$ ($df = 1,270$), $p < .001$. These diagnoses include disruptive cases with only nondisruptive diagnoses at termination, but excluding these cases would add only about 5% to the undiagnosed disruptive group. The difference in clinically significant improvement rates is also highly significant, $\chi^2 = 15.4$, ($df = 1,270$), $p < .001$. On our third measure of statistically reliable change, we found somewhat higher improvement rates, but again, superior treatment response for the emotional group, $\chi^2 = 20$, ($df = 1,270$), $p < .0001$.

Among the disruptive group, improvement rates were highest for children with oppositional defiant disorder (e.g., on the measure of reliable change, 56%

TABLE 2
Improvement Rates According to Different Criteria

	Disruptive (%)	Emotional (%)
No longer case on diagnostic grounds	32.6	52.6
No longer case on grounds of adaptation	32.6	56.3
Reliable improvement in adaptation	45.9	72.6

improved significantly, compared with 36% with ADHD or with a V code of antisocial behavior, and only 23% of conduct disordered children). A 30% to 40% improvement rate in the disruptive group after an average of 2 years of intensive treatment may not seem impressive, but many of these children (31%) terminated treatment within the first year, the majority within the first 6 months. Sixty-nine percent of those who remained in treatment for at least 1 year (and could thus be said to have had an analytic experience) were no longer diagnosable at termination, and 62% showed reliable improvement. These effectiveness rates refer primarily to psychoanalysis, as more than two thirds of the children who dropped out of treatment within the first year were receiving nonintensive help (one or two sessions per week). Forty percent of those in nonintensive therapy dropped out, compared with 25% in analysis, $\chi^2 = 3.46$, $(df = 1, N = 135)$, $p = .06$.

We examined the relationship between age and improvement in treatment and found that within the disruptive group there was a strong association: children younger than 9 years $(n = 70)$ showed a mean improvement in CGAS of 10.0 points, compared with 5.3 points in the group of older children and adolescents $(n = 65)$, $F = 8.47$, $df = 1,133$, $p < .005$. This is not simply owing to lower attrition in younger children as, when only cases continuing beyond 1 year are considered, a comparable difference is found between the younger and older groups, means 11.9 $(n = 51)$, and 6.6 $(n = 42)$ respectively; $F = 6.48$, $df = 1,91$, $p < .02$. The difference between intensive and nonintensive treatment was particularly marked for the younger age group. A two-way analysis of variance of mean CGAS change yielded a significant interaction term for the age by intensity comparison, $F = 4.98$, $df = 1,131$, $p < .03$. These associations with age were not found within the matched group with primarily emotional disorders.

Mean differences in CGAS ratings between the disruptive and the emotionally disordered groups markedly diminish when we focus on children who had the benefit of full psychoanalytic treatment (Figure 1). The average improvement in CGAS score was 14 in the emotional group and only 7.8 in the disruptive disordered group, $F = 26.12$, $df = 1,268$, $p < .001$. When we exclude children whose treatment ended

within the first year, the CGAS change for the disruptive group is 9.5 points $(n = 93)$, $F = 20.20$, $df = 1,197$, $p < 0.001$. If we then exclude those in nonintensive treatment, the magnitude of improvement in the disruptive group $(n = 58)$ but not in the emotional group $(n = 93)$ significantly increases, and the size of the difference between the two groups is reduced, $F = 6.70$, $df = 1,149$, $p < .02$. When we examine improvement rates for children remaining in intensive treatment for at least 3 years (a realistic basis for judging the effectiveness of full psychoanalytic treatment), then we find that the difference between disruptive $(n = 21)$ and emotionally disordered children $(n = 33)$ is no longer statistically significant. A very similar pattern emerges if we look at the percentage of children showing reliable improvement. In brief, it appears that psychoanalysis *can* bring about very substantial improvements in children with disruptive disorders, but children with such disorders are difficult to keep in analysis.

Prediction

A critical question becomes whether we can predict which child is likely to terminate treatment prematurely. Taking the entire disruptive disordered group together, we cannot. A stepwise discriminant analysis was able to identify correctly only 52% of those terminating within 1 year and 88% of those who remained in treatment, approximate $F = 10.32$, $df = 5,129$, $p < .001$. Significant predictors of remaining in treatment were: being in intensive (four or five times weekly) treatment; having a less well-functioning mother (judged on Axis V of *DSM-III-R*, the GAF score) whose major problem was not anxiety; having specific learning difficulties at school; and continued support to the parents by regular meetings with a social worker.

When we separately examined the children aged 9 years or older $(n = 65)$, among whom the majority (56%) of premature terminations occurred, prediction became more accurate. A stepwise discriminant function analysis correctly identified 74% of dropouts and 87% of those who continued among this older group, on the basis of four variables, approximate $F = 13.14$, $df = 4,57$, $p < .001$. Children who stayed in treatment were relatively likely to be younger, to have specific learning difficulties, to be in intensive treatment, and to have mothers with current psychiatric symptoms. Prediction was far less successful for children younger

than 9 years ($n = 70$): only 50% of premature termina-
tors and 90% of those who continued could be identi-
fied, approximate $F = 5.80$, $df = 4{,}63$, $p < .001$.
Intensive treatment again emerged as one of the pre-
dictive factors for remaining in treatment, along with
female gender, and having a less well-functioning
mother but not an anxious mother.

It was also difficult to predict the much smaller
number (18%) of children terminating within the first
year in the emotionally disordered group. A stepwise
discriminant analysis identified only 45% of those
dropping out, and 92% of those who remained in
therapy, approximate $F = 7.78$, $df = 7{,}127$, $p <
.001$. Again, intensive treatment predicted continuation
beyond 1 year; other predictors were having a parent
with a history of depression, intact parental relationship,
no school refusal or truancy, being younger at the
beginning of treatment, good peer relationships, and
no associated attachment or post-traumatic psychiatric
disorder.

We did much better in being able to predict the
magnitude of improvement. We examined demo-
graphic, diagnostic, and clinical predictors of improve-
ment for both groups in the study using stepwise
multiple regression procedure. Overall, treatment out-
come was slightly more predictable for children in
the emotional group than for disruptive disordered
children. Of the variance 40% was accounted for by
family, diagnostic, clinical, and treatment variables for
the disruptive disordered group, while 52% could
be accounted for in the emotional disordered group.
Variables that predicted success were, however, different
for these two clinical populations. Family and demo-
graphic factors (e.g., maternal anxiety disorder or the
child having been in foster care) were particularly
important predictors for disruptive children but ac-
counted for only 11% of the variance for the emotional
disordered group (e.g., parents not divorced or sepa-
rated). Diagnostic variables were also more important
predictors for the disruptive disordered group (e.g.,
presence of anxiety disorder, absence of other comor-
bidity, and school-reported problems); for the emo-
tional group, less severe principal diagnoses, better
initial adaptation, and the absence of enuresis were the
most important diagnostic considerations. However, in
total, diagnostic and clinical variables accounted for
less than 17% of the variance in outcome as opposed
to nearly 25% in the case of the disruptive group.

Conversely, treatment characteristics were the most
powerful set of predictors of improvement for the
emotionally disordered group (no change of therapist,
regular meetings with the parents before the child
commenced treatment, as well as length of treatment
predicted nearly 20% of the variance). Treatment vari-
ables were less important in the disruptive disorders
group (accounted for only 13.8% of variance).

We were able to account for 58% of the variance
in treatment outcome for the disruptive group treated
for longer than 1 year, $n = 93$, $R^2 = .58$, $F = 12.02$,
$df = 9{,}79$, $p < .001$) (Table 3). There were three
especially powerful predictors: the presence of an addi-
tional emotional disorder (particularly anxiety), longer
treatment, and the absence of other comorbidity (par-
ticularly specific developmental disorders). Children
were likely to do less well in analysis if they had been
in foster care, if the child's mother had a history of
anxiety disorder, if the child was underachieving at
school relative to his IQ, and if the school expressed
serious concerns about the child. Children were likely
to do better if their mother was also receiving treatment
at the Centre, and if the child had been in the Centre's
preschool day-care program.

Most of these variables also emerged as significant
predictors in a discriminant analysis attempting to
distinguish between children who showed significant
improvement if treated for at least 1 year. The outcome
in 80% of cases could be correctly predicted from a
combination of these variables.

TABLE 3

Prediction of Improvement in Adaptation, Disruptive Group,
Continued Treatment beyond 1 Year ($n = 93$)

Variable	Regression Coefficient (b)	Standardized Regression Coefficient (β)	F for Variable
Other childhood disorders	−7.47	−.35	21.37***
Length of treatment	21.52	.35	19.49***
Emotional disorder	6.49	.29	15.17***
Underachievement	−5.94	−.25	8.82**
AFC Nursery	8.25	.23	8.63**
Mother anxious	−7.14	−.20	6.29*
Foster care	−6.75	−.19	6.16*
Mother treated (AFC[a])	8.95	.18	5.43*
School/learning difficulties	−4.33	−.19	5.26*
Father anxious	5.83	.15	4.00*

[a] AFC = Anna Freud Centre.
*$p < .05$, **$p < .01$, ***$p < .001$.
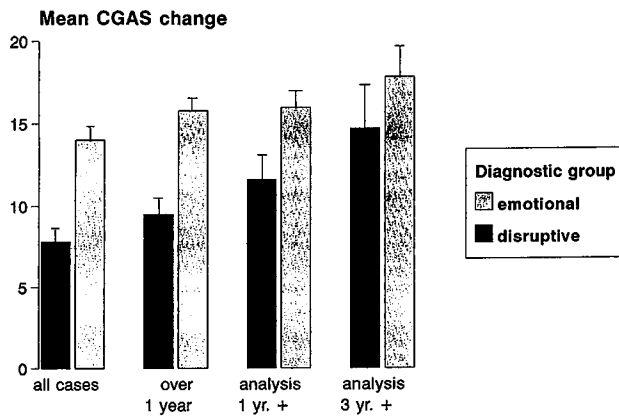
Fig. 1 Mean change in Children's Global Assessment Scale (CGAS) scores for the entire sample, children who remained in treatment more than 1 year, children in analysis more than 1 year, and children in analysis more than 3 years.

We examined whether it was possible to identify those children who were functioning at a lower adaptation level at the end of treatment (9% of those who continued beyond 1 year; 11% of the entire disruptive group). We found that only one third of these children could be predicted on the basis of the information we had collected. Variables significantly associated with worsening of adaptation were: school performance generally below the child's capacity or interfered with by anxiety symptoms, the presence of other childhood disorders with the exception of specific developmental disorders, lower socioeconomic status, and higher paternal GAF score; approximate $F = 9.35$, $df = 6,86$, $p < .001$.

DISCUSSION

The percentage of disruptive disordered children who returned to a level of functioning within the normal range on our measure (33% of all disruptive cases and 36% of those who remained in treatment for more than 1 year) is roughly comparable with those of other studies (Brandt and Zlotnick, 1988; Dumas, 1989). They fall short of recent reports of the rates of improvement for conduct disordered children who receive a combination of parent management training and problem-solving skills training (Kazdin et al., 1992). However, it should be noted that our measure aims to assess the children in all contexts, and even in the latter study, when school and home assessments were combined only 50% of children were functioning within the normal range. Nevertheless, it also should

be pointed out that the amount of therapy received was considerably greater in the present study.

The predictors of premature termination of psychoanalytic treatment were found to overlap relatively little with those reported in other studies (Kazdin, 1990). The overall attrition rate was also lower than the normal 45% to 65% (Pekarik and Stephenson, 1988). We found quite consistently that parental psychopathology (with the exception of maternal anxiety) was negatively related to attrition, and other variables found elsewhere to predict dropping out of treatment (such as comorbidity and lower IQ) appeared to make no difference within this group of disruptive children. An additional diagnosis of specific developmental disorder was, in fact, associated with remaining in therapy among children older than 9 years (those most likely to drop out). It may be that associated pathology in both parent and child are more effectively managed within a setting using a psychodynamic approach, where the intervention (for both child and parent) intentionally addresses all areas of personalities and relationships, rather than being focused primarily on the disruptive behavior.

The difference in change scores in children with or without anxiety disorder is highly significant. Where treatment continued for at least 1 year, the magnitude of change for children with both disruptive and anxiety diagnoses was 13, comparable with the average change of nearly 16 in the emotionally disordered group. Sixty-five percent of disruptive children with an additional diagnosis of anxiety showed significant improvements after at least 1 year's treatment, as compared with 50% of those without. This confirms a number of previous observations (Conte et al., 1988) that a history of anxiety is a predictor of good psychotherapy outcome. This observation is in marked contrast to our other finding that all forms of comorbidity other than anxiety reduce the likelihood of successful analytic treatment.

Similarly, specific developmental disorders generally are recognized as aggravating the difficulties of children with disruptive disorders (Rutter, 1989), and they also interfere with the extent to which the child is able to benefit from psychoanalytic treatment. We found that these children generally stayed in treatment but improved significantly less than did others (this relationship was not found in the children with primarily emotional symptoms). Thus there is a complex relationship between comorbidity, attrition, and therapeutic

improvement. In brief, anxiety symptoms in disruptive children who stay in treatment are associated with good outcome while all other forms of comorbidity predict relatively poor outcome. It is worth restating that outcome was assessed not just in terms of the disruptive behavior but of overall adaptation and the persistence of diagnosable disorders. Therefore, children with additional symptoms (such as learning disabilities, tics, encopresis) would have been rated as still impaired if these other difficulties had remained while the disruptive behavior improved.

It is reassuring that we were able to demonstrate a dose-effect relationship between treatment length and magnitude of change. This association is one of the more stable findings of the psychotherapeutic literature and has been borne out by meta-analytic investigations (Howard et al., 1986). Howard et al. demonstrated a log-linear relationship between number of sessions and treatment effects over a large number of studies, and these findings are consistent with their observations. It is important to underscore that treatment length in this study is not simply a mediator variable for time between assessment and termination, i.e., spontaneous remission by maturation. Among children in treatment for more than 1 year, those in intensive treatment showed significantly greater improvement than did those treated once or twice a week, over a comparable period. The findings are consistent with Heinicke's classical study of the frequency of child therapy sessions. Heinicke and Ramsey-Klee, 1986). Children younger than 9 years appeared to be especially likely to benefit from intensive treatment. For older children, four or five times weekly treatment did not significantly improve outcome. However, even for this group, assignment to intensive treatment significantly reduced the likelihood of early termination. The pattern of findings suggest that the efficacy of nonintensive psychodynamic treatment of conduct disorder might be maximized if treatment were initially offered relatively intensively (to prevent attrition) and reduced after 6 to 12 months, when the maximum likelihood of premature termination had passed.

The importance of the parents' adjustment also has been shown by previous studies to be a critical predictor in the natural history of disruptive disorders (Patterson et al., 1991; Richman et al., 1982). The finding that children of relatively disturbed mothers were more likely to remain in treatment may be the indirect consequence of the support the mothers themselves gained during the child's treatment, which could have motivated them to continue it. It is also possible the analytic relationship with a better-functioning adult was more valued by children whose primary caregiver showed significant psychiatric disturbance. It is very encouraging that treating the psychological problems of the mother improves the chances of the child benefiting from psychoanalytic treatment, especially in view of the finding that a mother's anxiety related difficulties can hinder it. As in our program all parents receive guidance and support concurrent to the child's treatment, the additional benefit of psychotherapeutic help for the mother is particularly significant. The importance of this component is underscored by findings that maternal stress and depression contribute to (and are exacerbated by) disruptive behavior in children (Dumas and Gibson, 1990; Patterson, 1986). As Kazdin et al. (1992) point out, treatment of parents as well as of children may both enhance the child's gains and help to maintain these in the longer term. A report by Szapocznik and his colleagues (1989) where individual and family based treatments were contrasted points to a somewhat sinister alternative account. In this study, individual treatment, however beneficial it was for the child, could in the medium term lead to a deterioration in family functioning. It is possible that the concurrent treatment of one or both parents preempts such complications.

The importance of contextual factors in psychoanalytic treatment was highlighted by the powerful association between improvement and the child's earlier attendance at the Centre's preschool day-care program. All children who received psychoanalytic help after attending this program stayed in therapy and showed clinically significant improvements. As children are selected for the program on the basis of risk factors (e.g., severe parental pathology, significant economic deprivation), we might have expected a negative association with magnitude of improvement. Our finding illustrates the general need for a multifaceted approach to intervention for children with disruptive disorder if they are to take full advantage of the therapeutic help they are offered. The experience of the day-care program may have provided these children with relationship experiences that sensitized them to the therapeutic encounter. Conversely, the object relations

experiences that precede foster care (a negative predictor) may present considerable obstacles in the path of therapeutic improvements.

We found that younger age showed a strong association with good outcome in the disruptive group, even when children terminating within 1 year were excluded. However, this relationship did not emerge in the multivariate analysis of predictors because it was mediated by other variables such as frequency of sessions, comorbidity, and attendance at the Centre's day-care program.

The differences in predictors of good outcome between the matched disruptive and emotional groups emphasize the diagnostic specificity of predictors of analyzability, and may go some way toward explaining why previous studies have failed to predict treatment success in analysis when diagnostic considerations were not part of the design. Not only are different variables relevant for particular diagnostic groups, but also probably different *classes of variables* may need to be considered when making psychoanalytic treatment recommendations for these children. This implication is at odds with the general tendency to regard psychotherapeutic considerations as independent of descriptive nosology at our Centre and, we suspect, at many traditional dynamically oriented institutions (Shapiro, 1989).

In conclusion, let us state some of the limitations of the investigation. The long-term goal of this program of research is to identify groups of children for whom dynamically oriented therapy may be effective. This retrospective investigation obviously did not allow random assignment of children to treatment or control groups. Therefore we cannot conclusively show child analysis to be effective, let alone cost effective, relative to other modes of treatment, or to no treatment. Our grounds for comparison are studies of the natural history of the disorders under scrutiny. The work of other centers, such as the Yale Child Conduct Clinic, has suggested that disruptive children show little or no change during an attention placebo treatment (Kazdin et al., 1992). However, we cannot rule out the possibility of improvements due to spontaneous remission because our recruitment criteria were different.

An additional limitation of the study is its restriction to chart-based information. The validity of archival records is always open to doubt; we cannot be confident that all important aspects of cases were noted and recorded, or that changing scientific interests have not influenced techniques of assessment to a point where phenomena are no longer perceived in comparable ways. An advantage of the AFC data set is that, for historical reasons, both clinical recording and technical approach were relatively consistent, explicit, and standardized. This almost unique psychoanalytic culture may, however, reduce the generalizability of our findings in other ways. British and North American cultures during the past decade have defined a new attitude to psychoanalysis, particularly the psychoanalysis of children, that leads to significant changes in referral patterns. Increasingly, the AFC sees very seriously disturbed children who have failed to respond to alternative, less-intensive, and more cost-effective treatment approaches. Thus while the treatment of the present sample was relatively protected from secular trends and other cultural changes, it is unlikely that a study of the AFCs clinical work over the next 20 years would yield a simple replication of these findings.

Another important limitation is that it was only possible to take measures of improvement at the beginning and end of therapy, rather than at regular intervals throughout the course of the treatment. This means that improvement may be confounded by length of treatment, particularly for disorders which have a high rate of spontaneous remission. Our finding of the relationship of outcome to the amount of therapy received, however, appears to be independent of the simple passage of time.

The unrepresentative sample of subjects relative to other clinics, both in the United Kingdom and in the United States, presents an obstacle to generalizing from this study. Although our cases were higher in socioeconomic status and intelligence than are most similar groups, many other studies of disruptive disordered children have also used atypical samples. In contrast to many studies, the children we studied had clear diagnoses and the study was clinic-based, as opposed to using convenience samples (e.g., recruiting from schools).

Early attrition emerged as the main obstacle to successful psychoanalytic treatment. Parental failure to comply with treatment recommendations has also been found to be a major problem in the implementation of behavioral and cognitive-behavioral program (Kazdin, 1985). This underlines the importance of reporting success rates on the basis of all cases offered treatment,

rather than excluding dropouts, as numerous early behavioral studies did. In our case, starting treatment on a four or five times weekly basis significantly reduced premature termination. It should be noted that beyond the possible value of intensive treatment in reducing the risk of attrition, the willingness to enter such an intensive program indicates high parental motivation. It is possible that certain children were offered intensive treatment because of other factors already suggesting a better prognosis. However, as stated earlier, this possibility was not supported by our attempt to distinguish the two groups using many criteria often associated with treatment outcome.

Attrition presents an additional problem for generalizability. Predictors of outcome identified by the present project can only be considered to apply to those individuals who agree to remain in psychodynamic treatment over a relatively prolonged period.

Nevertheless, the data set yielded powerful and consistent predictions concerning which disruptive disordered child is likely to benefit most from analytic treatment. It appears that treatment is more effective when it lasts longer, is more intensive, with the more anxious subgroup of disruptive children who are without significant learning difficulties and additional diagnoses, whose mother is not notably anxious or is taken into treatment, and who have previous or concurrent experiences likely to establish good object relationships.

The strength of the prediction (58% of the variance in therapeutic outcome accounted for) is considerably better than that reported in most psychotherapy studies with both children and adults, where variables obtained before the start of treatment rarely account for more than 10% to 20% of the variance in outcome (Casey and Berman, 1985; Weisz et al., 1987, 1992). Excluding treatment variables, we were able to specify 40% of this variability, applying predictors similar to those used in other studies.

Several factors may account for this. The most important is the length and relative homogeneity of the treatment offered. Most psychotherapy studies examine brief interventions and therefore identify individuals who benefit from treatment in the short term (Shirk and Russell, 1992). There may have been other children in those samples, with similar demographic and clinical features, who would have benefited from the treatment had it continued. An additional advantage, in terms of prediction, was the heterogeneity of the Hampstead sample, as it was a clinical population rather than one specially drawn up for experimental purposes. It is a less likely, but nevertheless possible, alternative that the superior quality of our raw data and operationalizations gave us a firmer basis from which to predict. One distinction between the present study and others is that the AFC database (for all its limitations) is based on the sophisticated and systematic observations of skilled analysts. In the past, the generally poor reliability of clinical judgments has gradually shifted clinical data collection away from interview data toward far more reliable psychometric instruments. More recently, researchers have become increasingly aware of the limitations, alongside the advantages, of this approach. We feel that the predictive power of this clinically based data set, subjected to rigorous operationalization, may support a paradigmatic shift in research on psychosocial interventions, from a uniquely psychometric tradition to one where such information is supplemented with data collected using traditional clinical skills.

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