

Changes in Parenting Practices and Adolescent Drug Abuse During Multidimensional Family Therapy

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The nature and extent of changes in parenting and the link between parental subsystem changes and reduction in adolescent substance abuse and problem behaviors were examined in a sample of 29 parents and their drug-abusing adolescents. Participants completed 16 sessions of multidimensional family therapy. Over two thirds of the parents showed moderate to excellent improvement in parenting. Chi-square goodness-of-fit analyses revealed a statistically significant association between improvement in parenting and reduction in adolescent drug use and behavior problems. Results of this exploratory study provide qualified support for a fundamental tenet of family therapy—that change in the parental subsystem is related to improvement in the problem behavior of adolescents.

Family therapy is a credible and effective treatment for a variety of child and adolescent problems (Alexander, Holtzworth-Munroe, & Jameson, 1994; Hazelrigg, Cooper, & Borduin, 1987). Scientific work carried out during the last decade demonstrates the efficacy of certain forms of family therapy with adolescent behavior problems (Henggeler, Borduin, & Mann, 1993; Lebow & Gurman, 1995; Tolan & Loeber, 1993), including substance abuse (Liddle & Dakof, 1995a), a disorder known to be among the most difficult to treat (Lambert, 1982). Particular forms of family-based intervention can retain adolescents and their families in treatment; can significantly reduce drug use in

youth; can demonstrate in-session changes of parent-adolescent conflict; and, in comparative controlled trials, can demonstrate greater effectiveness than peer group therapy, individual counseling, and family-based educational programs in eliminating or reducing drug use (Diamond & Liddle, in press; Henggeler et al., 1991; Joanning, Quinn, Thomas, & Mullen, 1992; Lewis, Piercy, Sprenkle, & Trepper, 1990; Liddle & Dakof, 1995a; Szapocznik, Kurtines, Foote, Perez-Vidal, & Hervis, 1986).

Multidimensional family therapy (MDFT) is one of the promising, new, empirically based, multicomponent interventions developed for the treatment of adolescent substance abuse (Lebow & Gurman, 1995; National Institute on Drug Abuse, 1995; Selekman & Todd, 1990; Shalala, 1995). In a controlled clinical trial in which adolescent drug users were randomly assigned to one of three treatments (MDFT, adolescent group therapy, or multifamily educational intervention), the general pattern of results indicated the greatest and most consistent improvement among those who received MDFT (Liddle & Dakof, 1995b; Liddle, Dakof et al., 1995). The results indicated that MDFT was significantly more effective than the other two treatments in reducing drug use at termination. This reduced level of drug use was maintained 1 year later. From pretreatment to follow-up, adolescents who received MDFT also showed more improvement in school grades than those who received either of the other two

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treatments. Adolescents who received MDFT improved their grades from below average to passing (C average) in just over 1 year.

MDFT has four major areas of intervention (Liddle, 1991), and each of these areas has several dimensions of focus. The approach targets (a) the adolescent's intrapersonal and interpersonal (i.e., vis-à-vis parents and peers) functioning, (b) the parent's intrapersonal and interpersonal functioning (e.g., parenting practices and functioning as an adult apart from the parenting role), (c) parent-adolescent interactions as observed in sessions and reported by parent and adolescent, and (d) family members' interactions with extrafamilial sources of influence (e.g., school and child welfare personnel, probation officers; Liddle, Becker et al., 1995). Specific intervention modules guide assessment and intervention within each of these subsystems (e.g., Liddle et al., 1992) and coordinate interventions in one domain with interventions in related domains (Liddle, 1995). Currently under refinement and pilot testing in an experimental context (Liddle, 1994), these modules are informed by developmental research about adolescents, parents, and families (Liddle, Schmidt, Ettinger, & Sessa, in press), and they involve multiple components. This approach is in harmony with the kind of intervention packages now recommended for problems such as adolescent drug abuse and conduct disorder (Kazdin, 1987; Newcomb & Bentler, 1989; Segal, 1986). Individual symptoms are understood in the context of the other problem behaviors that accompany them (Newcomb & Felix-Ortiz, 1992).

An underlying assumption of MDFT, and all family-based interventions, is that change in an individual (i.e., decrease in symptoms and increase in prosocial functioning) results from change in the family system. Parenting has received an enormous amount of attention for decades from intervention scientists and basic researchers (Bornstein, 1995). As a key ingredient in child socialization, parenting is a fundamental aspect of the family system (Maccoby & Martin, 1983). Research reaffirms the importance of parenting as a critical facilitator of development throughout the second decade of life (Steinberg, 1990). Certain parenting practices serve as a buffer against risk factors known to be associated with dysfunction (Hawkins, Catalano, & Miller, 1992). For example, parenting practices are linked to peer group affilia-

tions: "If parents model deviant behavior or fail to maintain close relationships with their teenager, the child is more likely to drift into deviant peer crowds and, as a consequence, be more involved in drug use or delinquency" (Brown, Mounts, Lamborn, & Steinberg, 1993, p. 469). Parenting is multifaceted and encompasses a wide spectrum of features, strategies, and methods reflecting behavioral, affective, and cognitive domains of functioning (Abidin, 1992; Belsky, 1984; Dix, 1991; Goodnow, 1988; Sigel, McGillicuddy-DeLisi, & Goodnow, 1992).

Previous research on both adolescent substance abuse and conduct disorder suggests that the initiation and continuation of these disorders are associated with family processes generally and with certain parenting practices in particular (Block, Block, & Keyes, 1988; Farrington et al., 1990; Steinberg, Fletcher, & Darling, 1994). Poor family management, disrupted or omitted parenting, inappropriate discipline, inadequate parent monitoring, parent irritability, and coercive family processes (Patterson, 1982) characterize the family environments of adolescents with conduct disorders and substance abuse (e.g., Baumrind, 1991; Hawkins, Catalano, & Miller, 1992; Maccoby & Martin, 1983).

Although a considerable body of work has established the important role played by family processes and parenting in the etiology of adolescent substance abuse and although efficacy evidence exists for family therapy with adolescent substance abuse (see reviews by Henggeler et al., 1993; Liddle & Dakof, 1995a, 1995b), only a few studies have explored the link between symptomatic change in an adolescent and corresponding change in the family environment (Barrett, Simpson & Lehman, 1988; Chamberlain, 1990; Dadds, Schwartz, & Sanders, 1987; Mann, Borduin, Henggeler, & Blaske, 1990; Szapocznik et al., 1989). A critical step in developing effective treatments involves determining whether or not the selected interventions actually affect those target processes that are established or hypothesized to be related to the dysfunction the intervention is trying to change (Kazdin, 1994). Szapocznik et al.'s (1989) study revealed that family therapy could not only improve the targeted child behaviors, but also prevent deterioration in the family environment over time—a finding not evidenced in the comparison treatment condition (individual psychodynamic child therapy). Changes in parental resistance directly predict

long-term (i.e., 2 years) outcomes of treatment (Chamberlain, 1990), and a strong relationship exists between changes in parental resistance and improvements in parental disciplinary practices (Stoolmiller, Duncan, Bank, & Patterson, 1993). Given the role of family environments in buffering the child from risk factors and the central contribution of parenting in this regard, changes in parenting created by family interventions that persist over time are noteworthy.

The present exploratory study addressed these complex issues by focusing on the parents of adolescents and, specifically, on the quality and malleability of parenting and their association with adolescent substance abuse and behavior problems. Although this study was not an experimental test of whether MDFT could change parenting, it suggested possible mechanisms that are responsible for the measured decline in drug use and the improvement in school performance among adolescents who received MDFT. The present study examined (a) the nature and extent of change in the behavioral, affective, and cognitive features of parenting observed in families treated with MDFT and (b) the link between parental subsystem changes, or lack thereof, and reduction in adolescent substance abuse and behavior problems.

Method

Client Characteristics

Families who participated in this study were part of a controlled clinical trial that compared the efficacy of three treatments—MDFT, adolescent group therapy, and multifamily educational intervention—in reducing drug abuse and behavior problems in adolescents (Liddle & Dakof, 1995b; Liddle, Dakof et al., 1995). Each treatment lasted between 14 to 16 sessions and spanned a maximum of 6 months. The current study focused on those adolescents and their families who completed a course of MDFT.

The sample included 29 families (out of 33 in the MDFT treatment condition). Four families were excluded from the present analysis because a complete set of data (i.e., videotapes of family therapy sessions) was not available. The mean age of the adolescents who completed treatment was 16 years ($SD = 1.29$); 72% were male, and 55% identified themselves as European American (45% were ethnic minorities, primarily African American and Hispanic). Twenty-one percent of the adolescents came from households with two parents, and 79% came from other family configurations (single parents, remarried parents, parents with live-in partners, and other

guardians). Annual family incomes were categorized as less than \$30,000 (50%), \$30,000–\$50,000 (32%), and \$50,000 or more (18%). Eleven percent of the mothers did not graduate from high school; 75% completed high school, and 14% completed college or beyond.

Measures

Parenting. Parenting was assessed with an observational measure we developed. It consisted of eight categories reflecting the diversity and complexity of parenting practices and features found to be related to the development of problem behaviors in children and adolescents. A modified grounded theory (Glaser & Strauss, 1967) approach was adopted to construct the new measure. Both a priori theoretical and empirical work as well as traditional grounded theory methods were used to develop the parenting codes. Hence, categories were developed from the literatures on parenting, attachment, parenting style, and parent social cognitions and from grounded observations of parents' comments and expressed attitudes as observed on videotaped sessions of MDFT. These codes were generated from clients who were not part of the current study but who shared similar demographic and symptom configurations as study families. Potential coding categories were generated and refined by additional observations until the point of redundancy of categories was reached. This modified grounded theory approach has been used successfully in other studies (e.g. Dakof & Mendelsohn, 1989; Spitzer, Webster-Stratton, & Hollinsworth, 1991).

Final coding categories for categorizing parents' comments and behaviors observed in videotaped therapy sessions included the following: (a) power assertive discipline (e.g., endorsement or expression of physical or verbal aggression or deprivation of privileges); (b) positive discipline and communication (e.g., endorsement or expression of verbal reasoning, sharing of values, or behavior modification methods); (c) positive monitoring and limit setting (e.g., statements about, or evidence of, success in efforts to monitor and set limits); (d) negative monitoring and limit setting (e.g., statements about, or evidence of, difficulty or reluctance to monitor and set limits); (e) interparent inconsistency (e.g., statements about, or in-session evidence of, mother–father conflict in endorsement and application of philosophy, methods, or values); (f) negative affect and disengagement (e.g., statements about, or in-session display of, anger, depression, lack of energy, or partial or full abdication of parental duties); (g) positive affect and commitment (e.g., statements about, or in-session display of, parent warmth, optimism, love, delight in relationship with teen, and commitment to helping teen); and (h) cognitive inflexibility (e.g., statements reflecting inappropriate or rigid notions of

autonomy, independence and responsibility, blaming of others, or scapegoating). Interrater reliability, as assessed by the intraclass correlation coefficient (Shrout & Fleiss, 1979), ranged from a low of .62 (cognitive inflexibility) to a high of .87 (negative monitoring and limit setting). The average intraclass coefficient was .71, indicating overall satisfactory reliability.

Transcripts of videotaped therapy sessions from the beginning phase of therapy (first three sessions) and final phase of therapy (last three sessions) were coded. Transcripts from the two phases of therapy were coded in separate coding sessions (i.e., coders did not code all categories in the same coding session), and mothers and fathers from the same family were coded on separate occasions. Coders did not have any specific information about family demographics beyond that expressed or evident in the transcripts. To facilitate coding, each transcript in the study was divided into units of two sentences, three lines, or a rational break in the conversation. Transcripts included actual verbalizations and descriptions of salient, nonverbal behavior (e.g. weeping, hugging, shoving). The total number of communication units was calculated for each parent for each phase of therapy. Each unit could receive no code at all or could receive a code on more than one category. Multiple codes, which reflected the complex nature of actual parent communications, were necessary for 30% of the coding units.

A parent's score on a given category was a proportion determined by the number of units coded on a particular scale divided by the total number of units. For example, a parent with 5 of 100 units coded as positive discipline would receive a score of .05. The use of proportion scores made it possible to compare scores of parents who differed considerably in their total number of communication units per phase of therapy (because of individual differences).

The construct validity of the coding instrument was assessed in a sample of 10 parents and adolescents who received MDFT at the research clinic of the Center for Research on Adolescent Drug Abuse, Temple University. Initial therapy sessions were transcribed and coded according to the parenting categories described above. Scales from two sets of parent self-report questionnaires that appeared to be related to the coding instrument were used in its validation: (a) parental acceptance, psychological control, and behavioral control were measured by the Parenting Questionnaire (adapted from Steinberg, 1990), a 35-item checklist, and (b) parent affect was measured by the Positive Symptom Total (PST) and by the Depression and Hostility scales, which were all derived from the Symptom Checklist-90 (SCL-90; Derogatis, 1977).

Using a clinical rating method with an interobserver agreement of 85% (Schmidt, 1994), parenting style was rated as authoritative, authoritarian, or con-

flicted-disengaged (i.e., nonoptimal styles such as indulgent, uninvolved, and confused). The extent of agreement among these ratings of parenting style with the three scales of the Parenting Questionnaire was 80%. Thus, the self-report questionnaire method and the observational method developed for use in the present study converged in identifying parents with optimal and nonoptimal styles.

Using the SCL-90, we found significant positive correlations between negative affect and disengagement and both PST ($r = .85; p < .01$) and the combined Depression and Hostility scales ($r = .87, p < .01$). We found significant negative correlations between positive affect and commitment and both the PST ($r = -.80, p < .01$) and the combined Depression and Hostility scales ($r = -.75; p < .05$). Parents with high levels of negative affect and disengagement reported emotional problems, depression, and hostility, whereas parents with high levels of positive affect and commitment reported low levels of emotional problems, depression, and hostility. In sum, these analyses supported the general construct validity of the parenting codes used in the current study.

Clinical ratings of parent improvement. Parent improvement was conceptualized as a global variable that should take into account a parent's pattern of change across various categories, recognizing that parents could remain unchanged in certain areas while improving or declining in other areas. The clinical rating measure used here combines quantitative and qualitative features.

For each coding category, the distribution of the parent change scores was transformed into z scores. This transformation made it possible to determine the number of parents who improved by at least one standardized unit, a conservative criterion of change. Then, to obtain a global measure of overall parent improvement that would take into account positive as well as negative change, we calculated a clinical rating that used (a) each parent's profile of standardized change scores across categories and (b) knowledge of the actual category scores relative to the rest of the sample. Each parent was rated as showing "moderate to excellent improvement" or "no meaningful improvement" on the basis of the following criteria: Parents were given a rating of excellent improvement if they maintained excellent status (e.g., very low mention of power assertive discipline at beginning and end phases of therapy) or if they showed significant improvement on three or more categories without worsening on any categories. Parents were rated as having achieved moderate improvement if their pattern of change fell between excellent and not meaningful. Parents were given a rating of no meaningful improvement if progress they made in some categories appeared to be canceled out by declines or maintaining of lower-than-average status on other categories or if they made no significant gains. Using these criteria, two independent raters

achieved 97% agreement in their ratings of overall parent improvement as moderate to excellent or no meaningful improvement.

Adolescent drug use. Using both adolescent self-report and urinalysis data, trained raters (who were blind to all identifying information) rated severity of adolescent drug use by considering the following criteria: (a) nature of drugs used, (b) frequency of use, and (c) number of different drugs used. The rating scale used here was designed to reflect not only conventional wisdom about severity of adolescent drug abuse but also the drug using patterns in the current sample. It is interesting to note in this context that all participants who used drugs (typically hallucinogens, stimulants, and cocaine) other than marijuana and alcohol were polydrug users who used alcohol and marijuana five times per week or more in addition to other drugs. Not one case used these other drugs in the absence of frequent alcohol and marijuana abuse. Drug use (frequency and number and type of drugs used) in the course of the previous 30 days was, then, rated on 15-point scale in which a rating of 1 indicated no drugs used and each subsequent scale point indicated gradually increasing drug use. For example, a score of 3 indicated alcohol or marijuana was used 2–3 times during the previous month. A score of 2–9 indicated increasing frequency in alcohol or marijuana use, but no other drugs were used. At point 10, other drugs (most notably hallucinogens, cocaine, stimulants) were introduced. A score of 10–15 indicated daily, or near daily, alcohol or marijuana use and increasing frequency of other drug use, from once during the last month (at a score of 10) to more than twice per week (at a score of 15). Interrater reliability was .92 (intraclass correlation coefficient), indicating excellent agreement among raters.

The adolescent's profile of drug use across four assessment times (pretherapy, termination, and 6- and 12-month follow-ups) was then rated as showing moderate to good improvement if there was an immediate and sustained drop in drug use. The profile was rated as showing no meaningful improvement if the drug use remained high, became more severe, was erratic in its course, or dropped only slightly on the 15-point scale. Two independent raters rated each adolescent, and their percentage of agreement was 90%.

Acting out behaviors. Adolescent behavior problems were measured by the Acting Out Behaviors (AOB) scale (Ben-Porath, Williams, & Uchiyama, 1989)—derived from the Devereux Adolescent Behavior Rating Scale (Spivack, Haimes, & Spotts, 1967)—which was administered to the adolescent's primary parent. The AOB scale identifies the extent of poor anger control, interpersonal problems, mood swings, and antisocial and aggressive behavior. The AOB scale has been found to be internally consistent

with an average coefficient alpha of .87 (Ben-Porath, Williams, & Uchiyama, 1989). External and concurrent validity have also been demonstrated (Williams, Ben-Porath, Uchiyama, Weed, & Acher, 1990) in that the scale discriminates between adolescent substance abusers and adolescent psychiatric patients and in that it converges with record reviews and parent ratings.

The adolescent's profile of AOB scores across four assessment times (pretherapy, termination, and 6- and 12-month followups) was rated as showing moderate to good improvement if there was an immediate or gradual drop of at least 10–20 points to a final score below 78, which was below the AOB mean for adolescent substance abusers in the validation sample (Williams et al., 1990). The profile was rated as showing no meaningful improvement if the AOB scale score did not meet the criteria for change (e.g., remained high, became more severe, or was erratic in its course). Two independent raters rated each profile of AOB scale scores, and their percentage of agreement was 93.

The operationalization of clinically meaningful change is a perennial methodological concern in psychotherapy outcome research, in general, and drug abuse treatment research, in particular (Carroll & Rounsaville, 1991; Liddle & Dakof, 1995a; Moras, 1993). Despite concerted efforts (e.g., Beutler & Hamblin, 1986; Hsu, 1989; Jacobson & Revenstorf, 1988), "no single method has come close to providing us with a universally acceptable definition" of this construct (Jacobson & Revenstorf, 1988, p. 132). Methods for defining meaningful change range from objective statistical procedures of various types to those that may be subjective, arbitrary, value laden, and observer driven. In assessing change, we sought an approach that combined quantitative measurement and clinical judgement.

We took several steps to reduce potential rater bias and subjectivity (Saal, Downey, & Lahey, 1980). First, the raters were highly trained clinicians and researchers who made independent ratings of the data following preestablished criteria. Second, they reached high levels of interrater agreement. Finally, to reduce rater leniency or severity, a middle range of "moderate improvement" was initially provided for raters, although participants were ultimately dichotomized with respect to improvement.

Results

Positive and Negative Features of Parenting

The content of parents' discussions during family treatment were multidimensional—reflecting behavioral, affective, and cognitive do-

mains of parenting. During the beginning phase of treatment, positive and negative features of parenting coexisted, though negative features surpassed positive ones (72% vs. 53%). Parents expressed negative affect and doubts about their ability to set limits, and they demonstrated power assertive techniques, such as punishment, restriction, and verbal aggression. However, they also showed positive features of parenting, such as optimism, sharing of self and values, and affection. By the end of therapy, positive parenting features (77%) surpassed the negative (47%).

Change in Parenting

Paired *t* tests that compared parenting at the beginning and end phases of therapy indicated a decrease in the proportion of negative parenting features and an increase in the proportion of positive parenting features by the end of treatment (See Table 1). Parents improved significantly on seven of the eight parenting categories. By the end phase of therapy, parent scores were significantly lower on power assertive discipline ($t = 1.81, p < .04$), negative monitoring and limit setting ($t = 2.80, p < .005$), negative affect and disengagement ($t = 2.16, p < .02$), and cognitive inflexibility ($t = 2.27, p < .02$). The decrease in interparent inconsistency was in the expected direction, but it did not reach significance. The interparent inconsistency category was excluded from further analyses be-

cause it pertained only to a subsample of 16 families in which both a father and mother participated in the therapy. At the end phase of therapy, parent scores were significantly higher on positive discipline and communication ($t = 2.93, p < .004$), positive monitoring and limit setting ($t = 3.82, p < .001$), and positive affect and commitment ($t = 3.13, p < .003$).

The average parent changed significantly on 2.2 parenting categories. Seventy-two percent of the parents improved significantly in at least one category; 62% improved on at least two; and 52% improved on at least three categories. Clinical ratings of overall parent improvement indicated that 69% showed moderate to excellent improvement, whereas 31% failed to show overall meaningful improvement.

Parent Improvement and Adolescent Symptom Reduction: Drug Use and Behavior Problems

The two levels of overall parent improvement (moderate to high and no meaningful improvement) were cross-tabulated with the two rating levels of reduction in adolescent substance use and acting out behaviors (moderate to good improvement and no meaningful improvement). For each set of cross-tabulated frequencies, a chi-square goodness-of-fit test was calculated to determine whether the observed frequencies in the four cells differed significantly from a hy-

Table 1
Beginning Phase and End Phase Means and Standard Deviations on Parenting Features

Parenting feature	Beginning phase of treatment		End phase of treatment	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Power assertive discipline	.1755	.127	.1250	.111
Positive discipline	.3091	.170	.4421	.244
Positive monitoring and limit setting	.0409	.048	.0971	.074
Negative monitoring and limit setting	.1880	.100	.1252	.106
Interparent inconsistency	.0735	.080	.0451	.075
Negative affect and disengagement	.2224	.129	.1615	.132
Positive affect and commitment	.1779	.074	.2326	.101
Cognitive inflexibility	.1323	.166	.0576	.053

Note. $n = 29$ for all categories except interparent inconsistency ($n = 16$).

pothetical distribution assigning equal numbers to each cell (which would result if there were no connection between parent change and adolescent outcome). As Tables 2 and 3 show, the results indicated a significant relationship between parent improvement and reduction in adolescent drug use, $\chi^2(3, N = 29) = 18.31, p < .001$, and acting out behaviors, $\chi^2(3, N = 28) = 9.99, p < .02$.

Fifty-nine percent of the families demonstrated both an improvement in parenting and a reduction of adolescent drug use. Interestingly, in 21% of the families, parenting did not improve meaningfully, but the adolescent's drug use showed meaningful reduction by the end of treatment. Ten percent of the families showed improvement in parenting but no corresponding reduction in adolescent drug use, and another 10% showed no improvement in either parenting or adolescent drug use.

The results with respect to the AOB scale were similar to those concerning drug use, a finding that is consistent with other research that has demonstrated interrelationships between one problem behavior and another (Donovan, Jessor, & Costa, 1988; Newcomb & Felix-Ortiz, 1992). Fifty percent showed improvement in both parenting and parent report of adolescent acting out behaviors; 21% of the adolescents were reported to be improved without any corresponding improvement in their parent's parenting; 18% of the parent's improved their parenting and reported that their adolescents failed to significantly reduce their acting out behaviors; and 11% did not show meaningful improvement in either the parents or the adolescents.

Discussion

These data suggest four major findings. First, parents of drug-using adolescents, in the begin-

Table 2
Improvement in Parenting Cross-Tabulated with Reduction in Adolescent Drug Use (n = 29)

Adolescent drug use	Parenting	
	No improvement	Improvement
Reduction	6	17
No reduction	3	3

Table 3
Improvement in Parenting Cross-Tabulated with Reduction in Adolescent Acting Out Behavior (n = 28)

Adolescent acting out behavior	Parenting	
	No improvement	Improvement
Reduction	6	14
No reduction	3	5

ning phase of treatment, evidenced negative parenting behaviors (as expected). These observationally derived data are consistent with self-report data from this sample, which indicated considerable disengagement among family members. These parents of substance-abusing teenagers were disengaged both emotionally and in terms of day-to-day interactions with their children (Liddle, Dakof et al., 1995). These results are consistent with previous findings indicating disconnected parent-adolescent relationships in families with drug-abusing adolescents (Brown et al., 1993; Shedler & Block, 1990; Volk, Edwards, Lewis, & Sprenkle, 1989).

An aspect of this relationship has been described in the clinical literature as parental abdication (Isaacs, Montalvo, & Abelsohn, 1986). One parent expressed her disengagement in this way: "If I had a choice, I would rather not be a parent. That's bottom on my list in terms of priorities. It's awful to be defeated. I don't want to be his mother. I want his probation officer to put him somewhere." Other parents expressed considerable difficulty in attempts to monitor and set limits. In the words of one parent: "He wasn't coming home. I say 'come home at midnight'; he rolls in at 2:00. I say 'don't go out'; he sneaks out. He is smoking marijuana and I know what kind of people he hangs around with . . . he is not going to school; he's on the streets. Screaming and shouting, the usual kind of stuff. I set limits and tell him you can't do this. It doesn't do any good. I'm the type of person that can't follow through."

The second major finding is that the parents, at the outset of treatment, evidenced certain strengths and competencies in the parenting realm. This circumstance is often overlooked by researchers and clinicians alike. During the beginning phase of treatment, one parent expressed her commitment to her son in this way,

"In our home, both of us are willing to bend over backwards. I love my son." Another mother took responsibility for past mistakes and expressed a firm commitment to change: "Uh, hum. She [the adolescent daughter] is right. I've made some mistakes. I was a single parent. I had my own problems. But I bore these kids, you can't forget that. I want it to be different now."

The pattern revealed here supports the documented difficulties clinical families have in several areas (e.g., behavior management and discipline, negative affect, ineffective problem solving, a wavering commitment to parenting in response to personal stress or distress, negative attribution bias about their adolescent). However, we see also that these same parents have readily identifiable strengths. In the context of what appears to be considerable dysfunction, there are areas of competence that coexist with the aforementioned problems in parenting. This finding is reminiscent of Luthar, Doernberger, and Zigler's (1993) study indicating that certain high-risk teenagers who were resilient in a number of areas also were found to have areas of functioning in which they were not only not resilient, but also dysfunctional. The researchers interpret these data in terms of the need for a differentiated view of resilience in high-risk teenagers. Returning to the present data with this point in mind, we needed to understand the coexisting competencies and problem areas that parents present. There are practical implications of these insights. The search for strengths is a hallmark of family therapy's tradition (Minuchin, 1974; Montalvo, 1986), and it is a major emphasis of the family-based intervention tested in this study. Given the emotional toll this kind of work extracts from its practitioners (Bank, Marlowe, Reid, Patterson, & Weinrott, 1991), findings about the presence of strengths amidst the expected array of problems should provide encouragement and guidance for therapists in meeting challenges presented by distressed families.

A third finding concerns change in the parenting realm. Although the data presented here cannot prove changes in parenting as a result of the family intervention, they indicate that parenting is malleable and that a family intervention is associated with positive change in parents and adolescents. This suggestion is particularly important given that most previous work on the connection of parent change to

change in offspring was conducted with children, not adolescents. Studies reveal that it is more difficult both to retain in treatment and to change the parenting practices of parents whose adolescents are drug involved or show chronic patterns of delinquency as opposed to those parents whose children have behavior problems (Bank et al., 1991; Dishion & Patterson, 1992; Patterson & Chamberlain, 1994). Chamberlain's (1990) study with parents in foster families demonstrated that, under certain conditions, trained foster parents of extremely antisocial adolescents could change their behavior and, thus, affect the teenager's behavior. Although many studies have demonstrated the efficacy of family therapy, the specific connection of changes in parenting practices to changes in an adolescent's symptoms rarely has been examined. In the present study, by the end of treatment with MDFT, most parents (69%) showed significant improvement in their parenting by achieving decreases in negative features and increases in positive features. For example, one mother, at the beginning of treatment, expressed her frustrations and difficulties in parenting: "Part of me wants to give up. Life is too short to give myself an ulcer or heart attack . . . I'm not a disciplinarian. It's real hard for me to enforce things. I'm either not there, or I'm at work. For monitoring, I'm not always there." By the end of therapy she reported, "I've been keeping up with the school, calling to see if he is going. He is being very closely monitored." During one of the last few therapy sessions, she turned to her son and said, "Let's talk and not assume what someone else is thinking. I promise I will not assume what you are thinking. Is that a deal?" Given the degree of dysfunction present in clinical samples at the outset of treatment (Kazdin, 1994), the stability of antisocial behavior of the type treated in this sample (Loeber, 1991), the difficulty of demonstrating change in intervention research with these difficult problems (Kazdin, 1994), the capacity of negative parenting behavior to elicit untherapeutic or nonmodel consistent behavior from clinicians during treatment (Patterson & Chamberlain, 1994), and the negative cultural stereotypes about adolescents in general (Offer, Ostrov, & Howard, 1981; Steinberg, 1990), these findings are significant. The fourth finding relates to different patterns of change.

Parent change—adolescent change. As expected, a significant association was found be-

tween improvement in parenting and reduction in adolescent symptomatology: Most parents and adolescents improved in tandem. This finding supports a fundamental prediction of family systems theory: Change in a core domain of family functioning—in this case, parenting practices—will be associated with change in the adolescent problem behavior (Nichols & Schwartz, 1994). Although parent improvement showed a significant positive association with adolescent improvement in most cases, there were exceptions. Examining these exceptions may illuminate important issues germane to producing change in clinical work with adolescents and their parents. These efforts are in line with current treatment development efforts to refine our models of change and enhance existing interventions (Miller & Prinz, 1990).

Exceptions to the Pattern of Tandem Parent-Adolescent Change

Within the sample, there were treatment successes and failures. In looking at the cross-tabulations of parent change with reduced adolescent drug use, 41% of the families showed patterns of change that diverged from the prevalent one of tandem parent-adolescent improvement. These families had either a partial change (e.g., adolescents who showed reduced symptomatology despite lack of meaningful change in their parents or parents who improved without any meaningful reduction in their children's drug use) or a lack of meaningful change (families in which neither parents nor adolescents improved in any meaningful fashion).

Parent change—no adolescent change. In some cases (10%), significant changes in parenting did not accompany adolescent improvement in symptomatology. A variety of variables may be operating here. Perhaps the therapy targeted and changed dimensions of parenting that, in these few cases, were not sufficiently powerful or relevant to facilitate effects in the adolescent. Furthermore, to understand how a parent changes and her or his adolescent does not, we may need to remember the influence of individual and extrafamilial variables that are always present but are not always accounted for or amenable to change via therapy. Peer systems or others with whom the adolescent interacts directly or indirectly (e.g., the school, juvenile justice system, neighbor-

hood, and community) as well as adolescent personality variables can support or deter the focus, intensity, duration, and success of treatment (see Brook, Nomura, & Cohen, 1989; Shedler & Block, 1990). Research indicates that, although the impact of authoritative parenting behaviors produces differentially positive outcomes through the adolescent years, "in certain ecologies overarching forces, outside the control of parents, may entirely overwhelm the beneficial effects of authoritative parenting in the home" (Steinberg, Darling, Fletcher, Brown, & Dornbusch, 1995, p. 461).

Parents may be limited in their capacity to influence the behavior of older adolescents generally and problem behaviors that may have particularly change-resistant and stable features (e.g., drug abuse) given later developmental progression of the disorder. Allen and colleagues' research asserted that severe adolescent problem behavior is linked with failures in attachment and with failures to maintain relatedness with parents, which in turn weaken parental controls over adolescent behavior (Allen, Aber, & Leadbeater, 1990). Allen et al. (1990) hypothesized that a lack of relatedness (i.e., disengagement) between parents and adolescents removes an important behavior-regulating influence within the family—the adolescent's desire to please the parent. Similar ideas have been offered from a behavioral perspective. Writing about the limitations of a behavior contingency approach with parents of delinquent adolescents, Rueger and Lieberman (1984) advised that "In cases where parents have lost reinforcement control over their adolescent, engaging the child's peer group or community agencies (i.e., law enforcement or probation departments) in the intervention strategy becomes necessary (p. 416). Hence, chronic delinquency, serious drug abuse (or perhaps certain kinds of drug abuse such as drug addiction), antisocial personality, and solidity of connection to a deviant peer culture could singly or in combination make it less likely that changes in a parent would be sufficient to influence the adolescent. For example, we know that once patterned drug use begins (or, for that matter, after problem behavior of any sort begins in earnest), peers exert more powerful ongoing influences to maintain these problem behaviors than do parents to stop them (Dishion & Loeber, 1985; Kandel, 1985). For some of these adolescents, intervention simply may have come too late to

reverse these powerful, already well-established, detrimental influences. So, given what is known about how extrafamilial contexts exert powerful negative forces to support deviant behavior, the cumulative deleterious effects of neglectful parenting styles on adolescent development, and the link of these parenting behaviors to adolescent problem behaviors (Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994), our findings challenge family therapists to address the limits of family intervention. These results give indications of the ways in which current theories of change themselves need to change (Liddle, 1995). Reexamination of our beliefs about change in families and other multiperson systems is related to the new thinking about our understanding of the characteristics, onset, and course of functioning and adaptation (Kazdin & Kagan, 1994). Our changing theories of change will be informed greatly not only by intervention science but also by using the knowledge from related specialties, such as developmental psychopathology and clinical epidemiology.

No parent change—adolescent change. In 21% of the families, the adolescent achieved and sustained decreased drug use despite lack of meaningful change in his or her parent or parents. Positive events outside the family—changes in friendship networks, neighborhood, or school environments—or changes in the adolescent self-system can be sufficient or can override a lack of change or insufficient change in the parental subsystem. These results support contemporary perspectives on problem formation and intervention that argue for multiple perspectives, levels, and kinds of change processes. This perspective asserts that a narrow adherence to single-level or domain interventions fails to consider the multivariate nature of change as well as the practical extension of this possibility—that change facilitation may require accessing different pathways and using many methods. In MDFT (the tested intervention), if change cannot be effected in a primary target area such as the parental subsystem, other primary target areas are emphasized (e.g. work with teenager alone). Each target area involves different hypothesized mechanisms and pathways of change. In this sense, when reasonable attempts to achieve desired change in one subsystem failed or, even more basically, when we failed to materialize a certain way of working or preferred content in a particular subsystem, we

worked around this situation by emphasizing other, already targeted intervention areas. It is possible that processes of this nature were at play in cases in which the adolescent changed and the parent did not. That is, MDFT's work with the adolescent individually, a situation that was emphasized when our alliance with the parent had not been formed, may have accounted for the cases in which the adolescent changed but the parent did not. However, these ideas remain informed speculation until we do fine-grained therapy analyses that investigate mechanisms of change (Pinsof, 1989).

Additionally, all but one of the parents in this category were low income, single parents (mothers without any financial or other support from the child's father) with past or present extreme life stresses (e.g., serious physical abuse, alcoholism and drug addiction, death of close family members). For some time, psychologists have known about the influence of these life circumstances on mental health and their influence in treatment. Social disadvantage and parental depression were among the first variables identified as significant predictors for poor outcomes in parent intervention programs (McMahon, Forehand, Griest, & Wells, 1981; Patterson, 1974; Wahler & Dumas, 1989). Recent findings suggest that the effect of maternal social disadvantage on child outcomes is mediated through disrupted discipline and parenting practices (Bank, Forgatch, Patterson, & Fetrow, 1993).

No parent change—no adolescent change. Finally, in 10% of the families, neither the adolescent nor the parent or parents changed. Several variables may apply here. For this group of families, the interventions may not have been powerful enough or sufficiently well matched to the parent or adolescent. Perhaps a more intensive intervention model, such as residential treatment or offering families more frequent home-based therapy, would have been effective. Some researchers are experimenting with home-based therapy (Liddle, 1994), and other researchers have demonstrated positive results by adapting family therapy to a home-based format (Henggeler, Melton, & Smith, 1992). A thorough understanding of what happened with this 10% of the sample would require inclusion of previously mentioned variables, such as the stage of problem progression and the individual and familial characteristics alone and in combi-

nation with the particular interventions offered in the approach under study.

In summary, these data suggest the need for a differentiated change model. This complex explanation of change would account not only for tandem change with the parent and adolescent, but also would account for the fact that change in one family member does not automatically lead to change in other family members (i.e., one family member may change and others may not). Psychologists need to understand more fully those situations in which parent change is, and is not, connected to adolescent change. In the past, family therapy theory embraced one of the more optimistic systems tenets—the hypothesized ripple effect phenomenon. In this scenario, change in one family member was thought to serve as an *ipso facto* prompt of change in another family member (i.e., a domino effect of change process; Haley, 1976; Watzlawick, Weakland, & Fisch, 1974). The present data suggest the need to revise this deterministic premise about change. Although our findings, as well as those of other researchers, support the connectedness of parent and adolescent change, exceptions (not uncommonly noticed in clinical work) were also found in the current data. These data advise against adopting an undifferentiated, overly general ripple effect view of change, and, more basically, they suggest that we need more complex theorizing and research about how to define change in family systems. Given the likely multivariate nature of change processes and the corresponding need to take into account both family and extrafamilial sources of influence in change and nonchange, these results suggest the need for flexible, individualized, therapeutic models that can be adapted to a variety of parenting and personality styles as well as to diverse family structures.

Limitations and Future Directions

Some limitations of the present study need to be noted. First, these results must be interpreted cautiously because of the absence of a comparison group. The data and the analyses were derived from a clinical sample who received a specific form of family intervention: MDFT. Although we can conclude that parenting changed in the expected direction, we cannot infer that this change was caused by MDFT.

Our data cannot rule out the possibility that the observed change would have occurred among parents whose adolescents received alternative treatments, family-based or otherwise, or among parents whose adolescents received no treatment whatsoever. At this point, we can only hypothesize that the change was related to the parents' participation in MDFT.

Second, the study did not measure outside-of-therapy influences that may have impeded or facilitated the parenting process and its influence on adolescent symptomatology. Thus, we can only speculate about the nature of these processes, pending a true empirical exploration. Measurement of these processes are important in future studies, given the need to develop theories of change that are multifactorial (i.e., theories that, like interventions, take into account multiple levels and aspects of functioning and individual differences in accounting for change).

Third, although these data reveal that parents of adolescents who use drugs can change, the data do not allow us to understand precisely how, or whether, parents applied the new understanding or practices developed and discussed in therapy to their everyday lives. Designs that include multiple observations and data from inside and outside of treatment are needed to chart the different kinds of processes and variables likely to be involved in change (see Gottman & Rushe, 1993). These studies have already begun in the individual treatment area but are rare in family therapy (see Friedlander, Heatherington, Johnson, & Skowron, 1994). Through the new levels and kinds of detail available, these studies promise to yield new, more complex models of human change (Barkham, Stiles, & Shapiro, 1993; Stoolmiller et al., 1993).

Fourth, we must note that, as is always the case, this study's analyses both reflect and are constrained by the structure of the measurement device. In this particular study, the assessment of parenting practices, beliefs, and affect was based on parent statements about parenting rated in the context of MDFT. This approach may lead to certain problems in interpreting the results if parents refrained from sharing certain types of information because of social desirability, defensiveness, or lack of opportunity. Nevertheless, both external and internal validity may temper this criticism: The validation sample used transcripts of only a single session, and

the results agreed with self-reports of parenting practices and parental emotionality. Moreover, the observational measure of parenting and its association with the outcome variables were in accord with expectations. These findings suggest that, despite limitations, the observational measure of parenting is sensitive to strengths, weaknesses, and change in parenting.

Fifth, although we most frequently postulate a sequence of change in which parent change leads to adolescent change, the reverse is also plausible. Change in adolescent symptomatology and behavior is possible apart from tandem change in parents' parenting, given findings in the developmental literature on children's influence on parenting and psychological development of their parents (Bugental & Shennum, 1984; Scarr & McCartney, 1983). These notions are particularly relevant because the therapy model intervenes actively and directly within different subsystems simultaneously (parental, adolescent, adolescent-parent interaction, and extrafamilial).

In conclusion, the present study indicates that nonoptimal parenting of drug-using adolescents can change. However, many questions remain about the mechanisms by which parenting practices change, the nature of these changes, and the relative efficacy of different means to promote such changes. Additionally, in areas with clear overlap in the developmental and developmental psychopathology specialties, we need to delineate those aspects of parenting in which changes are most likely to be associated with the best outcomes in adolescent behavior change. This knowledge, of course, must be firmly grounded in accurate developmental knowledge. Taking the lead from the basic science done in these areas (Bornstein, 1995), researchers still need to examine differences in mothers' and fathers' parenting, differences according to culture and ethnicity, differences related to socioeconomic circumstances, and differences between parenting boys versus girls. Other recent work in the adolescent development field provides clues for the kind of work that may prove beneficial in this regard. Steinberg, Elmen, and Mounts (1989) found that each of three aspects of authoritative parenting (acceptance, psychological autonomy, and behavioral control) makes an independent contribution to the adolescent outcome of school achievement. Linver and Silverberg (in press) used a similar "unpacking strategy" (i.e., an

attempt to disentangle unique contributions of different aspects of complex behaviors) in arriving at differential predictions about adolescent problem behavior, development, and adolescent sense of self. These authors found that parental monitoring predicted problem behavior, whereas adolescent sense of self was best predicted by parenting practices that included psychological control and parental respect.

The clinical problems family therapists seek to influence are complex, multidetermined, and stable. Their ideas about how to intervene most effectively to influence the lives of the people they see in therapy are in flux. The field needs not only new studies that will, as we have indicated, help reveal more about the subtleties and variations inherent in human change (which will help to revise our models of change along more complex lines), but also revised and renewed conceptual frameworks (blending ideas from developmental and clinical spheres, for instance) for treatment. Perhaps these integrative frameworks will prompt the kind of clinical innovation that characterized the family intervention area in its earliest days. Unlike the pioneer days, however, these new clinical models will be subjected to rigorous empirical tests—an activity already in evidence in many corners of the family intervention field today.

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New Editor Appointed

The Publications and Communications Board of the American Psychological Association announces the appointment of Kevin R. Murphy, PhD, as editor of the *Journal of Applied Psychology* for a six-year term beginning in 1997.

As of March 1, 1996, submit manuscripts to Kevin R. Murphy, PhD, Department of Psychology, Colorado State University, Fort Collins, CO 80523-1876.