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## Efficacy of Brief Strategic Family Therapy in Modifying Hispanic Adolescent Behavior Problems and Substance Use

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### Abstract

This study investigated the efficacy of brief strategic family therapy (BSFT) with Hispanic behavior problem and drug using youth, an underrepresented population in the family therapy research literature. One hundred twenty-six Hispanic families with a behavior problem adolescent were randomly assigned to 1 of 2 conditions: BSFT or group treatment control (GC). Results showed that, compared to GC cases, BSFT cases showed significantly greater pre- to post-intervention improvement in parent reports of adolescent conduct problems and delinquency, adolescent reports of marijuana use, and observer ratings and self reports of family functioning. These results extend prior findings on the efficacy of family interventions to a difficult to treat Hispanic adolescent sample.

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Disruptive behaviors and substance use continue to be among the most common presenting problems associated with child and adolescent referrals to mental health services (Kazdin, 1991; Substance Abuse and Mental Health Services Administration [SAMHSA], 2001). These problems are also among the most frequently diagnosed conditions in both outpatient and inpatient mental health facilities for children (Loeber & Stouthamer-Loeber, 1998). As a consequence, scholars and policy makers have asserted that more research is needed on the early treatment of clinical dysfunction in childhood and adolescence, treatment that not only can reduce current dysfunction but also can play a preventive role in later years (Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998; Kazdin, 1993).

Family functioning, often operationalized in terms of family conflict, support, communication, and parenting practices, has been shown to be critically important in the emergence and maintenance of adolescent behavior problems and drug use (Cauce, Reid, Landesman, & Gonzales, 1990; Loeber, Farrington, Stouthamer-Loeber, & Van Kammen, 1998). In many

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cases, family conflict and communication problems maintain conduct problems and drug involvement by directing negativity toward the youth and inadvertently reinforcing undesirable behavior (Patterson, Bank, & Stoolmiller, 1990). Perhaps for these reasons, treatments that target and modify family functioning have shown considerable promise in ameliorating adolescent behavior problems and drug abuse (e.g., Borduin, Henggeler, & Manley, 1995; Chamberlain & Rosicky, 1995; Schmidt, Liddle, & Dakof, 1996; Shadish et al., 1993).

## Unique Aspects of Behavior Problems and Drug Abuse in Hispanic Adolescents

The literature on Hispanics suggests that although rates and presentations of substance abuse and behavior problems are similar between Hispanic and non-Hispanic adolescents (SAMHSA, 2001), there also appear to be unique aspects in the development of Hispanic adolescent drug abuse (Santisteban, Muir-Malcolm, Mitrani, & Szapocznik, 2002). For example, a number of studies with Hispanic adolescents have found a significant positive relationship between acculturation and drug use (Buriel, Calzada, & Vasquez, 1982; Oetting & Beauvais, 1991). Acculturation can impact behavior problems both through its direct effects on the individual and indirectly, through the family. Vega, Gil, Warheit, Zimmerman, and Apospori (1993) found that family factors, such as low levels of family pride, cohesion, and parental support, along with acculturation stress (i.e., psychological distress resulting from the clash between the family's culture of origin and American culture), could impact delinquent behavior among Hispanic adolescents. Other studies suggest that acculturation may be associated with less effective types of parenting practices that directly impacted behavior problems in youth (Gil, Wagner, & Vega, 2000; Santisteban, Coatsworth, Briones, & Szapocznik, 2002).

There appear to be common threads that make the "Hispanic" category meaningful despite substantial variations within the category. For example, research has shown that, as a group, Hispanics show more family orientation, share certain patterns of value orientations such as familism (Sabogal, Marin, Otero-Sabogal, Marin, & Perez-Stable, 1987), and share many immigration and acculturation experiences (Vega et al., 1993) that differentiate them from non-Hispanic samples.<sup>1</sup> These unique factors associated with Hispanic adolescent drug abuse and behavior problems underline the importance of demonstrating empirically that the efficacy of family-based therapeutic interventions extends to Hispanic youth.

## Purpose and Hypotheses of the Current Study

Within the solid literature demonstrating the efficacy and effectiveness of family therapy with drug abusing and behavior problem youth (Borduin et al., 1995; Chamberlain & Rosicky, 1995; Shadish et al., 1993; Waldron, 1997), there are at least two major areas that remain to be fully addressed. This study was designed to address these two gaps. The first is the extent to which family-based treatment models are applicable to and efficacious with Hispanic youth and their families. In a comprehensive review of the effectiveness of family therapy for adolescents, Chamberlain and Rosicky (1995) identified the "need for more research to ascertain whether the interventions that are available are indeed effective with different culture groups" (p. 448). The importance of this observation is punctuated by the fact that although the population of Hispanic adolescents continues to grow rapidly, few studies evaluating

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<sup>1</sup>The group of Hispanics in this sample was relatively homogeneous in comparison to all Hispanics in the nation. The Miami Hispanics in our study were largely immigrant families from a poor to middle class background where the parents sought free services available in Spanish. This group was quite different from Hispanics on the island of Puerto Rico, who essentially live in a Latin country on the one extreme, and, at the other extreme, from fifth to seventh generation Hispanics in New Mexico where the parents might rarely, if ever, speak Spanish.

treatments for adolescent substance use and conduct problems have utilized large Hispanic samples that permit analyses of efficacy for this population. This is an unacceptable state of affairs given that there are currently 10.5 million Hispanic children under the age of 18, outnumbering non-Hispanic Black children, with Hispanics now the largest minority group in the United States (Lollock, 2001).

The second gap that the results from this study can address is the impact of traditional, once-per-week, office-based models on the functioning of early-stage drug using and behavior problem adolescents and their families. Data on this type of model are needed to complement the data that are currently available on family-based models that are more intensive and multisystemic (e.g., Henggeler, Pickrel, & Brondino, 1999; Liddle et al., 2001). Although more intensive and expensive multisystemic models appear to be particularly well suited for severe cases of delinquency and drug addiction, the verdict is still out on the ability of brief, office-based treatment models that focus on within-family treatment to reduce early-stage, mild to moderate adolescent conduct behavior problems and substance use, and to improve concurrent problems in family functioning (Ozechowski & Liddle, 2000).

A third objective of the present study was to provide further validation for a specific treatment model, brief strategic family therapy (BSFT; Szapocznik, Hervis, & Schwartz, in press; Szapocznik & Kurtines, 1989). BSFT is a theoretically driven intervention and is based on the structural and strategic family therapy principles furthered by Haley (1987). Considerable research has been conducted to test specific applications of BSFT (see Szapocznik & Williams, 2000). However, this is the first study testing BSFT against a non-family-based therapeutic modality in a sample of behavior problem and early drug using adolescents.

Three specific hypotheses were tested in this study. The first hypothesis proposed that family therapy would be associated with significantly greater reductions in adolescent behavior problems (i.e., between intake to termination) than would a group control condition (GC). Second, it was hypothesized that family therapy would result in significantly greater reduction in drug use relative to the GC. Third, it was hypothesized that family therapy would result in significantly greater improvements in family functioning (i.e., the theoretical targets of change in family-based therapy) than would the GC.

## Method

### Sample

Participants were 126 Hispanic adolescents and their families who (a) were self-referred or referred by a school counselor and (b) met the primary inclusion criterion, namely, parental or school complaints of externalizing behavior problems (e.g., violent or disruptive behavior, drug use, trouble with police). In addition to externalizing behavior problems, many participants also reported a broad range of cooccurring problems such as internalizing problems (e.g., anxiety or depression) and/or family problems (e.g., frequent arguments or fights within the family). Adolescent participants in the study ranged in age from 12 to 18 years, with 87% between the ages of 13 and 17 ( $M = 15.6$ ). Seventy-five percent of the adolescent participants were male. Among the families successfully engaged in treatment (i.e., intake assessment plus one therapy session), 64 were Cuban, 18 were Nicaraguan, 12 were Colombian, 8 were Puerto Rican, 4 were Peruvian, 2 were Mexican, and 18 were from other Hispanic nationalities.

Seventy percent of families were two-parent households. Families spanned a broad range of socioeconomic backgrounds and number of years living in the United States (education and occupation were scored separately rather than combined into a single socioeconomic status [SES] variable, because many immigrant families show a larger than expected discrepancy between education in their country of origin and occupation in the United States). In terms of

head-of-household education, the percentages in each of Hollingshead's Educational Scale categories were 36.3% for some high school or less, 27.4% for high school graduate, and 36.3% for some college or more. Reported head-of-household occupation, in percentages, according to the Hollingshead's Educational Scale categories, was unskilled/unemployed, 24.2%; skilled/unskilled labor, 33.1%; clerical/technical, 16.1%; and professional, 26.7%. Families had been in the United States for a median of 12.0 years (range = 2– 44).

### Adolescent Participants' Clinical Profiles

**Substance Use**—Although substance abuse was not required for inclusion in the study, at intake 52% of participants reported use of either alcohol or other drugs during the past month. Thirty-five percent of participants reported alcohol use during the previous 30 days, and 11% of the overall sample reported five or more occasions of use during the previous month. The most common illicit drug reported was marijuana, with 30% of the sample reporting use during the previous month and 15% reporting 5 or more days of use during the previous month.

**Behavior Problems**—Consistent with this study's focus on behavior problems, at intake the majority of the sample (94%) scored in the clinical range on one or both of the two behavior problem scales from the Revised Behavior Problem Checklist (RBPC; Quay & Peterson, 1987). These scales are Conduct Disorder (general behavior problems) and Socialized Aggression (delinquency in the company of peers). Clinical cutoffs for each RBPC scale were defined using the formula described by Jacobson and Truax (1991) and by using the clinical and normal sample norms.

### Design

This article reports on the second phase of a two-phase study. The experimental design of this study consisted of two distinct phases with separate sets of hypotheses and experimental procedures designed to test the hypotheses. The results of the pretreatment phase (engagement activity prior to the first treatment session) was reported in Santisteban et al. (1996). Once participants began the first therapy session, they entered the second phase of the study, the treatment phase. Regardless of the type of engagement intervention participants had received in the pretreatment phase, during the treatment phase participants received either family or group therapy, as these interventions would be practiced in a once per week, in-office setting. The hypotheses tested in the treatment phase were specific to comparisons between the family and group modalities. Participants who had received different types of engagement procedures in the pretreatment phase but who were assigned to receive family therapy in the treatment phase, were combined when evaluating treatment efficacy. A series of analyses conducted on pretherapy assessments of participants combined into the family condition showed no significant differences other than number of years in the United States.

### Intervention Conditions

**BSFT**—The family therapy condition consisted of BSFT (Szapocznik, Hervis, & Schwartz, in press; Szapocznik & Kurtines, 1989). One of the primary premises of BSFT is that adolescent symptomatology is rooted in maladaptive family interactions, inappropriate family alliances, overly rigid or permeable family boundaries, and the belief that a single individual (usually the adolescent) is responsible for the family's troubles. Consequently, BSFT operates according to the assumption that transforming the ways in which the family functions will produce reductions in the teen's presenting problem.

As in the structural family therapy tradition (e.g., Minuchin, Montalvo, Guerney, Rosman, & Schumer, 1967) on which it is based, BSFT's major therapeutic techniques fall into three major categories: joining, diagnosing and restructuring. The therapist "joins" the family by initially supporting the family structure; by tracking its patterns of interactions; by reflecting the

family's style, affect, activity, and mood; and by encouraging the family to behave or interact in its characteristic fashion, allowing the therapist to "diagnose" repetitive patterns of family interactions. Family problems are diagnosed in the areas of power distribution, boundaries, developmental appropriateness, identified patienthood, and conflict resolution (see Szapocznik et al., 1991, for more detail on BSFT diagnoses).

"Restructuring" refers to the change-producing strategies that the therapist uses in promoting new, more adaptive interactional patterns. During the restructuring phase, therapists actively intervene to redirect maladaptive family interactions, to foster open and effective communication, and to alter the family's configuration so that (a) the parent figures are the primary source of authority and (b) all individuals have equal opportunities to contribute to the family and to voice their issues and concerns. For example, the therapist may request that an overactive member remain silent, may reframe negative statements, and/or may promote more direct and open communication between the adolescent and his or her parents. More detail on BSFT's theoretical background and practice parameters can be found in Szapocznik and Kurtines (1989).

In the BSFT condition, all family members who lived in the household or were significantly involved in childrearing were asked to participate in therapy. Sessions were conducted at the clinic on the premises of the research center where the study was carried out. BSFT participants received between 4 and 20 weekly sessions of therapy ( $M = 11.2$ ,  $SD = 3.8$ ), depending on the clinical severity of the presenting problems. Each session lasted approximately 1 hr.

**GC**—A group format was selected as a control treatment because it is a modality widely utilized with behavior problem adolescents (Borduin et al., 1995) and does not hypothesize family functioning as its mechanism of change. The GC condition consisted of a participatory-learning group intervention in which adolescents were led by a facilitator and were encouraged to discuss and solve problems amongst themselves. The role of the group facilitator involved encouraging group cohesion, disseminating information regarding the detrimental effects of criminality and drug use, and maintaining a problem-solving atmosphere with regard to addressing problematic events in the group members' lives. The reader should note that this control condition did not represent a state-of-the-science or empirically validated group intervention. Rather, it was designed to represent groups conducted in school settings and was designed to control for factors common in any therapeutic intervention targeting problem behaviors (i.e., attention, support, drug abuse information and problem solving).

In the GC condition, only the adolescent was involved in therapy. Each group consisted of 4–8 adolescents, with group sessions conducted at the research center clinic. The number of sessions received by any given group participant ranged between 6 and 16 weekly sessions of therapy ( $M = 8.8$ ,  $SD = 2.6$ ). Each session lasted approximately 90 min.

To limit the possibility that control-condition group facilitators might intervene directly in the family system, facilitator contacts with family members were limited to one 15-min session per month. During these 15-min meetings, therapists were nondirective, listened to parent reports of adolescent and family functioning, and advised parents to be supportive of their adolescent's attendance at group sessions.

## Therapists

Therapists for this study were three child psychiatry trainees, six clinical psychologists, and a master's-level counseling professional. BSFT was administered by one child psychiatry trainee and six clinical psychologists. GC groups were facilitated by two child psychiatry trainees, one clinical psychologist, and one master's level counselor. Clinicians were assigned to conditions



on the basis of their level of expertise in the specific type of treatment. Tests for therapist effects yielded no significant differences between conditions.

## Measures

Four measures were analyzed for this report: The RBPC served as the measure of adolescent behavior problems, the Addiction Severity Index (ASI; McLellan et al., 1985) served as the measure of drug involvement, and the Family Environment Scale (FES; Moos & Moos, 1984) and the Structural Family Systems Rating (SFSR; Szapocznik et al., 1991) served as the measures of family functioning. Urine toxicology reports were used to corroborate adolescent self-reports of drug use. Spanish versions of self-report and interview measures were administered when preferred by participants (see Rio, Quay, Santisteban, & Szapocznik, 1989).

**Adolescent Behavior Problems**—The parent-reported Conduct Disorder and Socialized Aggression subscales were taken from the RBPC, an empirically derived measure assessing a wide range of problem behaviors. The Conduct Disorder subscale (22 items) assesses the degree to which parents observe disruptive or aggressive behavior in their adolescents, whereas the Socialized Aggression subscale (17 items) assesses the degree to which parents report adolescent delinquency in the company of peers. For both scales, parents rate each item on a 3-point scale (0 = *no problem*, 1 = *mild problem*, 2 = *severe problem*). In this sample, internal consistency reliability estimates (coefficient alpha) for Conduct Disorder and Socialized Aggression were .93 and .83, respectively. These estimates are similar to those reported by Quay and Peterson (1987).

**Adolescent Substance Use**—The ASI is an interview-based measure of drug use and concurrent psychopathology and is one of the most widely used assessment tools in drug abuse treatment settings. Items measuring the number of days using a variety of drugs during the month prior to assessment were used in the present study. The interrater reliability estimate for the drug use items, as reported by McLellan et al. (1985), is .87. Because alcohol and marijuana were the only substances reported by more than 10 participants at intake, only these substances were used in data analyses.

Urine toxicology screens were used to substantiate adolescent self-reports of marijuana use. Specifically, although it is possible for an individual to report marijuana use in the past 30 days and have a negative urine sample (because of a small window of detection for small amounts), a positive urine sample in an individual who reports no use denotes a failure to accurately report use. Comparisons of the urine screens with self-reports of drug use at intake support the use of urine screens to corroborate self-reported drug use; individuals with positive urine screens reported significantly more days of use during the previous month than did those with negative urine screens (Mann–Whitney  $U = 677.00$ ,  $p < .001$ ).

**Family Functioning**—The adolescent and parent reported Cohesion and Conflict scales from the FES were used in this study, given that family cohesion and conflict have been found to be among the strongest family-based correlates of adolescent problem behavior (Loeber et al., 1998; Loeber, Green, Lahey, Frick, & McBurnett, 2000). Moreover, these two scales have been found to capture much of the variability attributed to the FES (e.g., Kronenberger, Thompson, & Morrow, 1997). The Cohesion scale measures the extent to which the adolescent or parent views the family as harmonious and close. The Conflict scale measures the extent to which the adolescent or parent views the family as characterized by frequent quarrels and disagreements. In this sample, the internal reliability coefficients were .72 for adolescent-reported cohesion, .57 for adolescent-reported conflict, .75 for parent-reported cohesion, and .70 for parent-reported conflict.

The SFSR is an observer-reported measure of family interactions. Based on Minuchin's structural theory (Minuchin et al., 1967), it consists of five scales developed by Szapocznik et al. (1991) to facilitate diagnoses in BSFT. Structure assesses the family's organizational system (e.g., cross-generational coalitions, triangulations, and other subsystems) and flow of communication. Resonance taps into closeness, distance, and boundaries between family members. Developmental Stage assesses the age-appropriateness of family members' behavior (e.g., whether parents behave in an adultlike manner). Identified Patienthood assesses the extent to which a single family member, usually the adolescent, is labeled as the family's "problem." Conflict Resolution measures the degree to which the family is able to communicate, discuss, and resolve differences of opinion.

To facilitate observer ratings on the SFSR, at both the intake and termination time points, each family was asked to respond to three standardized tasks presented to them via audiotape: (a) deciding on a menu for a meal, (b) telling what pleases and displeases them about other family members, and (c) describing the most recent family fight or argument. Trained raters observed and rated the videotaped interactions. The total family functioning score yielded an internal consistency coefficient of .61. Internal consistency in the sample was lower than found in our previous program of research in which the total SFSR score demonstrated higher levels of both internal consistency (mean interdimension  $r = .80$ ) and interrater reliability (intraclass  $r = .84$ ).

## Procedure

Data were collected in a standardized manner by trained master's-level research associates. The assessment batteries were administered at the research center where the project was conducted. Questionnaire measures (FES for both the adolescent and parent, and RBPC for parent) were administered as self-report measures. The ASI was administered to the adolescent as a structured interview. To facilitate SFSR ratings, families were given audiotaped instructions on how to complete the three videotaped family tasks listed above, and the family interactions were videotaped.

## Results

### Attrition

Of the 80 participants who engaged into the BSFT condition, 24 (30%) dropped out of treatment prematurely, and 17 of 46 (37%) participants who engaged into the GC condition dropped out prematurely. Chi-square analysis did not indicate a significant difference in the attrition rates,  $\chi^2(1, N = 126) = 0.64, ns$ . A series of two-way (Attrition  $\times$  Intervention condition) analyses of variance (ANOVAs) were conducted on the continuous variables collected at intake to explore whether the study had been biased by either general attrition rates, which limit the generalizability of the results, or by differential attrition (i.e., Attrition  $\times$  Condition interaction). Results of these ANOVAs indicated no main effects (general attrition) or interaction effects (differential attrition) on any of the variables tested: age, years in the United States, conduct disorder or socialized aggression scores, adolescent or parent FES cohesion or conflict scores, SFSR total score, number of days using alcohol or marijuana during the month prior to intake, or SES. A similar analytic strategy was utilized to examine possible attrition effects on categorical variables. Follow-up chi-square analyses were conducted within intervention condition on gender and nationality (Cuban vs. non-Cuban). There were no differences with respect to attrition rates on any of these variables in either of the two conditions.

### Comparability of Cases in the BSFT and GC Conditions

Analyses ( $t$  tests or chi-square tests) were conducted using participants who completed treatment to test for pretreatment differences between conditions on the behavior problem, drug use, and family functioning measures; age; gender; or nationality. Results showed no

significant differences by condition in any of the variables tested. The two conditions also did not differ significantly on the number of hours of treatment received,  $t(65) = 0.35$ , *ns*; the mean amount of treatment received was 11.4 hr in the GC condition and 11.6 hr in the BSFT condition. Families of participants in the GC condition appeared to have been living in the United States longer ( $M = 16.5$ ) than families in the BSFT condition ( $M = 13.3$ ), but this difference did not reach statistical significance.

### Treatment Adherence

Treatment adherence for this study was conducted using a treatment adherence manual and checklist developed for this study. The checklist contains 17 therapist intervention techniques: 6 expected to occur more often in family therapy (e.g., “helps individual accept his/her role in a hierarchical relationship”), 6 expected to occur more often in group interventions (e.g., “asks one participant to share an experience similar to, or how s/he would handle, a situation reported by another”), and 5 expected to appear in both conditions (e.g., “instills hope”). All sessions had been videotaped, and 80 BSFT sessions (15% of the 530 sessions) and 25 GC sessions (25% of the 100 sessions) were randomly selected and randomly assigned among the five raters. Five raters were trained to a high level of interrater reliability with a “gold standard” (Daniel Santisteban) across the 17 items. The median intraclass correlation between each of the five raters and the gold standard on four reliability cases was .93, with 95% of all intraclass correlations above .82.

Raters indicated whether each of the 17 items occurred within a session. Items endorsed as present were summed separately to create three scores (family, group, and undifferentiated) on which the two conditions were compared. As expected, no differences were found in the number of undifferentiated techniques used by therapists,  $t(100) = 0.01$ , *ns*. In contrast, more family intervention techniques were used in the family therapy condition,  $t(100) = 4.35$ ,  $p < .001$ , and more group intervention techniques were used in the group control condition,  $t(100) = 5.46$ ,  $p < .001$ . Family therapy sessions were about 6 times as likely as group control sessions to contain a high number (three or more) of family therapy items,  $\chi^2(2, N = 102) = 11.16$ ,  $p < .01$ . Group control sessions were approximately 10 times as likely as family therapy sessions to contain a high number (three or more) of group control items,  $\chi^2(2, N = 102) = 22.28$ ,  $p < .001$ .

### Treatment Efficacy

**Analysis Plan**—To analyze the differential efficacy of BSFT versus the GC, we conducted a series of repeated-measures ANOVAs. Analyses were conducted separately by outcome domain (i.e., behavior problems, substance use, and family functioning) and by respondent (i.e., parent, adolescent, or independent observer). For domains where reports were obtained from multiple respondents, we elected not to combine reports across respondents in a single analysis, given the low intercorrelations that often characterize multiple reports of behavior problems and family functioning (cf. Dakof, 1996; Moos & Moos, 1984). Therefore, for behavior problems reported by parents and substance use problems reported by adolescents, separate multivariate analyses were conducted. In the family functioning domain, where data were obtained from different respondents, we conducted separate analyses for the adolescent-reported FES scales, the parent-reported FES scales, and the observer-reported SFSR scale. Because the sample sizes for the SFSR and FES were substantially different, a combined analysis would have resulted in too large a loss of data.

To maximize statistical power for all treatment efficacy analyses, we elected to use all available data for each analysis (Little & Rubin, 1987), regardless of whether the participant had valid data on measures in other domains. As a result, although the complete sample size for this study was 85, sample sizes vary between analyses.



In addition to conducting statistical analyses of group means, we conducted analyses of clinically significant change (Jacobson, Roberts, Berns, & McGlinchey, 1999; Jacobson & Truax, 1991) on the behavior problems scales (i.e., RBPC Conduct Disorder and Socialized Aggression) for which both normative and clinical means were available. The analysis of clinically significant change complements the more commonly used analyses of group means by providing a case-by-case index of change. Additionally, although formal tests of clinical significance using the ASI Drug Use Frequency scales are not possible because the ASI does not provide clinical means for these scales, we derived estimates of clinically meaningful change using drug-use frequency categories (e.g., abstainer, weekly user) that have been defined and used in prior research (e.g., Brook et al., 1998).

Termination data were not collected on cases who dropped out prematurely (see the *Attrition* section for more information on these cases). Therefore, all statistical and clinical analyses were conducted only on cases who completed treatment ( $n = 85$ ).

### Behavior Problems (Hypothesis 1)

**Analysis of group means:** A 2 (condition)  $\times$  2 (time) repeated-measures multivariate analysis of variance (RMANOVA) was used to examine the effects of treatment on conduct problems and peer-based delinquency as measured by the Conduct Disorder and Socialized Aggression scales from the RBPC. Means, standard deviations, and effect sizes across conditions and time points are presented in Table 1. Results of a RMANOVA indicated that adolescents assigned to the BSFT condition showed significantly greater reduction in behavior problems at termination than did adolescents in the GC condition. The overall RMANOVA revealed a significant Time  $\times$  Condition interaction, Wilks's  $\lambda = .89$ ,  $F(2, 76) = 4.75$ ,  $p < .02$ ,  $\eta^2 = .11$ . Follow-up univariate analyses indicated significant Time  $\times$  Condition interactions for both Conduct Disorder,  $F(1, 77) = 8.36$ ,  $p < .01$ ,  $\eta^2 = .10$ , and Socialized Aggression,  $F(1, 77) = 7.22$ ,  $p < .01$ ,  $\eta^2 = .09$ . Further examination of these interactions revealed that participants in the BSFT condition showed significant improvements in Conduct Disorder,  $t(52) = 3.76$ ,  $p < .001$ , and Socialized Aggression,  $t(51) = 3.57$ ,  $p < .001$ . Conversely, participants in the GC showed no significant changes on either Conduct Disorder,  $t(26) = 0.74$ , *ns*, or Socialized Aggression,  $t(26) = 0.65$ , *ns*. Figure 1 depicts the interactions for both outcomes.

**Analysis of clinical significance:** Clinically significant change in Conduct Disorder and Socialized Aggression was assessed using the twofold criterion recommended by Jacobson and Truax (1991; see also Jacobson et al., 1999). First, we determined whether the magnitude of change for any individual family was statistically reliable and not likely caused by fluctuations due to imprecise measurement (Christensen & Mendoza, 1986). Second, we determined whether individuals showing reliable change had "recovered" to nonclinical levels at termination. As noted earlier, clinical cutoffs for each RBPC scale were defined using the formula described by Jacobson and Truax (1991), along with the clinical and normal sample norms reported by Quay and Peterson (1987).

The results of the analyses of clinical significance corroborated our previous multivariate approach by showing that a substantially larger proportion of family therapy cases demonstrated clinically significant improvement (see Figure 2). Forty adolescents in the BSFT condition (77% of 52) showed clinical levels of Conduct Disorder scores at intake. Of these, 17 (43%) showed reliable improvement, and 2 (5%) showed reliable deterioration. Further, of the 17 who showed reliable improvement, 10 (25% of clinical cases) were classified as recovered. In contrast, within the GC condition, 18 adolescents (67% of 27) had intake Conduct Disorder scores above the clinical cutoff, and of these, only 2 (11% of the clinical cases) showed reliable change. In both cases, however, the change was reliable deterioration in functioning.

With regard to Socialized Aggression, 44 cases (85%) from the BSFT condition and 18 cases (67%) from the GC conditions were above clinical levels at intake. Of the clinical cases in the BSFT condition, 16 (36%) showed reliable improvement, whereas only 2 (11%) did so in the comparison condition. Eight cases (18%) from the BSFT condition were classified as recovered, in comparison to only 1 case (6%) from the GC condition. One (2%) BSFT case showed deterioration.

**Substance Use (Hypothesis 2)**—Alcohol and marijuana were the two substances reported by more than 10 participants at intake and thus were the focus of the analyses. Prior to analysis of the substance abuse data, we compared self-reported use with the results of intake and termination urine analyses. Participants who reported no marijuana use, but whose urine specimens were positive for marijuana, were omitted from the analysis of continuous variables because of substantiated inaccurate reporting ( $n = 14$ ; 7 in BSFT and 7 in GC).

**Analyses of group means:** The distribution of alcohol and marijuana use reports at both intake and termination was skewed as would be expected. Therefore, because an RMANOVA with two time points is equivalent to a MANOVA on change scores (Rosenthal & Rosnow, 1991), we computed change scores for both alcohol and marijuana to more closely approximate a normal distribution. These change scores were considerably less skewed than were the raw scores, but some noticeable outliers remained. We therefore performed a rank transformation (Conover & Iman, 1982) on the alcohol and marijuana change scores and conducted a MANOVA on the rank-transformed scores. The results of this analysis were statistically significant, Wilks's  $\lambda = .89$ ,  $F(2, 68) = 4.33$ ,  $p < .02$ ,  $\eta^2 = .11$ . A significant univariate effect emerged for marijuana use,  $F(1, 69) = 6.98$ ,  $p < .02$ ,  $\eta^2 = .09$ , but not for alcohol use,  $F(1, 69) = 1.86$ , *ns*. A follow-up *t* test revealed that marijuana use decreased more drastically in the BSFT condition than in the GC condition,  $t(69) = 2.64$ ,  $p < .02$ .

**Analyses of clinically meaningful change:** To investigate whether there were clinically meaningful changes in patterns of drug use, we re-created four use categories used in the substance use literature (e.g., Brook et al., 1998). The categories are based on the number of days using marijuana in the 30 days prior to the intake and termination assessments: abstainer (0 days), weekly user (1–8 days), frequent user (9–16 days), and daily user (17 or more days).

The analysis of clinically meaningful change in marijuana use showed that 47 participants were abstainers at both intake and termination (30 in BSFT and 17 in GC). In the BSFT condition, 20 participants reported marijuana use at intake and/or termination. Of these, 5 (25%) did not show change, 12 (60%) showed improvement in drug use category, and 3 (15%) showed deterioration. In the GC condition, 6 participants reported marijuana use at intake and/or termination. Of these, 2 (33%) showed no change, 1 (17%) showed improvement, and 3 (50%) deteriorated. Of the 12 BSFT cases who shifted into less severe categories, 7 weekly users and 2 frequent users became abstainers at termination, 2 frequent users became weekly users, and 1 daily user became a weekly user. The 4 BSFT participants who deteriorated were 3 abstainers who became weekly users and 1 frequent user who became a daily user. The 1 GC case who showed improvement began as a frequent user and became an abstainer. The 3 GC cases who showed deterioration began as abstainers and became weekly users.

We conducted an additional assessment of clinically meaningful change that could include the 14 cases who provided invalid self-reports of marijuana use. At both intake and termination, we classified as a user any participant who either reported 1 or more days of marijuana use in the previous month or provided a marijuana-positive urine sample. In addition to providing the most accurate index of marijuana use at both time points, this strategy allowed us to use all available marijuana use data.

In the BSFT condition, 9 of the 22 cases (41%) who had been using at intake were no longer using at termination. In contrast, in the GC condition, only 1 of 8 cases (13%) who had been using at intake was no longer using at termination. Moreover, in the BSFT condition, 4 of 34 (12%) cases who had not been using at intake began using by termination; in the GC condition, 4 of 21 (19%) cases who had not been using at intake began using by termination.

**Family Functioning (Hypothesis 3)**—Given that change in family functioning is central to BSFT's theory of change, we conducted a series of repeated-measures analyses by time and condition using the FES and the SFSR. Analyses were conducted separately by reporter (i.e., adolescent FES, parent FES, and independent rater SFSR). Means and standard deviations for these analyses are reported in Table 1.

RMANOVAs were conducted separately on the adolescent and parent reported FES scales. For the adolescent reported scales, a total of 73 cases (49 BSFT, 24 GC) provided valid data at both intake and termination. A significant multivariate effect emerged, Wilks's  $\lambda = .92$ ,  $F(2, 70) = 3.16$ ,  $p < .05$ ,  $\eta^2 = .08$ . Follow-up univariate analyses revealed a Time  $\times$  Condition interaction on adolescent reported cohesion scores,  $F(1, 72) = 6.26$ ,  $p < .02$ ,  $\eta^2 = .08$ . Simple main effects tests indicated that cohesion scores significantly increased in the BSFT condition,  $t(49) = 3.13$ ,  $p < .005$ , but did not significantly change in the GC condition,  $t(24) = 0.95$ , *ns*. The RMANOVA conducted on the parent reported FES scales revealed no multivariate or univariate effects.

Next, a repeated-measures analysis of variance (RANOVA) was conducted to test whether the SFSR total score was significantly modified by treatment. The RANOVA was conducted on a subsample of 52 cases for which complete SFSR data were available at both intake and termination.<sup>2</sup>

Of the 52 cases with complete SFSR data at both intake and termination, 37 were BSFT cases, and 15 were GC cases. Results of the RANOVA indicated a significant Time  $\times$  Condition interaction,  $F(1, 50) = 5.88$ ,  $p < .02$ ,  $\eta^2 = .11$ . However, probing the simple main effects indicated that family functioning did not change significantly between intake and termination in either condition.

Given that family functioning is a hypothesized mediator of behavior problem change in BSFT, it was useful to consider the suggestion that the ability to demonstrate program effects on mechanisms of change might be reduced when the sample includes participants functioning well on these variables at intake (Pillow, Sandler, Braver, Wolchick, & Gersten, 1991). To test the possibility that families entering the study with relatively "better" and "worse" family functioning could have responded differently to the family intervention, the sample was partitioned into two groups, better family functioning at intake ( $n = 29$ ) and worse family functioning at intake ( $n = 23$ ), on the basis of a median split. To utilize all available data and decrease the probability of subsample bias, we calculated the median using all cases with intake SFSR scores.

Intervention effects on family functioning were examined using separate RANOVAs for the worse family functioning group and the better family functioning group. Results for the worse family functioning group showed a significant Time  $\times$  Condition interaction,  $F(1, 21) = 4.97$ ,

<sup>2</sup>The SFSR ratings require all family members to be present for a set of family interaction tasks. The complexity of having all members present at both intake and termination, and producing videotapes of rateable quality (e.g., good audio and visual quality) make these data more difficult to obtain than individually based measures. In the present sample, 49 of the 79 had complete and rateable data. On average, cases with SFSR data at both intake and termination ( $M = 15.0$ ) were characterized by lower (i.e., more dysfunctional) intake SFSR scores than were cases with SFSR at intake only ( $M = 16.4$ ),  $t(65) = 2.03$ ,  $p < .05$ . There were no other demographic or substantive differences between cases with and without complete SFSR data at both time points.

$p < .04$ ,  $\eta^2 = .19$ . Simple effects analyses indicated that cases in the BSFT condition showed significant pre- to post-therapy improvement on the SFSR total score,  $t(14) = 3.32$ ,  $p < .01$ , whereas in the GC condition, no significant change occurred,  $t(7) = 0.18$ , *ns*. A different picture emerged for the better family functioning group. A significant Time  $\times$  Condition interaction was found for the SFSR total score,  $F(1, 27) = 4.45$ ,  $p < .05$ ,  $\eta^2 = .14$ . Further probing this interaction indicated that cases who received BSFT showed no significant change in family functioning,  $t(21) = 0.37$ , *ns*, whereas cases in the GC condition showed statistically significant deterioration,  $t(6) = 2.65$ ,  $p < .04$ . Figure 3 depicts the interactions for both the better and worse family functioning groups.

To provide an estimate of the replicability of the SFSR results, we conducted a similar analysis on the adolescent-reported FES Cohesion scale. A median split procedure resulted in two groups: better family cohesion ( $n = 31$ ) and worse family cohesion ( $n = 44$ ). Separate RANOVAs were conducted on the adolescent-reported cohesion scores, by Time  $\times$  Condition, for each of the groups. The worse-cohesion group showed a significant multivariate main effect of Time, Wilks's  $\lambda = .72$ ,  $F(1, 29) = 11.23$ ,  $p < .005$ ,  $\eta^2 = .28$ , but no significant Time  $\times$  Condition interaction. However, within the significant time effect, follow-up  $t$  tests revealed a significant increase in adolescent-reported cohesion within the BSFT condition,  $t(21) = 4.02$ ,  $p < .002$ , but not within the GC condition,  $t(8) = 1.44$ , *ns*.

In the high-cohesion group, the RANOVA revealed a significant Time  $\times$  Condition interaction on adolescent-reported cohesion scores, Wilks's  $\lambda = .91$ ,  $F(1, 42) = 5.79$ ,  $p < .03$ ,  $\eta^2 = .12$ . Consistent with finding on the SFSR, follow-up  $t$  tests showed nonsignificant change in adolescent cohesion within the BSFT condition,  $t(27) = 0.68$ , *ns*, and a significant decrease within the GC condition,  $t(16) = 2.68$ ,  $p < .02$ . The patterns of change in both conditions were strikingly similar to those depicted for the SFSR in Figure 3.

## Discussion

The literature on adolescent behavior problems and substance abuse highlights the need for testing promising family interventions in special populations, particularly populations such as Hispanics, for whom adolescent conduct problems and drug abuse have been shown to have unique cultural correlates (e.g., acculturation and immigration stresses). The purpose of the study reported was to test the efficacy of family therapy with Hispanic adolescents. A second important question that this study was designed to address concerned the efficacy of brief, once-per-week, office based family therapy with early stage behavior problem and substance using youth.

The first important set of findings (Hypotheses 1 and 2) showed that on all three presenting problems targeted in this study (i.e., conduct problems, peer-based delinquency, and self-reported drug use), BSFT was significantly more efficacious than the GC. The superiority of BSFT was evident in the results of both the multivariate and the clinical significance analytic approaches, using both parent (conduct problems and peer-based delinquency) and youth (drug use) reports.

The finding that a relatively brief, one session per week, office-based approach can significantly impact early stage behavior problems and marijuana use highlights the range of family-based treatment models that can be implemented in accordance with the clinical severity of the adolescent's problems. Intensive models that provide several sessions per week, include both home and office visits, and work in multiple systems (e.g., Henggeler et al., 1999; Liddle et al., 2001) appear to be most effective for youth evidencing severe problems in both the drug-abuse and delinquency domains. The results of this study suggest that for adolescents with mild to moderate clinical dysfunction, there is a place for less intensive family treatments

involving lower levels of cost and client burden. Hypothesis 3, that BSFT would be significantly more efficacious than the GC in improving family functioning, was supported in two of three analyses. The efficacy of BSFT in modifying family functioning was evidenced both by adolescent reports of increased family cohesion and by independent observer ratings of improvements in family interactions. This finding is particularly critical in light of the fact that family functioning serves as the hypothesized mediator of behavior change in BSFT. It should be noted that this study's focus on family functioning is somewhat broader but consistent with research that focuses on parenting behaviors more specifically (Eddy & Chamberlain, 2000).

Although exploratory in nature, the findings based on looking separately at families functioning better and worse at intake on the hypothesized mediator support those who argue for the usefulness of considering initial functioning on the mediating variables. In the area of family therapy, this finding is of great potential importance to clinicians and researchers working with families of behavior-problem and drug using adolescents. Families who demonstrated better family functioning at intake, but who did not receive family treatment, tended to deteriorate somewhat. In contrast, those families who entered the program with better family functioning and received family treatment tended to maintain their functioning. Among families demonstrating poorer family functioning at intake, only those receiving family treatment showed significant improvement. This subset of families evidenced family functioning problems that improved significantly compared to those families in the group control condition with poorer family functioning, probably because their deficits in functioning were targeted and modified by the treatment. Future research investigating mechanisms of family-based change might more closely examine the effects of differential levels of initial functioning on families' response to treatment. Perhaps, among families entering treatment with better levels of functioning, maintaining family functioning allows for modification of other nonfamily mechanisms that may be more directly associated with the adolescent's symptomatology.

### Limitations

Several limitations of this study warrant discussion. The most serious limitation is a design in which termination assessments were conducted only with cases that completed treatment. Although analyses of attrition biases showed few differences between completers and premature terminators on child and family factors, a finding consistent with other literature (Gould, Shaffer, & Kaplan, 1985), the study would have been strengthened considerably by including an "intent to treat" design in which all participants are assessed at all time points regardless of attrition status. Such an "intent to treat" design is more rigorous in preserving the study's internal and external validity.

A second limitation was that observational family interaction measures were more difficult to collect and a substantial proportion of treatment completers did not have complete observational data. Participants' entire families had to be present at both the intake and termination assessments for that participant to have complete observational data. As a result, analyses on the observer-rated measure of family functioning were possible only for a subset of the sample.

A third limitation involves the lack of follow-up assessments. Although research has demonstrated that family therapy models generally maintain their effects for months or even years after the end of treatment (Borduin et al., 1995; Liddle et al., 2001; Szapocznik et al., 1989), this study would have been strengthened by a formal test of treatment maintenance.



### Future Research Directions

Despite the limitations of the current study, the results suggest several promising directions for future studies. Research can investigate whether some of the specific ethnicity-related factors that have been identified as associated with substance abuse (i.e., acculturation and immigration problems) can be directly targeted in treatment to enhance the treatment effects. Daniel Santisteban is currently conducting such research. Second, the potential benefit of matching family treatment intensity and focus to the severity of client presenting problems must be further investigated. There now exist a full range of family-based models from which to select on the basis of the focus of the intervention (i.e., within-family vs. multisystemic) and intensity of treatment. Third, our finding regarding the differential changes in better and worse functioning families leads to the question of differences in the change mechanisms that occur in these two types of families during treatment. For example, among families of externalizing-problem adolescents, it is possible that those with worse functioning enter treatment with clear deficits in family process that can be targeted clinically, whereas those with better functioning may enter treatment with deficits only somewhat related to processes occurring within the family. Finally, by increasing the sample sizes in family therapy studies, more sophisticated analytic tools such as structural equation modeling can be used to search for mediators of treatment effects (e.g., testing whether changes in family functioning mediate reductions in symptomatology).

### Implications for Practice and Policy

There appear to be three important application and policy implications of these findings. First, these findings demonstrate that early stage substance use, behavior problems, and family conflicts, which may all be difficult to modify, can be positively impacted by a relatively inexpensive and short-term family treatment. This successful outcome augments the success reported by Santisteban et al. (1996) in engaging reluctant family members into treatment using specialized, family-based engagement techniques. Further, although intensive and multisystemic treatment models are often necessary when working with severely dysfunctional adolescents, the current findings demonstrate that less expensive and demanding therapeutic approaches can be effective with less severely impaired youth.

A second important implication is that care must be taken when considering the use of group interventions with behavior-problem or drug using adolescents. Although it may be the case that well-structured, state-of-the-science group interventions can be efficacious, the findings of this study are consistent with Dishion, McCord, and Poulin (1999), who have argued that group process has the potential to reinforce rather than reduce delinquent behavior. Although group work may be considered less costly to implement, any consideration of cost-effectiveness must consider the possibility of clinical deterioration.

Finally, we believe that BSFT can be used with non-Hispanic samples with only minor modifications. Because BSFT is a process-oriented therapy, when symptoms emerge, the emphasis is on identifying maladaptive patterns of interaction that appear to be linked to the symptom. Although different cultural groups may display specific maladaptive patterns with different frequencies, patterns of interactions that appear to maintain a symptom in a specific life context may need to be modified to bring about symptom reduction. Although BSFT is based on generic systemic and structural principles, the focus on patterns of maladaptive family interactions can also be interwoven with specific cultural issues. For example, a breakdown in communication may be exacerbated by acculturation stress (i.e., distress resulting from the clash between the family's culture of origin and the American culture). Moreover, parental isolation and lack of a parental support system may result from recent immigration. Although these systemic problems would be identified and targeted in BSFT whether or not they are

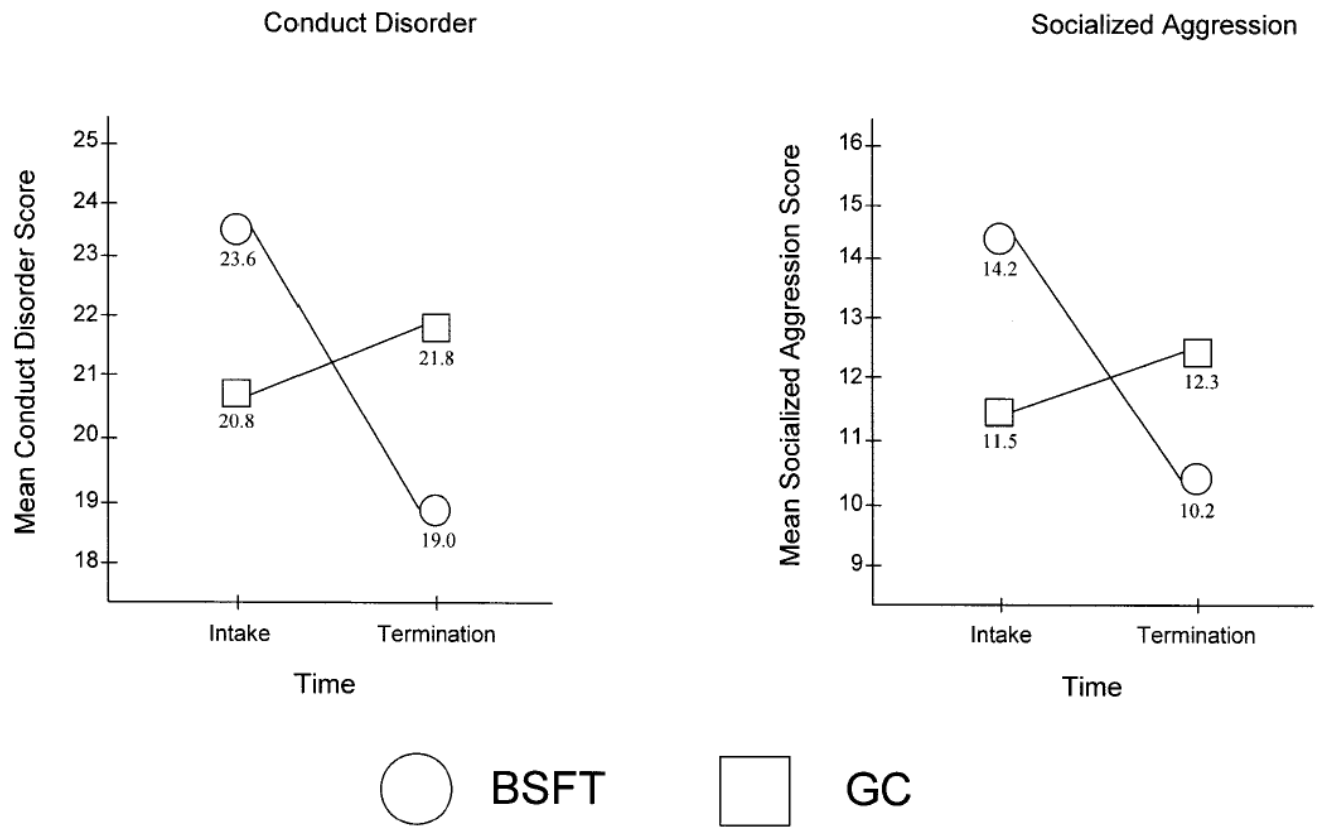
related to cultural issues, facilitating understanding of the cultural genesis of maladaptive interactions is generally experienced by family members as supportive.

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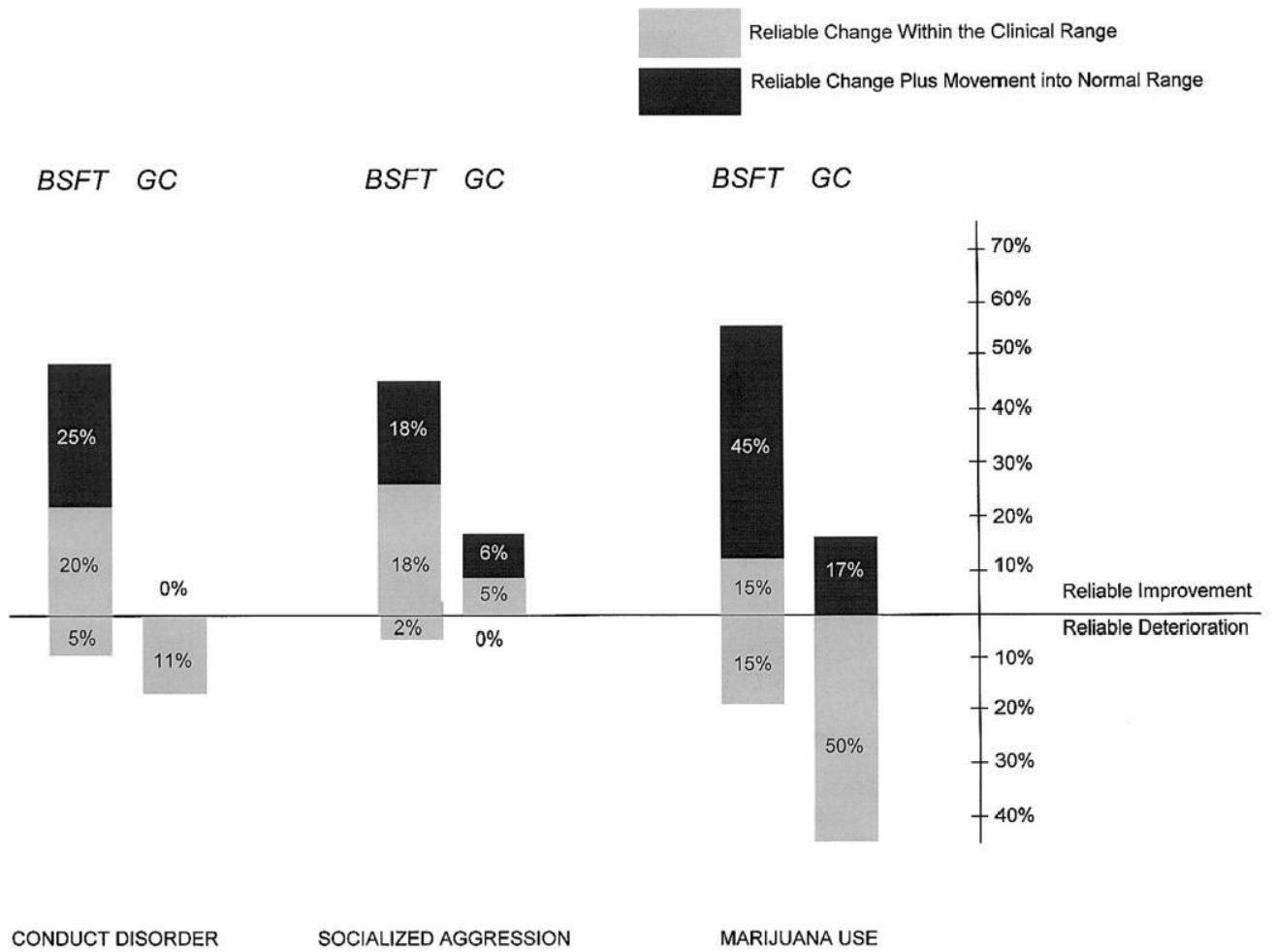
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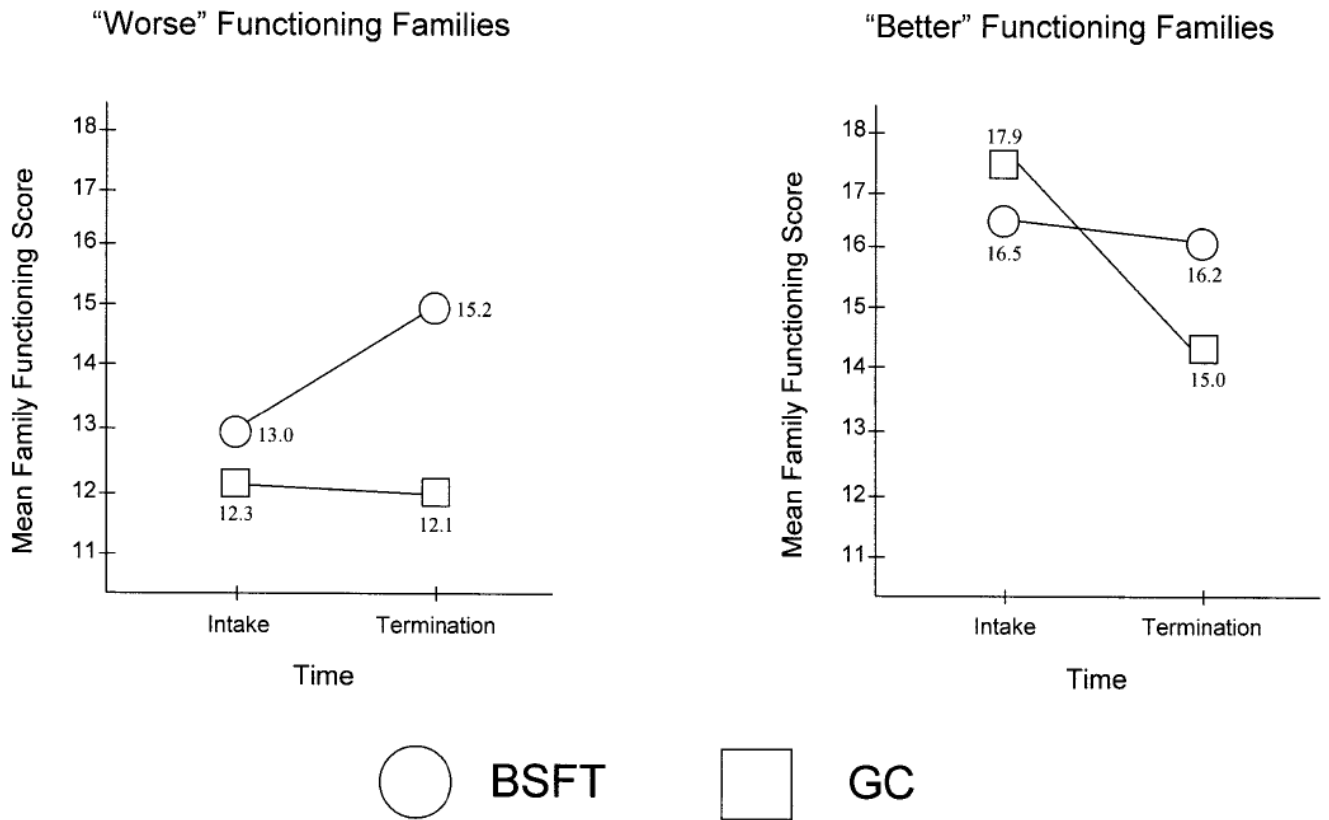


**Figure 1.** Conduct disorder and socialized aggression by time and condition. BSFT = brief strategic family therapy; GC = group control.





**Figure 2.** Clinically reliable or meaningful change in conduct disorder, socialized aggression, and marijuana use by condition. BSFT = brief strategic family therapy; GC = group control.



**Figure 3.** Changes in family functioning (total SFSR score) by Time  $\times$  Condition, for families entering treatment with better and worse family functioning. BSFT = brief strategic family therapy; GC = group control.

**Table 1**  
Means, Standard Deviations, and Effect Sizes for Measures of Family Functioning and Behavior Problems

Measure	BSFT condition				GC condition				F(Condition × Time)	η <sup>2</sup>
	Intake		Termination		Intake		Termination			
	M	SD	M	SD	M	SD	M	SD		
Behavior problems										
Conduct Disorder	23.6	10.5	19.0	11.1	20.8	10.2	21.8	10.6	8.36**	.10
Socialized Aggression	14.2	6.9	10.2	7.1	11.5	7.0	12.3	8.5	7.22**	.09
Drug use										
Days using alcohol, past month <sup>a</sup>	2.24	5.1	1.43	2.8	0.77	1.3	0.04	0.2	1.86	.03
Days using marijuana, past month <sup>a</sup>	2.24	5.3	1.10	3.9	0.64	2.6	0.73	1.8	6.98*	.09
Family functioning										
FES Cohesion, adolescent	4.05	2.4	5.17	2.4	4.77	2.4	4.2	2.4	6.26*	.08
FES Conflict, adolescent	5.40	2.4	4.11	2.2	4.85	2.4	4.38	2.5	1.65	.02
FES Cohesion, parent	4.87	2.2	5.46	2.3	4.62	3.0	4.67	2.3	0.97	.01
FES Conflict, parent	4.95	2.0	4.27	2.0	4.42	2.4	4.23	2.7	1.14	.01
SFSR total score	15.1	2.1	15.8	3.0	14.9	3.2	13.5	2.6	5.88*	.11

Note. BSFT = brief strategic family therapy; GC = group control; FES = Family Environment Scale; SFSR = Structural Family Systems Rating.

<sup>a</sup> Variable was subjected to a rank transformation to reduce skew.

\*  $p < .05$ .

\*\*  $p < .01$ .