

Characteristics of Families Completing and Prematurely Discontinuing a Behavioral Parent-Training Program¹

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The parents of 83 hyperactive children were offered a social learning based parent-training program. Only 49% of the families who agreed to treatment actually finished the 4-month program. Analyses revealed that those children whose families dropped out were younger and had lower IQs. It was also clear that parents who dropped out were significantly younger and had lower IQs. There were also trends suggesting the dropout families had lower mean family incomes and the mothers in this group had fewer years of education. Finally, several significant differences in personality profiles, as evidenced by the MMPI, were found between the parents that completed therapy and those that dropped out.

Social learning theorists have long stressed the importance of changing the social environment to change behavior (Ullmann & Krasner, 1969), and several programs for teaching the parents to become therapists or agents of change for their children have been developed (Bernal, 1972; Patterson, Cobb, & Ray, 1973). The effectiveness of this type of therapeutic approach has been established by investigations carried out with the parents of aggressive, antisocial, and delinquent children (O'Dell, 1974; Reisinger, Ora, & Frangia, 1976) as well as hyperactive children (Backman & Firestone, 1979; Brundage-Aguar, Forehand, & Ciminero, 1977). However,

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it is quite clear that child management training is quite demanding of parents, and many either cannot or will not comply with the outlined strategies. Eyberg and Johnson (1974) indicate that 22% of their conduct disorder population rejected treatment outright, while 26% dropped out during an assessment period and 3% during treatment. This left only 35% of the referred population available for evaluation at the end of treatment. Patterson (1974) also reports high attrition rates, with 8 of 35 referrals rejecting the offer of treatment, while 5 of the remaining 27 dropped out during a base-line assessment, with another 6 terminating before the therapists considered it advisable. This constitutes more than a 50% attrition rate with conduct disorder children. Firestone, Kelly, and Fike (1980) also report a 50% dropout rate with the parents of conduct disorder children treated primarily in groups. On the other hand, some programs using similar treatment procedures report virtually no defectors (Kent & O'Leary, 1976; Martin, 1977; Oltmanns, Broderick, & O'Leary, 1977). The parent-training literature with hyperactive children is rather small and contains only three group studies. O'Leary and Pelham (1978) and O'Leary, Pelham, Rosenbaum, and Price (1976) report less than a 10% dropout rate. Gittelman-Klein, Klein, Abikoff, Katz, Gloisten, and Kates (1976) also report virtually no rejectors or premature terminators in their 8-week parent-training program; a description stating how children were solicited for this experiment is not provided.

Undoubtedly, differences in patient populations, such as children who are primarily hyperactive as compared with antisocial children, or two-parent families (Gittelman-Klein et al., 1976) as compared with single-parent families (Oltmanns et al., 1977; Patterson, 1974), contribute to the varying dropout rates. Another factor that might lead to dissimilarities is the method of recruitment used. For example, Martin (1977) and Kent and O'Leary (1976) solicited subjects through talks with school boards, while O'Leary and Pelham (1978) included news media advertisements, and Firestone et al. (1980) engaged only children referred by physicians through regular procedures to an outpatient psychology clinic. Finally assessment requirements, such as the necessity of home observations or duration of testing, may also lead to variable dropout rates.

A condition rarely described in the aforementioned research concerns the fees involved in the investigations. The families in the O'Leary and Pelham (1978) experiment paid up to an unreported \$40 per session (Dr. Susan O'Leary, personal communication, 1977), while Firestone et al. (1980) offered free treatment, and Martin (1977) paid subjects \$20 for completing the required procedures.

Inasmuch as treatment rejection and premature termination appear to be a persistent problem in all forms of therapy, including parent training,

these disengagements require exploration for several reasons. It is expected that those disengaging from therapy receive minimal if any benefits, while they are costly in terms of therapeutic resources. In addition, some families who may be more likely to benefit from intervention are placed on long waiting lists or denied treatment altogether. The examination of factors underlying early termination may assist in the development of better services (Sue, McKinney, & Allen, 1976).

The present study reports on a variety of factors associated with completing or prematurely discontinuing a behavioral parent training program with the families of hyperactive children seen in an outpatient psychology clinic in a pediatric hospital. The data were collected at the end of the third year of a 5-year study comparing the relative effectiveness of parent training, parent training plus methylphenidate (Ritalin), and methylphenidate alone, on the development of hyperactive children. The major focus throughout this research was the utilization of personnel and behavioral procedures readily available in outpatient clinics with a population that is representative of hyperactive children usually referred to mental health centers. This report compares the children and families that completed 4 months of the program with those that disengaged prematurely.

METHOD

Subjects

Children between 5 and 9 years of age referred to the Psychology Department of the Children's Hospital of Eastern Ontario were participants in the investigation. The Hospital is the pediatric center of the region, with a catchment of 600,000 children. The children had as their prime difficulties, overactivity, short attention span, impulsivity, inability to delay gratification and aggressiveness, tantrums or oppositional behavior (attention-deficit disorder with hyperactivity, DSM-III). They were required to have a score of 15 or higher on the Hyperactivity Index (HI) of Conners' (1969) behavior rating scale for teachers (TRS; Goyette, Conners, & Ulrich, 1978). Peabody Picture Vocabulary IQs were at least 80, and the children were living at home with at least one parent. The hyperactivity had to be in evidence prior to 2½ years of age and present at home and at school. Excluded from the sample were children who showed definite signs of brain damage, epilepsy, or psychosis. Families in which either parent was psychotic or in which the marital discord was so great that the parents openly admitted that intervention would be impossible, were excluded.

Procedure

All children were referred by physicians. Parents and children were then interviewed by a psychologist (P.F.), and each parent was asked independently to fill out Conners' rating scale for parents (Conners, 1970; PRS), a marital satisfaction questionnaire (Locke & Wallace, 1959), and demographic data were collected. Next, the identified patient's teacher was contacted and asked to complete the TRS. If the family met the criteria for inclusion, a full description of the parent-training project was given in addition to information on methylphenidate. The parents were informed that if they agreed to participate, they would be offered parent training, while their child would be randomly assigned to one of two groups. In one group, the child would be placed on placebo, in another on methylphenidate and then without anyone knowing, be switched to placebo (after the posttests, approximately 3 months after treatment started; see Firestone, Kelly, Goodman, & Davey, 1981, for a full description). Parents were told they would be given full information concerning their child's progress immediately after the posttests. In addition, they were informed that no child would be sacrificed, so to speak, for the sake of the experimental design, that is, if a child was showing adverse medication effects, the code would be broken and appropriate step taken to ensure adequate treatment. Parents were also told that if they did not want to participate in the project, parent training of the same quality would be available to them from another therapist. If parents agreed to participate, their MMPI and IQ data were collected, and arrangements for testing the hyperactive child were made. If they rejected treatment, the reasons for this were explored, and they were also asked to complete the above measures and tests.

Originally, three groups were to be compared: (a) families that rejected the offer of treatment ($n = 20$); (b) families that agreed to participate but terminated prior to the last session ($n = 22$); (c) families that completed all requirements ($n = 40$). However, due to the large amount of data missing on parents that rejected treatment, this group was not included in the statistical analysis.

Intervention. After the screening and testing procedures, which took approximately 3 hours for each parent and 2 hours for the child over a 1-week period, were completed, the first requirement was that parents understand the basic social-learning framework upon which the intervention procedures were based. This was ensured by requiring that parents read a book on child management (Patterson, 1971). Contingent upon their demonstrating to the therapists, through interviews, an adequate understanding of the principles, the staff initiated the second phase of training. At this time, parents in individual couple sessions were taught to pinpoint behavior and collect data on the target behaviors that required

change (three sessions over 5 weeks). Once sufficient data were collected, they joined a parents' group (generally four sets of parents). Medication was distributed at the end of the couple sessions and prior to the parents' group meetings. In the group sessions, parents learned specific behavior management techniques and behavior change programs through discussion. They were also required to present base-line and treatment information. The groups met for six sessions over approximately 8 weeks. During the third session of the groups, parents were instructed on how best to deal with school personnel; home-school contracting was described, and parents were encouraged to set up such contracts with teachers. One consultation session with the child's teacher was held at the initiation of treatment and one after home contracting was established. Approximately 80% of all patients were treated by a PhD level psychologist, with an MA psychology trainee as cotherapist. The remaining patients were seen by MA cotherapist teams, each member of which had previously been a cotherapist in this parent-training program. All intervention was supervised by the senior author.

Given the nature of the medical health plan in Ontario, Canada, virtually all health services are free, and patients are at liberty to seek aid at any health center they choose without repercussions. Therefore, no fees or monetary deposits were in effect in the present study.

Rating Scales and Tests

Conners' Rating Scales. Conners (1969) developed a widely used rating scale for teachers. The TRS, a scale of 39 items, had been factor analyzed, with five factors being found. Only the HI (Goyette et al., 1978) was analyzed in this study, the score being based on the total score within the factor (a 4-point scale, 0-3, was used). This factor has been utilized extensively to assess the effectiveness of psychotropic medication with hyperactive children and has been repeatedly shown to be sensitive to drug effects (Firestone, Davey, Goodman, & Peters, 1978; Sprague, Christensen, & Werry, 1974).

Conners (1970) also developed a rating scale for parents that discriminates between hyperactive, neurotic, and normal control children (PRS). This 93-item scale has been factor analyzed, with eight factors being identified, but only the HI was used in the present study; it was scored the same way as the TRS.

Assessment of Emotional Adjustment. Weiss, Kruger, Danielson, and Elman (1975) developed a scale to assess the emotional adjustment of hyperactive children in a long-term follow-up of children on methylphenidate or chlorpromazine. This is a 3-point scale based upon an interview with the parents by a senior psychologist (1, normal; 2, slightly dis-

turbed; 3, severely disturbed). This score is based on a total of seven factors: peer relations, mood, sexual adjustment, relationship with adults, adjustment to authority, number of nervous symptoms, and rate of delinquency.

Locke-Wallace Marital Adjustment Test. Locke and Wallace (1959) devised a questionnaire to measure marital adjustment which reliably discriminated between good and poor marriages. The mean adjustment score for the well adjusted group was 135.9, and for the maladjusted group, 71.1. Only 17% of the maladjusted group received scores of 100 or higher. This scale has been used extensively in research (Johnson & Lobitz, 1974; Margolin, 1978; Oltmanns et al., 1977).

Minnesota Multiphasic Personality Inventory. The MMPI is the most widely used objective test of personality (Butcher & Tellegen, 1978). It allows for a symptomatic self-assessment covering a wide range of complaints and fears, and in addition taps a number of areas of distress and allows for an actuarial classification of individuals.

Shipley Institute of Living Scale. The Shipley Institute of Living Scale was introduced as a measure of intellectual impairment and deterioration (Shipley, 1940a; 1940b) but is now used principally as a brief scale of current intellectual functioning. It consists of a vocabulary test and an abstract reasoning test and is administered in 20 minutes. The scale has been found to correlate highly with other tests of intellectual functioning.

RESULTS

A total of 85 families met the inclusion criteria and were offered treatment. Of these, three declined participation because of the possibility that their children might receive medication. These families were not included in the analyses. Twenty other families refused treatment. The majority of these parents claimed that they did not have time for the sessions, while a smaller number indicated that they could deal with their child alone. All other families agreed to participate fully in the treatment program. Nevertheless, 6 dropped out during or just after the pretesting, and 16 families discontinued within the first three sessions. No families ceased attending once group meeting commenced. In all, 40 families or 49% of patients for whom parent training was agreeable actually completed the training sessions.

The characteristics of the children are presented in Table I. Analyses of variance revealed that there were significant differences between the groups in age and Peabody Picture Vocabulary IQs. Post-hoc analyses (Scheffé's procedure) indicated that the children in the dropout group were significantly younger than the children in the other groups ($p < .05$), which

Table 1. Characteristics of the Children

	Rejectors		Dropouts		Completed		F	df	P <
	M ± SD	n	M ± SD	n	M ± SD	n			
Age	7.40 ± 1.37	20	6.23 ± 1.38	22	7.54 ± 1.69	40	5.65	79	.01
IQ	106.33 ± 12.67	12	105.14 ± 16.24	21	116.56 ± 16.04	39	4.45	69	.02
Mothers' HI	19.23 ± 5.57	13	19.19 ± 6.65	21	20.63 ± 4.49	40	.59	71	—
Teachers' HI	1.89 ± .54	11	1.80 ± .51	17	1.80 ± .35	40	.201	65	—
Emotional adjustment	12.67 ± 3.5	6	12.25 ± 2.77	12	12.63 ± 3.07	32	.07	47	—

Table II. Number of Children in the Reject, Dropout, and Completed Groups*

	Rejects	Dropouts	Completed
Males	17	14	38
Females	3	8	2

* $\chi^2(2) = 10.48, p < .005$.

did not differ from each other. In addition, the children completing therapy had significantly higher IQs than the rejectors and dropouts, who did not differ from each other ($p < .01$).

Since there was a significant correlation between mothers' and fathers' HI scores ($r = .45, p < .001$), only mothers' scores are reported. It is of interest, however, to note that fathers rated their children less hyperactive than mothers (means of 17.2 and 19.9, respectively, $t(50) = 3.49, p < .001$). There were no differences between the groups on the HI as rated by mothers and teachers or on emotional adjustment as rated by the independent clinician.

A significant chi square revealed a different sex distribution within the three groups. Further analysis indicated that female children's families were more likely to drop out of treatment than were those of male children, as shown in Table II, $\chi^2(1) = 8.13, p < .004$. The other comparisons did not attain significance.

Since the literature concerning dropouts in adult psychotherapy indicates that premature terminators tend to have lower IQs and fewer completed years of schooling (Bergin & Lambert, 1978), one-tailed t tests were conducted on these data. As Table III demonstrates, the families com-

Table III. Characteristics of the Families

	Dropouts		Completed		t	df	$p <$
	$M \pm SD$	n	$M \pm SD$	n			
Mothers age	31.00 \pm 4.56	22	35.23 \pm 6.36	39	2.96	54	.01*
IQ	104.68 \pm 10.56	19	109.26 \pm 8.93	39	1.62	30	.05
Education	11.62 \pm 2.46	21	12.67 \pm 2.41	39	1.58	40	.06
Marital satisfaction	104.38 \pm 27.14	16	107.76 \pm 26.03	38	.42	27	—*
Fathers' age	34.00 \pm 5.97	20	38.21 \pm 7.67	39	2.52	53	.01*
IQ	104.80 \pm 12.24	15	110.63 \pm 10.47	38	1.63	23	.05
Education	12.45 \pm 3.7	20	13.42 \pm 2.73	38	1.04	30	—
Marital satisfaction	104.27 \pm 27.67	15	107.58 \pm 29.89	38	.38	27	—*
Income	23,330 \pm 9,635	21	26,403 \pm 11,424	39	1.46	47	.08*
No. of sibs	1.24 \pm 1.85	22	1.13 \pm 1.04	40	.37	55	—*

*Two-tailed t tests.

Table IV. Minnesota Multiphasic Personality Inventory *t* Scores for the Parents

Parent	Dropouts	Completed	<i>t</i>	<i>p</i> <
Mothers^a				
L	49.95 ± 5.44	50.32 ± 6.29	.23	—
F	57.20 ± 10.13	52.53 ± 6.25	2.21	.02
K	48.70 ± 7.64	53.88 ± 9.13	2.18	.02
Hs	56.55 ± 12.40	51.32 ± 8.39	1.93	.03
D	62.6 ± 15.03	56.324 ± 10.91	1.805	.07
Hy	59.5 ± 13.84	56.40 ± 8.52	1.07	—
Pd	60.90 ± 14.00	54.275 ± 12.57	1.85	.07
Mf	52.25 ± 7.55	47.125 ± 7.79	2.42	.01
Pa	58.85 ± 13.24	52.400 ± 10.66	2.03	.05
Pt	58.15 ± 12.06	53.675 ± 9.67	1.55	—
Sc	57.8 ± 12.59	50.65 ± 8.28	2.64	.01
Ma	55.8 ± 9.55	51.85 ± 9.70	1.49	—
Si	57.65 ± 10.54	54.825 ± 9.49	1.05	—
Fathers^a				
L	46.133 ± 6.71	51.270 ± 6.62	2.52	.01
F	56.667 ± 10.45	52.135 ± 5.16	2.10	.04
K	51.133 ± 8.49	56.432 ± 9.20	1.92	.06
Hs	51.0 ± 7.67	52.162 ± 7.41	.51	—
D	54.667 ± 9.29	55.919 ± 10.04	.42	—
Hy	55.60 ± 9.06	54.662 ± 9.59	.37	—
Pd	58.0 ± 13.85	54.0 ± 9.58	1.19	—
Mf	57.4 ± 7.24	57.27 ± 8.31	.05	—
Pa	51.2 ± 10.01	51.919 ± 6.37	.31	—
Pt	49.933 ± 7.29	52.324 ± 8.68	.94	—
Sc	50.333 ± 10.03	50.919 ± 8.48	.14	—
Ma	58.60 ± 12.95	53.054 ± 10.34	1.63	—
Si	49.078 ± 7.75	52.487 ± 9.89	1.20	—

^aDropouts *n* = 20; completed *n* = 40.

^bDropouts *n* = 15; completed *n* = 37.

pleting therapy differed considerably from those who dropped out. Although there were no differences in number of siblings or marital satisfaction, it was clear that the parents completing therapy were older and had higher IQs. There was also a trend suggesting that within the completing group, mothers had more education, and there was higher family income.

Table IV lists the MMPI scores of the parents within the two groups. Since no predictions could be made for parents on these scores, two-tailed *t* tests were utilized.

DISCUSSION

The primary purpose of this investigation was to examine the characteristics of families who complete or prematurely terminate be-

havioral parent training programs. Conceivably, the findings are limited by the uniqueness of the population studied (e.g., hyperactive children and their parents). Furthermore, the possibility of children being placed on medication might have altered the composition of the groups and may have acted as a confounding variable. Some parents may have claimed a lack of time or a desire to solve their own problems when the true reason for not participating fully was the "threat" of medication. It is unlikely, however, that the actual introduction of medication with its often dramatic effects, caused parents to discontinue, since the medication was provided for the children only at the end of the individual sessions, and no parents withdrew during the group sessions. Caution must be exercised nevertheless in interpreting the data in some instances due to small sample size.

The data are quite clear concerning several points. The children and parents who remained in treatment were older and had attained higher IQs than the dropouts. Similar findings are evident in the adult psychotherapy literature (Bergin & Lambert, 1978). This particular intervention program, which required parents to read a book thoroughly, discuss the concepts contained in it, and then get involved in a rather structured learning situation, may have been particularly foreign to or difficult for those with poorer learning skills. Whether the age differences reflect a greater maturity towards problem-solving or intolerance for disruptive behavior is unclear. Given the histories of the "older" group, one might speculate that they had tried virtually "everything else" for their children with little success. Thus they were more desperate for help. The younger group, on the other hand, might not yet have experienced such failures.

Families of female children dropped out of therapy more frequently than families of male children. An analysis of the mothers' and the teachers' HIs for boys and girls in the three groups did not reveal significant differences, suggesting that the differential dropout by sex was not a function of boys being seen as more problematic. Possibly this is evidence of a sex bias, leading parents to worry more about behavior problems in boys as compared to girls.

The fact that marital satisfaction did not distinguish between the two groups was not unexpected. It appears that those parents experiencing the most serious marital discord rejected therapy altogether. For parents in this group, who agreed to fill out the forms, the mean marital satisfaction score for mothers was 81.80 ($n = 9$) and for fathers 99.80 ($n = 8$). In addition, Oltmanns et al. (1977) in their parent-training study found that pretreatment level of marital discord was not related to the degree of positive change observed at therapy termination.

Family income tended to be higher in the families that completed treatment. This has often been found in the adult psychotherapy literature (Bergin & Lambert, 1978). Further, Rinn, Vernon, and Wise (1975) report

that low-income families (less than \$5,000 annually) attended fewer parent-training sessions than middle-income groups (\$5,000 to \$20,000 annually). The mean income of families in the present study was considerably higher, making comparisons difficult.

A surprising finding, which might have been due to small sample size, was that single parents (mothers) were not more likely to drop out of treatment than two-parent families. There were three single parents who dropped out, while three remained in treatment. The equivalent numbers for two-parent families were 19 and 37. Compared to two-parent families, single parents appeared to have lower incomes (\$24,000 and \$17,400, respectively). This often made it difficult for them to attend sessions, afford baby-sitters, and provide certain material and social rewards for their children and themselves. In addition, single parents often lack the social and emotional support systems available in two-parent families. Oltmanns et al. (1977) also report a higher but not significant difference in dropout rates, with single as compared to two-parent families (40% vs. 14%).

The personality characteristics of the parents in the two groups, as measured by the MMPI, are rather revealing. Mothers completing therapy differed from dropouts on two of the three validity scales and 4 of the 10 clinical scales. Interpretation of the MMPI profiles suggests that mothers completing therapy are more consistent and somewhat more defensive than dropout mothers. Mothers terminating prematurely seemed less traditional in their female roles, showed more idiosyncratic thoughts, had more physical complaints, and were more suspicious. There was also a tendency towards more depression and acting-out in these women. Fathers in the two groups did not differ as much as mothers. Those completing therapy appeared to be somewhat more rigid and defensive but otherwise indistinguishable from the dropouts.

The wholesale administration of parent-training programs without taking parents' problems or unique personality styles into consideration may invite high attrition rates. It is not improbable that in certain situations parents may have to resolve their own crises before embarking on a program to enhance parenting skills. Or, at the very least, some parents may require adjunct treatment.

Loney and Halmi (1980) cogently argue that research that does not take exclusion variables into account does not provide much information with which to specify predictors of treatment response. Neither does this research allow for a matching of patient variables with the various treatment modalities that are available. In fact, it is suggested that treatment evaluations that do not take into account such variables produce inflated results, favoring the interventions being considered, since a certain portion of the population that might not respond to or comply with these interventions is not even considered.

The assessment of demographic, economic, intellectual, and personality factors seems essential for maximum therapeutic impact. Each of these dimensions may dictate tailoring the therapeutic regimen to suit patient needs. These changes are limited only by the ingenuity of the therapists. For example, Eyberg and Johnson (1974) and Rinn et al. (1975) found that partial reimbursement of fees contingent upon successful completion of tasks resulted in decreased dropout rates, higher attendance, and more completed assignments. In situations where fees are not possible such as with medicare or third-party payments, redeemable deposits, monetary or otherwise, might serve the same purpose.

Finally, the interest concerning premature therapeutic termination is predicated on the assumption that staying in treatment is related to more desirable results. Unfortunately, there is a paucity of data concerning the long-term outcome of treated families and an even greater dearth of information on families that drop out of treatment. Only when such information is available will it be known whether the concern with completion of treatment is justified.

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