Family Influences on Treatment Refusal in School-linked Mental Health Services

Mary L. Keeley · Brenda A. Wiens

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Abstract This study analyzed family influences on treatment refusal in school-linked mental health services (SLMHS). Specifically, it assessed whether levels of family cohesion, conflict, and organization were related to whether a family refused to initiate recommended treatment. Children \( N = 133 \) referred for emotional and behavioral problems and their families participated. Results indicated that (1) family environment factors explained a significant amount of variance in treatment refusal after controlling for demographic factors, (2) families of children with predominantly internalizing symptoms were at greater risk for refusing treatment than families of children with predominantly externalizing symptoms, and (3) lower level of family cohesion was an individual risk factor for refusing treatment. Incorporating an evaluation of family environment within SLMHS assessments may aid in the identification of areas wherein intervention may be beneficial in preventing treatment refusal.

Keywords Family influences · Assessment · Treatment refusal · School-linked mental health services · Cohesion

Research suggests that many youth in need of psychological services are not receiving them. The Office of Technological Assessment reported that 21% of US children from the ages of 9–17 have diagnosable mental health problems, but an astounding 70% of those children do not receive needed services (as cited in US Department of Health and Human Services [USDHHS] 1999). This poses a

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significant problem, as studies suggest that children and adolescents who do not complete treatment have worse outcomes than those who complete treatment on measures of individual, academic, home, and community functioning (e.g., Kazdin et al. 1994; Prinz and Miller 1994). Burns and colleagues found that of youths who did receive services, the overwhelming majority (70%) received services from the schools, with only 11% receiving services from the specialty mental health sector, 16% from the health sector, and 4% from the juvenile justice sector (as cited in USDHHS 1999). Because school-linked mental health services (SLMHS) essentially reach children “where they are” (Weist et al. 2003, p. 1), they offer a promising approach to transporting empirically supported treatments from research laboratories to real-world settings, thereby increasing access and reducing barriers to needed mental health services (Armbruster and Lichtman 1999). However, researchers of SLMHS acknowledge that offering services in the school setting does not necessarily overcome the challenges associated with engaging and empowering families to utilize and participate in mental health services for their children (Weist and Paternite 2006). Research investigating SLMHS utilization is critical for understanding some of the mechanisms underlying successful transportability of treatments (Owens and Murphy 2004). This type of research may be particularly important in rural communities because access to mental health care is generally poorer in rural areas (McCormick et al. 2000), and research has demonstrated that the school system is the single most widespread provider of mental health services to youth in rural areas (Angold et al. 2002).

The field of school-based and school-linked mental health services is growing and expanding rapidly. School-based mental health services are typically provided within the school environment, whereas school-linked mental health services refer to services that are in coordination with the school but not necessarily provided on school grounds (i.e., may be provided at off-site buildings). School-based and school-linked mental health services are different from more typical clinical services in the extent to which they provide consultation to, and are integrated with, the school. Efforts are being made to identify key elements among successful programs to optimize service delivery and effectiveness, and these include (1) school-family-community agency partnerships and collaboration, (2) commitment to a full continuum of mental health care, and (3) access to services for all youth (Paternite 2005). Whereas earlier delivery models were based primarily on consultation services, the full continuum of mental health care spans assessment, consultation, case management, universal and selective prevention, and indicated intervention services (Prodente et al. 2002). Systematic reviews of SLMHS have indicated that they are effective in reducing symptomatology, increasing coping and social skills, and improving academic functioning (Hoagwood and Erwin 1997; Rones and Hoagwood 2000). Unlike university-based mental health clinics, which often attract relatively homogeneous clients, youth and families receiving services from SLMHS are demographically diverse and present with a heterogeneous mix of symptoms, problems, and circumstances (Prodente et al. 2002). Research has clearly demonstrated the utility of school-based interventions for the prevention and treatment of childhood internalizing and externalizing problems in rural, urban and...

Despite the existence and reported effectiveness of SLMHS, there is still a need to examine factors that either enhance or interfere with success of treatment within the context of SLMHS (Owens and Murphy 2004). In particular, examining factors associated with low levels of treatment utilization can aid in the identification of clients at risk for refusing needed services, as well as in the identification of areas in which intervention may be helpful (Storch and Crisp 2004). One of the many ways to analyze utilization involves assessing treatment refusal. Garfield (1989) defined treatment refusers as those families who have been recommended and offered treatment but never appear for therapy sessions following the intake session. Analyzing utilization based on this criterion is of critical importance in gaining insight into variables that potentially influence families to refuse treatment after they have exhibited initial interest in services. Furthermore, investigating these variables will inform the development and modification of interventions that foster engagement in treatment offered through SLMHS.

Recent empirical attention related to mental health service utilization has largely focused on the intervention phase of treatment (i.e., therapy), with few studies specifically evaluating the intake phase of treatment (i.e., mental health assessment). The intake session is viewed as an important aspect of the treatment process, although it has been posited that it may not constitute actual treatment, but instead an important component of treatment preparation (Garfield 1989). Because clients who terminate following the intake session may be different from those who initiate treatment and subsequently drop out, it is important to investigate predictors of treatment refusal following the intake so as to guide intervention research aimed at motivating parents to initially consider psychological treatment recommendations. Relatively few studies have analyzed treatment refusal within the context of SLMHS. Of these studies, the majority has focused exclusively on primary or targeted preventive services with little empirical attention paid to treatment refusal in treatment intervention services within SLMHS (Rones and Hoagwood 2000). Furthermore, much of the research focus analyzing treatment refusal has been conducted in urban or suburban settings, with less attention paid to utilization in rural areas (Angold et al. 2002). Overall, these studies suggest that offering services within schools facilitates the utilization of services. Although research has identified psychological variables contributing to utilization (e.g., impairment, perceived impact of symptoms on functioning, perceived barriers) (Angold et al. 2002), it remains unclear whether specific family-related psychological variables impact treatment refusal.

Psychological variables related to family processes deserve further investigation, as research has indicated family involvement as a key component in SLMHS utilization and effectiveness (Rones and Hoagwood 2000; Vanderbleek 2004). Research has also suggested that therapy attendance is largely dependent on family motivation, participation, and investment in the child (Kazdin 2004). Despite the known importance of family involvement, research on influential family-related factors in the utilization of SLMHS is scarce (Vanderbleek 2004). Literature related to service utilization within the context of laboratory- and university-based settings
has analyzed the impact of family-related factors on treatment refusal, but these studies have either focused exclusively on the structural aspects of the family (e.g., family composition), or have combined numerous aspects of the family into one variable (e.g., “family stress”) (Kazdin and Mazurick 1994; Kendall and Sugarman 1997). Researchers have recommended moving beyond purely demographic or overly broad variables and selecting theoretically sound variables that fit within a conceptual framework (Armbruster and Kazdin 1994; Kazdin et al. 1997).

Utilizing family stress and coping theory, researchers have conceptualized children’s mental health service use as a function of multiple factors, including several family-related factors (e.g., family stressors, family resources, perceptions, and family strain) (Brannan, Heflinger, & Foster, 2003). Research examining family-based models of service utilization across sectors has highlighted caregiver strain as an important predictor of utilization and has illuminated how separate dimensions of caregiver strain differentially impact service use. Specifically, objective caregiver strain (i.e., the extent to which observable negative events related to the child’s functioning have been a problem for the family) has been related to higher rates of service utilization, higher rates of more intensive treatment (i.e., residential), the tendency to alternate between higher (e.g., residential treatment) and lower levels (e.g., outpatient services) of care, the tendency to experience no gaps in care, and higher service costs (Brannan and Heflinger 2005; Brannan et al. 2003; Farmer et al. 1997). In contrast, subjective strain (i.e., negative feelings concerning the child’s functioning) has been associated with lower rates of service utilization, lower service costs, shorter treatment length, and the tendency to stay in the same level of care (Brannan et al. 2003; Foster 1998). Additionally, such research has demonstrated that poorer family functioning and a lack of family material resources affects service utilization (Brannan and Heflinger 2005; Brannan et al. 2003). Findings from these studies suggest the importance of focusing on family-related factors as targets for interventions aimed at increasing rates of service utilization.

This study was guided by social-ecological theory (Bronfenbrenner 1979), family systems theory (Minuchin 1974), and social-interactional perspectives (Patterson et al. 1992) to analyze treatment refusal within the context of SLMHS. These theoretical frameworks purport that all family members are part of an interactive and interdependent network, and suggest that there are several influential characteristics of family dynamics that have a significant impact on each family member’s overall functioning. Such characteristics may also have an impact on a family’s decision to accept recommendations for psychological treatment for their child. Drawing from these frameworks, Moos and Moos (2002) have approached the assessment of family dynamics by using the concept of perceived family environment, conceptualized as a multidimensional construct of systemic interactions. As demonstrated by past research (Armbruster and Fallon 1994; Perrino et al. 2001; Harrison and McKay 2004), critical dimensions relevant to treatment utilization research include family conflict, cohesion, and organization. Families characterized by high conflict are, by definition, conflictual, and may have feelings of anger and resentment toward each other. Consequently, these feelings may interfere with the child receiving treatment. Families characterized by low cohesion
are posited to be less committed to one another, and therefore, may be less likely to help and support one another in receiving treatment. Finally, in disorganized families, it is often difficult to follow through with commitments. Generally speaking, disorganized families may be at a disadvantage in terms of scheduling treatment sessions, coordinating transportation, and remembering appointments.

Incorporating an assessment of family factors within the analysis of treatment utilization has the potential to further the understanding of treatment refusal and permit insight into family-related treatment targets and intervention strategies that may increase treatment engagement. Although effective treatment family engagement strategies have been developed (Coatsworth et al. 2001; Snell-Johns et al. 2004), more research relating to family factors, especially within the context of rural SLMHS, may help to guide the modification and improvement of these strategies for use in rural communities.

The current study attempted to expand on past research by uniquely dissecting the family environment into three empirically-supported key characteristics (i.e., conflict, cohesion, organization) and evaluating whether these characteristics predict treatment refusal, as these characteristics have the potential for being targets of intervention within the context of rurally-based SLMHS. Specifically, we hypothesized that family environment factors (i.e., high conflict, low cohesion, and low organization) would predict treatment refusal above and beyond family-related demographic factors.

Method

Participants

Participants were 133 children (47 girls and 86 boys) and their families living in a primarily rural region of the Southeastern United States. Another 27 families were asked to participate in the research aspect of the project, but these families either denied participation or did not sign consent forms. There is no available data regarding these families. This study includes data collected from referrals between October 2003 and June 2005. Children in the sample ranged in age from 4 to 18 (M = 11.15, SD = 3.18). Eighty-six percent of the children were Caucasian, 12% were African American, and 2% were Asian American. The ethnic make-up of the county is approximately 80% Caucasian, 17% African American, and 3% other ethnicities, which suggests that our sample had slightly fewer African American families than is typical of this area. Forty-four percent of the children came from single-parent families, 46% of families had an income less than $20,000, and 26% of children’s primary caregivers had completed less than a 12th grade education.

Procedures

This study was conducted with families receiving school-linked mental health services as part of a federally funded, comprehensive prevention and intervention
program (Columbia Acting Together for Children; CATCh) in a rural county in the Southeastern United States. This program involved a collaborative effort between the university and the county’s public school district. The program is designed such that professional school counselors (titled guidance counselors in this county) identify youth in need of interventions and refer these youth for services, which may include individual and/or family counseling, mentoring, tutoring, and other services. The university is one provider of counseling services, and graduate students, interns, and post-doctoral trainees provide these services, under the supervision of a licensed psychologist at the university, in the school district (located approximately 1 h from the university). Trainees are assigned to work in specific schools to provide in-school mental health services (e.g., individual treatment, teacher consultation, and psycho-educational and therapy groups) or in school district offices to provide after-school mental health services (e.g., individual treatment, family treatment). Because services are delivered in district buildings and schools, and are delivered at no cost to families due to grant funding, barriers to participation are greatly reduced. Therapy services focus primarily on the provision of evidenced-based treatments. For a more detailed description of the program see Evans and Rey (2001).

The Institutional Review Board at the authors’ institution approved all procedures. School counselors referred children and their families for assessments. Counselors identified at-risk students or processed requests for psychological services made by a child’s teacher or family (the majority of referrals were initiated by a teacher or school counselor), and met with parents to gain their consent for referral. Reasons for referral included a range of psychological problems (e.g., anxiety, depression, oppositional behavior, conduct problems) that were deemed by either school counselors, teachers, or parents to be interfering with functioning at school, home, or both school and home. The percentage of referrals for elementary (grades K-5), middle (6–8), and high school (9–12) children were 46, 40, and 14%, respectively. Referrals were sent to a district-wide CATCh office, whose staff included 3 school counselors, a case manager, and an office manager. The office manager contacted families to schedule an initial assessment, during which clinicians from the university met with parents to obtain informed parental consent and child assent to conduct a formal assessment of emotional and behavioral functioning and utilize this information for research. No systematic data was available regarding those families who never came in for a formal assessment based on the initial referral from the school counselor, as none of these families could be reached after repeated attempts at phone contact.

Once the intake was completed, parents met with CATCh staff (counselor and/or case manager) to discuss recommended services, and parents could indicate which services they wished to pursue. Referrals to specific agencies for therapy were based on several factors, including insurance status, parental preference, and scheduling. Therapists or agencies assigned to the child’s case contacted parents to schedule treatment. Children and families who were referred back to the university’s school-linked mental health services program, as opposed to another community agency or service, were included in this study, as we were unable to obtain information on treatment entry for other community mental health agencies under our research protocol. Approximately 60% of therapy referrals were to the
university’s school-linked services (as opposed to other providers). The majority of cases referred to university services were either uninsured or on Medicaid, as we were able to provide services at no charge due to grant support. The two other primary therapy providers in the county (community mental health, non-profit agency) provided services to children with Medicaid only. Children with private insurance could be seen by a private provider in the community or through our university services.

Measures

Participants completed a standard battery as part of their intake assessment. Child domains assessed at intake included age, gender, ethnicity, presenting problems, and overall severity of symptoms via the Child Behavior Checklist (CBCL; Achenbach and Rescorla 2001) or Behavior Assessment System for Children (BASC; Reynolds and Kamphaus 1998). Family domains assessed included primary caregiver’s education and occupation, family income, marital status, parenting stress via the Parenting Stress Index—Short Form (PSI; Abidin 1995), and family environment variables via the Family Environment Scale (FES; Moos and Moos 2002). For the current study, the primary variables of interest were child and family demographics, dimension of the child’s predominant presenting problem, and family functioning as measured by the FES.

Demographic Variables

Parents completed a general information sheet to assess demographic variables, including ethnicity, caregiver education and occupation, family income, and marital status.

Dimension of the Child’s Predominant Presenting Problem

Following the intake session, standardized measures completed by the parent were used to categorize the nature of the child’s predominant presenting problem. Broadband composite scores from the Child Behavior Checklist (CBCL; Achenbach and Rescorla 2001) or the Behavior Assessment System for Children–Parent Rating Scale (BASC-PRS; Reynolds and Kamphaus 1998) were used to make these delineations. Multiple measures were used due to an unforeseen mid-study change in assessment protocol. Both the CBCL and the BASC-PRS composite scales have demonstrated acceptable to excellent psychometric properties, including internal consistency ($\alpha$s ranging from .90 to .97 and test–retest reliability ($r$s ranging from .73 to .94) (Achenbach and Rescorla 2001; Reynolds and Kamphaus 1998). Problems that were internalizing in nature were characterized by elevated scores on a broadband scale of internalizing symptoms (i.e., depression, withdrawal, or anxiety), whereas problems that were externalizing in nature were characterized by
elevated scores on a broadband scale of externalizing symptoms (i.e., non-compliant behavior, aggressive behavior, hyperactivity, or impulsivity). Presenting problems characterized by elevations on both broadband scales of internalizing and externalizing symptoms were classified as comorbid. Symptom severity data were categorized based on cut-off scores from measurement manuals. Elevated scores represented sub-clinical or clinical levels of symptoms, represented by a T-score equal to or greater than 60. Based on this method of categorization, 32% of children \( (n = 43) \) were classified as having presenting problems that were predominantly externalizing in nature, and 29% of children \( (n = 39) \) were classified as having presenting problems that were predominantly internalizing in nature. Another 38% of children \( (n = 51) \) were classified as having comorbid presentations.

**Family Environment**

The Family Environment Scale (FES) measures perceived family climate (Moos and Moos 2002). The 90 true or false items compose 10 subscales. This study utilized the short-form version of the FES (Cohesion, Conflict, Organization, Expressiveness, Control) and examined three of these subscales, as rated by parents: Cohesion, Conflict, and Organization. The Cohesion subscale assesses the degree of commitment, help, and support family members provide for one another. The Conflict subscale assesses the amount of openly expressed anger and conflict among family members. The Organization subscale assesses the degree of importance of clear organization and structure in planning family activities and responsibilities. These three subscales were selected based on research supporting their strong psychometric properties, including internal consistency and convergent validity (Sanford et al. 1999), as well as research supporting their relation with treatment utilization (Armbruster and Fallon 1994; Perrino et al. 2001; Harrison and McKay 2004). Moos and Moos (2002) have reported extensive data supporting the reliability and validity of the FES, including its relationship to other measures of family climate and its ability to distinguish distressed and non-distressed families. Two-month test–retest reliability estimates of these subscales show acceptable values for Cohesion \( (r = .86) \), Conflict \( (r = .85) \), and Organization \( (r = .76) \). Internal consistencies for these subscales show acceptable alpha values for Cohesion \( (\alpha = .78) \), Conflict \( (\alpha = .75) \), and Organization \( (\alpha = .76) \) (Moos and Moos 2002).

**Parenting Stress**

The Parenting Stress Index-Short Form (PSI-SF) measures the parent’s perceived amount of stress in the parent-child system (Abidin, 1995). Subscales include Parental Distress, Dysfunctional Parent-Child Interaction, and Difficult Child. This study used the composite score to measure a parent’s total perceived stress. Internal consistency and 1- to 3-month test–retest reliability estimates for the composite score show acceptable values \( (\alpha = .95, r = .96) \).
**Treatment Characteristics**

Therapist indication of client status was assessed at the end of the intake phase. Treatment refusal was defined as cases in which the clients appeared for the initial assessment (i.e., intake) but did not begin treatment (i.e., did not attend at least one treatment session). Treatment acceptance was defined as cases in which the clients appeared for the initial assessment and began treatment.

**Data Analysis**

Descriptive statistics of demographic, clinical, and treatment variables were calculated for the total sample, refusers, and acceptors. Bivariate analyses (chi-square and *t*-tests) were conducted to compare children/families who refused treatment with those who accepted treatment on child-related and family-related factors. Data relevant for the hierarchical regression analysis were missing for 23 participants in the study, and thus these participants were excluded from the final analysis. Using chi-square tests and *t*-tests, no significant differences were found between participants included in and excluded from the final analysis in terms of demographic variables (i.e., child gender, child age, child race, family income, marital status, caregiver level of education), child presenting problem, and family environment variables (i.e., conflict, cohesion, and organization) (all *p* > .05).

A hierarchical multiple regression analyses was conducted to predict treatment refusal. Since several studies have suggested that attrition among may be related to family demographic variables such as income, ethnicity, marital status, and level of education (Garcia and Weisz 2002; Kazdin et al. 1997), these variables were entered in an initial step as covariates. Additionally, research has indicated the significant influence of a child’s dimension of presenting problem on whether families participate in treatment (Kendall and Sugarman 1997), and thus child’s predominant presenting problem (i.e., internalizing, externalizing, comorbid) was also entered in the initial step as a covariate. In the second step, the hypothesized family environment factors were entered. This procedure allowed for examination of the independent contribution of family environment factors as predictors of attrition. In addition to examining whether each variable block improved the prediction of treatment refusal, individual family environment factors were examined for their independent relation to outcome. Finally, a post-hoc analysis, in which parenting stress was added to the initial step of the hierarchical logistic regression analysis, was conducted to examine the potential influence of this variable on treatment refusal.

**Results**

Thirty-one percent of clients (*n* = 41) refused treatment following the initial intake session. Descriptive statistics on demographic, clinical, and treatment variables for the total sample, refusers, and acceptors are presented in Table 1. Bivariate analyses
comparing children/families who refused treatment with those who accepted treatment revealed significant differences as a function of family cohesion ($t = -2.26, p = .01$) and family organization ($t = -1.68, p = .05$), such that children/families characterized by lower cohesion and lower organization were significantly more likely to refuse treatment.

This study’s hypothesis was that family environment factors would predict treatment refusal above and beyond family demographic factors. The overall hierarchical logistic regression model fit statistics were significant, $\chi^2 = 16.96$, df = 9, $p < .05$. The hierarchical logistic regression analysis indicated that family environment factors accounted for an estimated 12% of additional variance in treatment refusal when family demographic factors and dimension of child’s predominant presenting problem were controlled, $\Delta \chi^2 = 10.71, p = .01$, $\Delta$Nagelkerke R square = .12.
When examining the overall model, two significant individual predictors emerged: dimension of child’s predominant presenting problem and family cohesion. Based on preliminary bivariate analyses indicating a trend for families of children with predominantly internalizing problems to be at an increased risk for refusing treatment compared to families of children with either predominantly externalizing problems or comorbid problems, we selected the simple contrast analysis to assess the influence of presenting problem dimension in the regression model. Results revealed that families of children with predominantly internalizing problems were at a significantly increased risk for refusing treatment compared to families of children with predominantly externalizing problems. The Odds Ratio (OR) for child’s predominant presenting problem was 4.04, indicating that families of children with predominantly internalizing problems were over 4 times more likely to refuse treatment than families of children with predominantly externalizing problems. No significant differences were found when comparing children with internalizing symptoms with children with comorbid symptom presentations. The OR for family cohesion was 1.05, indicating that each point increase on the FES Cohesion subscale, which ranges from 4 to 65, resulted in a 5% increase in the odds of refusing treatment. Table 2 presents data pertaining to beta weights, standard errors, Wald’s statistics, OR’s and 95% confidence intervals for each predictor variable in the final step of the logistic regression model.

The aforementioned regression model assessing the influence of family demographic and family environment variables on treatment refusal included the following variables: child’s predominant presenting problem and ethnicity; caregiver income, marital status, and education; family cohesion, conflict, and organization. Although data on parenting stress (PSI) were also available, this variable was not the focus of the current study. However, based on other literature in the field, it could be an additional variable that is predictive of treatment refusal. Therefore, post hoc analyses were conducted using parenting stress as a variable to

### Table 2

<table>
<thead>
<tr>
<th>Predictor</th>
<th>$\beta$</th>
<th>SE</th>
<th>Wald</th>
<th>OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$&gt;$20,000</td>
<td>.33</td>
<td>.50</td>
<td>.43</td>
<td>1.38 (0.52–3.66)</td>
</tr>
<tr>
<td>Married</td>
<td>.42</td>
<td>.51</td>
<td>.69</td>
<td>1.52 (0.56–4.10)</td>
</tr>
<tr>
<td>HS or college</td>
<td>.77</td>
<td>.55</td>
<td>1.99</td>
<td>2.17 (0.74–6.35)</td>
</tr>
<tr>
<td>Minority</td>
<td>−.42</td>
<td>.39</td>
<td>1.13</td>
<td>.66 (0.30–1.42)</td>
</tr>
<tr>
<td>Internalizing</td>
<td>–</td>
<td>–</td>
<td>5.41</td>
<td>–</td>
</tr>
<tr>
<td>Externalizing</td>
<td>1.40</td>
<td>.60</td>
<td>5.40*</td>
<td>4.04 (1.24–13.11)</td>
</tr>
<tr>
<td>Comorbid</td>
<td>.63</td>
<td>.55</td>
<td>1.32</td>
<td>1.89 (0.64–5.56)</td>
</tr>
<tr>
<td>Cohesion</td>
<td>.05</td>
<td>.02</td>
<td>5.24*</td>
<td>1.05 (1.01–1.09)</td>
</tr>
<tr>
<td>Conflict</td>
<td>.02</td>
<td>.02</td>
<td>.71</td>
<td>1.02 (0.98–1.06)</td>
</tr>
<tr>
<td>Organization</td>
<td>.03</td>
<td>.02</td>
<td>1.47</td>
<td>1.03 (0.98–1.07)</td>
</tr>
</tbody>
</table>

Note: * Model fit statistics: $-2$ log likelihood = 124.85, $\chi^2 = 16.96$, df = 9, $p < .05$

*p < .05
determine the potential impact on treatment refusal in this study. To assess its relative contribution, total PSI scores were added to initial step of the regression model used to test the study’s main hypothesis. This analysis revealed that including this variable in the model did not significantly change results. Level of parenting stress did not significantly predict treatment refusal.

Discussion

The aim of this study was to identify specific family environment factors associated with treatment refusal within the context of SLMHS. The present study was guided by social-ecological theory (Bronfenbrenner 1979), family systems theory (Minuchin 1974), and social-interactional perspectives (Patterson et al. 1992). It proposed that family environment factors (namely cohesion, conflict, and organization) would predict attrition above and beyond family demographic factors. The treatment refusal rate following the intake session was 31%, which is consistent with rates reported by other community mental health clinics (e.g., Greeno et al. 2002; Dierker et al. 2001). The main findings were that (1) family environment factors explained an estimated additional 12% of variance in treatment refusal after controlling for family demographic factors, (2) families of children with predominantly internalizing symptoms were at a significantly greater risk for refusing treatment than families of children with predominantly externalizing symptoms, and (3) a lower level of family cohesion was a significant risk factor for refusing treatment.

Family environment variables, with family cohesion being the most influential factor, explained a significant amount of additional variance in treatment refusal after controlling for family demographic factors and the dimension of the child’s predominant problem. This finding suggests that when planning interventions to reduce treatment refusal within SLMHS during the intake phase, it is important not to focus only on ways in which to engage the identified patient, but also to address the context of the entire family and its influence on whether the child/family enters treatment. Including evaluations of the family’s power structure, communication styles, alliances, conflicts, support, and level of family distress and disorder may aid in the identification of specific targets for intervention (Perrino et al. 2001). Such evaluations may assist the clinician in acknowledging family strengths and risk factors prior to treatment onset and enable him or her to address these issues up-front so as to reduce the likelihood of treatment refusal. For example, if a family is particularly disorganized, disengaged, or hostile, incorporating extra engagement sessions and tailoring treatment according to salient family issues (e.g., addressing conflicts, building cohesion, encouraging full support for the intervention) may reduce the likelihood of treatment refusal after the intake phase. Likewise, if a family is highly organized, motivated, or invested in their child, highlighting these strengths may foster engagement in treatment and in turn may also reduce the likelihood of treatment refusal. On the other side of the coin, family participation and involvement in treatment may be related to ways in which service systems and providers interact with families. Families may refuse treatment because they perceive providers as offensive, not competent, untrustworthy, or unable to...
understand or treat their current circumstances. Although this study did not assess these factors, future research should focus on identifying family perceptions of service systems and providers and the potential influence of such perceptions on treatment utilization.

The finding that families of children with externalizing problems are more likely to enter treatment than families of children with internalizing problems is not uncommon (e.g., Chavira et al. 2004), yet it poses a serious concern. Untreated internalizing symptoms are likely to interfere with a child’s functioning and pose an increased risk for poor outcomes in the future, such as suicide, substance use, and psychological disorders (Weissman et al. 1999). It may be that families do not perceive internalizing problems to be as serious or disruptive as externalizing problems, despite recognizing certain internalizing symptoms in their children. In support of this proposition, epidemiological research examining service use in several sectors (including schools) has indicated that the degree of perceived burden that a child’s symptoms are placing on the parent and family system significantly influences the likelihood of service use (Angold et al. 1998). More recent studies examining the impact of child problems on families have also indicated that higher levels of caregiver strain are associated with higher rates of service utilization (Brannan and Heftinger 2005; Brannan et al. 2003; Farmer et al. 1997). The current study focused exclusively on levels of parenting stress, rather than caregiver strain, and did not find a significant association between levels of stress and treatment refusal. It may be that a specific assessment of both subjective and objective caregiver strain may yield more interesting findings regarding the influence of these factors on treatment refusal in SLMHS. Findings related to dimension of presenting problem have important implications for the delivery of treatment recommendations during the intake phase; when recommending treatment to families of children with internalizing symptoms, psychoeducation regarding the serious yet often hidden and less burdensome nature of untreated internalizing symptoms seems necessary to increase rates of treatment acceptance.

The finding that families of children characterized by low cohesion are at increased risk for refusing treatment corroborates previous research indicating that families that are less supportive of their members utilize mental health services less than families that are more cohesive (Armbruster and Fallon 1994). These results establish the need for brief and targeted interventions to be implemented during the intake phase that address a family’s level of support for their child. Because it is obviously not feasible to change a family’s level of cohesion during a single intake session, such interventions should primarily focus on fostering a family’s sense of hope and investment in their child. These interventions should take a more strength-focused approach, in which the family’s resources are emphasized, positive alternatives to maladaptive behaviors are proposed, and positive intervention goals are established and agreed upon (Haynes and O’Brien 2000). Intervention strategies posited to increase cohesion include helping caregivers learn how to open the lines of communication with their children, assisting caregivers in developing skills to diffuse conflictual family interactions, and encouraging caregivers to spend more time with their children engaging in mutually desired activities (Huey et al. 2000).
Results indicated that family organization and family conflict were not significant predictors in the overall regression model predicting attrition. The null finding of family organization may be related to the positive effects that school-linked mental health programs have on lessening the barriers to services associated with transportation and parent schedules, such that most programs offer services during or immediately before or after school hours. Indeed, researchers have underscored the importance of having close collaboration between the educational system and children’s mental health providers to provide care for those who might not otherwise have access to treatment (Armbruster et al. 1997). Having a school be the “hub” of mental health services may attenuate the burden of treatment demands or obstacles (e.g., scheduling conflicts) that have been found to contribute to premature termination (Kazdin et al. 1997). The null finding related to family conflict is in contrast to other research that has found a significant relation between family conflict and treatment dropout (Armbruster and Fallon 1994). It may be that, for some families, high levels of family conflict actually motivate families to seek treatment because of the negative problems associated with overt hostile interactions. However, once in treatment, it may be that such conflict hinders treatment progress and may ultimately result in premature termination.

Limitations

In general, results from this study provide a promising avenue for informing future research on influences of the family environment on treatment refusal in SLMHS. However, several important limitations of this study deserve comment. First, in interpreting the results it is important to bear in mind that treatment may be influenced by the cultural contexts in which it occurs. The current study was conducted in a low-income, rural area of the Southeastern United States with a mostly Caucasian sample. The ethnic and regional makeup of our sample may have uniquely contributed to the study’s treatment refusal rate and influenced our results. However, it is important to study attrition in rural samples, as research suggests that rural areas often have fewer specialized mental health resources (Sayger and Heid 1990). Families living in rural areas are more likely to have lower income and educational opportunities, must travel further to receive services, and are more likely to be socially isolated, increasing the likelihood that they will refuse treatment (Campbell et al. 2003; Nordal et al. 2003). It is also important to highlight the variability in populations served by, as well as services provided by, school-linked and school-based mental health programs, and how such variability may limit the generalizability of results. The SLMHS in this study practiced empirically supported treatments to serve a relatively impoverished population in which 70% of clients had clinically significant problems, and as such, results from the current study may only be generalized to services and populations with similar characteristics. Furthermore, because the sample was small and not randomly selected, it may not be completely representative of children in the target schools.

Entry into treatment is a process in which many factors operate. Because this study’s theoretical conceptualization was grounded in the family domain,
examining family-related factors was most relevant. However, the current study is limited in that several potential predictors of attrition (e.g., time on waiting list, relevance of treatment, quality of the therapeutic relationship, parental psychopathology, or readiness for change) were not assessed (Garcia and Weisz 2002; Kazdin et al. 1997). Additionally, due to the nested nature of the data (i.e., students nested within schools), differences in student-level factors between schools could have impacted findings; however, such differences were not examined in this study. Moreover, due to the sample size, the number of predictors that could be included in more complex analyses was limited. Future studies of larger magnitude should include a more comprehensive assessment of these process variables within the context of SLMHS.

Another limitation of the present study was that assessment of family environment variables was limited to a parent’s self-report. Conceivably, a single parent’s interpretation of the family environment may be biased, and obtaining information from other family members, including the child, would have enhanced the reliability of the data. Future research should incorporate an evaluation of family environment using multiple informants as well as alternative methods of evaluation (e.g., direct observation). A final limitation concerns the unforeseen mid-study modification in assessment protocol that necessitated a change in the instrument used to assess the nature of the child’s presenting problem.

Findings from the present study suggest that incorporating an evaluation of family demographic and environment characteristics within school-linked mental health assessments may aid in the early identification of areas wherein intervention may be beneficial in preventing treatment refusal. Researchers of child treatment attrition have begun to examine evidence-based solutions for decreasing attrition with families that are underserved or at increased risk for refusing treatment (Perrino et al. 2001; Snell-Johns et al. 2004). Findings from this line of research suggest that there are clinical benefits to assessing family functioning prior to treatment onset. Furthermore, these studies have found significant improvements in attendance rates as a function of implementing brief, targeted interventions aimed at enhancing engagement and motivation and reducing identified barriers. Findings from the present study encourage the investigation of strategies that promote adaptation to the treatment process and that target the identified family mechanisms that contribute to treatment refusal within the context of rural SLMHS.

References


