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Family Experience of Barriers to Treatment and Premature Termination From Child Therapy

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Barriers to participation in treatment were proposed as a basis for dropping out of treatment among children seen in outpatient therapy. Families (N = 242) of children referred for treatment for oppositional, aggressive, and antisocial behavior participated. The main findings were that (a) barriers to participation in treatment contributed significantly to dropping out of therapy; (b) perceived barriers to treatment were not explained by family, parent, and child characteristics that also predicted dropping out; and (c) among families at high risk for dropping out of treatment, the perception of few barriers attenuated risk. Parent perceptions of the difficulties of participating in treatment (including stressors and obstacles associated with treatment, perceptions that treatment is not very relevant, and a poor relationship with the therapist) influenced who dropped out.

Dropping out of mental health services is a significant problem for children, adolescents, and their families. Among families who begin treatment, 40%–60% terminate prematurely (Kazdin, 1996a; Wierzbicki & Pekarik, 1993). High rates of dropping out of treatment have important implications for research, clinical practice, and service delivery. In relation to research, loss of cases over the course of treatment can threaten all facets of experimental validity by altering the composition of groups, reducing statistical power, limiting generality of the results, and introducing sampling biases (Howard, Krause, & Orlinsky, 1986; Kazdin, 1992). In relation to clinical practice, those who begin but drop out of treatment prematurely are less likely to show the benefits of treatment, compared with those who remain in treatment (Prinz & Miller, 1994). In relation to clinical services, attrition exacerbates a serious problem of providing care. Approximately 70% of the children and adolescents in need of treatment in the United States do not receive mental health services (U.S. Congress Office of Technology Assessment [OTA], 1986, 1991); among those who do receive treatment, high rates of attrition further limit the delivery of care. Also, repeated cancellations and "no shows" among those who eventually drop out increase the costs of services (e.g., in staff time) and occupy treatment slots that might be provided to others.

Research has identified some of the characteristics that predict who will drop out of child and adolescent therapy. Socioeconomic disadvantage, minority group status, high levels of stress and family dysfunction, and difficult living circumstances (e.g., single-parent families) are among the salient factors (see Armbruster & Kazdin, 1994; Gould, Shaffer, & Kaplan, 1985). Other characteristics, although less well studied, that influence dropping out include parental stress and life events, parent psychopathology, and severity of child externalizing problems. Family, parent, and child characteristics are usually studied one or two at a time (Armbruster & Kazdin, 1994). When studied together, no single characteristic appears to be necessary or sufficient for dropping out (Kazdin & Mazurick, 1994; Kazdin, Mazurick, & Bass, 1993). Rather, multiple influences accumulate as risk factors to increase the likelihood that families drop out of treatment.

Unfortunately, the profile of characteristics that predict dropping out is not well established in large part because of salient limitations of current research. First, the range of variables examined in research has been limited in number and scope. Typically, "variables of convenience" (e.g., socioeconomic disadvantage, marital status) are selected as predictors because they can be retrieved from clinic intake forms. Second, the predictors usually encompass broad characteristics that neither shed light on the possible mechanisms involved in dropping out nor suggest guidelines for where, when, and how to intervene to prevent dropping out. For example, socioeconomic disadvantage, the most frequently studied characteristic, could lead to dropping out for many reasons (e.g., economic obstacles for transportation, more severe parent and child physical and mental health

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problems, parent expectations that are discrepant with those of the clinic staff). Third and related, research has not been driven by conceptual models regarding what variables might be involved or how they interface with participation in treatment. Consequently, the accumulation of findings on selected predictors has not been accompanied by increased understanding of why families may leave treatment and what might be done to engage families better in the treatment process. The overall goal of this study was to redress these limitations and to identify factors associated with participation in treatment that predict dropping out.

This study was guided by a conceptual model, referred to as a barriers-to-treatment model, which proposes that families experience multiple barriers associated with participating in treatment and that these experiences increase the risk for dropping out. The barriers-to-treatment model suggests that during contacts with the clinic, families experience barriers that make a separate contribution to dropping out, beyond the more well-studied family, parent, and child characteristics mentioned previously. These barriers include practical obstacles to participation, perceptions that treatment is demanding and of little relevance to the child's problems, and poor relationship or alliance with the therapist. This study tested the relation of parent experience of barriers to treatment and premature treatment termination.

Three interrelated predictions guided the study. First, we predicted that family, parent, and child factors identified at intake assessment would predict dropping out of treatment. This prediction is in keeping with prior research showing that many factors place individuals at risk for, and contribute to, dropping out of treatment and serves as a precondition for the next hypotheses. Second, we predicted that the experience of barriers to treatment would influence dropping out. These barriers reflect the parent's experiences of therapy that interfere with participating in treatment. Third, we predicted that barriers to treatment would contribute incrementally to dropping out of treatment, beyond (after controlling for) more easily assessed and possibly more robust predictors (e.g., socioeconomic disadvantage, family constellation) about which we already know.

Barriers to treatment might serve in different roles in predicting treatment termination. First, the absence of barriers may serve as a protective factor; that is, perhaps the risk of dropping out among high-risk families is attenuated by the experience of few barriers to treatment (e.g., by seeing treatment as relevant, by having a positive alliance with the therapist). Second, barriers could serve a mediational role by explaining how other predictors (e.g., socioeconomic disadvantage, family stress) operate to produce dropping out. Perhaps family, parent, and child characteristics lead to dropping out because they are associated with the experience of barriers over the course of treatment. In addition to testing the three main hypotheses, we examined two different roles (protective factor, mediator) that the experience of treatment barriers could play in dropping out of treatment.

A 4-year prospective study examined these hypotheses and the role of barriers to treatment in the process of dropping out of treatment. This study focused on youths referred to treatment for oppositional, aggressive, antisocial behaviors, the most frequent bases for clinical referral among children and adolescents in the United States (Kazdin, Siegel, & Bass, 1990; Robins, 1981). Multiple risk factors for dropping out of treatment were assessed at intake, and families were followed to identify who dropped out prematurely and who completed treatment. The domains assessed at intake emphasized parent and family, rather than child, characteristics because these make the greatest contribution to dropping out (Armbruster & Kazdin, 1994). At the end of treatment, a research assistant unfamiliar with the case, course of treatment, or treatment condition of the family interviewed the parent about the extent to which parents perceived stressors and obstacles that competed with participating in treatment, treatment demands, relevance of treatment, and the relationship with the therapist. Clinicians also evaluated the barriers perceived by the parent to provide a second informant and perspective.

Method

Participants

The study was conducted at an outpatient treatment clinic for children and families. Treatment was initiated by families who contacted a triage center in a child psychiatry service that served a large catchment area. This service referred children with oppositional, aggressive, and antisocial behavior to the Child Conduct Clinic. The study included 242 children (54 girls, 188 boys) and families referred for treatment. Of the 242 children and families, 44 (18.2%) participated in a prior study (Kazdin & Crowley, in press). The prior study focused on the evaluation of treatment outcome and did not examine dropping out of treatment or barriers to treatment. Children ranged in age from 3 to 14 years (M = 8.5, SD = 2.7). On the basis of parent identification of ethnicity, 154 (63.6%) of the children were White, 65 (26.9%) were African American, 16 (6.6%) were Hispanic American, and 7 (<3%) were of other groups (1 Asian American) or mixed ethnic background (6 biracial children). Full-scale Wechsler Intelligence Scale for Children—Revised (WISC-R; Wechsler, 1974) intelligence quotients ranged from 56 to 134 (M = 97.5, SD = 17.5).

To obtain diagnoses of the children, clinicians interviewed the parents using the Research Diagnostic Interview (RDI; see Kazdin, Siegel, & Bass, 1992), a structured diagnostic interview to assess the presence, absence, and duration of symptoms, based on criteria from the *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed., revised; *DSM-III-R*; American Psychiatric Association, 1987). The interview was a modified form of the Schedule of Affective Disorders and Schizophrenia for School-Age Children (Chambers et al., 1985). Reliability of Axis I diagnosis was assessed in an ongoing basis for randomly selected cases (n = 44; 18.2%). Evaluation of the diagnostic interview by an independent observer yielded high agreement (κ = .95 across all diagnoses). Principal Axis I diagnoses included conduct disorder (40.7%), oppositional defiant disorder (32.0%), attention deficit–hyperactivity disorder (4.6%), major depressive disorder (2.9%), various other disorders (14.9%), or no diagnosable Axis I disorder (5.0%). Most children (78.1%) met criteria for more than one disorder (M = 2.4 disorders).

The primary caretaker of the child included biological mothers (93.7%); step, foster, or adoptive mothers; or biological fathers (6.3%). Mothers ranged in age from 20 to 56 years (M = 34.1, SD = 6.2); 46.3% of the children came from single-parent families. Families were classified according to socioeconomic class (Hollingshead & Redlich, 1958) as follows (from lower to higher): Classes V (25.1%), IV (31.5%), III (23.4%), II (11.5%), and I (8.5%). Median monthly

family income range was $1,000 to $1,500 (total range was ≤$500–>$2,500); 30.4% of the families received social assistance.

Assessment

Several family, parent, and child characteristics were assessed at initial intake. These included socioeconomic disadvantage, family constellation, parental stress, parent history of antisocial behavior, adverse family child-rearing practices, and child severity and history of aggressive and antisocial behavior. Measures drew on varied assessment formats (interviews, questionnaires) and informants (e.g., parents, children, clinicians). In addition to intake assessments, at the end of treatment, parents and therapists completed a measure designed to assess barriers for the family that emerged over the course of treatment, as discussed below.

Family, parent, and child characteristics. Multiple factors identified at pretreatment were predicted to place families at risk for dropping out of treatment. Parents completed a general information sheet to assess subject and demographic variables. Four indices were used to reflect socioeconomic disadvantage: Hollingshead and Redlich (1958) level of educational and occupational attainment; monthly income of family, determined on a 6-point scale ranging from 1 (*≤$500/month*) to 6 (*>$2500/month*); whether the family received public assistance; and minority group membership. Minority group status has been shown to influence dropping out of treatment and is accounted for primarily by its relation to socioeconomic hardship (Armbruster & Fallon, 1994).

Characteristics of the family constellation that place families at risk for dropping out were also measured. Mother age and family structure (one- vs. two-parent families) were obtained from a general information measure. Adverse and harsh child-rearing practices were assessed from the Risk Factor Interview (RFI; Kazdin et al., 1993), a structured clinician-administered interview administered to the parents. The RFI assesses several domains that predict poor prognosis of inpatient antisocial youths and improvements in treatment among outpatient cases (see Kazdin, 1996b). Three scales were included in light of their relation to dropping out in prior studies (e.g., Kazdin et al., 1993, Kazdin & Mazurick, 1994): Adverse Family Child-Rearing Practices, Child History of Antisocial Behavior, and Parent History of Antisocial Behavior. Scale scores are obtained by summing multiple items, with higher score indicating greater dysfunction or presumed risk. The RFI was developed in prior research showing that the domains predicted poor prognosis of hospitalized antisocial youths 1–2 years after discharge (Kazdin, 1989), and the measure has been validated (concurrent and predictive validity) in studies that relate RFI subscales to socioeconomic disadvantage, parent and child impairment, participation in treatment, and treatment outcome of children with conduct problems (Kazdin, 1995; Kazdin & Mazurick, 1994; Kazdin et al., 1993). Test–retest reliability has not been evaluated. The Adverse Family Child-Rearing Practices scale includes 29 items (on a 5-point scale) that cover a range of practices (e.g., poor parent monitoring and supervision of the child, use of harsh and inconsistent punishment).

Parent perceptions of stress and the occurrence of stressful life events also increase risk of dropping out of treatment. At intake, parents completed the Parenting Stress Index (PSI; Abidin, 1990) to assess perceived stress and life events. The 120 items of this scale (each rated on a 5-point scale) reflect areas of stress related to the child (e.g., demandingness, mood) and to the parents' views of their own functioning (e.g., restrictions of role, social isolation) and yield a total perceived stress score. A separate Life Stress scale includes 19 items that measure life events (e.g., change in job, death of a relative) that are weighted based on prior research on their impact and then are summed to produce a total score. Reliability and validity data for the PSI (Abidin, 1990) and the role of both stress and life events in attrition, based on this scale, have been reported elsewhere (Kazdin et al., 1993). Parent history of antisocial behavior (when the parent was a child), but not current psychopathology, was measured using the RFI, as referred to previously. The scale included 18 items (with a yes–no format) that asked about specific antisocial and delinquent behavior in the parent's past (e.g., running away, stealing, property destruction, trouble with the law).

Two measures assessed child characteristics related to dropping out. First, from the diagnostic interview (the RDI), we counted the total number of conduct disorder symptoms (from the *DSM–III–R*) to measure breadth of antisocial behaviors. Second, from the RFI, we used the Child History of Antisocial Behavior subscale, which includes 18 items in a yes–no format that assess diverse antisocial behaviors (e.g., fighting, stealing, vandalism, property damage) antedating the present episode leading to referral. The items reflect antisocial behaviors in the child's past. Higher scores reflect a greater number of symptoms (see Kazdin et al., 1993).

Barriers to treatment participation. A scale was developed to assess a broad range of barriers that could occur over the course of treatment. The scale focused on the parent's perceptions in light of the parent's responsibility for decision making regarding treatment termination (Armbruster & Kazdin, 1994). A preliminary item pool was developed through focus group discussions with therapists about the obstacles and burdens of participation in treatment that their own dropout cases had experienced. These items went through several iterations with the therapists regarding the content and wording. The result was the Barriers-to-Treatment Participation Scale (BTPS; Kazdin, Holland, & Breton, 1991), a measure that includes 58 items and questions in an interview format that can be administered in person or by telephone.[1] The items refer to events that have transpired during the course of treatment (e.g., obstacles in coming to treatment, child care difficulties), as well as current perceptions (e.g., alliance with the therapist, perceived relevance of treatment). The measure was phrased so that both dropouts and completers could answer the questions.

The BTPS includes two sections. The first and main section includes 44 items rated on a 5-point scale ranging from 1 (*never a problem*) to 5 (*very often a problem*). The total score for these items reflects a set of barriers to treatment attendance, participation, and completion. The following a priori subscales were also delineated to capture specific domains identified in the focus group meetings with clinical staff: (a) Stressors and Obstacles that Compete with Treatment (20 items related to events that interfere with participating in and coming to treatment, such as conflict with a significant other about coming to treatment, problems with other children that interfered with treatment, treatment serving as, and adding to, other stressors), (b) Treatment Demands and Issues (10 items that reflect concerns and complaints about treatment, including that treatment was confusing, too long, costly, difficult, or demanding), (c) Perceived Relevance of Treatment (8 items reflecting the extent to which treatment was seen as relevant to the child's problems, was viewed as important, and met with parent expectations), and (d) Relationship with the Therapist (6 items related to the parent's alliance and bonding with the therapist including liking of, perceived support from, and disclosure with the therapist).

The second section of the measure includes a Critical Events scale (14 items in yes–no format) and consists of discrete events that may lead to treatment termination (e.g., moving to another city, loss of insurance coverage, marital separation, divorce, or custody proceedings, illness or death of a close relative, hospitalization of a family member). If the events occur at all, they are likely to occur only once (during the course of treatment). Such events might be more common in families who drop out, but these events were not seen as barriers produced by or related to treatment per se. For these reasons, we separated these discrete events into their own subscale.

[1] The BTPS is available from Alan E. Kazdin.

Parent and therapist versions of the scale were developed to provide two sources of information. Therapists were in direct contact with parents during treatment sessions and in phone contact between the sessions and were likely to have informed opinions of the parents' experience of treatment. At the end of treatment or at the point of treatment termination for a case, the parent and therapist independently completed the barriers to treatment measure. If the parent did not wish to return to the clinic, the BTPS was administered by phone by a research assistant unfamiliar with the family. Neither the therapist nor the parent had access to each other's information. The overall correlation of the parent and therapist total barriers score was $r(239) = .45$, $p < .001$.

Our main hypotheses pertained to the total barriers scores (44 items). Internal consistency scores for the total barriers score, as measured by coefficient alpha, were .86 and .90, for the parent version and therapist version of the scale, respectively. Thus, acceptable levels of internal consistency were obtained for the overall scale scores. Similarly, for the a priori subscales (Stressors and Obstacles Competing with Treatment, Treatment Demands, Perceived Relevance of Treatment, and Relationship with the Therapist), coefficient alpha met generally acceptable levels for the parent-completed measure (range, .61–.80, *Mdn* α = .69) and therapist-completed measure (range, .69–.85, *Mdn* α = .78). Intercorrelations among the subscales were all positive and in the low-to-moderate range. For the parent-completed measure, the subscale intercorrelations ranged from .21 to .41 (*Mdn* r = .36; *Mdn* shared variance = 13.0% between subscales); for the therapist-completed measure, the intercorrelations ranged from .35 to .51 (*Mdn* r = .42; *Mdn* shared variance = 18.7% between subscales).

Treatment

Administration. After intake assessment, children and families began treatment. Cognitive problem-solving skills training (PSST) for the child and parent management training (PMT) were treatments of the clinic and were provided alone or in combination (for further details, see Kazdin, 1996b). In PSST, children were seen individually for approximately 20–25 sessions scheduled weekly; typically each session was 45 min to 1 hr long. The treatment combined cognitive and behavioral techniques to teach problem-solving skills (e.g., generating alternative solutions, means–ends thinking) to manage interpersonal situations (e.g., with parents, teachers, siblings, and peers; at home, at school, in community). Within the sessions, practice, modeling, extensive role playing, corrective feedback, and social and token reinforcement were used to develop problem-solving skills. Outside of the sessions, the child applied problem-solving steps to interpersonal situations in everyday life. For PMT, parents were seen for approximately 16 sessions (approximately 1 to 1.5 hr each and scheduled weekly) to develop adaptive parenting practices and child–parent interaction patterns and to alter child behavior at home and at school. Extensive practice, feedback, and shaping were used within the sessions to develop parental skills and specific behavior change programs for use outside of the sessions. Also, child functioning at school was incorporated into treatment through contact with the teacher and school- and home-based reinforcement programs. Over the course of therapy, the child or parent (or parents) were brought into the each other's sessions on multiple occasions to review, discuss, learn, and practice aspects of treatment (e.g., use of PSST at home with the parent, implementation of reinforcement program conducted by the parent).

The treatments included a core set of sessions to convey central content areas, themes, and skills. Within the core sessions, child domains of dysfunction at home and at school, and special family circumstances (e.g., living conditions, job schedules, custody issues, use of extended family members) were discussed to individualize treatment. Occasionally, additional sessions were provided to address specific problems or to work on a theme that was not sufficiently well conveyed in the core session. For children ages 7–13 (67.1% of the cases), PSST, PMT, or both were provided. Assignment was random, as part of our treatment outcome research, as described elsewhere (Kazdin, 1996b). For children ages 6 and under, PMT alone was provided. Ten clinicians (8 female, 2 male; all White, ages 24–56; 1 with a PhD, 9 with master's degrees) served as therapists.

Completion and termination of treatment. The approximate duration and nature of treatment were discussed explicitly with the family in advance of the initial visit to the clinic and again at intake assessment. Treatment completion required approximately 7–10 months, in keeping with treatment duration in clinical practice among cases referred for conduct and oppositional disorder (see Kazdin et al., 1990; Silver & Silver, 1983). Dropping out of treatment consisted of premature termination from therapy based on a decision on the part of the parent or family. Treatment termination was regarded as inadvisable and against the advice of the clinical team if the parent or family did not complete the treatment. Treatment termination occurred when parents noted explicitly that they did not wish to continue treatment or when they did not come in for at least 3 consecutive weeks, and then failed to return after further direct contact to schedule appointments. In separate data analyses, dropping out was evaluated in a binary fashion and as weeks remaining in treatment to capture different patterns in the data. Dropping out of treatment and weeks remaining in treatment were highly correlated, $r(239) = .89$, $p < .001$. Weeks in treatment provided a more sensitive measure and better met the assumptions of the regression analyses noted later. Completing treatment consisted of completing the full treatment regimen and terminating treatment as agreed to by the therapist and family.

Results

Preliminary Analyses

Sample characteristics. Table 1 presents the information about family, parent, and child characteristics for the entire sample and for completers and dropouts.[2] As shown in the table, t tests (for continuous variables) and chi-square tests (for categorical variables) indicated that parents who dropped out were more likely than those who completed treatment to experience socioeconomic disadvantage (e.g., lower socioeconomic status, income), to be from a minority group, to be younger, to be single parents, to report harsh child-rearing practices, and to have a history of antisocial behaviors in their childhood. Among families who dropped out, parents reported children to show a greater history of antisocial symptoms. Overall, these findings are consistent with prior results about the factors that increase risk for dropping out. The contribution of individual factors and domains was not analyzed further in light of prior research on this topic and because the main hypotheses pertained to the contribution of barriers when these factors, as a group, are controlled.

The BTPS. We predicted that barriers to treatment participation would be greater among families who dropped out rather than completed treatment. As indicated in Table 1, dropouts

[2] Correlations between all family, parent, and child characteristics were computed and ranged from .00 to .70 (*Mdn* = .19). Prior research has shown that each of these variables make a separate contribution to dropping out (Kazdin et al., 1993). Consequently, all family, parent, and child measures were retained in subsequent analyses. A complete table of intercorrelations of all of the measures is available from Alan E. Kazdin.

Table 1
Means (or Proportions) and Standard Deviations for Parent, Family, and Child Factors and Barriers to Treatment Scores

Variable	Total sample (n = 242)		Completers (n = 146)		Terminators (n = 96)		
	M or %	*SD*	*M* or %	*SD*	*M* or %	*SD*	t or χ^2
Parent, family, and child characteristics							
Hollingshead–Redlich class	45.63	19.11	43.48	19.11	48.86	18.85	2.13*
Income level	3.93	1.78	4.11	1.77	3.64	1.76	1.92
Public assistance	30.4%		24.3%		39.8%		6.40**
Minority group	34.7%		27.6%		45.7%		8.30***
Mother's age	34.08	6.17	34.70	6.28	33.13	5.94	1.93*
Single-parent family	46.3%		38.4%		58.3%		9.30***
Adverse child rearing	50.97	7.87	49.62	7.49	53.09	8.01	3.39***
Parent stress total	266.30	45.74	264.23	44.75	269.47	47.27	<1
Life events	11.00	8.72	10.46	8.79	11.83	8.59	1.20
Parent's antisocial history	27.80	4.26	27.44	4.17	28.37	4.36	1.64
Child's CD symptoms	3.41	2.32	3.21	2.01	3.71	2.72	1.63
Child's history of antisocial behavior	17.85	4.66	17.11	4.83	19.03	4.14	3.16**
Barriers to treatment participation: parent completed							
Total barriers (Items 1–44)	66.29	14.08	61.76	12.00	73.19	14.27	6.72***
Stressors–obstacles	32.34	8.55	30.04	6.62	35.84	9.91	5.46***
Treatment demands	13.09	3.24	12.95	3.27	13.30	3.19	<1
Relevance of treatment	13.77	4.68	11.98	3.69	16.50	4.74	8.30***
Relationship with therapist	7.09	1.98	6.79	1.36	7.55	2.59	2.99**
Critical events	15.35	1.50	15.23	1.30	15.53	1.75	1.52
Barriers to treatment participation: therapist completed							
Total barriers (Items 1–44)	70.81	17.05	62.45	12.12	83.60	15.57	11.89***
Stressors–obstacles	34.05	9.81	29.84	7.28	40.44	9.75	9.66***
Treatment demands	13.57	3.50	12.79	2.69	14.75	4.20	4.46***
Relevance treatment	15.65	5.60	12.71	3.79	20.11	4.94	13.17***
Relationship with therapist	7.55	2.05	7.11	1.61	8.22	2.45	4.25***
Critical events	15.29	1.13	15.39	1.19	15.15	1.05	1.64

Note. For the socioeconomic measures, Hollingshead–Redlich class reflects scores that convert to one of five classes; higher scores convert to lower socioeconomic classes. Income level is based on a 6-point scale of monthly income, as described in the text; higher ratings reflect greater income. CD = conduct disorder.
* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

showed significantly higher levels of barriers than did completers for both parent and therapist total barriers scores. Dropouts and completers did not differ significantly for parent and therapist versions of the Critical Events scale of the BTPS.

Also pivotal to the study was the assumption that barriers to treatment were distinguishable from family, parent, and child factors assessed at intake. High correlations of BTPS scores with family, parent, and child measures assessed at intake would suggest no new explanatory utility of barriers to treatment as a construct or measure. Pearson product–moment correlations were computed between the BTPS total barriers scores for parent and therapist versions of the scale and the family, parent, and child characteristics. As shown in Table 2, the correlations for family, parent, and child characteristics and the perceived barriers were generally quite low (parent version range of rs, −.01–.27, *Mdn* r = .09; therapist version range of rs, −.04–.26, *Mdn* r = .16). Thus, there was very little overlap between family, parent, and child characteristics assessed at intake and the experience of barriers in treatment.

Dropping Out of Treatment

Our initial hypothesis was that the family, parent, and child characteristics assessed at intake would predict dropping out of treatment. It was important to examine whether barriers to treatment contributed to dropping out when a variety of other variables were controlled. Therefore, a multiple regression analysis was completed in which all family, parent, and child variables were entered first as a block to predict number of weeks of remaining in treatment. All family, parent, and child characteristics, entered together, significantly predicted the number of weeks of remaining in treatment, $F(12, 198) = 2.84$, $p < .001$, $R = .38$, $R^2 = .15$. These findings support the first hypothesis and are in keeping with prior research on fam-

Table 2
Correlations Between Parent, Family, and Child Characteristics and Barriers to Treatment Participation Scale Scores

Parent, family, and child characteristics	Parent BTPS		Therapist BTPS	
	Total barrier	Critical events	Total barrier	Critical events
Hollingshead–Redlich class	.01	.05	.05	.02
Income level	−.02	.04	−.04	.01
Public assistance	.03	.09	.04	−.03
Minority group	.06	.00	.17**	−.08
Mother's age	−.02	−.01	−.04	.05
Single-parent family	−.08	−.08	−.07	.06
Adverse child rearing	.18**	.08	−.24***	.09
Parent stress total	.27***	.10	.18**	−.00
Life events	.14*	.21	.15	.11
Parent's antisocial history	.21***	.12	.19**	.10
Child CD symptoms	.10	.05	.14*	−.02
Child's history of antisocial behavior	.17**	.06	.26***	.13*

Note. Correlations involving public assistance, minority group, and single-parent families are point-biserial correlations; the remainder are Pearson product–moment *r*s. BTPS = barriers to treatment participation; CD = conduct disorder.
$^{*}p \leq .05$. $^{**}p \leq .01$. $^{***}p \leq .001$.

ily, parent, and child factors that predict dropping out of child and adolescent therapy.

The second hypothesis was that the barriers experienced during the course of treatment would also be associated with dropping out. Two separate multiple regression analyses were completed, first with the parent and then with the therapist total barriers score. A significant effect was obtained whether parent total barriers score, $F(1, 240) = 28.59$, $p < .001$, $R = .33$, $R^2 = .11$; or the therapist total barriers score, $F(1, 240) = 85.31$, $p < .001$, $R = .51$, $R^2 = .26$, was used to predict dropping out of treatment. Both analyses support the second hypothesis, namely, perceived barriers to participation in treatment contributed significantly to dropping out.

The relationship between barriers to treatment and dropping out can be seen by examining the pattern of attrition over time. The sample was divided into two groups (high and low perceived barriers) based on a median split of the total barriers score. Survival analyses were used to evaluate whether different patterns of attrition were evident in these two groups over the course of treatment. In Figure 1, survival curves are plotted on the basis of parent and therapist reports, showing the diminishing proportion of families who remained in treatment. A log-rank test of the equality of the two survival curves indicated that the high and low perceived barriers to treatment groups differed over the course of treatment, when defined by parent-completed, $\chi^2(1, N = 242) = 30.55$, $p < .001$, or therapist-completed measures, $\chi^2(1, N = 242) = 99.94$, $p < .001$. Thus, rates of dropping out differed as a function of levels of perceived barriers during the course of treatment.

There was a clear gradient between degree of perceived barriers and rate of dropping out. Families were divided into three groups based on their total barriers score (i.e., lower, middle, and upper thirds of the sample), which reflect increasing levels of perceived barriers to treatment. The overall dropout rate for the entire sample was 39.9%, well within the range of findings in outpatient treatment for children (Kazdin, 1996a). The proportions of cases that dropped out of treatment for the lower, middle, and upper thirds of the sample, were 16.0%, 41.0%, and 61.4%, respectively, $\chi^2(2, N = 242) = 35.39$, $p < .001$. The analysis was repeated using the therapist total barriers score. The proportions of cases that dropped out of treatment among the lower, middle, and upper thirds of the sample, on the basis of therapist barriers scores, were 7.7%, 32.9%, and 76.8%, respectively, $\chi^2(2, N = 242) = 82.20$, $p < .001$. Overall, these results convey a gradient (dose–response relation) in the barriers perceived by parent or therapist and rate of dropping out of treatment.

The third hypothesis predicted that perceived barriers to treatment contribute significantly to dropping out after family, parent, and child risk factors were taken into account. Hierarchical regression analyses were completed in which all family, parent, and child risk factors were entered into the equation to predict dropping out of treatment. After controlling for these variables, we entered the total barriers score. The parent total barriers score added significant variance when other family, parent, and child risk factors were controlled, $F(1, 239)$ change $= 24.24$, $p < .001$; R^2 change $= .09$. The analysis was repeated and showed also that the therapist the total barriers score added significant variance when other factors were controlled, $F(1, 239)$ change $= 50.58$, $p < .001$, R^2 change $= .17$. These results support the hypothesis that barriers experienced over the course of treatment added in an incremental way to, and were not explained by, other family, parent, and child factors in predicting who drops out of treatment.

The Role of Barriers to Treatment

Low barriers as a possible protective factor. Further analyses evaluated the extent to which the experience of few barriers (lower total barriers scores) served as a protective factor for dropping out of treatment. A protective factor refers to a characteristic among high-risk individuals that attenuates risk (Rutter, 1987). To test the protective factor role of barriers to treatment, a high-risk subsample was selected for further evaluation.

Each family, parent, and child intake risk factor was converted (recoded) to 0 or 1 (where 1 = at risk for each variable and 0 = low risk or not at risk) to permit combination of these factors into a single metric (Tarling & Perry, 1985). The conversion for dichotomous variables was made by assigning 1 to the at-risk level (e.g., on social assistance, single-parent family). For the continuous variables, the 70th percentile in the sample was used to identify an extreme group in the direction of risk for each variable. For example, family income (low income $\leq$ 30th percentile) and adverse child-rearing practices (highly adverse practices $\geq$ 70th percentile) each received a score of 1, given the direction of risk. This recoding provided an overall risk score ranging from 0 to 12 for each family,

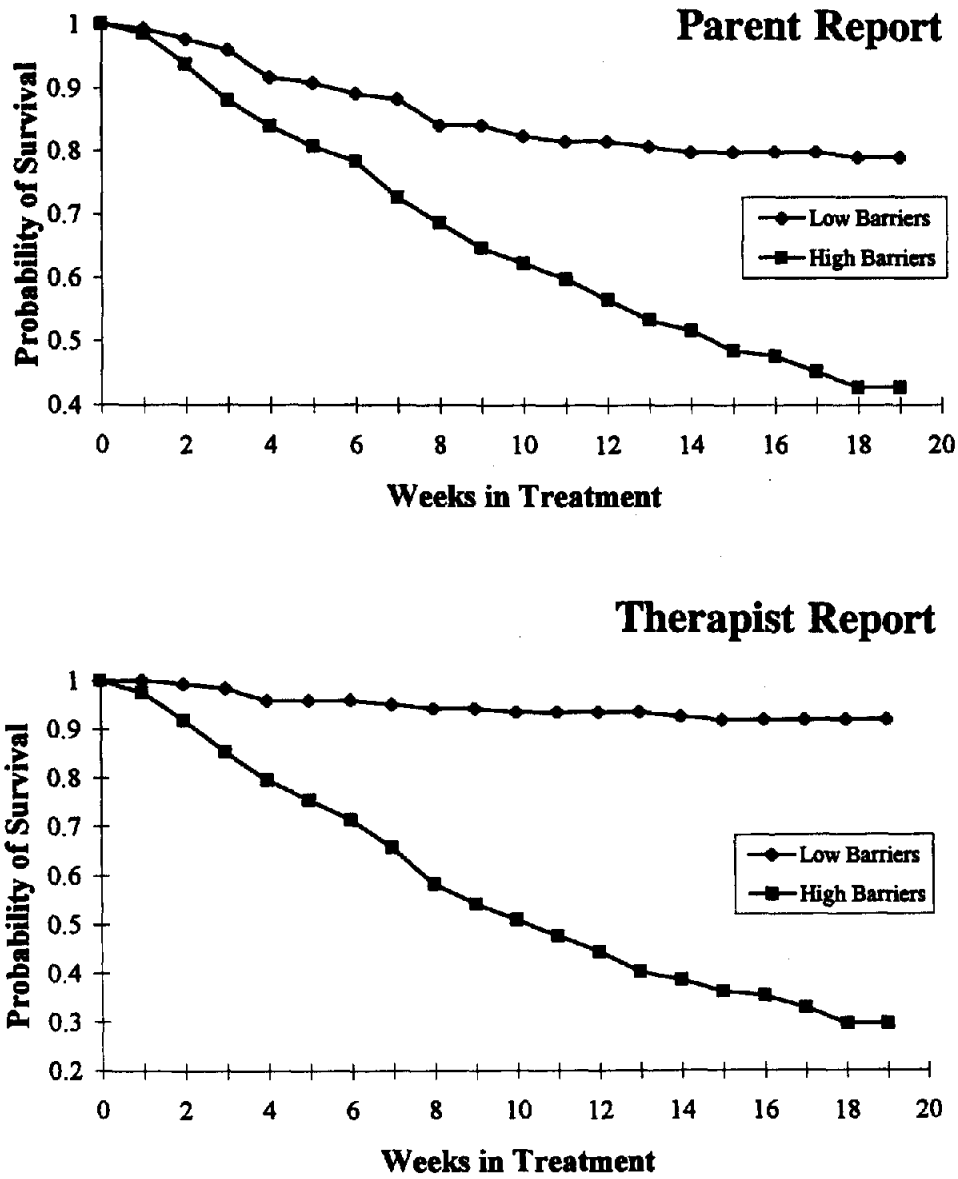

Figure 1. Survival functions (Kaplan & Meier, 1958) for families who experienced high or low barriers to participation in treatment (median split) based on parent or therapist total barriers scores. The lines represent the proportion of survivors (i.e., the proportion of those who remained in treatment over time).

with higher scores reflecting greater risk for dropping out on the family, parent, and child characteristics, noted previously (see Table 1). From this total score, an extreme group of 95 families was selected, namely, those families in the highest quartile of the sample (≥75th percentile of the sample). This group reported ≥6 risk factors (a score of at least 6 out of the 12 risk factors). Of this group, more than half (52.6%) dropped out of treatment.

To evaluate the extent to which low barriers scores was a protective factor (i.e., attenuated risk), the 95 cases were divided on the basis of whether they were above or below the median total barriers of the total sample (high and low perceived barriers). In this high-risk sample, a lower proportion of cases dropped out of treatment if their total scores were below rather than above the overall (total) sample median for the parent measure (34.0% vs. 70.8%, respectively), $\chi^2(1, N = 95) = 12.89, p < .001$; and for the therapist measure (26.1% vs. 77.6%, respectively) $\chi^2(1, N = 95) = 25.21, p < .001$. The 34.0% and 26.1% dropout rates for low barriers cases (based on parent and therapist barrier scores, respectively) are both significantly lower than the 52.6% dropout rate for the high-risk sample; For parent barriers scores, $\chi^2(1, N = 46)$

= 8.23, $p < .01$; for therapist barriers scores, $\chi^2(1, N = 46) = 12.98$, $p < .001$. These results suggest that among high-risk cases, perception of fewer barriers of treatment served to attenuate risk for dropping out.

Barriers as potential mediators of family, parent, and child predictors. Barriers to treatment might serve as a mediator of other family, parent, and child risk factors (i.e., these latter factors may increase risk because they lead to barriers or obstacles over the course of treatment). A mediational view can be supported by showing that (a) barriers to treatment (the proposed mediator) are affected by the family, parent, and child factors (the independent variable); (b) barriers to treatment predict dropping out (the outcome); and (c) when barriers to treatment are accounted for, the contribution of family, parent, and child factors is eliminated or greatly reduced (see Baron & Kenny, 1986). Prior analyses provided support for the second requirement, namely, that barriers contribute to dropping out. Additional regression analyses were completed and showed that variation in barriers to treatment are associated with ("predicted by") family, parent, and child factors, whether barriers are reported by the parent version or therapist version: $F(1, 240) = 4.45$, $p < .05$; $R = .14$, $R^2 = .02$, and $F(1, 240) = 14.26$, $p < .001$, $R = .24$, $R^2 = .06$, respectively.

To test the third requirement, we completed hierarchical regression analyses in which the total barriers score was entered into the equation to predict dropping out of treatment. After controlling for total barriers scores, family, parent, and child predictors were entered as a block to determine whether they added an increment to the prediction equation and accounted for significant variance. In prior analyses, the family, parent, and child factors, when entered on their own, significantly predicted treatment termination, $r(12, 198) = 2.84$, $p < .001$, $R^2 = .38$. If barriers to treatment mediated this effect, the hierarchical regression would show that family, parent, and child variables would no longer add significant variance or the amount of variance would be greatly diminished in predicting dropping out, once barriers to treatment were considered. In the first regression, parent barriers scores were entered followed by family, parent, and child factors. The family, parent, and child factors continued to add significant variance to the prediction of dropping out, $F(12, 197)$ change = 2.38, $p < .01$, $R^2 = .23$, R^2 change = .11. The analysis was repeated using total barriers scores from the therapist-completed BTPS. Once therapist total barriers scores were entered, family, parent, and child factors contributed additional variance, but the amount was not significant, $F(12, 197)$ change = 1.65, $p < .10$, $R = .32$, R^2 change = .07. Both analyses show a reduction in the contribution that family, parent, and child characteristics make on their own, as noted above. Although the results from the therapist- and parent-completed measures differ slightly, together they suggest that barriers to treatment serve at best a partial mediational role, at least in relation to the risk factors assessed at intake in this study.

Supplementary Analyses

Salient barriers to treatment. The BTPS included a priori subscales that group types of barriers into Stressors and Obstacles Competing with Treatment, Treatment Demands, Perceived Relevance of Treatment, and Relationship with the Therapist. The purpose of delineating subscales was to consider whether some domains might be more critical to dropping out of treatment than others. Dropouts and completers differed significantly on each of the subscales for parent and therapist barriers scores (Table 1), except for the extent to which they viewed treatment as demanding. The magnitude of the differences between dropouts and completers for the subscales more readily convey the impact of different domains on dropping out. The effect sizes for the subscales were as follows: Stressors, .70 and 1.25; Treatment Demands, .11 and .58; Relevance of Treatment, 1.07 and 1.70; and Relationship with the Therapist, .39 and .55, for parent and therapist measures, respectively.[3] By and large these are medium to large effect sizes. Interestingly, for both parent and therapist measures, the perceived relevance of treatment was the domain that had the largest effect size in distinguishing dropouts and completers.

Parent and therapist perspectives. We examined the extent to which parent and therapist versions contributed unique variance to the prediction of dropping out of treatment. Two hierarchical regression analyses examined this question. In the first analysis, parent-completed BTPS total barriers scores were entered; the therapist total scores, when entered next, added a significant increment to the prediction of dropping out, $F(1, 239)$ change = 51.04, $p < .001$, R^2 change = .16. The analysis was repeated with the therapist version of the scale entered first, followed by the parent version. The parent total barriers scores added a significant increment to the prediction of treatment termination, $F(1, 239)$ change = 4.07, $p < .05$, R^2 change = .01. The results convey that each source of information added unique variance in predicting dropping out of treatment, although the therapist version added a much greater increment to the equation.

Discussion

The main findings were that (a) barriers to participation in treatment was significantly associated with premature termination from therapy; (b) the experience of barriers was not accounted for by more well-established family, parent, and child factors that also contributed to dropping out of treatment; (c) as the level of perceived barriers to participation in treatment increased among families, so did the rate of dropping out; (d) among families at high risk for dropping out of treatment, selected because of multiple adverse risk factors assessed at intake, the perception of few barriers to treatment served as a protective factor (i.e., attenuated risk of dropping out); and (e) the results held for both parent and therapist evaluations of barriers to treatment, which provided related, albeit complementary, information about perceived barriers. Overall, the findings indicated that perceived barriers to treatment participation, including stressors and obstacles associated with coming to treatment, perceptions that treatment is not very relevant, and a poor rela-

[3] The *t*s (in Table 1) can be converted to effect sizes (ESs), where $ES = 2t/\sqrt{df}$.

tionship of the parent with the therapist, was related to who dropped out of treatment prematurely.

Socioeconomic disadvantage, several family circumstances (e.g., younger mothers, single-parent families, adverse child-rearing practices), parent history of antisocial behavior, and child severity and history of antisocial behavior, as assessed before treatment began, significantly predicted who subsequently dropped out. These findings are consistent with prior research (Armbruster & Kazdin, 1994). Although family, parent, and child factors assessed at intake are useful in identifying at-risk families, they do not address factors related to the experience of treatment and facets of that experience that might lead to dropping out. Perceived barriers emergent during the course of treatment contributed significantly to dropping out. The role of the experience of barriers as an explanation of the findings was bolstered by showing that among cases at highest risk for dropping out, those who did not perceive participation as presenting barriers were much less likely to drop out.

These findings are consistent with, but by no means prove, the view that perceived barriers to treatment are critical to premature termination. Other domains correlated with the perceived barriers might explain the results. However, the impact of barriers on dropping out is not explained by the confound or high relation of perceived barriers with family, parent, and child characteristics assessed at intake nor with critical life events (e.g., moving, loss of job, divorce) assessed by the same rater (parent, therapist) and at the same time that barriers were assessed.

Parent and therapist perceptions of barriers to treatment both discriminated dropouts and completers, and data from both informants supported the hypothesis. Parent and therapist evaluations of barriers provided unique information; each added a significant increment to the other source of information in predicting treatment termination. The therapist version was a better predictor of dropping out of treatment when parent and therapist versions were directly contrasted. Possibly, therapists' knowledge of who dropped out influenced their ratings of perceived barriers. Also, therapists may have provided higher barriers scores to individuals who experienced socioeconomic disadvantage or other at-risk family, parent, and child characteristics. This latter hypothesis was not supported by the present data, however, because therapist evaluations of barriers were no more highly correlated with intake family, parent, and child characteristics than were parent evaluations.

This study represents an initial evaluation of the BTPS. The results are consistent with the model of barriers to treatment and provide preliminary validational evidence for the scale. The relation of barriers and dropping out can be conceived as support for the construct validity of the scale; the low relation of perceived barriers with family, parent, and child factors that contribute to dropping out and with critical life events supports the discriminant validity of the scale. Finally, the finding that perceived barriers add unique variance to family, parent, and child characteristics provides evidence for the incremental validity of the scale. As an initial study, these findings cannot, of course, be added to a broader nomological network to support the construct validity of the scale. Preliminary support of the validity of the scale does not preclude the role of many other influences on the process of dropping out nor automatically establish the primary or sole interpretation of the construct (or constructs) underlying performance on the scale.

Important limitations of the present study deserve comment. First, the generality of the results may be restricted. The study was completed among clinically referred youths identified because of their externalizing behavior problems. Family, parent, and child characteristics and perceived barriers may only apply to families of such youths. Also, a sample drawn from one outpatient clinic and at a clinic in which cognitive–behavioral treatments are used may further restrict the generality. Clearly, further tests are needed to evaluate the generality of the findings across referral problems, types of families, and settings.

A second limitation pertains to the way in which barriers to treatment was assessed. At the end of treatment, parents and therapists (independently) evaluated the experience of therapy. Asking parents and therapists to evaluate what transpired during treatment, although assessed immediately at the end of treatment, is retrospective reporting, and perhaps subject to recall bias. Given the time frame of treatment and the information requested (e.g., details about obstacles, perception of the relationship with the therapist), recall bias of retrospective reporting is not likely (see Brewin, Andrews, & Gotlib, 1993). Another bias may be more problematic, namely, the possibility that dropping out influenced the assessment results. Among therapists in particular, completing measures for several different cases who completed treatment and dropped out might lead to a bias in completing the barriers to treatment measures. Over time, therapists may see dropouts and completers as very different on the measures and present more sharply delineated differences between these groups. Arguing against this explanation, however, is the fact that the results for parent and therapist versions of the BTPS were quite similar. We considered alternative assessment strategies (e.g., multiple assessments at different points over the course of treatment), but these had methodological and practical liabilities of their own (e.g., confounding number of assessment administrations with duration in treatment and completer–dropout status; repeated assessment, possibly sensitizing families more to how difficult it is to participate). The development of other ways to operationalize perceived barriers to treatment and, perhaps as well, reliance on other raters (e.g., significant others) would be worthwhile and overcome this limitation.

A third limitation that warrants comment is the seeming neglect of the child who, after all, was the basis of referral for treatment. As noted previously, family and parent variables, to date, have served as the most salient predictors of who drops out in child psychotherapy. The present results showed that parent perceived barriers play a significant role in who drops out of child therapy. Child variables, relationship factors, and perceptions of the treatment process may also contribute to dropping out in their own right, either directly or indirectly by influencing barriers that parents perceive. These questions are extremely important but were beyond the goals of this report.

Overall, the findings indicated that perceived barriers to treatment were related to dropping out of treatment. An advantage of the notion of perceived barriers to treatment is that it suggests possible foci for intervention as an adjunct to treatment. Addressing parent expectations, conveying how strategies within

treatment are relevant to their difficulties, and fostering stronger alliance with the parent early in treatment might spawn specific strategies to engage families in treatment. These strategies could serve as adjuncts or supplements to treatment, either provided very early in contact with families (e.g., telephone contact, intake assessment) or early in the course of treatment, when families are at greatest risk for dropping out.

Promising leads for intervening to combat attrition are available. For example, Prinz and Miller (1994) evaluated parent training as a treatment among antisocial children and provided some parents (randomly assigned) with opportunities to discuss personal issues (e.g., health problems, feelings about being in therapy, family disputes). Those families who received these adjunctive discussions showed lower dropout rates. Similarly, Szapocznik and his colleagues have devised an intervention based on structural family therapy and culturally relevant considerations (e.g., about the family) to engage Hispanic families in treatment (Santisteban et al., 1996; Szapocznik et al., 1988). The adjunctive procedure not only decreased dropping out of treatment, but also improved treatment outcome. The present study was designed to measure underpinnings of dropping out of treatment and to identify possible barriers that may influence treatment participation. Further work is needed to identify whether perceived barriers have some generality across different treatment modalities, settings, and child populations, whether interventions that address these barriers improve completion of therapy, and whether engaging families better in treatment also has impact of treatment outcome. This study only begins to establish the role of barriers over the course of treatment as critical to dropping out.

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