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Intensive Family Preservation in Children's Mental Health: Predictors of Placement

Cathryn C. Potter

This article examines the predictors of placement following IFPS for a sample of child mental health service recipients and their families. Risk and protective factors vary depending on the time frame under consideration. Immediately following service, children's level of Social/Legal functioning, a previous group home placement, and the presence of mental health problems for other family members increase risk of placement, while the number of follow-up services serves to lessen risk. Three to six months after service, the presence of a child behavior presenting problem and a projected placement in foster care serve as protective factors, while two service targets, alcohol monitoring and time management, serve to increase risk. Appropriate use of results for program design and for structuring access to services is discussed.

Intensive family preservation services (IFPS) programs typically involve the provision of intensive, short-term, home-based services to families at imminent risk of placement of a child, with services focused on increased family functioning and placement prevention (Pecora, Haapala & Fraser, 1991; Whittaker, 1991; Fraser, Nelson & Rivard, 1997). From a policy perspective, IFPS programs serve to expand the continuum of care for families, a continuum that has been historically weighted toward placement away from home as a primary intervention. This policy shift, from "child rescue to family support" (Whittaker, 1991) is evident in both the child welfare practice field, from which IFPS emerged, and the children's mental health practice field, to which these programs are increasingly applied (Stroul & Friedman, 1986; Petr & Spano, 1990). IFPS can play a pivotal role in the system of care for children with mental health needs and their families, by providing an important link in the continuum of community-based care (Knitzer & Yelton, 1990; Yelton & Friedman, 1991). However, examination of the outcomes of IFPS in the mental health arena has been limited. This article examines the predictors of placement following IFPS for a sample of child mental health service recipients and their families.

Research on Family Preservation

Existing research on IFPS has largely centered on the child welfare system, with primary attention given to placement prevention as the outcome of choice (Fraser, et al., 1997). A few studies have explored increased family functioning (Fraser, Pecora & Haapala, 1991b; Feldman, 1991), even fewer have focused on children's functioning (McCrosky & Meezan, 1997) and some have explored child and family correlates of success (Spaid & Fraser, 1991;

Bath, Richey & Haapala, 1992), again, largely on child welfare service populations. Although relatively few studies target child mental health samples (Dore, 1992; Morris, Suarez, & Reid, 1997), lessons from the family preservation literature in child welfare provide an important backdrop to the emerging mental health research.

Issues under Debate

The meaning of this large body of literature is under significant debate among practitioners and researchers. The primary issues under debate include:

1. the use of placement prevention as a primary outcome variable, including the difficulties in targeting IFPS services to families at "imminent risk" of placement (Rossi, 1992; Walton & Denby, 1997);
2. the use of large, randomized trials of IFPS programs in the implementation phase, including the difficulties in documenting intervention fidelity, and problems with large heterogeneous samples (Bath & Haapala, 1992; Blythe, Walley, & Jayaratne, 1994); and
3. the need for studies which provide direction to clinical practice, that is, studies which help document for whom and in what contexts IFPS is most effective (Blythe, Walley, & Jayaratne, 1994; Warsh, Pine, & Maluccio, 1995).

It is the later point to which this study is directed. Specifically, the correlates of placement for seriously emotionally disturbed children and their families, and the implications for practice and for research.

Findings Related to Placement Prevention

Placement prevention has been the cornerstone of the development of IFPS as an intervention, and all IFPS evaluations have measured it in some way. Certainly, it is the prevention of placement that also places IFPS strategically in the mental health continuum of care as the ability to serve high risk children in community settings, rather than hospitals, is of high value. Nevertheless, there are numerous problems with placement as a single measure of outcome. Many practitioners and researchers have noted that placement as an outcome is difficult to interpret, since, if clinical decision-making has been good, the decision to place is a "good" one for the family and child (Schuerman, Rzepnicki, & Littell, 1991).

Many IFPS evaluations have examined placement in a simple posttest design with no comparison group. Outcome is typically assessed at follow-up points of termination, 3, 6, 9, and 12 months post-termination. Using this design, placement prevention rates ranging from 67% to 96% have been reported (ISED, 1993; Haapala & Kinny, 1988; Haapala, McDade, & Johnston, 1988; Kinny & Haapala, 1984; Kinny, Haapala, & Booth, 1991; Mitchell, Tovar, & Knitzer, 1989; Smith, 1993; Thieman, Fuqua, & Linnan, 1989). Several evaluations have also used designs in which comparison groups have been constructed with

placement prevention rates ranging widely from 0 to 52.2% (AuClaire & Schwartz, 1987; Fraser, Pecora, & Haapala, 1991; Maryland DHS, 1987; Wheeler, Reuter, Struckman-Johnson, & Yuan, 1993).

Four large random assignment studies have been conducted (Feldman, 1991; McCrosky, & Meezan, 1997; Schuerman, Rzepnicki, Littell, & Chak, 1993; Yuan, 1990). It is worth noting that three of these studies (McCrosky & Meezan, 1997; Schuerman, et al., 1993; Yuan, 1990) evidenced many of the problems mentioned above, including difficulty in operationalizing "imminent risk," variations in service fidelity, and highly heterogeneous service populations. None of these studies found significant differences in placement rates between the experimental and control groups.

The New Jersey evaluation (Feldman, 1991) randomly assigned eligible cases to IFPS programs and to regular services. The IFPS programs were designed to follow the Homebuilders Model. An assessment of model integrity across sites was done, and the model was found to be implemented reliably across sites. Using a conservative definition of placement (any placement of any duration), significant differences in placement rates were found between the control group and IFPS service group at termination and at 3, 6, 9, and 12 months post-termination. IFPS families had fewer children enter placement, and they entered placement at a slower rate than control group families. The differences between groups appear to dissipate over time, however, with 42.7% of IFPS families experiencing placement at 12 months post-termination, compared to 56.7% of control group families. Analysis of the hazard rates of both groups revealed that, at termination, the IFPS intervention was 74.5% more effective than the control group, and at one year post-termination, the effectiveness had declined to 24.6%.

Findings Related to Family and Child Functioning

A few studies have focused on increased family functioning, including individual goal attainment, family system functioning, social support, and resolution of specific family problems. Individual family goals for service, such as increasing anger management, communication skills, conflict-resolution skills, and school performance are commonly rated by clinicians as showing improvement (AuClaire & Schwartz, 1986; Feldman, 1991; Fraser, et al., 1991b; Haapala, et al., 1988; Kinny & Haapala, 1984). The more rigorous designs, using standardized measures and randomized or constructed control groups, have found mixed results. Although IFPS families improve in social support (Feldman, 1991; Spaid & Fraser, 1991) and on several child welfare specific measures of adequacy (Feldman, 1991; Mitchell, et al., 1989; Spaid, Fraser, & Lewis, 1991; Thieman, et al., 1989; Wheeler, et al., 1993) these changes were often not significantly different from those of control group families receiving regular casework services.

Studies using standardized measures of family functioning have also found mixed results. No differences in functioning on the FACES III were found in the Washington-Utah study (Spaid, et al., 1991); however, using the Family Assessment Form, McCrosky and Meezan (1997) found that IFPS families reported significant changes relative to control/comparison group families in discipline, time for play, appropriate authority role, sibling relationships, and scheduling for children.

Two studies have specifically targeted children's functioning as an outcome of IFPS. McCrosky and Meezan (1997) used the Child Behavior Checklist (CBCL) developed by Achenbach & Edelbrock in 1983, finding that parents report significant improvements on both the total behavior score and on the externalizing dimension; whereas, control group families reported no significant changes. Similarly, Wells & Whittington (1993) found parents reporting significant positive changes on the CBCL.

Predictors of Success

The findings reported as predictors of success meet two criteria: predictors which (1) emerge from more than one study, and (2) have emerged from at least one multivariate analysis. These criteria were chosen because of the complexity of the IFPS research, the broad variations in research design and rigor, and the complexity of understanding the complicated web of relationships among interventions and outcomes. Significantly, in all analyses, the outcome measure of IFPS success has been placement prevention.

A philosophical note is in order. In most studies which explore the relationships between child and family characteristics and placement, the question has been framed in terms of risk: What family characteristics predict service failure? Later when the few studies that have focused on service characteristics are explored, it will be seen that the question has been framed in terms of protective factors: What services predict success? This points to a fundamental assumption on the part of professionals (or at least researchers): families bring risk factors; services bring protective factors. This assumption may well be inaccurate and is certainly at odds with the family preservation philosophy of practice.

Four sets of family and child characteristics have consistently emerged as risk factors: *previous placement of children* (Fraser, et al., 1991, ISED, 1993; Nelson, 1988; Unrau, 1997; Wheeler, 1993; Yuan, 1990); *parental attitudes toward placement* (Fraser et al., 1993; Nelson, 1988); *economic situation* (Bath et al., 1992; Fraser et al., 1991; ISED, 1991; Thieman, 1989); and *children's functioning* (Bath et al., 1992; ISED, 1993; Nelson, 1988; Unrau, 1997; Wheeler, 1993). The studies cited have used varying indicators of children's functioning, including presence/absence of emotional disturbance, previous child hospitalization, and child disability. Families faced with the stresses related to children's abilities to negotiate the world appear to face greater risks in providing for those children, and ultimately in retaining custody of them.

Several studies have focused on the problems that are the stated reasons for the need for family preservation intervention. Again, the findings regarding risk factors are not surprising. The following factors increase the risk of placement: the *number of presenting problems* (Bath et al., 1992; Nelson, 1988); *child neglect* (Bath et al., 1992; Fraser et al., 1991; Yuan & Struckman-Johnson, 1991); and *adolescent behavior problems* (Bath et al., 1992; Nelson, 1988; Fraser et al., 1991; ISED, 1993). Again, we find that families whose presenting problems are related to child behavior problems are at increased risk for placement.

Fewer studies have explored the predictive value of specific interventions or service packages. However, the findings that do exist present some clues which relate conceptually to the family characteristics and presenting problem factors discussed above. Two sets of services appear to hold promise in family preservation interventions: *concrete services* (Berry, 1992; Wheeler, 1993; Yuan, 1991) and *skill-focused services* (Berry, 1992; Potocky & McDonald, 1996; Wheeler, 1993; Yuan, 1991).

IFPS Research with Mental Health Samples

A few studies have focused on families of SED children and all have used one-group designs. Nelson (1992), in a study of nine family-based prevention programs in six states, found that families of SED children had significantly more problems and were significantly more likely to experience placement than were families without SED children. An early Homebuilders study (Kinny & Haapala, 1984) found significant improvement for SED children on the Global Assessment Scale for Children (GAS-C) and the Child Behavior Checklist (Achenbach & Edelbrock, 1983), as well as in specific child problem areas.

In an evaluation of Pennsylvania's mental health IFPS initiative, Dore (1992) found significant increases on the GAS-C and in family functioning using the Family Assessment Device (FAD). These gains were more likely to be perceived by parents than by children. Hospitalization was experienced by 14% of children. Children's termination level of functioning on the GAS-C was the only significant predictor of subsequent placement.

A recent evaluation of a similar IFPS program targeted to SED children at risk of placement found significant reduction in both the internalizing and externalizing dimensions of the CBCL (Morris, et al., 1997). Youth with a diagnosis of Oppositional Defiant Disorder seemed to benefit the most, exhibiting significant change in a wide range of areas. Youth with mood disorders improved significantly in the internalizing dimension; whereas, youth with conduct disorders improved in the externalizing dimension. At the 12 month follow-up point, 64% of youth remained at home with their families.

This limited research on IFPS with SED children and their families indicates that these families are at higher risk of placement than families for whom children's mental health is not a presenting problem, that IFPS services have the potential to affect children's functioning,

and that children's level of functioning is a potential predictor of service failure/success. This is entirely consonant with the child welfare studies, in which children's functioning appears to be an important variable. To date, no assessment has been done of the critical domains of children's functioning which may most affect service outcome.

The Colorado Mental Health IFPS Study

Colorado's first implementation of IFPS services took place in the children's mental health system, under a partnership between the Division of Mental Health (DMH), mental health centers and the Colorado Trust. Eight sites around the state were developed between 1990 and 1991, all based on the Homebuilders Intervention Model. Six of these sites were located in local mental health centers; two were located in community agencies with close ties to the local mental health center. All children served were required to meet mental health criteria for service, which included diagnostic, functional, and situational criteria. Referrals were accepted from a number of child and family serving systems, including children's mental health, child welfare, and juvenile justice.

Sample and Data Collection

The Colorado family preservation sample consists of the 316 children who received family preservation services between September of 1990 and July of 1993. Data on demographic characteristics, presenting problems, the focus of service, and placement outcomes were gathered by using a standardized instrument to read case files. These data were then matched with the DMH data system for match with mental health, level of functioning information. The resulting data set contains information specific to the family preservation sample and intervention, along with information on the intake level of mental health functioning of all target children.

Children's level of functioning is measured using the Colorado Client Assessment Record (CCAR), a multi-dimensional measure that assesses functioning in nine critical domains (Potter, 1995; Wackwitz, Foster & Ellis, 1990). These domains include Feeling/Mood/Affect, Thinking/Mental Processes, Medical/Physical Health, Substance Use, Family Living, Interpersonal Relationships, Role Performance, Social/Legal Behavior, and Self Care/Basic Needs. Developed originally for adult samples, the structure of the instrument has been recently validated for a child mental health population (Potter, 1995). Clinicians rate children's functioning using a set of Level of Functioning (LOF) scales and associated problem checklist items. For this analysis, given the results of the structural analysis, the nine LOF scales of the CCAR are used.

Because of the concern in the IFPS literature about site variations in service, a preliminary qualitative study of intervention fidelity was conducted (Potter, 1995). This study, which

involved interviews with program staff at all levels and observation of program activities, found strong intervention fidelity across sites. The Homebuilders Model of brief skill-focused intervention was reliably delivered across sites, with sites evidencing strong cohesiveness in terms of service philosophy and intervention approaches.

Results

Child and Family Demographics: Children served in the family preservation programs range in age from 1 to 18, with a mean age of 10.8 years. They are an ethnically diverse group, with Caucasian children making up 58.5% of the population, Hispanic children 28.2%, Black children 11.1%, Asian children .3%, and Indian children 1.9%. Thirty-eight percent are girls. The number of family members ranges from 2 to 12, with an average family size of 4.3 people. Approximately a third of the children (37.3%) live with married parents in biological or step-families. Another 9.5% live with one parent and a live-in mate. Almost half (49.7%) live in a single-parent family headed by the mother, while only 1.6% live in single-parent, father-headed families. Fifty-nine percent of families have some income from employment. In spite of the large number of single parent families, only 6% of families receive income from child support.

Children's Level of Functioning: Children's level of mental health functioning at intake is presented in Table 1. The level of functioning scales are measured on a 1 to 50 point scale, where lower values indicate higher functioning. The instrument is anchored at ten point intervals into the following five categories: above average functioning, average functioning, slight dysfunction, moderate dysfunction, and severe dysfunction.

Table 1
Admission Level of Functioning (N = 316)

Level of Functioning Scale	Average Functional Level	Mean Score	Standard Deviation	Percent > Moderate Functional Limitation
Feeling/Mood/Affect	Slight limitation	28.965	9.368	40.4%
Thinking/Mental Processes	Slight limitation	21.272	8.182	11.8%
Medical/Physical Health	Average	17.171	6.678	4.8%
Substance Use	Average	16.145	8.970	9.6%
Family Living	Moderate limitation	33.246	9.409	63.6%
Interpersonal Relationships	Slight limitation	27.588	.532	33.3%
Role Performance	Slight limitation	26.987	10.165	33.3%
Social/Legal Behavior	Slight limitation	24.139	10.973	26.8%
Self Care/Basic Needs	Average	16.810	6.211	3.1%

Clearly, on average, this family preservation sample is faring reasonably well in many areas. As a group, their functioning is average in three areas: Self Care/Basic Needs, Medical/Physical Health, and Substance Use. Moderate dysfunction is noted in only one dimension of functioning: Family Living. All other dimensions of functioning are, on average, in the slight dysfunction range. However, all children exhibited at least moderate dysfunction in at least one functional domain. Sixty-three percent are at least moderately dysfunctional in the family living domain, while 40% show this level of dysfunction in the Feeling/Mood/Affect dimension. One third exhibit at least moderate dysfunction in the Role Performance and Social/Legal domains.

Referral Situations

Many (42.2%) families are referred by a county department of social services. Referrals from the Division of Youth Services or from probation departments account for 21.5% of referrals. Mental health system referrals, including the two state hospitals, private hospitals, community discharge planning units, and ongoing mental health caseloads, account for 30.8% of referrals, while another 7.5% come from other community sources, such as insurance companies and school district referrals. Over half of cases (52.3%) are placement prevention cases; the remainder involve reunification of a family following the placement of a child. In terms of involvement in the legal system, 10.1% of children have delinquency charges pending at the time of intake, while another 16.4% are already involved with the juvenile justice system. Tables 2 and 3 present information on the previous placements of target children and the presenting problems of families. Over seventy percent of children have experienced at least one previous placement, with over fifty percent having been in foster care, a correctional facility or a psychiatric hospital. The families are characterized by conflict, parenting failures and children's behavior problems, although each family has its own complex set of additional presenting problems.

Table 2
Previous Placements

Type of Placement	Percent of Children
Psychiatric Facility	27.2
Foster Care	13.9
Shelter Care	11.1
Correctional Facility	12.3
Relatives	10.8
Detention Center	9.8
Group Home	8.9
Residential Child Care Facility	7.6
Other Placement	3.8
(Children with multiple placements are represented in multiple categories.)	
Numbers of Previous Placements	
0	29.4%
1	45.3%
2	15.8%
3+	10.0%

Table 3
Presenting Problems

Presenting Problems	Percent of Cases
Parenting Issues	90.4
Family Conflict	84.9
Child Behavior Problems	84.9
Family Member Mental Health Issues	63.8
Divorce or Separation Issues	46.9
Physical or Domestic Violence	44.9
Severe Financial Hardship	36.9
Child Abuse	34.9
Home Management Issues	34.6
Concrete Service Needs	33.7
Alcohol Abuse (by some family member)	33.4
Criminal Record	32.7
Suicidal Tendencies	30.1
Child Neglect	27.6
Sexual Abuse or Incest (Present or History)	25.3
Medical Illness or Disability	22.4
Drug Abuse (by some family member)	18.6

Presenting Problems	Percent of Cases
Developmental Disability	13.8
Other Problems	9.9
Average Number of Problems = 7.7	

Mental Health Family Preservation Services

Tables 4 and 5 reflect the mental health family preservation service targets and follow-up services in place at termination. These services are most likely to focus on improving parenting skills and family communication, developing skills to manage anger and child behavior, and providing general mental health counseling. However, many other service goals are identified in response to families' specific needs. Mental health family preservation workers are most likely to identify individual counseling as a follow-up to service, with family counseling, support groups and other service packages used in approximately a quarter of cases.

The length of service for family preservation ranged from 9 to 152 days, with an average of 43.5 days. This is approximately seven weeks in duration, and indicates that, on average, Colorado family preservation services are providing interventions that are slightly longer than the 4 to 6-week model from which they were conceptualized.

Table 4
Service Targets

Service Goals	Percent of Cases
Parenting Skills	77.8
Communication Skills	67.1
Behavior Management	66.8
Anger Management	50.0
Mental Health Counseling	49.7
Self-Esteem	38.9
Stress Management	37.3
Support Services	32.3
Alcohol Monitoring	11.4
Home Management	25.9
Concrete Services	25.0
Depression Management	25.0
Employment	15.5
Medical Attention	11.1
Time Management	9.8
Financial Assistance	8.5
Sexual Abuse Intervention	7.3

Service Goals	Percent of Cases
Gang Awareness	7.3
Housing	6.6
Help Budgeting	6.3
Nutrition	4.1
Other	6.0
Average Number of Service Targets = 5.8	

Table 5
Follow-Up Services in Place at Termination

Follow-Up Services	Percent of Cases
Individual Counseling (for some family member)	47.0
Open Social Services Case	35.3
Support Group	27.9
Family Counseling	26.4
Special Education	18.7
Group Counseling (for some family member)	11.4
Substance Abuse Counseling (Child)	6.3
Substance Abuse Counseling (Parent)	5.1
Other Services	29.6
Average Number of follow-up services = 2.0	

Placement Outcomes

Placement follow-up data were gathered for children at 3, 6, 9, and 12 months following termination from the IFPS programs. Placement was defined as a publicly funded placement, or an institutional placement of any type of more than 1 week in duration. Data were coded so as to identify for each time period: (1) the expected *n* (i.e., the number of families meeting the appropriate criteria for time since intervention), (2) the number of children remaining out of placement, (3) the number who entered placement during this time period, and (4) the number who had previously been placed. The results are presented in Table 6.

Table 6
Placement Outcomes by Time Period

Time Period	Placement Outcomes				
	Expected N	Total not Placed	Placed this Time Period	Placed Previously	Missing
3 mo.	316	265	51	0	0
6 mo.	288	151	14	45	78
9 mo.	271	92	13	53	113
12 mo.	117	58	3	55	117

At 3 months post-termination, the figures are clearly interpretable, as 83.9% of children avoided placement. At 6 months, however, the problem of missing data surfaces. Seventy-eight of 288 cases, or 27%, are missing. Of the 210 cases for whom data are available, 14 entered placement during this time period, and 45 experienced a placement episode previously. Thus 28.08% have experienced placement. At the latter two time points, missing data make interpretation impossible.

Predictors of Placement

Earlier it was noted that family preservation research in both child welfare and children's mental health has provided relatively little information about for whom, and in what circumstances, interventions are optimal. Here, the correlates of placement are examined in order to add to the emerging body of literature about risk and protective factors for children with mental health issues and their families. Programs may seek to use information on risk and protective factors in two ways: (1) They may wish to improve their intervention models to address risk factors more explicitly and/or (2) they may wish to exclude certain families from service based on patterns of risk factors. Therefore, two results of the analysis are of interest. First, what are the variables that increase or decrease the risk of placement for children with mental health issues? This has implications for intervention design. Second, how good is the predictive model that emerges? This has implications for decisions about access to service.

This question was addressed using backward logistic regression, a multi-variate technique in which a set of variables is identified that best predicts an observed, dichotomous outcome in this case placement. Placement outcome was examined at both 3 months and 6 months post-termination. Because of the number of predictor variables and the limited sample size ($n = 237$ following deletion of missing data), models were built in a two-step process. In the first step,

variables were organized into four sets: demographic, level of functioning, referral situation, and service targets. Backward regression of each set onto placement identified those variables that were significant at the .1 level. In the second stage, all variables emerging from the first stage were used in a backward logistic regression from which the most parsimonious set of variables that best predict placement emerged.

Logistic regression produces several interesting pieces of information:

1. It assesses how well a model fits the data, based on the Chi Square Goodness of Fit (GFI) and the -2LL statistic, both of which should exceed .05. A model with poor fit cannot not be interpreted; that is, we can conclude only that no set of variables predicts the outcome significantly.
2. Individual significant variables are identified.
3. The relative strength of these variables in predicting the outcome is given in the form of the Odds Ratio. Odds Ratios greater than 1 are interpreted as increasing the likelihood of the outcome. For example, for a dichotomous variable with an Odds Ratio of 2.3, we might say that families having this attribute are 2.3 times as likely to experience the outcome than families without this attribute. For Odds Ratios less than 1, the interpretation is usually stated as a percent reduction in likelihood. For example, again for a dichotomous variable, with an Odds Ratio of .2, we could say that families having this attribute are 80% less likely to experience the outcome than those without the attribute.
4. Logistic regression gives us information about the quality of the predictive model. When all risk and protective factors in the model are considered, how well does the model predict outcome for the sample, and where does the most error occur?

The 3-month model (Table 7) provides good fit to the data, based on both the GFI and -2LL statistics. Individual variable impact on the outcome of placement varies considerably. Children with higher (more dysfunctional) ratings on the Social/Legal Behavior variable are 1.04 times more likely to be placed with each one point increase on the 50 point scale. Thus, an increase from one functional category to another (10 points) increases the odds of placement by 40%. Having a family member with a mental health issue increases the odds of placement by a factor of 2.84. Children who have been previously placed in a group home are 6.57 times more likely to be placed following family preservation services. This is by far the greatest individual impact on placement odds.

Table 7
Predictors of Placement: 0-3 Months Post-Intervention

Variable	Beta	SE	p	R	Odds Ratio
Age	-.0823	.0480	.0865	-	.9210
Social-Legal Functioning	.0454	.0195	.0201	.1269	1.0464
Number of Follow-Up Services	-.3022	.1441	.0360	-	.7392
Previous Group Home Placement	1.8840	.5267	.0003	.3359	6.5796
Family Member Mental Health Issues	1.0555	.4415	.0168	.1325	2.8434
Chi Square Goodness of Fit			.2397		
-2 Log Likelihood			.9873		
df			230		

The two other variables present in the model decrease the odds of placement. An increase of one follow-up service results in a 26% decrease in odds of placement. Increased age of the child decreases the odds of placement by a small factor of 8% for each increase of one year in age. Notice that age remains in the model without a significant beta value. However, age cannot be deleted from the final model without a significant decrease in model fit and classification accuracy. As we are concerned at this stage in both the odds associated with individual variables and the practical ability to predict placement, this variable is interpreted.

Examination of the classification table gives information on the accuracy of prediction using the above model. In this case much of the error in the model lies in the ability to accurately predict placement as opposed to no-placement. The model accurately predicts no-placement in 99.49% of the sample. However, its prediction of placement is only correct in 17.95% of cases, for an overall classification rate of 86.02%.

The 3- to 6-month model (Table 8) displays good fit to the data using both the Chi Square GFI and the -2LL indices. Moreover, this model does a much better job of predicting the placement of children during this time period than does the model from the 0-3 month time frame. Overall, the model successfully predicts the state of 95.49% of cases. Again, most error in the model comes in the prediction of placement. The model successfully predicts no-placement for 99.19% of applicable cases, but only successfully predicts placement for 50% of applicable cases.

Table 8
Predictors of Placement: 3-6 Months Post-Intervention

Variable	Beta	SE	p	R	Odds Ratio
Projected Foster Care Placement	-1.6254	1.114	.1446	-.0425	.1968
Child Behavior Problem	-2.3257	.8807	.0086	-.2631	.0987
Alcohol Monitoring Service Target	1.7426	.8053	.0305	.1944	5.7120
Time Management Service Target	2.3108	.9829	.0187	.2229	10.0823
Chi Square Goodness of Fit				.1834	
-2 Log Likelihood				1.000	
df				127	

A projected placement to foster care and the presence of a child behavior problem both reduce the odds of placement. Previous foster care placement reduces the odds by 80.32%; the presence of child behavior problems reduces the odds by 90.13%. Families with a service target of alcohol monitoring are 5.7 times more likely to have their child placed. Families with a service target of time management are 10.03 times more likely to have their child placed.

Previous research has indicated that child behavior problems are risk factors (Bath et al., 1992; Fraser, et al; 1991). In this case, it appears that family preservation is successful with these cases. It may well be that these child behavior problems are experienced in the family setting as opposed to community settings, as evidenced by the lack of predictive ability of delinquency- oriented variables. Projected foster placement is a protective factor, again, perhaps because family preservation interventions are successful with families presenting with parent skill deficits.

On the service side, two service targets serve as risk factors. The first, alcohol monitoring, is easily interpretable. In a short-term intervention, families who received necessarily limited substance abuse intervention may well not be able to maintain improvement over a longer follow-up period. Not as easily interpreted is the finding that families for whom time-management is a service target are at elevated risk of child placement. One explanation may be that families for whom this is a service target are struggling with basic skills in family management.

It may help to examine the pattern of bi-variate relationships surrounding time management to get a picture of its relationship to other variables. A time management service target is not related to any demographic variables, including income. It is related significantly to the sheer number of service targets identified ($t = -4.08$, $p = .002$). Specifically, it is most likely to

occur in concert with the following service targets: budgeting, home-management, nutrition, depression management, mental health counseling, self esteem, stress management, and provision of support services. A time-management service target is not related to any variables that might be expected to cluster with child neglect, including substantiated neglect, the presence of a pending dependency or neglect hearing, income, or concrete service or financial needs as presenting problems. This indicates that this variable may be tapping into a cluster of attributes related to parental incapacity, which manifest in terms of significant disorganization in the home, but which are not associated with the legal definition of neglect.

Discussion

Risk and Protective Factors: Implications for Program Design

These results indicate that prediction of placement for this mental health sample is dependent on the time frame under consideration. There are important differences between risk and protective factors relative to placement during the first 3 months post-termination and the second 3 months post-termination. During the first 3 months, children's level of functioning in the Social/Legal behavior domain, a previous group home placement and the presence of mental health presenting problems in the family increase risk of placement, while the number of follow-up services in place serves to lessen risk. During the second 3-month period, the presence of a child behavior presenting problem and a projected placement in foster care serve as protective factors, while two service targets, alcohol monitoring and time management, serve to increase risk.

Perhaps most importantly, in the first 3 months following intervention, the number of follow-up services serves as a protective factor. No particular service package is predictive of success; it is the density of the follow-up network that is protective for families. This underscores the need to view family preservation services in the mental health system as just one of a continuum of services available to families. As a short-term, crisis-oriented service, IFPS cannot stand alone if it is to be effective in helping families make gains that can be sustained. The number and nature of the follow-up services in place at termination constitute key elements of the intervention model, not simply a post-script to it.

It was expected that children's level of functioning in critical domains would have predictive value with regard to subsequent placement. This is only partially true for this sample. The only functioning variable that enters into a final model is children's Social/Legal Behavior functioning, where increased functional problems are related to placement during the first 3 months following service. The implications for service during the IFPS intervention include targeting interventions to children's social and legal behaviors in the community, as well as

to children's behavior in the home. Fraser (1996) notes that family-centered activities aimed at delinquency prevention need to "focus on lowering expressive and incendiary parent-child interchanges, setting graduated sanctions for defiant behavior, providing effective alternatives to harsh discipline and increasing consistency in rewarding desirable behavior and ensuring consequences for aggressive behavior" (p. 353).

When the finding regarding social/legal functioning is coupled with the finding that follow-up services are critical to maintaining family unity, it is clear that the nature of the delinquency prevention follow-up services is important. The literature suggests that certain school, peer, and neighborhood interventions are effective in supporting the social and legal behavior of children and youth (Fraser, 1996). School-oriented interventions should address children's skills for school involvement and academic achievement, address negative views and experiences of school, and promote involvement in school activities, while promoting parents' home-school collaboration and ensuring provision for monitoring children in after-school activities. Peer-oriented interventions include social skills training, with a focus on processing information and problem solving, and programs focusing on weakening negative beliefs and values and strengthening bonds of attachment of positive peer groups (Fraser, 1996). Parents should be encouraged to set goals related to peer interactions, convey their own positive beliefs and values, and target parenting interventions to peer issues (Henegger, Schoenwald, Pickrel, Bondino, Borduin, & Hall, 1994). Neighborhood programs, which include after-school tutoring, vocational and mentoring activities, along with proactive opportunities to help others, are also important (Fraser, 1996).

Mental health problems of another family member significantly increase the odds of placement in the first few months following IFPS. These mental health IFPS programs would appear to be ideally situated to maximize cooperation between family preservation and traditional mental health services, and the data on service follow-up indicate a great reliance on mental health programs as follow-up services. In spite of this, only one presenting problem results in increased risk of placement in the short-term: family mental health issues. This indicates that more work is needed in the design of family preservation intervention in these areas, including (1) scrutiny of the use of concurrent mental health services for all family members experiencing mental health problems, and (2) examination of the congruence between mental health services (concurrent and follow-up) and family preservation intervention. The qualitative data from the intervention fidelity study (Potter, 1995) indicate that IFPS workers believe that the philosophical fit between traditional mental health services and IFPS is not good, and that families experience a significant shift in service philosophy as they move from family preservation services to mental health follow-up services. Again, the power of service success may lie in the quality of the helping relationship, and in this case, in the continuity of this type of relationship in follow-up services.

During the 3-6 month time frame following intervention, projected foster care placement and presenting child behavior problems serve as protective factors, indicating that family preservation interventions are adequate to the needs of families in need of parenting skill development. However, two service targets greatly increase the risk of placement: alcohol monitoring and time management. In both cases, it may be that the limited intervention available during family preservation is simply not adequate to effect lasting change in these areas. Moreover, although follow-up services are a protective factor during the earlier time-frame, they do not function in that capacity for this time frame. These findings have implications for the design of the family preservation intervention package, which may need to include concurrent substance abuse intervention as well as well structured follow-up. Similarly, for families experiencing extreme disorganization and parental incapacity, longer term family-based interventions may be indicated, including the use of intensive family preservation during the immediate crisis, followed by continued supportive home-based support services.

The results of this study provide empirical support for some of the current discussion among family preservationists about the kinds of families at risk for service failure. Wells and Tracey (1996) summed their concerns as follows: "We speculate that two groups of families are at particular risk for failure in these programs: impoverished families headed by single mothers who neglect their young children and have significant mental health and substance abuse problems of their own, and families with highly oppositional adolescents who may have been placed previously" (p. 678).

Model Fit: Implications for Program Decisions

What has been learned about risk factors and the implications for decisions regarding access to services? Program administrators look to predictive research for help in screening out families who are not likely to benefit from an established intervention. In general, however, risk and protective factors, as well as the models built of them are not sufficiently accurate in their prediction of failure to warrant denial of access to services. This is certainly true for the models that emerge from this study.

Although the overall models for the separate time periods fit the data well, they do not predict placement very well. In both cases the model does a good job of predicting which children will remain home, but a very poor job of predicting which children will be placed. The latter is, of course, of the most interest. The predictive model for the 3-6-month time frame is the best, predicting placement at 50% accuracy; yet, this results in little practical usefulness, since one could simply flip a coin and make as informed a decision about who will succeed! Thus, these results are useful in considering which families may be at increased risk of placement for the

purpose of designing or redesigning a targeted intervention package for families with these characteristics. These results are not useful in making screening decisions regarding access to services.

Future Directions

The results from this study raise some interesting questions for family preservation practice. Because this research is exploratory and examines only one group of service recipients, the results are not conclusive. However, these results do add to the growing body of knowledge about the nature of IFPS programs in children's mental health systems, the families they serve, and the factors associated with maintaining family unity.

While this study expands the information available on the service context and predictors of success for IFPS services in mental health settings, much more information about IFPS in mental health settings is needed. There is a need to focus on the changes in children's functioning in critical life domains as a result of IFPS or as a result of a package of services of which IFPS is a part. There is a need to focus on the critical aspects of IFPS intervention that are most associated with child and family functioning changes, and a particular need to focus on the nature of the helping relationship as it relates to service success. Research on the effectiveness of IFPS as opposed to other interventions, such as Multi-Systemic Therapy (MST) (Hennegler, et al., 1994), which might occupy a similar position in the continuum of care is particularly important. The next generation of IFPS research is likely to focus on these types of questions, that is, on generating information that is directly applicable to practice and programming decisions for specific IFPS populations.

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