

Examination of Ethnicity in Controlled Treatment Outcome Studies Involving Adolescent Substance Abusers: A Comprehensive Literature Review

Marilyn J. Strada, Brad Donohue, and Noelle L. Lefforge
University of Nevada, Las Vegas

The extent to which adolescent drug treatment outcome studies address ethnicity was systematically examined. Reliability coefficients were calculated for both the search methodology used to obtain these outcome studies and the extent to which ethnicity was addressed along several dimensions. The resulting coefficients were highly reliable. Findings indicated that although investigators of 94% of the outcome studies considered ethnicity to some extent, only 28% of these studies incorporated ethnicity into their design, and only 6% of studies involved statistical analyses to examine differential response to treatment or moderating effects of ethnicity with a sufficient number of ethnic minority participants. Overall, results indicated that there is much work to do regarding the examination of ethnicity in controlled treatment outcome studies involving adolescent substance abusers. Indeed, modifications were rarely made to the treatment components to accommodate ethnicity-related variables. Future recommendations are presented in light of these findings.

Keywords: ethnicity, drug, adolescent, treatment, outcome

It is well established that adolescent substance abusers evidence severe behavioral and emotional problems (Waldron, 1997). Although some sources have reported stabilizing trends in the relatively high prevalence of adolescent substance use (Substance Abuse and Mental Health Services Administration [SAMHSA], 2003), the number of adolescents entering substance abuse treatment has increased in the past few years (U.S. Department of Health and Human Services [HHS], 2003). Commensurate with the demand for adolescent drug abuse treatment, there has been a trend in substance abuse providers and funding agencies to use empirically supported therapies (ESTs), derived primarily from studies in which randomized clinical trial methodology is implemented. In support of these initiatives, the National Institute on Drug Abuse (NIDA; 1999) published a listing of scientifically based approaches that have been found to be effective in randomized clinical trials involving substance abusers, and the American Psychological Association (APA) Division 12 Task Force on Promotion and Dissemination of Psychological Procedures (1995; Chambless & Hollon, 1998; Chambless et al., 1996) delineated criteria for the evaluation of treatments prior to their utilization.

Marilyn J. Strada, Brad Donohue, and Noelle L. Lefforge, Department of Psychology, University of Nevada, Las Vegas.

A summarized, poster version of this article was presented at the 112th Annual Convention of the American Psychological Association and the Minority Fellowship Program 1st Poster Session, both in Honolulu, HI, August 2004. Marilyn J. Strada wishes to thank the American Psychological Association Minority Fellowship Program, whose support indirectly funded the preparation of this article.

Correspondence concerning this article should be addressed to Brad Donohue, Department of Psychology, University of Nevada, 4505 Maryland Parkway, Box 455030, Las Vegas, NV 89154-5030. E-mail: donohueb@unlv.nevada.edu

Unfortunately, the extent to which treatments can be generalized to ethnic minority substance-abusing youths has not received the same degree of attention in the development and evaluation of ESTs (e.g., Bernal & Scharron-del-Rio, 2001; Clay, Mordhorst, & Lehn, 2002; Hall, 2001; Sue, 1998). This is particularly troubling as ethnic minorities are expected to represent 50% of the overall population in the United States by the year 2050 (U.S. Bureau of the Census, 1996) and as substance use rates among many of these populations are increasing relative to Caucasian youths (SAMHSA, 2003). Furthermore, as was highlighted in a U.S. Surgeon General's (HHS, 2001) supplemental report, consideration of ethnic culture in treatment is generally important, as it may influence, among several other factors, individuals' presentation of symptomatology, health-seeking behaviors, views about mental illness, and motivation to seek and stay in treatment. Additionally, studies have found that some aspects of ethnic culture, such as ethnic identity, tend to be more salient for members of ethnic minority cultures than for Caucasian individuals (Phinney, 1996). Indeed, ethnic identity has been positively associated with measures of psychological health in ethnic minorities as well as Caucasians when these individuals are in settings in which they represent a numerical minority (Greig, 2003). Moreover, Caucasian individuals report significantly fewer problems due to their ethnic culture and perceive their ethnic culture to be less important than do ethnic minority individuals (Donohue et al., in press).

Relevant specifically to substance use, prevalence rates and patterns of substance use among some ethnic minority youths tend to differ from those rates and patterns observed among Caucasian youths (Centers for Disease Control & Prevention [CDC], 2002), which may be indicative of a need to incorporate culture-related treatment components that clinicians do not typically include when treating members of the majority culture (e.g., psychoeducation). Consequently, although some researchers have recommended

ESTs for use with ethnic minority individuals (Chambless et al., 1996), others have questioned the validity of ESTs in these populations (e.g., Bernal & Scharron-del-Rio, 2001; Clay et al., 2002; Hall, 2001; Sue, 1998). Indeed, some have reasoned that the unique characteristics and culture-related factors associated with substance use prevalence rates and use patterns may result in differential responses to treatment (Bernal & Scharron-del-Rio, 2001; Hall, 2001). Nevertheless, differences in response to treatment have not been thoroughly investigated because of inadequate representation of ethnic minority diverse individuals in study samples and lack of effect size reports specified separately for each ethnic minority group, which may otherwise permit meta-analytic examinations. Therefore, a starting point may be to examine this topic in a qualitative manner. Thus, the purpose of the present article is to (a) conduct a content analysis of the extent to which investigators of adolescent substance use treatment outcome studies have considered ethnicity-related factors in the design, implementation, and evaluation of treatments; (b) report issues that have restricted research in this area; and (c) provide clinical and research recommendations in the treatment of adolescent drug abusers who are of ethnic minority backgrounds.

Method

Search Method

We obtained treatment outcome studies for adolescent substance use through several sources. First, we identified treatment outcome review articles published in peer-reviewed journals and examined their reference sections to locate other relevant studies. We conducted computerized literature searches in the PsycINFO and Cited Reference engines using the names of each author of the studies selected. Next, we performed a PsycINFO search using a list of keywords specified in the abstracts of both review and treatment articles identified thus far. Finally, we also sought treatment outcome studies by searching the Web sites of the following substance abuse-related organizations: NIDA, SAMHSA, CDCP, and Center for Substance Abuse Treatment (CSAT).

Study Inclusion Criteria

In determining studies to be included in this review, we used the following criteria:

1. The study was published in peer-reviewed journal or scholarly book.
2. The study focused on substance-abusing adolescents with a maximum age of 21 years.
3. The study included random assignment of participants to experimental conditions.
4. The study included an outcome measure directly indicative of substance use.

Search Reliability

An independent rater blind to the purpose of the study examined all treatment outcome studies that were determined in the search to meet the aforementioned criteria (i.e., 18 studies). We obtained an interrater reliability coefficient by dividing the total number of agreements (i.e., the independent rater concurred that the article met the specified selection criteria) by the total number of agreements plus disagreements (i.e., the

independent rater did not agree that the article met all of the aforementioned criteria) and multiplying the quotient by 100 (Uebersax, 1987). We obtained an interrater reliability coefficient of 94% for the 18 studies identified, which suggests that the selected articles were consistent with the aforementioned study inclusion criteria. The blind rater disagreed on one study (Henggeler et al., 1991) about whether the outcome measure directly indicated substance use. In that study, the principal measure was the number of arrests for substance use-related offenses.

Criteria Used to Determine the Consideration of Ethnicity in Controlled Outcome Studies

We examined the 18 articles that met study inclusion criteria to identify the extent to which these studies addressed ethnicity. That is, we coded each of the 18 articles for the presence or absence of the following criteria and computed the percentage of articles meeting each criterion:

1. There was consideration of ethnicity in any manner throughout the article (94% of articles).
2. Consideration of ethnicity in the design of the study was reported, such as considering ethnicity in block or stratified random assignment to experimental conditions, translating assessment measures, using translators, or using culture-specific assessment measures (28%).
3. The study reported representation of ethnicity to some extent (89%).
4. The authors examined ethnicity in pretreatment preliminary statistical analyses to determine the equivalence of various ethnic minority groups across experimental conditions (61%; we did not examine this criterion for studies that included only one ethnic minority group).
5. The authors conducted statistical analyses regarding differential response to treatment or moderating effects of ethnicity with a sufficient number (Cohen, 1992) of ethnic minority participants (5.6%).
6. Data were presented regarding attrition rates of ethnic minority groups or the influence of ethnicity on attrition was examined in statistical analyses (28%).

Reliability of Criteria Used to Examine the Consideration of Ethnicity

We obtained an interrater reliability coefficient for the aforementioned consideration of ethnicity criteria by dividing the total number of agreements (i.e., the independent rater blind to purpose of the study agreed that the criterion was met or not met) by the total number of agreements plus disagreements (i.e., the independent rater did not agree that the criterion was met or unmet) and multiplying the quotient by 100. For each criterion, we determined the interrater reliability coefficient to be 100%, which suggests that the independent rater completely agreed with Marilyn J. Strada's assessment of the percentage of articles meeting each of the aforementioned criteria.

Results

As indicated above, the search procedure resulted in the identification of 18 adolescent substance abuse treatment outcome studies. These studies are presented in Table 1, which includes, for
(text continues on page 19)

Table 1
Examination of Ethnicity in Adolescent Drug Abuse Treatment Outcome Studies

Article	Population description	Substances targeted	Outcome measure/instruments	Treatment (type, duration and frequency)	Consideration of ethnicity in study design, implementation and interpretation	Overall results	Consideration of ethnicity in discussion, conclusion, or recommendation sections
Amini et al. (1982)	Outpatient and inpatient N = 87 52% Caucasian 22% Spanish surname 16% African American 10% Native Americans, Asians and other 69% male Age M = 16	Not specified	Social functioning scales (Indications of Disturbance in Peer Contacts, School Disturbance, Anti-Social Behavior, Drug Use, Problem Drug Use, Alcohol Use, Problem Alcohol Use, Global Change) MMPI	Inpatient Psychodynamically oriented individual, group, family, occupational, and recreational therapies, psychodrama, on-ward school program, outpatient aftercare Stay in tx M = 132 days; range 8 to 379 days Outpatient tx as usual Reporting to probation officers regularly, community resources typically available, but rarely psychotherapy No. participants assigned to each tx group not specified	Described ethnicity of sample Considered ethnicity in tx groups equivalence analysis Considered ethnicity in attrition effects examination	Group equivalence analysis showed no significant group differences on ethnicity. Attrition effects examination showed no significant differences between tx completers and non-completers on ethnicity.	None specified
Azrin, Donohue, et al. (1994)	Outpatient N = 26 81% Caucasian 19% African American or Hispanic (how many participants of each ethnicity not specified) 77% male Age M = 16	Mostly marijuana; also cocaine/crack, hallucinogens	Parent Satisfaction Scale Youth Satisfaction Scale Beck Depression Inventory Quay Problem Behavior Checklist Urimalysis Parent/youth report of youth drug use, school attendance, employment, institutionalization, and arrests	Behavioral therapy One-hour sessions, twice per week; later reduced with progress Tx duration M = 15.1 sessions n = 15 Supportive therapy Two-hour session, once per week Tx duration M = 14.9 sessions n = 11	Described ethnic breakdown of sample Considered ethnicity in tx groups equivalence analysis	Group equivalence analysis showed no significant group differences on ethnicity	None specified
Azrin et al. (2001)	Outpatient N = 56 79% Caucasian 16% Hispanic 2% African American 3% other 82% male Age M = 15	Marijuana, alcohol, hard drugs	Urimalysis Time-Line Follow-Back Interview Arrest history records Child Behavior Checklist Youth Self-Report Eyberg Child Behavior Inventory Sutter-Eyberg Student Behavior Inventory Social Problem-Solving Inventory—Revised Parent Happiness With Youth Scale Youth Happiness With Parent Scale Life Satisfaction Scale for Adolescents Beck Depression Inventory	Family behavior therapy Tx duration M = 13.5 sessions n = 29 Individual cognitive problem solving Tx duration M = 13.7 sessions n = 27 Both conditions: initial 6 sessions of 90 min, 7th to 15th sessions were 60 to 75 min; weekly sessions during first 3 months, decreased to biweekly sessions and then to monthly sessions by end of 6th month.	Described ethnic breakdown of sample Considered ethnicity in tx groups equivalence analysis Considered ethnicity in attrition effects examination	Group equivalence analysis showed no significant group differences on ethnicity Attrition effects examination showed no significant differences between tx completers and non-completers on ethnicity	None specified

(table continues)

Table 1 (continued)

Article	Population description	Substances targeted	Outcome measure/instruments	Treatment (type, duration and frequency)	Consideration of ethnicity in study design, implementation and interpretation	Overall results	Consideration of ethnicity in discussion, conclusion, or recommendation sections
Friedman (1989)	Outpatient N = 135 90% Caucasian Ethnicity of remaining sample not specified 60% male Age M = 18	Alcohol, marijuana, other (cocaine, PCP, halluc., tranq.)	Client Interview Form Parent Interview Form Rosenberg Self-Esteem Scale Brief Symptom Inventory Family Role Task Scale Parent-Adolescent Communication Form Family Environment Scale Parent-Child Relationship Problems Scale Emotional/Psychological Problems Inventory Drug Severity Index	Functional family therapy Tx duration 24 weeks n = 85 Parent training + youth individual counseling Tx duration 24 weeks n = 50	Considered ethnicity in tx groups equivalence analysis Considered ethnicity as moderating variable	Group equivalence analysis showed no significant group differences on ethnicity Attrition effects examination showed no significant differences between tx completers and noncompleters on ethnicity	None specified
Henggeler et al. (1991) FANS study	Outpatient N = 47 74% African American 26% Caucasian 72% male Age M = 15	Alcohol, marijuana, hard drugs	National Youth Survey Soft Drug Use and Hard Drug Use subscales	Multisystemic therapy (MST) Home-based therapy Tx duration: 36 hr over 4-month period n = 28 Department of Youth Services—Usual Services Court ordered curfew, school attendance, probation officer supervision once per month n = 19	Described ethnic breakdown of sample	No results relevant to ethnicity were reported	None specified
Henggeler et al. (1991) MDP study	Outpatient N = 200 70% Caucasian 30% African American 67% male Age M = 14	Not specified	Number of arrests for substance-related offenses (i.e., possession, selling)	MST n = 100 Individual counseling n = 100 No. sessions not specified	Described ethnic breakdown of sample Considered ethnicity in tx groups equivalence analysis Considered ethnicity in attrition effects examination	Group equivalence analysis showed no significant group differences on ethnicity Attrition effects examination showed no significant differences between tx completers and noncompleters on ethnicity	None specified

Table 1 (continued)

Article	Population description	Substances targeted	Outcome measure/instruments	Treatment (type, duration and frequency)	Consideration of ethnicity in study design, implementation and interpretation	Overall results	Consideration of ethnicity in discussion, conclusion, or recommendation sections
Henggeler et al. (1999)	Outpatient N = 118 50% African American 47% Caucasian 1% Hispanic 1% Asian American 1% Native American 79% male Age M = 16	Alcohol, marijuana, other (hard drugs, prescription drugs, narcotics inhalants)	Personal Experience Inventory Urinalysis Self-Report Delinquency Scale Arrest and out-of-home placement records from Department of Juvenile Justice	MST Home-based sessions Direct therapist contact hours M = 40 n = 58 Usual community services Probation officer ordered outpatient or inpatient substance abuse services from local clinic, 12-step program Average direct therapist contact hours not specified n = 60	Examined ethnic differences between study participants and refusers Described ethnic breakdown of sample Described ethnicity of therapists Considered ethnicity in tx groups equivalence analysis No significant moderating effects on ethnicity as moderating variable	No differences on ethnicity found between participants and refusers Group equivalence analysis showed no significant differences on ethnicity No significant overall TX × Time effects No significant moderating effects on account of ethnicity Group equivalence analysis showed no significant differences on ethnicity Attrition effects examination showed no significant differences between tx completers and noncompleters on ethnicity	None specified
Joanning et al. (1992)	Outpatient N = 134 Ethnicity of adolescents not specified (i.e., indicated ethnicity of parents) Gender not specified Age M = 15	Marijuana, hard drugs	Dyadic Adjustment Scale Parent-Adolescent Communication Questionnaire Family Coping Strategies Self-Report Family Inventory Urinalysis Drug involvement Legal involvement School performance Collateral reports of youth drug use from parents and therapists	Family systems therapy Seven to 15 weekly, 60 to 90-min sessions n = 40 Adolescent group therapy (AGT) Twelve weekly, 90-min sessions n = 52 Family drug education Six biweekly, 150-min sessions n = 42	Described ethnic breakdown of youths' parents Considered parents' ethnicity in tx groups equivalence analysis Considered parents' ethnicity in attrition effects examination	Group equivalence analysis showed no significant differences on ethnicity Group equivalence analysis showed no significant differences on ethnicity	None specified
Kaminer et al. (1998)	Outpatient N = 32 88% Caucasian Ethnicity for remaining sample not specified Gender not specified Age M = 16	Not specified	Urinalysis Time-Line Follow-Back Diagnostic Interview Schedule for Children Child Behavior Checklist Youth Self-Report Teen Addiction Severity Index Situational Confidence Questionnaire Teen Tx Services Review	Cognitive-behavioral therapy (CBT) n = 16 Interactional therapy n = 16 Both conditions were 12 weekly, 90-min sessions	Described ethnic breakdown of sample Considered ethnicity in tx groups equivalence analysis	Group equivalence analysis showed no significant differences on ethnicity	None specified

(table continues)

Table 1 (continued)

Article	Population description	Substances targeted	Outcome measure/instruments	Treatment (type, duration and frequency)	Consideration of ethnicity in study design, implementation and interpretation	Overall results	Consideration of ethnicity in discussion, conclusion, or recommendation sections
Kaminer et al. (2002)	Outpatient N = 88 90% Caucasian Ethnicity of remaining sample not specified 79% male Age M = 15	Alcohol, marijuana	Urinalysis Self-report of substance use Teen Addiction Severity Index Diagnostic Interview Schedule for Children Structural Clinical Interview for the DSM Revised Dimensions of Temperament Survey	CBT n = 51 Psychoeducational therapy n = 37 Both conditions were 75- to 90-min weekly sessions for 8-week period	Mentioned ethnicity, but no breakdown of sample specified Examined tx by ethnicity effects	Group equivalence analysis showed no significant group differences on ethnicity	Mentioned lack of ethnic diversity in sample as a limitation of this study
Latimer et al. (2003)	Outpatient N = 43 86% Caucasian 4.6% Hispanic 7% Native American 2.4% Asian American 76.7% male Age M = 16	Marijuana, alcohol, other drugs	Diagnostic Interview for Children and Adolescents (youth and parent versions) Adolescent Diagnostic Interview—Revised Personal Experience Inventory Urinalyses Family Assessment Measure Rational Thinking Questionnaire Social Problem Solving Inventory Motivated Strategies for Learning Questionnaire Client Personal History Questionnaire	Integrated family and CBT Sixteen weekly, 60-min individual family therapy sessions and 32 90-min cognitive-behavioral group sessions twice weekly n = 21 Drugs harm psychoeducation Sixteen weekly, 90-min sessions n = 22	Described ethnic breakdown of sample	No results relevant to ethnicity were reported	Acknowledged limitation of study's generalization because of under-representation of minorities
Lewis et al. (1990)	Outpatient N = 84 Ethnicity not specified 80% male Age M = 16	Alcohol, marijuana, hard drugs	Family Adaptability and Cohesion Evaluation Scales Parent-Adolescent Communication Inventory Family Problem Assessment Scale Kveback Family Sculpture Test Dyadic Formation Inventory Poly-Drug Use History Questionnaire Index of Drug Severity	Purdue brief family therapy n = 44 Training in parenting skills program n = 40 Length of tx in both conditions was 12 weeks	No considerations with regard to ethnicity specified	No results relevant to ethnicity were reported	Concluded this intervention can be implemented with ethnically diverse groups

Table 1 (continued)

Article	Population description	Substances targeted	Outcome measure/instruments	Treatment (type, duration and frequency)	Consideration of ethnicity in study design, implementation and interpretation	Overall results	Consideration of ethnicity in discussion, conclusion, or recommendation sections
Liddle et al. (2001)	Outpatient N = 182 51% Caucasian 18% African American 15% Hispanic 10% Native American 6% Asian American 80% male Age M = 16	Alcohol, marijuana, others	Youth drug use self-report Parent collateral reports of youth drug use Urinalysis Acting Out Behaviors scale from Devereux Adolescent Behavior Rating Scale School performance based on GPA Global Health Pathology scale of the Beavers Interactional Competence Scales Revised Behavior Problem Checklist Addiction Severity Index Family Environment Scale Structural Family Systems Rating Urinalysis Youth self-report of drug use	Multidimensional family therapy Sixteen sessions over 5-month period n = 47 Multifamily education intervention Nine 90-min sessions over 16-week period n = 52 AGT No. sessions not specified n = 53 (30 cases refused to participate)	Described ethnic breakdown of sample Partially described ethnicity of therapists Considered ethnicity in tx groups equivalence analysis	Group equivalence analysis showed no significant group differences on ethnicity	Acknowledged inability to examine TX × Ethnicity effects because of small sample of ethnic minority participants, which limits generalization
Santisteban et al. (2003)	Outpatient N = 126 100% Hispanics (51% Cuban, 14% Nicaraguan, 10% Colombian, 6% Puerto Rican, 3% Peruvian, 1% Mexican, 15% other Hispanic nationality) 75% male Age M = 17	Alcohol, marijuana, other drugs	Competence Scales Revised Behavior Problem Checklist Addiction Severity Index Family Environment Scale Structural Family Systems Rating Urinalysis Youth self-report of drug use	Brief strategic family therapy (BSFT) Four to 20 weekly, 60-min sessions Tx duration M = 11.2 sessions Group counseling Six 16 weekly, 90-min sessions Tx duration M = 8.8 No. participants in each condition not specified	Described need for evaluating tx with this population Translated measures Described ethnic breakdown of sample Considered ethnicity in tx groups equivalence analysis Considered ethnicity in attrition effects examination (Cuban vs. non-Cuban)	Group equivalence analysis showed no significant group differences on ethnicity Attrition effects showed no significant differences between tx completers and noncompleters on ethnicity	Indicated BSFT may be appropriate for non-Hispanic samples as well
Szapocznik et al. (1988)	Outpatient N = 108 100% Hispanic (82% Cuban) Gender not specified 60% male Age M = 16	Marijuana, cocaine	Psychiatric status Schedule (includes drug abuse score) Client Oriented Data Acquisition Process	Strategic structural systems engagement n = 56 Engagement as usual n = 52	Described ethnic breakdown of sample Measured no. years participants lived in the United States Therapy was conducted bilingually in English and Spanish	No results relevant to ethnicity were reported	None specified

(table continues)

Table 1 (continued)

Article	Population description	Substances targeted	Outcome measure/instruments	Treatment (type, duration and frequency)	Consideration of ethnicity in study design, implementation and interpretation	Overall results	Consideration of ethnicity in discussion, conclusion, or recommendation sections
Szapocznik et al. (1983)	Outpatient N = 37 100% Hispanic (84.4% Cuban) 78.3% male Age M = 15	Not specified	Psychiatric Status Schedule (includes drug abuse score) Behavior Problem Checklist Structural Family Tasks Ratings Family Environment Scale	One-person family therapy (OPFT) Eight or more sessions n = 19 Cojoint family therapy (CFT) Four to 7 sessions n = 18	Described ethnic breakdown of sample Measured no. years participants lived in the United States Translated measures to Spanish Described ethnic breakdown of sample Measured no. years participants lived in the United States	No results relevant to ethnicity were reported	Acknowledge limited generalizability because of homogeneity of study sample
Szapocznik et al. (1986)	Population type not specified N = 35 100% Hispanic (77% Cuban) Gender not specified Age M = 17	Marijuana, barbiturates, alcohol	Psychiatric Status Schedule (includes drug abuse score) Behavior Problem Checklist Structural Family Tasks Ratings	OPFT n = 18 CFT n = 17 Both conditions allowed for a maximum of 12 to 15 sessions	Described ethnic breakdown of sample Measured no. years participants lived in the United States Described ethnicity of therapists translated measures to Spanish	No results relevant to ethnicity were reported	None specified
Waldron et al. (2001)	Outpatient N = 120 38% Caucasian 46% Hispanic 8% Native American 80% other 80% male Age M = 16	Marijuana	Form 90D of Time-Line Follow-Back Parents' collateral reports of youth drug use Urinalysis Problem Oriented Screening Instrument Child Behavior Checklist	Functional family therapy (FFT) Tx duration 12 hr n = 30 CBT Tx duration 12 hr n = 31 Joint FFT + CBT Tx duration 24 hr n = 29 Psychoeducational group Eight secondary prevention format, 90-min sessions n = 30	Described ethnic breakdown of sample Considered ethnicity in random assignment Considered ethnicity in tx groups equivalence analysis Described ethnicity of therapists Considered ethnicity in therapist assignment	Group equivalence analysis showed no significant group differences on ethnicity.	Acknowledged results may not generalize to other ethnic minority populations because sample consisted mostly of Caucasian and highly acculturated, English-speaking Hispanics

Note. tx = treatment; MMPI = Minnesota Multiphasic Personality Inventory; halluc. = hallucinogens; tranq. = tranquilizers; FANS = Family and Neighborhood Services Project; MDP = Missouri Delinquency Project; GPA = grade point average.

each study, a description of the study sample, substances targeted, assessments used, treatments implemented, overall outcomes, and methods of considering ethnicity (if addressed). A synthesis of the information included in Table 1 is provided in this section.

Number of Studies

One notable finding was the relatively small number of studies identified for review in this article ($N = 18$), as compared with the literature on adult substance abuse treatment. However, there were noteworthy differences in the number of adolescent substance abuse treatment outcome studies published during the past 3 decades, with a considerable increase in the number of studies during the past few years (i.e., 1980s = 5 studies, 1990s = 7 studies, 2000 to 2004 = 6 studies). Although prior reviews of adolescent substance abuse treatment have identified a slightly larger number of studies than were identified in this review (e.g., Williams, Chang, & Addiction Centre Adolescent Research Group, Foothills Medical Centre, 2000), this review was limited to controlled outcome studies that used random assignment to treatment conditions and assessed levels of substance use pre- and posttreatment. Additionally, we excluded a study in which researchers included both adolescents and adults in their samples without reporting specific outcomes for each group separately (i.e., Azrin, McMahon, et al., 1994). Also excluded was a follow-up study specific to an adolescent sample in which no new participants were added, given that culture-related variables were already addressed in the initial study (i.e., Kaminer & Bursleson, 1999).

The small number of studies identified, relative to the number of studies on adult populations, is unfortunate, given that the need for more studies with adolescent populations has been indicated by several researchers in the field (e.g., Shillington & Clapp, 2003; Williams et al., 2000). Although high-quality treatment outcome studies are complex and costly, which may explain the small number of studies conducted, the increasing number of adolescents in need of substance abuse treatment (HHS, 2003) warrants more research of this type, particularly in ethnic minority samples, as we discuss later.

Treatment Characteristics

Treatment settings. As presented in Table 1, most of the studies (94%) were reported to take place in outpatient settings. One of the studies focused on both outpatient and inpatient populations by comparing outcome between the two settings (Amini, Zilberg, Burke, & Salasnek, 1982), and the setting was unclear in another study (Szapocznik, Kurtines, Foote, Perez-Vidal, & Hervis, 1986). The predominant emphasis on outpatient settings in the studies reviewed seems somewhat representative of the type of settings in which treatment is provided in the general population. As reported by HHS (2003), the number of individuals receiving outpatient services is three times as many as that of individuals in residential and inpatient settings.

Substances targeted. With the exception of 4 studies, most reported the substances targeted in treatment. Marijuana was the most common substance targeted (i.e., targeted in all 14 studies that reported this information), hard drugs were the second most commonly reported substance (e.g., amphetamines, cocaine; reported in 10 of the studies), and alcohol was targeted in 50% of

these 14 studies. There were no instances in which hard drugs or alcohol were exclusively targeted. Treatment typically focused on reduction of marijuana by itself or in combination with hard drugs, alcohol, or both.

It is interesting that hard drugs were more commonly targeted for treatment in controlled studies than was alcohol consumption, even though national survey reports (e.g., CDCP, 2002; SAMHSA, 2003) have estimated youths' consumption of alcohol to be at least 10 times greater than their use of hard drugs. In most cases, researchers predetermined the emphasis of treatment to be on a particular substance. For instance, the participant inclusion criteria in Waldron, Slesnick, Brody, Turner, and Peterson's (2001) study excluded youths who abused only alcohol or tobacco, and Azrin, Donohue, Besalel, Kogan, and Acierno (1994) included participants who abused either illicit drugs only or illicit drugs in addition to alcohol. In general, researchers did not specify the rationale to focus on drugs as opposed to alcohol (e.g., differences in severity of behavior problems associated with one or the other substance, differences in treatment components required to treat the use of a particular substance, youths' propensity to simultaneously abuse multiple drugs). However, funding sources may, to some extent, influence these decisions. Indeed, the majority of studies were funded by NIDA, and only a few studies received financial support from other sources, such as the National Institute of Mental Health.

The greater emphasis of treatment research on certain substances may have implications for members of ethnic minority populations. For instance, given that substance use prevalence rates vary across ethnic minority groups, limiting the substances targeted in treatment research may result in a lack of interest for or exclusion of some ethnic minority groups (SAMHSA, 2003). In this case, youths of some ethnic minority groups, such as African Americans, whose primary substance of abuse is alcohol and not hard drugs (SAMHSA, 2003), may not meet the study inclusion criteria. The studies reviewed provide some support for this theory, as the 2 studies with significant African American representation (i.e., 74% in the Henggeler et al., 1991, Family and Neighborhood Services Project study; 50% in Henggeler et al., 1999) predominately focused on alcohol and marijuana use. However, it should be mentioned that other factors, such as geographic location of the study sites, may influence sample composition as well. Indeed, there were several studies that focused on marijuana and alcohol (i.e., substances commonly abused across youths of ethnic minority background) in which the majority of participants were Caucasian. Thus, further exploration of factors that tend to influence the participation of ethnic minority youths in outcome research studies is warranted.

Another factor influencing the focus of treatment research may be the referral sources used to recruit participants. Several of the studies reviewed relied, at least partially, on referrals from juvenile justice agencies and courts for participant recruitment. According to Shillington and Clapp's (2003) study with a large group of youths mandated to treatment (i.e., over half of 4,733 adolescents), marijuana was the predominant substance abused, followed by methamphetamines and alcohol, which parallel the substances targeted in the studies reviewed in this article. However, the same study found that Caucasian youths tended to report significantly higher use of methamphetamines, as compared with African American and Hispanic/Latino youths. Furthermore, Shillington and Clapp (2003) found that African American and Hispanic

youths were significantly more likely than Caucasian youths to be referred or mandated to seek substance abuse treatment. Therefore, a higher proportion of ethnic minority youths referred and mandated to treatment, as compared with Caucasian youths, should lead to a larger participant pool of diverse youths from which to recruit participants for treatment studies. However, a relatively smaller proportion of ethnic minority youths are likely to be best suited for or meet the inclusion criteria of studies in which the primary focus is on hard drugs, such as methamphetamines. Thus, the selection of abused substances targeted in treatment may be assisting in the perpetuation of a lack of ethnic minority representation in controlled outcome studies involving substance-abusing youths, as we emphasize below.

Demographic Characteristics of Studies' Participants

Sample sizes ranged from 26 to 200 participants, with approximately 40% of the studies having sample sizes of over 100 participants. Participants' ages across studies ranged from 14 to 18 years old, with a mean age across studies of 15.80 years ($SD = 0.88$). With the exception of 3 studies, all studies reported the gender of the participants. Representation of boys in the samples of those studies ranged from 60% to 82%. The age and gender characteristics of the samples across studies were also consistent with those reported in national surveys (e.g., CDCP, 2002; SAMHSA, 2003) and other studies that have reported this information for large samples of adolescents (e.g., Shillington & Chapp, 2003).

Reporting of Participants' Ethnicity

Most of the studies (89%) reported the ethnicity of the participants to some extent. Approximately a third of those studies provided detailed descriptions of the participants' ethnicity (i.e., every participant's ethnicity was accounted for), whereas the remaining two thirds of those studies reported partial descriptions. For example, Amini et al. (1982) identified participants' ethnicity by surname, 7 studies reported the ethnicity of some participants as "other," 2 studies reported the participants' ethnicity as a combined percentage of various groups (e.g., 10% Native Americans, Asians, and other), and 3 studies reported only the percentage of Caucasian participants represented. Therefore, in the majority of studies, the participants' characteristics were not reported with the degree of specificity that would qualify the studies as ESTs, according to Chambless et al.'s (1996; Chambless & Hollon, 1998) criteria. Additionally, this trend in the reporting of ethnicity did not seem to change noticeably over time across the studies reviewed. However, the practice of reporting limited information regarding ethnicity appears to be common in psychological research. Indeed, Chambless et al.'s (1996; Chambless & Hollon, 1998) examination of possible ESTs for some disorders (i.e., anxiety and stress, depression, health problems, some childhood problems, marital discord, sexual dysfunction) found that most studies did not describe the ethnicity of the participants. In addition, researchers in areas other than substance abuse (e.g., pediatric psychology) have also brought attention to the limited information provided in studies about participants' descriptions (Clay et al., 2002). Nevertheless, the extent to which participants' ethnicity was reported in adolescent substance abuse treatment studies was much greater

(89%) than Clay et al. (2002) found in pediatric psychology studies (27%). The greater degree of specificity regarding participants' ethnicity in substance abuse treatment research may also be related to the finding that most studies were funded by government agencies (e.g., NIDA, National Institute of Mental Health), which often require specification of sample characteristics.

Of the studies that reported ethnicity to some extent, Caucasian youths were represented in 75%. Caucasian youths composed between 26% and 90% of the samples, with most of these studies (67%) reporting that Caucasian participants represented over 70% of the sample. The second largest group represented across studies was Hispanic/Latino participants. Sixty-three percent of the studies that reported participants' ethnicity included youths from Hispanic/Latino backgrounds. However, it was not possible to determine the exact representation of Hispanic/Latino participants in 2 of these studies. In 1 study, the researchers used Spanish surname to identify participants (Amini et al., 1982). Spanish surname was an acceptable method to identify individuals of Hispanic origin, according to U.S. Bureau of the Census standards, during the 1970s. However, this method may not be as accurate as self-identification. Indeed, there is a large degree of intermixing (e.g., colonization, immigration, interracial marriage) between Hispanics/Latinos and individuals of other ethnicities (Freeman, Lewis, & Colon, 2002), which may result in Hispanics/Latinos having European surnames or individuals with Spanish surnames identifying with other ethnicities. The 2nd study combined the number of Hispanic/Latino and African American participants (Azrin, Donohue, et al., 1994). In the studies that provided detailed sample descriptions, Hispanic/Latino youths were represented in 50% of the cases. Their representation ranged from 1% to 100%, with 5 of the 8 studies ranging from 1% to 46% and 4 studies focusing exclusively on Hispanic/Latino youths. The latter studies (Santisteban et al., 2003; Szapocznik, Kurtines, Foote, Perez-Vidal, & Hervis, 1983; Szapocznik et al., 1986, 1988) provided sample descriptions broken down by Hispanic/Latino subgroups (e.g., Mexican, Cuban). Across these 4 studies, Cuban youths made up the majority of the samples (range = 51% to 82%). Hispanic/Latino was the only ethnic minority group for which we identified studies that focused exclusively on one ethnic minority group. Emphasis of treatment research on specific ethnic minority groups has been proposed as the form of research that permits the evaluation of treatment components that are particularly effective with the specific ethnic minority group (Bernal & Scharron-Del-Rio, 2001).

Thirty-eight percent of the studies reported inclusion of African American participants. Representation of African American youth across these studies ranged from 2% to 74%, with half of the studies reporting 16% or less African American representation. African American youth made up the majority of the sample in two studies conducted by the same researchers (Henggeler et al., 1991; Henggeler, Pickrel, & Brondino, 1999). As mentioned above, one study (Azrin, Donohue, et al., 1994) reported a combined number of African American and Hispanic/Latino participants. Therefore, it was not possible to determine the exact representation of each group.

Compared with the other ethnic minority groups mentioned above, Native Americans and Asian Americans were represented to a lesser extent across studies. Twenty-five percent of the studies that reported ethnicity included Native American participants (range = 1% to 10%), whereas 19% included Asian American

participants (range = 1% to 6%). One study (Amini et al., 1982) combined participants of Native American, Asian American, and “other” ethnicities into one group. In addition, because of the small number of Native American and/or Asian American participants in the samples, it is possible that the researchers might have placed these youths in an “other” category without specifying that members of these ethnicities were represented within that category. Thus, it was not possible to determine the exact degree of representation for these groups in that study. Consequently, it was not feasible to evaluate the external validity of the treatments implemented in Native American and Asian American populations on the basis of their representation in the studies. The small representation of individuals in these ethnicities is consistent with reports of underutilization of mental health services by some members of Native American and Asian American populations (CSAT, 2001), which would indicate a need to develop patient recruitment strategies in these ethnic minority groups. However, it should also be emphasized that poor representation of ethnic minority participants in some studies may simply be a function of the number of minority youths in a given geographic area. In any event, investigators should begin to report the representativeness of sample demographics to the geographic area from which study participants are drawn, thus providing a proper context in which to interpret results.

Overall, the general tendency across studies was to report participants’ ethnicity according to the definitions established by some of the national funding agencies, such as the National Institutes of Health (i.e., American Indian/Alaska Native, Asian/Pacific Islander, Black/African American, Hispanic), without specifying subgroups within each ethnic minority group. This approach does not acknowledge the heterogeneity that exists within each of the ethnic minority groups (Hall, 2001).

The practice of reporting combined totals that include members of more than one ethnic minority group was also apparent, as was the tendency to create an “other” category that included those participants who did not fit within any of the ethnic minority groups listed. One notable study (Santisteban et al., 2003) provided an extensive description of the participants’ ethnicity, detailing subgroups within a larger ethnic minority group (i.e., for Hispanics/Latinos, percentage of Cubans, Mexicans, etc., were reported). These findings largely support the criticism that most studies do not provide sufficient details about the ethnicity of the participants to allow conclusions as to the effectiveness of treatment among members of specific groups (Bernal & Scharron-del-Rio, 2001; Chambless & Hollon, 1998; Chambless et al., 1996; Clay et al., 2002).

When one considers that ethnic minority populations represent over 33% of the general population in the United States (U.S. Bureau of the Census, 2002), it appears that some members of ethnic minority groups (i.e., African Americans, Hispanics/Latinos) were represented in many of the samples across studies. That is, in some studies, ethnic minority youths made up more than 50% of the participants, and some studies focused specifically on ethnic minority youths (i.e., Hispanic/Latino youths). However, the representation of each ethnic minority group (i.e., Hispanic/Latino, African American, Asian American, Native American), in proportion to its individual degree of representation in the general population, varied across studies. For instance, both African American and Hispanic/Latino youths were proportionally represented in

only a few studies, with the exception of, in the case of the latter population, those studies that focused exclusively on Hispanic/Latino populations. Nevertheless, African American and Hispanic/Latino youths had much greater representation than Native American and Asian American youths.

Some researchers (e.g., Bernal & Scharron-Del-Rio, 2001; Hall, 2001) have underscored the importance of considering treatment outcome separately for individuals of ethnic minority backgrounds. This is particularly the case because of the extensive heterogeneity that has been found in some domains, such as interdependence, experience of discrimination, and language (Hall, 2001), which are thought to impact various aspects of treatment (e.g., treatment services utilization, treatment preferences, and health beliefs; Bernal & Scharron-Del-Rio, 2001). Thus, some researchers have advocated the importance of including the number of ethnic minority participants that would permit examination of Ethnicity \times Treatment effects, independent of proportional representation (Bernal, Bonillo, & Bellido, 1995), particularly given the small sample sizes in many of the studies. In addition, Hall (2001) proposed that “simple inclusion [of ethnic minority participants] is unlikely to yield much information on the cultural relevance of theories or interventions” (p. 504).

Outcome Measures

The majority of the studies reviewed incorporated outcome measures for various domains related to substance use, including use frequency, conduct problems, school performance, social functioning, and family relationships. In addition, a few studies included measures of other variables related to psychological functioning, such as depression, self-esteem, self-confidence, and temperament. Because the focus of the present article is on substance use, we do not discuss measures used to assess other functioning domains. However, to provide a comprehensive overview of measures used in adolescent substance abuse treatment outcome studies, in Table 1 we list all instruments used in the studies.

Relevant to substance use measures, a large portion of the studies (55%) used biological markers (i.e., urinalysis) in addition to self-report measures of substance use. Several studies (67%) obtained self-reports of substance use through questionnaires and/or subscales from large scales for related areas (e.g., Social Functioning Scales, Minnesota Multiphasic Personality Inventory; Amini et al., 1982), whereas other studies (72%) used structured methods to obtain estimates of substance use, such as the Time-Line Follow-Back (TLFB; Sobell & Sobell, 1992) and/or diagnostic-oriented instruments (e.g., Diagnostic Interview Schedule for Children, cited in Kammer, Bursleson, & Goldberger, 2002). A few studies (22%) obtained collateral reports about the youths’ substance use from parents in addition to urinalysis and youth self-report.

We examined the outcome measures in the studies for the extent to which the researchers considered validity and appropriateness of these measures for use with ethnic minority youths. Of interest was whether there were indications that the researchers (a) acknowledged the importance and/or relevance of using culturally appropriate measures in studies that included ethnic minority participants, (b) mentioned psychometric properties of the instruments and their validity for use in ethnic minority populations, and (c)

specified caveats on interpretation of findings when measures were not found culturally appropriate. There were no studies found that addressed any of these three issues. However, 3 of the studies that focused exclusively on Hispanic/Latino youths (Santisteban et al., 2003; Szapocznik et al., 1983, 1986) indicated that the measures were translated to Spanish. Nevertheless, we do not know whether the researchers made translations following the transliteration and cross-cultural validation procedures that have been recommended in the literature for assessment instruments (e.g., Butcher, 1996). This is important given that translation of instruments is not equated with cultural appropriateness. Unfortunately, results obtained from outcome measures were not reported separately by ethnic minority group in any study, which might have permitted some evaluation about the cross-cultural validity of the measures. The lack of consideration of the cultural appropriateness of outcome measures that was evident in this group of studies is consistent with what has been apparent in other areas of psychological research (Clay et al., 2002). Although most of the studies reviewed did not meet Sue's (1998) criterion for ESTs of incorporating multiple, culturally appropriate measures, one can argue that some measures of substance use are inherently valid across cultures (e.g., biological markers).

Lack of consideration of an instrument's cultural suitability is an unfortunate oversight, particularly given that culturally appropriate versions of some of the instruments used may be available from the test's developers for some ethnic minority populations. For instance, the TLFB (Sobell & Sobell, 1992), which was used in some of the studies, has been translated into Spanish. The Spanish version of the TLFB incorporates events and holidays pertinent to Hispanic/Latino culture to trigger recall of substance use on special occasions, which may be viewed as a step toward cultural relevance. In addition to the omission of information about and/or acknowledgment of the importance of use of culturally appropriate measures, there was no mention in the studies about any limitations and/or caveats for interpretation related to the psychometric properties of the instruments.

Explicit Consideration of Ethnicity

With the exception of two studies (Kaminer, Burleson, Blitz, Sussman, & Rounsaville, 1998; Kaminer et al., 2002), most studies (89%) compared some form of family-oriented therapy with an individually, group-, and/or psychoeducationally oriented treatment approach. Some of those studies also compared family-oriented therapies with treatment as usual conditions. The 2 studies that did not implement family-oriented approaches involved comparisons between cognitive-behavior therapy (CBT) and psychoeducational and interactional therapies. We do not provide additional details in this article about the treatments used in these studies, as they have been discussed at great length in several outstanding reviews of adolescent substance abuse treatment (e.g., Liddle & Dakof, 1995; Ozechowski & Liddle, 2000; Waldron, 1997; Williams et al., 2000).

We examined the extent to which race/ethnicity was considered in treatment within any section of each article (e.g., introduction, study rationale, design, implementation, results, discussion). Of the 18 studies reviewed, 1 study included a segment within the introduction section describing factors in substance use unique to Hispanic/Latino youths and underscored the need to evaluate ex-

istent ESTs with this population (Santisteban et al., 2003). This study was one of those that implemented treatment with a sample consisting of 100% Hispanic/Latino youths.

Within the methodology section, some studies considered ethnicity at various stages. For example, some examined differences in ethnicity between those who agreed to participate in the study and those who refused (Henggeler et al., 1999). One of the studies conducted with 100% Hispanic/Latino participants modified the delivery of therapy services to be bilingual, as needed by participants (Szapocznik et al., 1988). In addition, 3 of the studies implemented with Hispanic/Latino participants included a measure of the number of years the participants had resided in the United States (Szapocznik et al., 1983, 1986, 1988), which suggests that a measure of acculturation might have been considered relevant.

Some studies provided descriptions of the therapists' race/ethnicity (Henggeler et al., 1999; Liddle et al., 2001; Waldron et al., 2001). One of these studies (Waldron et al., 2001) also considered participants' and therapists' ethnicity in the process of random assignment to ensure pretreatment group equivalence. However, effects on treatment related to therapists' ethnicity and bias were not examined in any study. The relevance of examining these two variables is bolstered by an ever-increasing literature supporting ethnic match and psychotherapy bias. For instance, Sue (1998) reported that Caucasian, Mexican American, African American, and Asian American patients tended to stay in treatment for longer periods of time when they were matched with a therapist of the same race/ethnicity, and length of stay in treatment, in turn, has been associated with more favorable outcomes. In addition, attention has been called to the need to become more aware about the common occurrence of automatic biases and stereotypic attitudes that can impact the therapist-client relationship (APA, 2003).

There was also no mention in most of the studies reviewed of modifications made to treatment components to accommodate ethnicity-related variables. However, some components of family-oriented therapies have been found to be highly compatible with the cultural values and beliefs of members of some ethnic minority groups (Bernal et al., 1995). For instance, the emphasis of family-oriented therapies on the involvement of family members (or supporting members of the community) in the treatment of the designated patients (e.g., multisystemic therapy [MST] by Henggeler et al., 1991, 1999) is consistent with the concept of interdependence, which is highly valued in some cultures (Hall, 2001).

Accordingly, one could theorize that family-oriented therapies may be more culturally sensitive and, thus, more efficacious in the treatment of ethnic minority youths. However, an examination of this variable for studies that included at least somewhat proportionate representation of ethnic minority participants did not fully support this theory, as the findings were mixed. For example, in a study of multidimensional family therapy (MDFT) involving a large, diverse sample, Liddle et al. (2001) showed that the family-oriented therapy was indeed more effective than group therapy and psychoeducational intervention. When evaluated in a similar sample 4 months after treatment, functional family therapy (FFT) was found to be more efficacious than individual CBT, joint FFT and CBT, and psychoeducational group therapy. However, only joint FFT and CBT and group therapy maintained improvements at the 7-month follow-up (Waldron et al., 2001). In another example, 2 of Henggeler et al.'s (1991) studies on MST with a relatively large

sample of African American youths showed that MST was more efficacious in the reduction of substance use-related arrests than were individual counseling and probation services as usual. However, another study on MST and probation services as usual by the same researchers, with a relatively large sample of African American youths, found no overall Treatment \times Time effects. Szapocznik et al.'s (1983, 1986, 1988) family-oriented treatments evaluated with Hispanic/Latino youths also produced mixed results. Two comparisons of one-person family therapy (OPFT) and conjoint family therapy resulted in favorable findings for OPFT (Szapocznik et al., 1983, 1986). Although the OPFT approach included components from family-oriented therapies, the focus was on the implementation of treatment by one person in the family, without the involvement of other family members. A 3rd study by the same researchers compared strategic structural systems engagement (SSSE) and engagement as usual (Szapocznik et al., 1988). The results showed that SSSE was more efficacious than the engagement as usual condition. Similarly, Santisteban et al.'s (2003) study with Hispanic/Latino youths also demonstrated higher efficaciousness for the family-oriented therapy, brief strategic family therapy (BSFT), than for group counseling. The remaining studies had samples with higher proportions of Caucasian youths or did not specify the participants' ethnicity. Overall, although these findings were mixed and in most cases the treatments did not seem to be selected particularly for their cultural sensitivity, there seems to be some support for the efficaciousness of therapies that include components congruent with the cultural values and beliefs of some ethnic minority youths, but more work is needed in this area.

Within statistical analysis sections, more than half (61%) of the studies included ethnicity as one of the variables in analyses of treatment groups equivalence, whereas a smaller number of studies (28%) included this variable in the examinations of attrition effects. Results of these analyses suggest that ethnicity did not interact with treatment outcome or attrition. Three studies (17%) examined the effects of race/ethnicity as a moderating variable (Friedman, 1989; Henggeler et al., 1999; Kaminer et al., 2002). No significant differences were found in treatment effects as a function of ethnicity in any of these studies. However, 2 of the studies (Friedman, 1989; Kaminer et al., 2002) conducted this analysis with samples that included small numbers of ethnic minority participants (i.e., both studies had 90% Caucasian, 10% not specified, with sample sizes ranging from 88 to 135 participants). The 3rd study (Henggeler et al., 1999) included a significantly larger number of participants of some ethnic minority backgrounds (i.e., 50% African American, 47% Caucasian, 1% Asian American, 1% Hispanic, 1% Native American). However, it was not clear whether all participants from the various ethnicities represented were included in one group and then compared with Caucasians or whether the analysis represented the moderating effects of ethnicity considering only Caucasian and African American youths. Only 1 study acknowledged the unfeasibility of conducting this analysis because of the small sample size of ethnic minority participants and emphasized caution in the interpretation of the results (Liddle et al., 2001).

A review of the discussion and conclusion sections revealed that most studies (61%) did not include stipulations or acknowledgments regarding possible limitations concerning ethnicity. Five of the 18 studies (22%) included acknowledgments regarding limited generalizability due to sample homogeneity (Kaminer et al., 2002;

Latimer, Winters, D'Zurilla, & Nichols, 2003; Liddle et al., 2001; Szapocznik et al., 1983; Waldron et al., 2001). One study explicitly indicated that the treatment evaluated was appropriate for use with ethnic minority individuals, but the ethnicity of the participants was not specified in the sample description (Lewis, Piercy, & Sprenkle, 1990). In another study, in which all participants were Hispanic/Latino, the investigators suggested the treatment evaluated was appropriate for use with non-Hispanic individuals (Santisteban et al., 2003).

We also examined the studies to determine the extent to which they met Chambless et al.'s (1996; Chambless & Hollon, 1998) criteria for ESTs. Because the inclusion criteria used in the selection of these studies focused on controlled research procedures, we assumed that all studies met some of these criteria (i.e., implemented random assignment, assessed substance use before and after treatment). In addition, Chambless et al.'s criteria for ESTs required providing evidence demonstrating (a) the superiority of the treatment to the alternative treatment and (b) replication by at least one group of independent researchers. The following studies met the first criterion, as they demonstrated superior results compared with alternative treatments: behavior therapy (Azrin, Donohue, et al., 1994), MST (Henggeler et al., 1991), family systems therapy (Joanning, Thomas, Quinn, & Mullen, 1992), CBT (Kaminer et al., 1998), integrated family and cognitive behavior therapy (Latimer et al., 2003), Purdue brief family therapy (Lewis et al., 1990), MDFT (Liddle et al., 2001), BSFT (Santisteban et al., 2003), OPFT (Szapocznik et al., 1983), and FFT (Waldron et al., 2001). However, none of the studies listed above met the second criterion (i.e., replicated by at least one group of independent researchers). Although 2 studies evaluated FFT independently (Friedman, 1989; Waldron et al., 2001), their findings were mixed. However, Chambless and Hollon (1998) also delineated a slightly modified criterion that specifies that when the second criterion is not met, a study conducted that meets all other criteria can be considered "possibly efficacious" (p. 18) if there is no contradicting evidence. On the basis of this criterion, all treatments (mentioned above) that were more effective than the alternative treatments with which they were compared would be considered possibly efficacious.

We also examined the studies according to Sue's (1998) criteria for evaluation of ESTs' appropriateness in the treatment of ethnic minority populations. Aside from the criteria specified earlier, Sue (1998) suggested that participants should be assigned to treatment conditions in a blocked random order according to ethnicity and that researchers should use multiple, culturally cross-validated measures. On the basis of these criteria, none of the studies reviewed in the present article would be considered culturally appropriate. However, it is important to emphasize that lack of consideration of culture- or ethnicity-related variables may not be tantamount to lack of efficaciousness in ethnic minority populations. Indeed, none of the treatment modalities evaluated in the studies reviewed revealed counteractive effects or seemed to be ineffective in ethnic minority populations, with some including large groups of ethnic minority youths. Furthermore, it is plausible that investigators might have encountered issues related to culture and ethnicity while implementing these studies but did not report their methods of managing these issues in the published articles because of space constraints or lack of awareness about their relevance or importance to external validity. Thus, an investigation

of the effects of considering and incorporating culture- and ethnicity-related variables seems warranted in adolescent drug treatment outcome research, but it is not our conclusion that its absence thus far indicates that existing treatments lack efficaciousness in ethnic minority populations.

Discussion

Research Implications

The findings of this content analysis have several implications for both research and clinical practice. Relevant to research, investigators should incorporate several essential procedures into treatment outcome research to help increase the degree of interpretation that can be made about treatment generalizability to diverse populations. Some of these recommendations resonate with those already made by others (e.g., Bernal & Scharron-Del-Rio, 2001; Chambless et al., 1996; Hall, 2001; Sue, 1998). First, researchers should specify detailed descriptions about participants' characteristics that may potentially moderate treatment effects (e.g., ethnicity, gender, age, acculturation level, socioeconomic status). For instance, none of the studies reviewed appropriately reported the family income of youth participants. Such information would allow comparisons between low- and high-income ethnic minority groups rather than examinations of ethnicity in homogenous subgroups alone. Indeed, an affluent African American woman may share more variance in treatment outcome with an affluent Caucasian woman than with an impoverished African American woman. Along these lines, descriptions of ethnicity should reflect the heterogeneity of the populations with which the treatment is likely to be implemented, whenever possible. For instance, information regarding participants' identification with ethnic minority subgroups (e.g., Japanese, Korean) should be made available to the reader when sample size is appropriately large (Sue, 1998). Moreover, given that power may be insufficient to conduct statistical analyses of particular ethnic minority subgroups *ex post facto*, we recommend that outcome studies be planned to occur in geographic areas that are likely to be represented by ethnic minority subgroups of interest. Furthermore, investigators should provide sufficient detail regarding the characteristics of participants who are likely to benefit from the respective treatments that are evaluated to be effective (Chambless & Hollon, 1998). Although the focus of this review is on the consideration of ethnicity, consideration of other variables, such as gender and socioeconomic status, has been limited and also seems warranted.

Along these lines, knowing whether the study samples are representative of the geographic areas in which the studies take place would also be useful to determine the generalizability of studies' results. Therefore, we encourage investigators to include this information along with their descriptions of study participants. In addition, although the reporting of therapists' ethnicity contributes to external validity, examinations of the effects of therapist-client ethnic match as well as therapist bias would also enhance internal and external validity.

Second, as specified in APA's (2002, 2003) ethical guidelines, researchers should consider the psychometric properties and cultural equivalence of assessment instruments prior to using them in studies. Indeed, as indicated earlier, some of the measures commonly implemented in substance abuse research have been cultur-

ally validated but remain largely unused. Although some substance use measures may seem intuitively unbiased because they consist of simple self-report formats, the effects of cultural bias have not been examined in controlled studies (Sue, Zane, & Young, 1994). In addition, the translation of measures should follow transliteration procedures so that cultural equivalence is maintained (Butcher, 1996). Researchers should also disclose whether culturally valid measures were unavailable, in which case they should present the possible limitations and caveats for interpretation. Finally, measures of constructs (e.g., interdependence, acculturation level) that have been associated with treatment outcome should be included (Hall, 2001).

Another methodological procedure that may assist in the interpretation of external validity is the implementation of block random assignment by ethnicity (Sue, 1998). Some of the procedures implemented in some of the treatments reviewed in this article were valuable to external validity. These included providing a description of therapists' characteristics and considering these characteristics in assignment to treatment conditions; examining differences between those who agreed to participate and those who refused; and examining effects of moderating variables, such as ethnicity, on attrition and treatment outcomes. In addition, reporting effect sizes by ethnicity may permit authors of future meta-analyses to conduct quantitative evaluations of differential response to treatment (Chambless et al., 1996).

The importance of incorporating ethnicity-related variables in treatment development is a recurrent theme throughout this article. However, before one takes this step, it is important to first evaluate the theoretical foundations of the treatment to identify components that may conflict with ethnic minority participants' cultural philosophies and values (Hall, 2001). Other components may be incorporated into the early stages of the study design. For instance, we encourage researchers to consider focusing studies on the types of substances that are abused by those who need the treatments. Additionally, investigators must be careful not to make generalizations of study results to ethnic minority populations that they did not evaluate in the outcome study. Indeed, few studies cautioned about making generalizations based on small, homogenous samples.

Finally, as we mentioned earlier, given that the samples of some of the studies reviewed in the present article included ethnic minority participants, it is reasonable to believe that some issues related to culture and ethnicity might have been encountered and addressed (e.g., by modifying study design or treatment protocol) but not reported because of space constraints or lack of awareness about their relevance or importance. It would be beneficial if investigators included in their dissemination of outcome study results a section depicting diversity issues that they encountered or addressed during the implementation of treatment or supervision of cases. Along these lines, it is common in preliminary and/or pilot studies to systematically examine clinical anecdotes that appear to be consistent across cases during the implementation of experimental treatments (e.g., noncompliance with prescribed treatment components). In this endeavor, if a Hispanic father with traditional values, for example, reported that contingency contracting is not accepted within the Hispanic culture, the research group would likely brainstorm, implement, and examine potential revisions to protocol to make the intervention more palatable to his family while maintaining the integrity of contingency contracting

for use with other families. Clinical anecdotes such as this are often included within problem and solution sections in developed therapist treatment manuals but rarely disseminated in published treatment outcome studies.

Clinical Implications

Clinicians who conduct psychological evaluations and diagnose individuals of ethnic minority backgrounds should consider the cultural appropriateness of drug use assessment measures, particularly given that culturally validated versions of some of these measures have been developed. Clinicians who anticipate working with ethnic minority populations should make efforts to obtain and use these measures. When they do not use culturally appropriate measures, they should interpret test scores with caution in conjunction with other methods of evaluation (e.g., clinical interviews) and document these procedures (APA, 2003). Furthermore, the assessment process may incorporate semistructured interviews that elicit information from the client about the degree to which it is important for the client to address culture-related factors in therapy. In this manner, clinicians can formulate treatments that are tailored to the client's unique level of cultural orientation.

In the absence of culturally validated psychological treatments, we recommend that clinicians use empirically derived treatments that have not been evaluated specifically with ethnic minority populations (APA Division 12 Task Force on Promotion and Dissemination of Psychological Procedures, 1995). However, it is important to consider that the aforementioned task force evaluations were not focused on adolescent substance abuse treatment outcome studies. Thus, we urge clinicians to use first those studies that have had some support in their evaluation with ethnic minority youths. As we mentioned earlier, some of the studies reviewed in this article were evaluated in Hispanic/Latino samples, and a few other studies included large samples of African American youths. In addition, clinicians should consider whether any treatment components are incongruent with a particular culture's philosophy.

Other, less apparent clinical implications include the possible benefits of incorporating culture-related components into treatment protocols. For instance, because some components of family-oriented therapies seem to be compatible with the beliefs and values of some members of various ethnic minority groups (Bernal et al., 1995), members of these populations may be more receptive to treatment modalities that emphasize interdependence and family involvement. In implementing family-oriented therapies, it may be important that clinicians consider familial differences among members of diverse ethnic minority backgrounds. For some ethnic minority groups, extended family members as well as members of the church or community may be central in the individual's primary support system. However, it should be mentioned that none of the reviewed treatment outcome studies has empirically demonstrated the differential effectiveness of family-based interventions for use in ethnic minority samples, as compared with Caucasian youths.

Although none of the reviewed studies examined the influence of acculturation on treatment outcome, it makes intuitive sense that clinicians should examine the level of acculturation of the adolescent as well as the adolescent's family when providing treatments to members of ethnic minorities. Indeed, unacculturated ethnic minority youths and their family may require services that are

focused on cultural adaptation (e.g., assist family members in obtaining social services, vocational and educational assistance) prior to initiation or during provision of treatments that are specific to substance abuse.

Future Directions

It is important to clarify that none of the studies selected for review was designed expressly to evaluate treatment response differential as a function of ethnicity. Therefore, our review is not intended to highlight the lack of consideration of this variable as an oversight on the part of the investigators. Instead, our hope is that, through retrospective examination of available treatments and their potential palatability to members of diverse cultures, we may facilitate the process of incorporating culture-related variables in future studies. Thus, in this section we offer some suggestions that may help enhance the generalizability of future treatment outcome studies. One of the reasons for contesting the external validity of ESTs in the treatment of members of ethnic minority populations has been the lack of utilization of multiple, cross-culturally validated measures. However, the dearth of these measures has been recognized (Chambless et al., 1996). Therefore, future research should focus on initiating the process of making these measures available for researchers' use by conducting cross-cultural validation studies on the measures most commonly used in adolescent substance abuse research. An important stage in the cross-cultural validation process is to review these measures for components that may be in conflict with culture-related concepts, values, or beliefs of individuals of ethnic minority backgrounds. In addition, cross-cultural validation involves ensuring that the content of the measures is equivalent in both cultures and that transliteration procedures are followed (e.g., use of independent translators, back-translation procedures), as opposed to simply translating the measures (see Butcher, 1996).

Another area of consideration in future research is the development of enlistment strategies to increase the number of ethnic minority youths who participate in treatment outcome studies. As we mentioned earlier, members of some ethnic minority groups tend to abuse substances at greater rates than youths in the general population, and they tend to be overrepresented among those who are mandated to treatment because of legal involvement. However, members of these populations continue to be underrepresented in most treatment outcome studies. Therefore, research efforts are needed to identify and understand the barriers that prevent ethnic minority youths and their family from participating in treatment outcome research as well as how to overcome such barriers.

We identified several other possible areas of future research relevant to treatment. First, because of the limited data on effect sizes provided in published studies, it was not possible to determine quantitatively whether members of ethnic minority groups respond differentially to treatment. Thus, a first step might be to attempt to gather these data from researchers to permit meta-analytic studies. Combining effect sizes obtained across studies, separated by ethnicity, may provide further understanding about whether treatments that are developed without consideration of culture-related variables are indeed effective across ethnic minority populations. In addition, this procedure would help clarify whether those treatments thought to be congruent with ethnic cultures' values and beliefs (e.g., family-oriented therapies) are

more effective than other alternatives (e.g., individual therapy) for adolescent ethnic minority drug abusers. Second, other long-term alternatives that may permit the examination of differential response to treatment might include the evaluation of ESTs with members of specific ethnic minority groups in sufficient sample sizes.

Concluding Remarks

Given the rapid growth of ethnic minority populations in the United States, researchers and therapists face greater demands to create and provide adequate treatments for substance-abusing youths. Furthermore, drug treatment needs of ethnic minority youths are disproportionately high. As we reviewed earlier, more ethnic minority youths are being referred to treatment than Caucasian youths, but these youths are experiencing higher rates of treatment dropout and unsatisfactory release from treatment (Shillington & Clapp, 2003). In addition, researchers and clinicians have been urged to avoid making assumptions about the effectiveness of treatments for specified populations until empirical evidence demonstrates success in the respective population (Chambless et al., 1996).

Given some of the limitations associated with qualitative research, it is a complex process to draw concrete conclusions about the extent to which ESTs generalize to ethnic minority populations, particularly given the small sample sizes and small representation of ethnic minority youths in most of the studies. Indeed, whether ESTs have external validity in ethnic minority populations may vary depending on which point of view one adopts. On the basis of the stringent criteria established in APA committees (e.g., Chambless et al., 1996), few treatments are considered efficacious for the general population. When the same treatments are evaluated for ethnic minority populations, the number of efficacious treatments is even smaller. In contrast, all studies reviewed appeared to meet the criteria for ESTs used by government substance abuse organizations that are a primary source of financial support (e.g., NIDA). For instance, regarding ethnic diversity, the main requirement in government-funded research tends to be that researchers should make efforts to include members of traditionally underrepresented groups (Hall, 2001) and that participants' ethnicity should be specified. Thus, funding agencies encourage investigators to have samples with representation of ethnic minority participants in proportion to their representation in the general population. However, advocates for the development of culturally sensitive treatments (e.g., Bernal & Scharron-del-Rio, 2001; Hall, 2001; Sue, 1998) appear to focus instead on the dearth of consideration of ethnicity-related variables across treatments (i.e., study design, assessment, treatment theoretical foundation, formulation, delivery, and the interpretation of findings). Optimal results are accomplished when relevant ethnic specific variables are incorporated into treatment. Thus, from this perspective, extant ESTs do not generalize to ethnic minority populations.

Although the suggestion is speculative, we propose that culture-specific treatment accommodations may be implicitly imbedded within treatment protocol and therapist supervision and clinical training but not explicitly disseminated in professional reports. Of course, if this information is available, we strongly urge these investigators to underscore it when reporting treatment outcome results. In any event, this review indicates that much work in this

area is needed to demonstrate definitive conclusions regarding efficacy of ESTs in ethnic minority populations.

Last, it is important to emphasize that members within particular ethnic minority groups may be identified to share common characteristics. However, treatment outcome is complex, with multiple determinants. Thus, the study of ethnic groupings viewed in isolation will inevitably lead to overly simplistic conclusions that will probably be of little clinical utility.

References

- American Psychological Association. (2002). Ethical principles of psychologists and code of conduct. *American Psychologist, 57*, 1060–1073.
- American Psychological Association. (2003). Guidelines on multicultural education, training, research, practice, and organizational change for psychologists. *American Psychologist, 58*, 377–402.
- American Psychological Association Division 12 Task Force on Promotion and Dissemination of Psychological Procedures. (1995). Training in and dissemination of empirically-validated psychological treatments: Report and recommendations. *Clinical Psychologist, 48*, 3–23.
- Amini, F., Zilberg, N. J., Burke, E. L., & Salasnek, S. (1982). A controlled study of inpatient vs. outpatient treatment of delinquent drug abusing adolescents: One year results. *Comprehensive Psychiatry, 23*, 436–444.
- Azzin, N. H., Donohue, B., Besalel, V. A., Kogan, E. S., & Acierno, R. (1994). Youth drug abuse treatment: A controlled outcome study. *Journal of Child and Adolescent Substance Abuse, 3*, 1–16.
- Azzin, N. H., Donohue, B., Teichner, G. A., Crum, T., Howell, J., & DeCato, L. A. (2001). A controlled evaluation and description of individual-cognitive problem solving and family-behavior therapies in dually-diagnosed conduct disorder and substance-dependent youth. *Journal of Child and Adolescent Substance Abuse, 11*, 1–43.
- Azzin, N. H., McMahon, P. T., Donohue, B., Besalel, V. A., Lapinski, K. J., Kogan, E. S., et al. (1994). Behavior therapy for drug abuse: A controlled treatment outcome study. *Behavior Research and Therapy, 32*, 857–866.
- Bernal, G., Bonillo, J., & Bellido, C. (1995). Ecological validity and cultural sensitivity for outcome research: Issues for the cultural adaptation and development of psychosocial treatments with Hispanics. *Journal of Abnormal Child Psychology, 23*, 67–82.
- Bernal, G., & Scharron-del-Rio, M. R. (2001). Are empirically supported treatments valid for ethnic minorities?: Toward an alternative approach for treatment research. *Cultural Diversity & Ethnic Minority Psychology, 7*, 328–342.
- Butcher, J. N. (1996). Translation and adaptation of the MMPI-2 for international use. In J. N. Butcher (Ed.), *International adaptations of the MMPI-2* (pp. 26–43). Minneapolis: University of Minnesota Press.
- Center for Substance Abuse Treatment. (2001). Cultural issues in substance abuse treatment (DHHS Publication No. SMA 01–3612. NCADI Publication No. BKD323). Rockville, MD: Author.
- Centers for Disease Control and Prevention. (2002, June 28). *Morbidity and Mortality Weekly Report, 51*.
- Chambless, D. L., & Hollon, S. D. (1998). Defining empirically supported therapies. *Journal of Consulting and Clinical Psychology, 66*, 7–18.
- Chambless, D. L., Sanderson, W. C., Shoham, V., Johnson, S. B., Pople, K. S., Crits-Cristoph, P., et al. (1996). An update on empirically validated therapies. *Clinical Psychologist, 49*, 5–18.
- Clay, D. L., Mordhorst, M. J., & Lehn, L. (2002). Empirically supported treatments in pediatric psychology: Where is the diversity? *Journal of Pediatric Psychology, 27*, 325–337.
- Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*, 155–159.
- Donohue, B., Strada, M. J., Rosales, R., Taylor-Caldwell, A., Ingham, D., Ahmad, S., et al. (in press). The Semi-Structured Interview for Consideration of Ethnic Culture in Therapy Scale: Initial psychometric and outcome support. *Behavior Modification*.

- Freeman, R. C., Lewis, Y. P., & Colon, H. M. (2002). *Handbook for conducting drug abuse research with Hispanic populations*. Westport, CT: Praeger.
- Friedman, A. S. (1989). Family therapy vs. parent groups: Effects on adolescent drug abusers. *American Journal of Family Therapy, 17*, 335–347.
- Greig, R. (2003). Ethnic identity development: Implications for mental health in African-American and Hispanic adolescents. *Issues in Mental Health Nursing, 24*, 317–331.
- Hall, N. G. C. (2001). Psychotherapy research with ethnic minorities: Empirical, ethical, and conceptual issues. *Journal of Consulting and Clinical Psychology, 69*, 502–510.
- Henggeler, S. W., Borduin, C. M., Melton, G. B., Mann, B. J., Smith, L. A., Hall, J., et al. (1991). Effects of multisystemic therapy on drug use and abuse in serious juvenile offenders: A progress report from two outcome studies. *Family Dynamics Addiction Quarterly, 1*, 40–51.
- Henggeler, S. W., Pickrel, S. G., & Brondino, M. J. (1999). Multi-systemic treatment of substance abusing and dependent delinquents: Outcomes, treatment fidelity, and transportability. *Mental Health Services Research, 1*, 171–184.
- Joanning, H., Thomas, F., Quinn, W., & Mullen, R. (1992). Treating adolescent drug abuse: A comparison of family systems therapy, group therapy, and family drug education. *Journal of Marital and Family Therapy, 18*, 345–356.
- Kaminer, Y., & Burleson, J. A. (1999). Psychotherapies for adolescent substance abusers: 15-month follow-up of a pilot study. *American Journal of Addictions, 8*, 114–119.
- Kaminer, Y., Burleson, J. A., Blitz, C., Sussman, J., & Rounsaville, B. J. (1998). Psychotherapies for adolescent substance abusers: A pilot study. *Journal of Nervous and Mental Disease, 186*, 684–690.
- Kaminer, Y., Burleson, J. A., & Goldberger, R. (2002). Cognitive-behavioral coping skills and psychoeducation therapies for adolescent substance abuse. *Journal of Nervous and Mental Disease, 190*, 737–745.
- Latimer, W. W., Winters, K. C., D'Zurilla, T., & Nichols, M. (2003). Integrated family and cognitive-behavioral therapy for adolescent substance abusers: A Stage I efficacy study. *Drug and Alcohol Dependence, 71*, 303–317.
- Lewis, R. A., Piercy, F. P., & Sprenkle, D. H. (1990). Family-based interventions for helping drug-abusing adolescents. *Journal of Adolescent Research, 5*, 82–95.
- Liddle, H. A., & Dakof, G. A. (1995). Efficacy of family therapy for drug abuse: Promising but not definitive. *Journal of Marital and Family Therapy, 21*, 511–544.
- Liddle, H. A., Dakof, G. A., Parker, K., Diamond, G. S., Barrett, K., & Tejeda, M. (2001). Multidimensional family therapy for adolescent drug abuse: Results of a randomized clinical trial. *American Journal of Alcohol Abuse, 27*, 651–688.
- National Institute on Drug Abuse. (1999). *Principles of drug addiction treatment: A research-based guide* (NIH Publication No. 99–4180). Rockville, MD: Author.
- Ozechowski, T. J., & Liddle, H. A. (2000). Family-based therapy for adolescent drug abuse: Knowns and unknowns. *Clinical Child and Family Psychology Review, 3*, 269–298.
- Phinney, J. S. (1996). When we talk about American ethnic groups, what do we mean? *American Psychologist, 51*, 918–927.
- Santisteban, D. A., Coatsworth, J. D., Perez-Vidal, A., Kurtines, W. M., Schwartz, S. J., LaPerriere, A., & Szapocznik, J. (2003). Efficacy of brief strategic family therapy in modifying Hispanic adolescent behavior problems and substance use. *Journal of Family Psychology, 17*, 121–133.
- Shillington, A. M., & Clapp, J. D. (2003). Adolescents in public substance abuse treatment programs: The impacts of sex and race on referrals and outcomes. *Journal of Child and Adolescent Substance Abuse, 12*, 69–91.
- Sobell, L. C., & Sobell, M. B. (1992). Timeline follow-back: A technique for assessing self-reported alcohol consumption. In R. Z. Litten & J. P. Allen (Eds.), *Measuring alcohol consumption: Psychosocial and biochemical methods* (pp. 41–72). Totowa, NJ: Humana Press.
- Substance Abuse and Mental Health Services Administration. (2003). *Results from the 2002 National Survey on Drug Use and Health: National findings* (Office of Applied Studies, NHSDA Series H-22, DHHS Publication No. SMA 03–3836). Rockville, MD: Author.
- Sue, S. (1998). In search of cultural competence in psychotherapy and counseling. *American Psychologist, 53*, 440–448.
- Sue, S., Zane, N., & Young, K. (1994). Research on psychotherapy with culturally diverse populations. In A. E. Bergin & S. L. Garfield (Eds.), *Handbook of psychotherapy and behavior change* (4th ed., pp. 783–820). New York: Wiley.
- Szapocznik, J., Kurtines, W. M., Foote, F. H., Perez-Vidal, A., & Hervis, O. (1983). Conjoint versus one-person family therapy: Some evidence for the effectiveness of conducting family therapy through one person. *Journal of Consulting and Clinical Psychology, 51*, 889–899.
- Szapocznik, J., Kurtines, W. M., Foote, F. H., Perez-Vidal, A., & Hervis, O. (1986). Conjoint versus one-person family therapy: Further evidence for the effectiveness of conducting family therapy through one person with drug-abusing adolescents. *Journal of Consulting and Clinical Psychology, 54*, 395–397.
- Szapocznik, J., Perez-Vidal, A., Brickman, A. L., Foote, F. H., Santisteban, D., Hervis, O., & Kurtines, W. M. (1988). Engaging adolescent drug abusers and their families in treatment: A strategic structural systems approach. *Journal of Consulting and Clinical Psychology, 56*, 552–557.
- Uebersax, J. S. (1987). Diversity of decision-making models and the measurement of interrater agreement. *Psychological Bulletin, 101*, 140–146.
- U.S. Bureau of the Census. (1996). *Statistical abstract of the United States: The national data book*. Washington, DC: U.S. Government Printing Offices.
- U.S. Bureau of the Census. (2002). *Data profiles 2002*. Washington, DC: U.S. Census Bureau, American Community Survey Office. Retrieved April 23, 2004, from <http://www.census.gov/acs/www/Products/Profiles/Single/2002/ACS/Tabular/010/01000US1.htm>
- U.S. Department of Health and Human Services. (2001). *Mental health; Culture, race, and ethnicity—A supplement to mental health: A report of the surgeon general*. Rockville, MD: Author.
- U.S. Department of Health and Human Services. (2003). *Treatment episode data set* [Data file]. Washington, DC: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.
- Waldron, H. B. (1997). Adolescent substance abuse and family therapy outcome: A review of randomized trials. In T. H. Ollendick & R. J. Prinz (Eds.), *Advances in clinical psychology* (Vol. 19, pp. 199–234). New York: Plenum Press.
- Waldron, H. B., Slesnick, N., Brody, J. L., Turner, C., & Peterson, T. (2001). Treatment outcomes for adolescent substance abuse at 4- and 7-month assessments. *Journal of Consulting and Clinical Psychology, 69*, 802–813.
- Williams, R. J., Chang, S. Y., & Addiction Centre Adolescent Research Group, Foothills Medical Centre. (2000). A comprehensive and comparative review of adolescent substance abuse treatment outcome. *Clinical Psychology Science Practice, 7*, 138–166.

Received September 2, 2004

Revision received January 5, 2005

Accepted January 11, 2005 ■