

A Universal Intervention for the Prevention of Substance Abuse: Preparing for the Drug-Free Years

Richard F. Catalano, Rick Kosterman, Kevin Haggerty, J. David Hawkins, and Richard L. Spoth

Until relatively recently, one of the major impediments to effective preventive interventions was the absence of a framework for empirically based prevention. Prevention efforts often failed because they were based on models of adolescent problem behaviors, including substance abuse, which were inconsistent with the empirical evidence. However, tremendous strides have been made in identifying some of the potential causes of adolescent problem behaviors. Factors that are longitudinally related to drug use or abstention have been articulated in typologies of risk and protective factors (e.g., Hawkins et al. 1992, 1995; Institute of Medicine 1994; Loeber et al. 1991; Newcomb and Felix-Ortiz 1992; Newcomb et al. 1987; Werner and Smith 1992). The number of epidemiological and etiological studies providing the basis for these typologies has helped to usher in a new era of risk- and protective-focused prevention. Interventions at any level, from individual through community, can now be carefully designed to address known predictors of substance use identified in the empirical literature.

Despite this progress, there often remains a perception that prevention of drug use lacks an explicit framework for effectiveness rooted in the rigors of science. It is important to reiterate that this is no longer the case. As evidenced by recent reports from the Institute of Medicine (1994) and others (e.g., Coie et al. 1993; Kellam and Rebok 1992), the science of prevention has matured. A new paradigm has emerged whose practicality is demonstrated in the success of risk- and protective-focused prevention interventions.

UNIVERSAL PREVENTION PROGRAMS

A fundamental issue in prevention design is determining the appropriate target for an intervention. Given limited resources, how narrowly or broadly should a particular program be disseminated? Specifically, for whom would a particular intervention to reduce risks and enhance protective factors be most worthwhile? The Institute of

Medicine (1994) addressed this question and developed a classification system for the dissemination of intervention programs (see also Gordon 1983). In this system, prevention was divided into universal, selective, and indicated interventions, from the most broad to the most narrow target populations, respectively. It was proposed that the appropriateness of an intervention depends on the prevalence of the problem being addressed, the acceptability and safety of the program, and the cost of the program. Given the high prevalence of substance use among America's young people (Johnston et al. 1995), universal interventions that can be implemented with widespread acceptability and efficiency are often desirable.

The Institute of Medicine (1994) defined universal prevention interventions as those "targeted to the general public or a whole population group that has not been identified on the basis of individual risk; the intervention is desirable for everyone in that group" (p. 24). For example, programs that benefit the general public or specific subpopulations not identified on the basis of risk, such as a city's or a neighborhood's residents, women, children, or elderly persons, are universal. Benefits outweigh costs in effective universal programming. Immunizations, prenatal care, use of seatbelts, and prevention of smoking are all examples of universal interventions. A universal intervention for the prevention of substance abuse, *Preparing for the Drug-Free Years (PDFY)*, is the focus of this chapter.

Theoretically and empirically driven risk reduction and protective factor enhancement is a promising universal strategy for the prevention of health and behavior problems among adolescents (Coie et al. 1993; Hawkins et al. 1992; Institute of Medicine 1994). In order to be successful, risk- and protective-focused prevention strategies must seek to ameliorate those factors that have been shown in longitudinal studies to be predictive of targeted health and behavior problems.

A number of factors have been identified in family interactions that contribute to risk and protection in the development of childhood substance use and problem behaviors. Children in families that provide little parental supervision and monitoring, a low degree of communication and interaction between parents and children, poorly defined and poorly communicated rules and expectations for children's behavior, and inconsistent and excessively severe discipline are at increased risk for conduct disorder, delinquent behavior, and substance abuse (Hawkins et al. 1992; Kandel and Andrews 1987; Patterson and Dishion 1985). Other family risk factors for substance

abuse include family conflict (Brook et al. 1990; Farrington et al. 1985), favorable parental attitudes toward teen alcohol and other drug use (McDermott 1984), favorable sibling attitude toward use (Brook et al. 1988), and parental alcoholism or other drug use (Cloninger et al. 1985; Johnson et al. 1984). Furthermore, through development of expectations regarding their children's drug use or friendship choices, parents often influence the risk factor of early first use of drugs (Kandel 1982; Robins and Przybeck 1985) and having friends who use alcohol or other drugs (Brook et al. 1990; Elliott and Menard, in press). Conversely, parenting-related characteristics such as parental support for child competencies, parental warmth and affection, and presentation of clear, prosocial normative expectations can serve as protective factors against the development of health and behavior problems in children (Brook et al. 1990; Catalano and Hawkins 1996; Coie et al. 1993; Coombs and Landsverk 1988; Farrington et al. 1990; Hawkins et al. 1992; Masten 1994; Masten et al. 1990; Rutter 1990; Yoshikawa 1994). Enhancing protective factors in the family environment may be particularly important as children enter the middle-school years and move from childhood into early adolescence. During this period, the increasing influence of peers and the transition from elementary- to middle-school environments may increase a child's exposure to a variety of risks (Catalano and Hawkins 1996; Eccles et al. 1993; Simmons and Blyth 1987).

Research has shown that training in parenting skills can help parents learn to avoid specific parenting practices that increase risk for adolescent problem behaviors (Farrington and Hawkins 1991; Hawkins et al. 1992; Patterson and Stouthamer-Loeber 1984). In addition, a number of studies indicate that the use of consistent and contingent childrearing practices (Fraser et al. 1988; Loeber and Stouthamer-Loeber 1986) as well as problemsolving techniques (Kazdin et al. 1992; Spaccarelli et al. 1992) can be successfully taught to parents.

Studies of parent training programs for parents of children in late childhood and early adolescence often fail to include adequate control groups or sample sizes to draw confident conclusions regarding effectiveness (Todres and Bunston 1993; Wiese 1992; Yoshikawa 1994). In addition, few studies with strong designs have examined the effectiveness of parent training when offered as a universal prevention intervention (Institute of Medicine 1994).

Developmentally appropriate universal prevention interventions with parents need to be adequately tested (Coie et al. 1993). Adequate sampling, appropriate measurement methods and statistical models,

and checks for fidelity of intervention implementation should be used to ensure methodological rigor. In addition, the theoretical base of prevention interventions should be sufficiently articulated to allow for empirical testing and replication of significant findings (Chen and Rossi 1987; Coie et al. 1993).

PREPARING FOR THE DRUG-FREE YEARS

PDFY is an example of a universal prevention program targeted at parents of preadolescents. This program has been conducted in several large-scale dissemination and effectiveness studies. The curriculum was field-tested for 2 years in 10 Seattle public schools. In these schools 52 percent of the students were people of color, 48 percent were low income (eligible for free lunch program), and 39 percent were from single-parent families. In addition, the curriculum had been tested as part of a regional broadcast media program, tested in different statewide implementations, tested within a health maintenance organization (HMO), and implemented in a project focusing on families of color.

This report summarizes results of studies of the PDFY universal prevention program for parents of preteens. The goal of the PDFY curriculum is to empower parents of children ages 8 to 14 to reduce the risk that their children will develop problems with other drugs and alcohol in adolescence. PDFY teaches parents how to reduce critical risk factors and enhance protective factors that are especially important during the late elementary and middle-school years. It is designed to effectively reach adult learners regardless of learning style or level of education.

THEORETICAL UNDERPINNINGS OF PDFY

The curriculum is guided theoretically by the social development model (Catalano and Hawkins 1996; Farrington and Hawkins 1991; Hawkins and Weis 1985; Hawkins et al. 1992). The social development model is an integration of social control, social learning, and differential association theory. Like social control theory (Hirschi 1969), the model views bonding as a protective factor. Bonding consists of attachment and commitment. In addition, bonding is expected to lead to the acceptance of the beliefs and standards of the person to whom one is bonded. When these beliefs are healthy, they also serve as a protective factor. The model incorporates processes specified in social learning theory (Akers

1977) to explain and predict conditions under which bonding develops. It utilizes differential association theory to account for the differential influence of being bonded to prosocial or antisocial others.

The social development model emphasizes the role of bonding to prosocial family, school, and peers as protection against the development of conduct problems, school misbehavior, and drug abuse. It hypothesizes that strong bonding to prosocial others reduces the probability of delinquency and substance abuse. Bonding to the social unit, in this case the family, is hypothesized to result from a protective process involving three factors: (1) the extent to which prosocial opportunities for involvement in the family are available to the child; (2) the skills the child uses in participating in the family to complete tasks, solve problems, and interact with others; and (3) the rewards and punishments provided by parents for behaviors that conform to or violate the family expectations and beliefs.

Guided by this model, PDFY seeks to reduce adolescent drug abuse and behavioral problems by increasing opportunities for involvement and interaction between parents and children, teaching parents and children skills to resist peer pressure and refuse to engage in inappropriate behavior, increasing rewards for prosocial behavior through practicing consistent and contingent family management, and managing and reducing family conflict. The content and format of this parent training intervention are described below.

THE PDFY CURRICULUM

PDFY was originally developed by Hawkins and Catalano for Developmental Research and Programs for use in the Seattle Social Development Project, a longitudinal research study funded by the National Institute on Drug Abuse. The program was field-tested with parents in an urban, multiethnic community and has been subsequently used with urban, suburban, and rural families. Since its introduction in 1987, PDFY has been used in over 30 States and in Canada. More than 120,000 families have been trained in the program.

The program is commercially available through Development Research and Programs and is easily delivered by community members who have been taught to conduct the workshops by trainers from the company. This training is a 3-day course that provides workshop leaders with a detailed overview of the program content as well as tips and practice sessions focusing on how to deliver the program to parents in their communities. The program has been offered to

parents in schools, churches, community centers, homes, hospitals, and even prisons across the country. In 1988 PDFY was the focus of a media campaign coordinated with a Seattle television affiliate and broadcast across most of western Washington State. This implementation entailed an hour-long television special followed by community-based workshops in 87 western Washington communities. Most recently, the program has been implemented as part of a two-phase experimental evaluation in rural Iowa. Four States (Oregon, Kansas, Illinois, and West Virginia) have sponsored statewide implementations of PDFY.

PDFY consists of five 2-hour sessions (it has recently been adapted to be offered as 10 1-hour sessions to accommodate implementation in the workplace). Sessions are typically conducted by two trained workshop leaders from the community. The curriculum kit consists of a workshop leader's guide; a companion videotape series, one for each session; and a family activity book for each participating family. The workshop leader's guide provides a statement of session objectives, a list of materials needed, and a scripted overview of the curriculum. In addition, the guide includes detailed information on how to conduct the parenting workshops and provides a sample recruitment brochure. The companion videotapes are used with the curriculum to model a variety of the targeted skills, to present an accurate summary of the curriculum material, and to present discussions by parents about how the program worked in their families. The family activity book is also designed to summarize the curriculum material, as well as provide transfer (family meeting agendas) and extension activities for the family. The book includes pullout pages for families to post in their homes. To supplement this kit, a variety of optional materials are available. These include a question-and-answer audiotope about risk factors to assist workshop leaders in answering difficult questions, an "ethnic adaptation guide" to assist with tailoring the curriculum for specific ethnic groups, and a "drug-free tool kit," which provides aids for recruitment and retention of parents.

The curriculum sessions themselves are based on three important assumptions: first, that parents can play an important role in the reduction of risk factors for other drug and alcohol use by their children; second, that parents can take an active role in the enhancement of protection for their children by offering them opportunities for involvement within the family, teaching them skills to be successful, recognizing and rewarding their involvement, and communicating clear family norms on alcohol and other drug use; and third, that regular family meetings provide a mechanism for family

involvement and serve as a tool to transfer content and skills learned in the workshop into the home environment. The curriculum content includes the following:

- Session 1—“Getting Started: How To Prevent Drug Abuse in Your Family” provides an overview of the program and of family and individual risk factors for substance abuse. Participants learn a simplified version of the social development model including a description of how family bonding and clear norms or standards are protective factors for preventing adolescent health and behavior problems and how, as parents, they can strengthen bonds by providing children with opportunities for involvement in the family, skills to be involved successfully, and reinforcement or rewards for prosocial family involvement. In this session, parents practice the steps for conducting a family meeting to plan a joint fun activity as one mechanism for increasing family opportunities for rewarding involvement.
- Session 2—“Setting Clear Family Expectations on Drugs and Alcohol” focuses on reducing the risk factors of poor family management, favorable attitudes toward substance use, and early first use of other drugs or alcohol. Parents are trained to clarify their own expectations on alcohol and other drug use. They are taught how to develop family guidelines and monitoring strategies, as well as clear consequences for following or breaking the stated family rules on alcohol and other drug use. Parents learn to enhance protective factors by involving their children in creating a family policy about alcohol and other drugs in a family meeting.
- Session 3—“Avoiding Trouble” focuses on the risk factors of friends who use drugs, antisocial behavior in early adolescence, and early first use of alcohol or other drugs. Children attend this session with their parents. Together they learn skills to resist peer influence to use other drugs or alcohol or engage in antisocial behavior, using the five steps of “Refusal Skills.” The skills are taught using the cognitive behavioral techniques of introduction, discussion, roleplay, and feedback. Well-developed skills in peer resistance increase protection against problem behavior.
- Session 4—“Managing Family Conflict” is aimed at reducing the risks related to family conflict, as well as alienation and rebelliousness. Parents learn skills to express and control anger without damaging family bonds.

- Session 5—“Strengthening Family Bonds” explores ways parents can strengthen protection by expanding opportunities for involvement in the family as children mature. Parents learn skills to express positive feelings and love to their children. In addition, they are provided with a process for developing a parenting support network to continue beyond the PDFY sessions.

At the end of each session, a family meeting is assigned to be completed during the week to transfer session content to the home setting. Each session provides parents with an opportunity to practice holding their family meeting.

EVALUATION STUDIES

Evaluations of universal interventions must address two major issues. First, since such programs are designed for the general public, the success of dissemination efforts should be assessed. The questions to be addressed are: Does the program have a strategy for dissemination? Can a broad cross-section of parents be recruited for participation? And, Is the program acceptable, or can it be adapted to be acceptable, to diverse groups? The second issue is the efficacy of the program. The questions here concern the immediate, proximal goals of the intervention, as well as more distal goals: Does the program reduce targeted risk factors and/or enhance protective factors? Does it achieve the ultimate goal of reducing substance abuse? Table 1 outlines the key features of several PDFY evaluation studies.

TABLE 1. *Evaluation studies of Preparing for the Drug-Free Years.*

| Study | Sample Evaluated | Number of Participants | Recruitment Procedures | Workshop Leaders | Design | Followup and Dropout | Assessment Method | Key Findings |
|---------------------|--|--|--|---|-------------------------------|--|----------------------------|---|
| Hawkins et al. 1991 | Seattle, WA, area families; 90% white | 98,000 viewed TV special; 2,497 attended workshops; 250 to 401 evaluated | Primetime TV special, PSAs, widespread distribution of written promotional material | Volunteer community leaders nominated by host sites | Single-group pretest-posttest | Immediate followup after each session; 38% dropout through program | Self-report questionnaires | Mean program ratings of 4.8 to 5.6 on 1-6 scale (6 = high value and quality); significant knowledge, attitude, and self-reported behavioral impacts on 23 out of 30 planned comparisons; 59% reported holding a family meeting |
| Heuser 1990 | Families across Oregon; 17% targeted as high risk; 84% white | 509 to 759 evaluated | Radio, TV, and newspaper; posters and brochures, announcements at churches, schools, public agencies | Community members | Single-group pretest-posttest | Immediate followup after each session; 33% dropout through program | Self-report questionnaires | Mean program ratings of 8.3 to 9.1 on 0-10 scale (10 = high value); significant knowledge and attitude impacts on 28 out of 36 planned comparisons for non-high-risk group; 61% and 49% of the two groups reported holding family meeting, respectively |

TABLE 1. *Evaluation studies of Preparing for the Drug-Free Years (continued).*

| Study | Sample Evaluated | Number of Participants | Recruitment Procedures | Workshop Leaders | Design | Followup and Dropout | Assessment Method | Key Findings |
|--------------------------|---|--|---|---|-------------------------------|--|----------------------------|--|
| Holcomb and Schulte 1993 | Families across Kansas | | | Community volunteers | Single-group pretest-posttest | Immediate followup after each session | Self-report questionnaires | 91% to 94% reported positive attitudes about the program and its usefulness, up to 22% improvement in reported knowledge gain and skills acquisition |
| Hawkins et al. 1994 | Families of pediatric patients in HMO clinics in Seattle; 90% white | 945 families contacted; 58 attempted to register; 24 to 30 evaluated | Letter from families' pediatricians recommending program; families asked for \$25 fee | Pairs of co-leaders, one a parent and one having prior experience | Single-group pretest-posttest | Immediate followup after each session; 20% dropout through program | Self-report questionnaires | Mean program ratings of 4.3 to 5.5 on 1-6 scale (6 = high value and quality); significant knowledge and attitude impacts on 8 of 40 planned comparisons; 75% reported holding family meeting |

TABLE 1. Evaluation studies of Preparing for the Drug-Free Years (continued).

| Study | Sample Evaluated | Number of Participants | Recruitment Procedures | Workshop Leaders | Design | Followup and Dropout | Assessment Method | Key Findings |
|--|--|---|--|---|--|--|--|--|
| Harachi et al. 1996 | Ethnic minority families in Seattle area; 46% Hispanic, 20% African-American, 17% Samoan, 6% Native American | 455 attended workshops | Community networking; announcements, calls, and brochures at social networks and structures serving minority populations | Community members whose ethnicity and spoken language were congruent with targeted population; leaders trained to adapt program | Single-group pretest-posttest | 3-month followup after program (see findings) | Attendance records | 55% attended at least half the sessions; 14% attended all sessions (dropout records not comparable as adapted implementations varied in number of sessions); time conflicts most frequently cited for nonattendance |
| Spoth et al. 1995; Koseman et al. 1995, 1996 | Rural Iowa families | 387 families contacted; 209 attended workshops; 175 evaluated | All families of 6th and 7th graders in targeted schools receiving federally supported lunch program were called | Community members | Random assignment to intervention and control groups; pretest and posttest assessments | 2- to 9-week followup after program; 16% dropout through program | In-home surveys and videotaped observations of family interactions | All workshop leaders covered core concepts, with 74% to 82% coverage of full curriculum; PDJY parents were significantly more likely to report improved parenting skills and to demonstrate behaviors consistent with the curriculum; further results linked specific improvements to specific PDJY sessions |

TABLE 1. *Evaluation studies of Preparing for the Drug-Free Years (continued).*

| Study | Sample Evaluated | Number of Participants | Recruitment Procedures | Workshop Leaders | Design | Followup and Dropout | Assessment Method | Key Findings |
|------------------------|---------------------|------------------------|---|-------------------|--|----------------------|---|--|
| Speth and Redmond 1995 | Rural Iowa families | 360 families evaluated | All families of 6th graders in targeted schools receiving federally supported lunch program were called | Community members | Random assignment by school to intervention and control groups; pretest and posttest assessments | | In-home surveys and videotaped observation of family interactions | PDFY parents were significantly more likely to report improved parenting skills; child management skills appeared to be impacted by parent training and in turn impacted intentions to use alcohol |

PDFY DISSEMINATION AND DESCRIPTIVE FINDINGS

Early tests of PDFY were primarily designed to test dissemination efforts, although they also often included pretest and posttest assessments of program effects. These studies include a regional broadcast media campaign to attract PDFY participants, statewide dissemination efforts, a program implemented through an HMO, and one study specifically targeting ethnic minority families.

Broadcast Media Dissemination

An early study by Hawkins and colleagues (1991) is notable in the scope of the program's exposure to a broad sample. This intervention began with a 1-hour television special airing at 9 p.m. on a Tuesday evening on the local NBC affiliate. The broadcast covered the greater Seattle-area media market. An estimated 98,000 households viewed the program, which dramatized the consequences of teenage drug abuse, reviewed risk factors for drug abuse, and presented family risk reduction strategies. Public service announcements regarding the existence and locations of PDFY workshops continued throughout the day and evening for 2 weeks prior to the campaign, and written promotional materials were distributed throughout the area. A total of 87 different workshop sites were established in the area. Workshops were led by community members who had attended a 3-day training program.

As shown in table 1, at least 2,497 participants voluntarily attended the workshops. An evaluation of the PDFY curriculum was conducted at a sample of 20 sites, stratified for rural, suburban, and urban locations. At these sites, 401 (first session) and 250 (last session) participants completed questionnaires both before and immediately after each workshop. The parents were 90 percent European-American, and most had children in grades 4 through 7 (the targeted age). The data indicated that the majority of participants (53 percent) had viewed the television special and had learned about the workshops either through this special (29 percent) or through their child's school (72 percent; multiple responses were allowed). Interestingly, only 21 percent of participants said they had learned of the workshops through televised public service announcements. This recruitment strategy was able to reach beyond those who traditionally attend parent workshops; 65 percent had not previously attended a parenting workshop. Although attendance dropped from the first session to the final session, approximately 69 percent of the original attendees remained. Following the curriculum, participants reported

that they found the workshops very acceptable. Overall sessions, exercises, and materials, as well as workshop content, process, and leaders, were all rated highly (on a scale of 1 = not worthwhile/poor to 6 = very worthwhile/excellent, means ranged from 4.8 to 5.6).

Participants were also asked to report knowledge, attitudes, and behaviors relevant to the goals of the program. Planned comparisons of linked pretest and posttest scores were conducted across 30 separate measures. Of these 30 measures, 23 showed significant improvement. Among other changes, participants at posttest were more likely to understand the importance of good family management and an explicit family policy on drugs, to show increased motivation to teach and practice refusal skills, to endorse the importance of expressing anger constructively so as to not weaken family bonds, and to agree with the importance of involving adolescents in new family roles. Also, over the course of the workshops, at least 59 percent reported having conducted a family meeting as instructed in PDFY (only 29 percent said they had periodic family meetings previously). Although these results are only suggestive, since there was no comparison group, they indicate that the program was acceptable and that key points were successfully communicated to a general population sample of participants. Moreover, a majority of participants reported having put an integral component of the program into practice (conducting a family meeting).

Statewide Dissemination

The most fully documented statewide dissemination study was conducted in Oregon (Heuser 1990). PDFY was implemented with families across 32 counties and within 4 State agencies. In all, 195 workshop groups were organized, 10 of which specifically targeted families whose parents were clients of various State agencies (e.g., adult and family services, Oregon Department of Corrections). All groups were led by trained community members. A representative sample of 46 workshops was selected for evaluation (including 8 of the 10 State agency workshops), which included 759 participants. This sample was 84 percent European-American, and the majority consisted of parents of children in grades 4 through 6 (54 percent).

Families were recruited for the study with radio, television, and newspaper announcements, distribution of posters and brochures, and announcements at churches, schools, and public agencies. Most participants reported hearing about the workshops through their

child's school (45 percent) or from a friend or family member (34 percent), although most State agency participants were recruited directly by the agency. Again, a large proportion of those recruited had never attended a parenting workshop. Sixty-five percent of the public and 68 percent of the agency participants had never attended a parenting workshop before, and over 90 percent of both groups had never attended a drug abuse prevention workshop. Over the course of the workshop sessions, overall attendance fell approximately 33 percent; dropout was different among the two groups—approximately 31 percent in the public group and 42 percent in the agency group. However, following each workshop, participants indicated that they found the curriculum acceptable. On a scale of 0 (no value at all) to 10 (highest value), they were asked to rate the value of the workshop for “your plans to work with your children to prevent drug abuse.” Mean responses ranged from 8.5 to 9.1.

In assessing the effectiveness of the program in terms of knowledge gain and attitude change, paired *t*-tests were used to compare pretest and posttest scores across 36 different items. These analyses were conducted separately for the non-high-risk “public” sample and the “agency” sample. For the public sample, significant differences in the desired direction were found for 28 of the 36 items. Among the agency sample, there was significant improvement in 16 of the 36 items. When asked specifically about having had a family meeting in the past week, as instructed in each PDFY session, up to 61 percent of the public families reported having done so, and up to 49 percent of agency families answered affirmatively.

Another statewide dissemination of PDFY took place in Kansas (Holcomb and Schulte 1993). Although the specifics of implementation and effectiveness are not as well documented, the effort was extensive, involving over 500 trained volunteers to lead workshops across the State. As before, almost all participants (91 percent to 94 percent) reported positive attitudes about the program and its usefulness. They also reported substantial knowledge gain and skills acquisition (up to 22 percent improvement) in response to most sessions, and 84 percent to 90 percent felt they had learned how to implement new skills at home.

Together, these findings indicate that statewide implementations of PDFY have been successful in targeting the intended audience (parents of preteens) and that these parents find the program acceptable and of high value. In addition, although results vary, there are indications that PDFY sessions are improving parents' knowledge and changing important attitudes and behaviors relevant to later teen substance use.

Although they did not include a documented evaluation, other statewide disseminations of PDFY have been implemented in Illinois and West Virginia.

Dissemination in a Health Maintenance Organization

Another implementation of PDFY involved dissemination in an HMO in Seattle, Washington (Hawkins et al. 1994). Specifically, four pediatricians in two HMO clinics sent letters to parents of each of their patients ages 9 to 13. This letter announced the availability of the parent training program and recommended that the parents attend. Participants were asked to pay a \$25 registration fee, although partial scholarships were available to parents who could not afford the fee.

All together, 945 families were contacted by letter, and among these, 58 families called to register for the program. However, the training capacity of the two clinics allowed for only 38 families. Attendance remained fairly high from the first session (88 percent of the 38 possible) to the final session (71 percent). Ninety percent of these families were European-American. The PDFY sessions were conducted by two trained coleaders, one a parent and one having prior experience in leading workshops.

As before, parents were asked at the end of each session to assess the value of the workshops. On a scale of 1 (not worthwhile/poor) to 6 (very worthwhile/excellent), means ranged from 4.3 to 5.5, indicating widespread acceptability of the program. In addition, using the same single-group pretest-posttest design as in the prior studies, paired *t*-tests showed significant knowledge gain and attitude change in the desired direction on 8 out of 40 self-report items. Seventy-five percent of parents also reported holding a family meeting as instructed in PDFY.

This study supports previous findings that the program is attractive to parents and that they find participation to be of value. It is noteworthy that participants were recruited on the basis of a single letter from their physician and paid a \$25 registration fee. This result suggests that physician endorsement may be a potential tool in dissemination. Knowledge, attitude, and behavior effects were also consistent with prior studies; there were significant indications of improvement, and at least three out of four parents reported following through with a family meeting.

Dissemination in Ethnic Minority Communities

A PDFY study by Harachi and associates (1996) spanned 2 years and specifically targeted families of color. Naturally existing social networks or structures serving minority populations were identified for recruitment and for workshop sites. For example, a church that conducts services in Spanish proved to be helpful in recruiting Hispanic American participants. The project staff contacted such locations to solicit support for the program and to locate workshop sites. In addition to churches, community recreation centers, schools, and social service agencies were often very helpful. Many parents were recruited by trained recruiters hired from the targeted communities and by direct calls placed by workshop leaders, as well as by informational brochures left at targeted locations. In addition, recruiters contacted personal networks and made announcements at community events, and some door-to-door efforts were organized. Calls were made from various directories and lists were provided by cooperating organizations, such as schools, churches, and community associations.

Workshops were conducted by trained community members whose ethnicity and spoken language (when English was a second language) were congruent with that of the target population. Throughout the training, workshop leaders were encouraged to adapt the PDFY curriculum to meet the specific needs of the families in their target communities. The training included examples of how the program content could be tailored to different audiences and how delivery methods could be tailored to different learning styles across cultures. One initial adaptation made by the group was to market the workshops as a program to “strengthen and support families” rather than explicitly for drug abuse prevention. Workshop leaders felt that this better communicated the positive focus of the program.

In all, 27 different workshops were implemented, with a total of 455 participants. Only 7 percent were European American; 46 percent of the participants were Hispanic American, 20 percent were African American, 17 percent were Samoan American, and 6 percent were Native American. Over 64 percent of the sample were foreign born. The most effective recruitment mechanisms for these different groups included strategies to access personal social networks, such as churches (Hispanic Americans and Samoan Americans), schools (African Americans), and friends (Samoan Americans and Native Americans). Although this evaluation did not assess satisfaction or effectiveness of the program directly, it did report attendance patterns. Approximately 55 percent of participants attended at least half of the sessions offered. (The study did not report specific

dropout rates from first to final sessions since workshop leaders often added sessions, depending on the needs of their specific groups, and dropout rates would not be comparable with other studies.) Many parents reported varying work schedules and other time conflicts as the most frequently cited reason for nonattendance. Nevertheless, most parents (71 percent) had never attended any kind of parenting workshop before, and 85 percent had never attended a drug abuse prevention workshop before. The turnout reported here suggests both the need for prevention workshops in diverse communities (Hawkins and Salisbury 1983) and the efficacy of using culturally appropriate recruitment strategies.

PDFY EFFECTIVENESS: EXPERIMENTAL FINDINGS

Pilot Phase

Most recently, the PDFY curriculum has been tested experimentally with families in rural Iowa. This study is part of Project Family, a series of studies conducted at Iowa State University in collaboration with the Social Development Research Group at the University of Washington. In the initial pilot phase of this project (Spoth and Redmond, in press-*a*, 1995; Spoth et al. 1995), all families with sixth- and seventh-grade children in nine different schools were called and invited to participate ($N = 387$). The schools had been selected from districts meeting eligibility requirements for the federally supported school lunch program. Although not all families were eligible for school lunch benefits, the median annual family per capita income was \$6,800 (\$27,200 for a family of four). A total of 209 families completed the initial pretest, and 175 (84 percent) of these families completed the final posttest assessment. Each family was offered a financial incentive of approximately \$10 per hour per family member for time devoted to study assessments. No monetary incentives were provided for intervention attendance. Virtually all participants were European-American.

Attendance records indicate that most parents assigned to the intervention group attended most of the PDFY sessions; 88 percent of enrolled mothers and 69 percent of enrolled fathers attended three or more sessions; nearly half of the mothers (47 percent) and a third of the fathers (32 percent) attended all five sessions. The mean rates of attendance were 3.9 sessions for enrolled mothers and 3.1 sessions for enrolled fathers.

This experiment involved more extensive data collection regarding effectiveness than the previous studies. In addition to more indepth written questionnaires assessing knowledge, attitudes, and self-reported behavior, families were also videotaped in two structured interaction tasks, one of which focused on general questions concerning family life (chores, roles, parental monitoring) and the other of which was directed toward family problems and family problemsolving. After randomly assigning the families to the intervention condition or the wait-list control condition (to receive the curriculum following data collection), questionnaires and videotaping were completed at both pretest and posttest. Posttest assessments occurred approximately 2 to 9 weeks following the PDFY sessions. The wait-list control condition received no intervention during this time. PDFY workshops were led by members of the communities in which they were conducted (workshop leaders received 4 days of training). Data were also collected on the fidelity of the PDFY implementation by these leaders.

Results of this evaluation provided the strongest evidence yet for both the fidelity of PDFY when administered by community members in an efficacy trial (Institute of Medicine 1994), as well as the impact of the program itself in teaching skills and changing behaviors. Observations of workshop leaders revealed that, although there was some variability in coverage of program content, each of the pairs covered most of the full curriculum and that each pair of leaders covered each of the core program concepts. The observation scores ranged from 74 to 82 percent coverage of the full PDFY curriculum content.

With regard to program impact, analyses of parent outcome measures (controlling for pretest measures) indicated significant overall improvement on intervention-targeted parenting behaviors, general child management, and parent-child affective quality, for both mothers and fathers in the intervention group (Spoth and Redmond 1995; Spoth et al. 1995). In other analyses examining these data, individual constructs targeted by the specific intervention sessions were tested separately, using both the self-report and videotaped assessments (Kosterman et al. 1995, 1996). Specifically, results indicated that mothers in the PDFY group were significantly more likely to report that they gave or expressed rewards to their child for prosocial behavior, to communicate rules regarding substance use, to punish their child appropriately for misbehavior, to restrict their child's alcohol use, to expect their child to refuse a beer from a friend, to express less conflict toward their spouse, and to work at being more involved with their child. Fathers in the intervention group also

reported significantly more communication with their child about rules regarding substance use, as well as more involvement with their child. The observational measures were consistent with these self-report findings. Mothers in the intervention group exhibited significantly more proactive communication and less conflict than did control mothers, as well as improved relationship quality or bonding with their children (although the latter finding was significant at only $p < 0.06$). Intervention fathers also exhibited significantly more proactive communication and improved relationship quality or bonding. All of these outcomes were explicitly targeted by specific sessions in the PDFY curriculum.

As a further check on the validity of these findings, additional analyses examined (1) the effects of the intervention on outcomes that were superficially similar to targeted measures, but which in fact were not targeted by PDFY, and (2) increments in improvement when the intervention group was restricted to only those who attended specific PDFY sessions (Kosterman et al. 1996). These analyses were conducted in order to demonstrate that specific PDFY objectives were linked with specific outcomes and that these effects were not due to more global causes, such as experimenter-demand effects. Indeed, no significant differences between intervention and control parents were found among the six nontargeted constructs examined in this study. For example, while mothers in the PDFY group reported being more likely to reward their child (as instructed in PDFY), they were not significantly more likely to receive rewards from their child, nor reward or receive rewards from their spouse (not instructed in PDFY); while both mothers and fathers assigned to PDFY reported more involvement with their children (included in PDFY), they did not report more involvement with each other (not in PDFY). Along similar lines, there was evidence that the subgroup of parents that actually attended specific workshops showed greater improvement on constructs targeted in those workshops compared with the entire experimental group, which included nonattendees. Compared with the entire experimental group, the attendees demonstrated more improvement for 19 out of 28 (68 percent) targeted constructs, but only 4 out of 12 (33 percent) nontargeted constructs. These findings help to further link improvement in specific behaviors to attendance at specific PDFY sessions.

Trial Phase

Preliminary results are also available from an experimental study with followup assessments also involving rural Iowa families (see Spoth and

Redmond, in press-*b*). Most of the critical features of this experiment were identical to the prior study, except for the inclusion of a larger sample, a school-based random assignment to condition (i.e., all students at the same school were randomly assigned to the same condition), and a longer followup period (1 and 2 years postintervention). In all, 360 sixth-grade students and their parents completed both pretest and posttest measures. Among enrolled families, 93 percent attended three or more sessions, and 63 percent attended all five sessions. Initial findings replicate those of the pilot study. Among parents assigned to the PDFY curriculum, intervention-targeted parenting behaviors showed significant improvement for both mothers and fathers, consistent with PDFY objectives (no within-condition school-level effects on these measures were found). Results of the 1-year followup remain to be assessed; the second-year data collection has just begun.

SUMMARY

Together these studies provide promising evidence that the PDFY program is appropriate for general and diverse populations and that it can be successfully disseminated (most parents recruited to the program attended most sessions, and most of those who attended had not attended parenting workshops or drug abuse prevention workshops previously). Furthermore, these studies show that, most importantly, PDFY improves parenting practices in ways that reduce risk factors and enhance protective factors for substance abuse among young people. The initial pretest and posttest single-group evaluations described here demonstrate the acceptability and the applicability of PDFY, as well as the program's effectiveness in teaching key parenting concepts to a very broad voluntary audience. These studies also suggest that participating families are likely to implement family meetings, a central objective of the curriculum. The authors' experimental findings are promising in several respects. As before, this study demonstrates the applicability of PDFY in an efficacy trial; data from the observations of workshop leaders support the viability of training community members to lead workshops. In addition, the study shows that most parents, once they agree to participate in the program, attend most of the PDFY sessions. The experimental design of this study, the availability of observational measures, the analyses linking effects of PDFY primarily to targeted constructs, and the fact that the results were generally stronger for those attending specific sessions all help to build a strong argument for curriculum effects on key risk and protective factors.

IMPLICATIONS FOR RESEARCH WITH UNIVERSAL PREVENTION FAMILY INTERVENTIONS

The current evaluations being conducted as part of Project Family are an example of a research project that addresses a number of issues cited in the literature and important to universal prevention (Spoth and Redmond, in press-*b*). The project employs an experimental, longitudinal design with an adequate sample size to achieve the required statistical power to detect group differences. In addition, the project utilizes multi-informant, multimodal measures, including self-reports from parents and their children, as well as videotaped observational measures. Finally, implementation fidelity checks have been incorporated into the intervention delivery using a structured observational process (Melby et al. 1990; Spoth and Redmond, in press-*a*; Spoth et al. 1995).

Several additional implications for future universal prevention research can be drawn from this review. First, evaluating the success of dissemination efforts requires careful documentation of recruitment procedures and measures of the effectiveness of recruitment methods. A number of studies have been conducted through Project Family to investigate a variety of recruitment and retention issues. These include using consumer research methods to evaluate parent preferences concerning family-focused prevention interventions (Spoth and Molgaard 1993; Spoth and Redmond 1993), analysis of sociodemographic and health belief influences on family participation in these interventions including the use of path analytic approaches (Spoth and Conroy 1993; Spoth and Redmond 1995; Spoth et al. 1993, 1995), the retrospective study of parents' perceived barriers to intervention participation using mail and telephone survey procedures (Spoth and Redmond 1993; Spoth et al. 1995), and the study of predictors of family participation using prospectively collected telephone survey data on theory-based predictors (Spoth et al. 1995). Analysis of the effectiveness of different recruitment strategies should examine the message (what is said), the messenger (who is saying it), and the medium (how the message is delivered) (McGuire 1980). Furthermore, the impact of incentives and barriers to participate and their effect on recruitment and retention should be examined vigorously.

Despite generally high levels of involvement in PDFY by general population parents targeted by Project Family, there are some major

constraints on involving them in family-focused prevention intervention programs. Especially noteworthy are competing time demands or scheduling conflicts and attitudinal factors associated with parent disinclination to participate. For example, over several studies, competing time demands and scheduling conflicts repeatedly emerged as major barriers to parent participation, largely independent of parents' sociodemographic characteristics (e.g., Spoth and Redmond 1993, 1994; Spoth et al. 1995). Clinical evidence readily demonstrates the necessity for child care, transportation, ethnic and gender match between parents and workshop leaders, and monetary or other incentives. However, little empirical work has been completed on the impact of these workshop elements on recruitment and retention.

The second critical issue facing universal parenting intervention research involves how investigators evaluate the process and mechanisms of family change. Future research should seek to evaluate how the universal parenting program changes individuals and how individual change affects relationships in families. This requires using multimodal, multi-informant measurement, a longitudinal design, and frequent measurement. A greater understanding of the complex nature of how families utilize an intervention to actually change risk and protective factor processes, as well as substance use, may be possible with careful documentation of the multiple changes and the sequence of changes families experience (Spoth, this volume; Spoth and Redmond, in press-a). Furthermore, this type of research will allow an investigation of individual differences influencing variations in outcomes (e.g., Spoth et al. 1995). Understanding the change process and mechanisms and variations in outcomes among families is a key to the development of maximally effective interventions.

Finally, the question of how to deliver content and teach skills from parenting and family programs to universal populations warrants further investigation. In addition to large-scale workshop implementation, consideration of other methods to effectively deliver program content to families is needed. Alternatives to delivering parenting workshops at community locations need further investigation. Examples of such alternatives include using book and/or video home-study sessions, providing parenting information on the World Wide Web, sending program content to families in monthly utility bills or through inclusion in grocery store sacks, television specials or series illustrating universal parenting and prevention approaches, or delivery of services in the home by trained lay personnel. Widespread dissemination of programs shown to be

acceptable, applicable, and effective is the best hope for preventing one of society's most prevalent and costly problems—the abuse of alcohol and other drugs.

REFERENCES

- Akers, R.L. *Deviant Behavior: A Social Learning Approach*, 2d ed. Belmont, CA: Wadsworth Press, 1977.
- Brook, J.S.; Brook, D.W.; Gordon, A.S.; Whiteman, M.; and Cohen, P. The psychosocial etiology of adolescent drug use: A family interactional approach. *Genet Soc Gen Psychol Monogr* 116 (Whole No. 2), 1990.
- Brook, J.S.; Whiteman, M.; Gordon, A.S.; and Brook, D.W. The role of older brothers in younger brothers' drug use viewed in the context of parent and peer influences. *J Genet Psychol* 151:59-75, 1988.
- Catalano, R.F., and Hawkins, J.D. The social development model: A theory of antisocial behavior. In: Hawkins, J.D., ed. *Delinquency and Crime: Current Theories*. New York: Cambridge University Press, 1996.
- Chen, H.T., and Rossi, P.H. The theory-driven approach to validity. *Eval Prog Plan* 10:95-103, 1987.
- Cloninger, C.R.; Bohman, M.; Sigvardsson, S.; and von Knorring, A.L. Psychopathology in adopted-out children of alcoholics: The Stockholm Adoption Study. *Recent Dev Alcohol* 3:37-51, 1985.
- Coie, J.D.; Watt, N.F.; West, S.G.; Hawkins, J.D.; Asarnow, J.R.; Markman, H.J.; Ramey, S.L.; Shure, M.B.; and Long, B. The science of prevention: A conceptual framework and some directions for a national research program. *Am Psychol* 48:1013-1022, 1993.
- Coombs, R.H., and Landsverk, J. Parenting styles and substance use during childhood and adolescence. *J Marriage Fam* 50:473-482, 1988.
- Eccles, J.S.; Midgely, C.; and Wigfield, A. The impact of stage-environment fit on young adolescents' experiences in schools and in families. *Am Psychol* 48:90-101, 1993.

- Elliott, D.S., and Menard, S. Delinquent friends and delinquent behavior: Temporal and developmental patterns. In: Hawkins, J.D., ed. *Delinquency and Crime: Current Theories*. New York: Cambridge University Press, in press.
- Farrington, D.P.; Gallagher, B.; Morley, L.; Ledger, R.J.; and West, D.J. "Cambridge Study in Delinquent Development: Long-Term Follow-up." First annual report to the home office. Cambridge University, August 31, 1985.
- Farrington, D.P., and Hawkins, J.D. Predicting participation, early onset, and later persistence in officially recorded offending. *Crim Behav Ment Health* 1:1-33, 1991.
- Farrington, D.P.; Loeber, R.; Elliott, D.S.; Hawkins, J.D.; Kandel, D.B.; Klein, M.W.; McCord, J.; Rowe, D.C.; and Tremblay, R.E. Advancing knowledge about the onset of delinquency and crime. In: Lahey, B.B., and Kazdin, A.E., eds. *Adv Clin Child Psychol* 13:283-342, 1990.
- Fraser, M.W.; Hawkins, J.D.; and Howard, M.O. Parent training for delinquency prevention. [Special issue published simultaneously in hardback as *Family Perspectives in Child and Youth Services*.] *Child Youth Serv* 11:93-125, 1988.
- Gordon, R. An operational classification of disease prevention. *Public Health Rep* 98:107-109, 1983.
- Harachi, T.W.; Hawkins, J.D.; and Catalano, R.F. "Parenting for the Drug-Free Years: Effective Recruitment Within Ethnic Minority Communities." Unpublished manuscript. University of Washington, Social Development Research Group, Seattle, WA, 1996.
- Hawkins, J.D.; Arthur, M.W.; and Catalano, R.F. Preventing substance abuse. In: Tonry, M., and Farrington, D., eds. *Crime and Justice: A Review of Research: Vol. 19. Building a Safer Society: Strategic Approaches to Crime Prevention*. Chicago: University of Chicago Press, 1995.
- Hawkins, J.D.; Catalano, R.F.; and Kent, L.A. Combining broadcast media and parent education to prevent teenage drug abuse. In: Donohew, L.; Sypher, H.E.; and Bukoski, W.J., eds. *Persuasive Communication and Drug Abuse Prevention*. Hillsdale, NJ: Erlbaum, 1991. pp. 283-294.
- Hawkins, J.D.; Catalano, R.F.; and Miller, J.Y. Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychol Bull* 112:64-105, 1992.
- Hawkins, J.D., and Salisbury, B.R. Delinquency prevention programs for minorities of color. *Soc Work Res Abstr* 19(4):5-12, 1983.

- Hawkins, J.D., and Weis, J.G. The social development model: An integrated approach to delinquency prevention. *J Prim Prev* 6:73-97, 1985.
- Hawkins, J.D.; Zhu, K.; and Haggerty, K.P. "A Pilot Study of a Parent Training Program in a Health Maintenance Organization." Unpublished manuscript. Social Development Research Group, University of Washington, Seattle, WA, 1994.
- Heuser, J.P. "A Preliminary Evaluation of the Short-Term Impact of the Preparing for the Drug-Free Years Community Service Program in Oregon." Unpublished manuscript. Oregon Department of Justice, Crime Analysis Center, Salem, OR, 1990.
- Hirschi, T. *Causes of Delinquency*. Berkeley, CA: University of California Press, 1969.
- Holcomb, A.K., and Schulte, D. "Kansas Family Initiative Evaluation 1992-1993." Unpublished manuscript. DCCCA Center Evaluation Services, Lawrence, KS, 1993.
- Institute of Medicine. New directions in definitions. In: Mrazek, P.J., and Haggerty, R.J., eds. *Reducing Risks for Mental Disorders: Frontiers for Preventive Intervention Research*. Washington, DC: National Academy Press, 1994.
- Johnson, G.M.; Shontz, F.C.; and Locke, T.P. Relationships between adolescent drug use and parental drug behaviors. *Adolescence* 19:295-299, 1984.
- Johnston, L.D.; O'Malley, P.M.; and Bachman, J.G. "Drug Use Rises Again in 1995 Among American Teens." News release. University of Michigan News and Information Services, Ann Arbor, MI, December 11, 1995.
- Kandel, D.B. Epidemiological and psychosocial perspectives on adolescent drug use. *J Am Acad Clin Psychol* 21:328-347, 1982.
- Kandel, D.B., and Andrews, K. Processes of adolescent socialization by parents and peers. *Int J Addict* 22:319-342, 1987.
- Kazdin, A.E.; Siegel, T.C.; and Bass, D. Cognitive problem-solving skills training and parent management training in the treatment of antisocial behavior in children. *J Consult Clin Psychol* 60:733-747, 1992.
- Kellam, S.G., and Rebok, G.W. Building developmental and etiological theory through epidemiologically based preventive intervention trials. In: McCord, J., and Tremblay, R.E., eds. *Preventing Antisocial Behavior: Interventions from Birth Through Adolescence*. New York: Guilford Press, 1992. pp. 162-195.

- Kosterman, R.; Hawkins, J.D.; Haggerty, K.P.; Spoth, R.; Redmond, C.; Larson, N.C.; and Zhu, K. "Preparing for the Drug-Free Years: Program-Specific Effects of a Parent Training Intervention With Rural Families." Unpublished manuscript. University of Washington, Social Development Research Group, Seattle WA, 1996.
- Kosterman, R.; Hawkins, J.D.; Spoth, R.; Haggerty, K.P.; and Zhu, K. "Preparing for the Drug-Free Years: Effects on Videotaped Family Interactions." Unpublished manuscript. University of Washington, Social Development Research Group, Seattle WA, 1995.
- Loeber, R., and Stouthamer-Loeber, M.S. Family factors as correlates and predictors of juvenile conduct problems and delinquency. In: Tonry, M., and Morris, N., eds. *Crime and Justice: An Annual Review of Research*. Vol. 7. Chicago: University of Chicago Press, 1986. pp. 29-149.
- Loeber, R.; Stouthamer-Loeber, M.S.; Van Kammen, W.; and Farrington, D.P. Initiation, escalation, and desistance in juvenile offending and their correlates. *J Crim Law Criminol* 82:36-82, 1991.
- Masten, A.S. Resilience in individual development: Successful adaptation despite risk and adversity. In: Wang, M.C., and Gordon, E., eds. *Educational Resilience in Inner-City America: Challenges and Prospects*. Hillsdale, NJ: Lawrence Erlbaum, 1994.
- Masten, A.S.; Best, K.M.; and Garmezy, N. Resilience and development: Contributions from the study of children who overcome adversity. *Dev Psychopathol* 2:425-444, 1990.
- McDermott, D. The relationship of parental drug use and parent's attitude concerning adolescent drug use to adolescent drug use. *Adolescence* 19:89-97, 1984.
- McGuire, W.J. The communication persuasion model and health-risk labeling. In: Morris, L.A.; Mazis, M.B.; and Barofsky, I., eds. *Product Labeling and Health Risks*. New York: Banbury, 1980. pp. 99-122.
- Melby, J.; Conger, R.; Book, R.; Rueter, M.; Lucy, L.; Repinski, D.; Ahrens, K.; Black, D.; Brown, D.; Huck, S.; Mutchler, L.; Rogers, S.; Ross, J.; and Stavros, T. "The Iowa Family Interaction Coding Manual." Unpublished manuscript. Iowa State University, Iowa Youth and Families Project, Ames, IA, 1990.
- Newcomb, M.D., and Felix-Ortiz, M. Multiple protective and risk factors for drug use and abuse: Cross-sectional and prospective findings. *J Pers Soc Psychol* 63:280-296, 1992.

- Newcomb, M.D.; Maddahian, E.; Skager, R.; and Bentler, P.M. Substance abuse and psychosocial risk factors among teenagers: Associations with sex, age, ethnicity and type of school. *Am J Drug Alcohol Abuse* 13:413-433, 1987.
- Patterson, G.R., and Dishion, T.J. Contributions of families and peers to delinquency. *Criminology* 23:63-79, 1985.
- Patterson, G.R., and Stouthamer-Loeber, M. The correlation of family management practices and delinquency. *Child Dev* 55:1299-1307, 1984.
- Robins, L.N., and Przybeck, T.R. Age of onset of drug use as a factor in drug use and other disorders. In: Jones, C.L., and Battjes, R.J., eds. *Etiology of Drug Abuse: Implications for Prevention*. National Institute on Drug Abuse Research Monograph 56. DHHS Pub. No. (ADM)85-1335. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1985. pp. 178-192.
- Rutter, M. Psychosocial resilience and protective mechanisms. In: Rolf, J.; Masten, A.S.; Cicchetti, D.; Nuechterlein, K.H.; and Weintraub, S., eds. *Risk and Protective Factors in the Development of Psychopathology*. Cambridge, England: Cambridge University Press, 1990.
- Simmons, R.G., and Blyth, D.A. *Moving into Adolescence: The Impact of Pubertal Change and School Context*. Hawthorne, NY: Aldine de Gruyter, 1987.
- Spaccarelli, S.; Cotler, S.; and Penman, D. Problem-solving skills training as a supplement to behavioral parent training. *Cogn Ther Res* 16:1-17, 1992.
- Spoth, R., and Conroy, S. Survey of prevention-relevant beliefs and efforts to enhance parenting skills among rural parents. *J Rural Health* 9(3):227-239, 1993.
- Spoth, R., and Molgaard, V. Consumer-focused data collection in prevention program evaluation: Rationale and illustrations. *Eval Health Prof* 16(3):278-294, 1993.
- Spoth, R., and Redmond, C. Study of participation barriers in family-focused prevention: Research issues and preliminary results. *Int Q Comm Health Educ* 13(4):365-388, 1993.
- Spoth, R., and Redmond, C. Effective recruitment of parents into family-focused prevention research: A comparison of two strategies. *Psych Health Int J* 9:353-370, 1994.
- Spoth, R., and Redmond, C. "Implementing Universal Competency-Training Interventions With Rural Families of Young Adolescents." Manuscript submitted for publication, 1995.
- Spoth, R., and Redmond, C. A theory-based parent competency model incorporating intervention attendance effects. *Fam Relations Special Issue*, in press-a.

- Spoth, R., and Redmond, C. Illustrating a framework for rural prevention research: Project Family studies of rural family participation and outcomes. In: Peters, R., and McMahon, R., eds. *Child Disorders, Substance Abuse, and Delinquency: Prevention and Early Intervention Approaches*. Newbury Park, CA: Sage Publications, in press-b.
- Spoth, R.; Redmond, C.; Haggerty, K.; and Ward, T. A controlled outcome study examining individual difference and attendance effects. *J Marriage Fam* 57:449-464, 1995.
- Spoth, R.; Redmond, C.; Yoo, S.; and Dodge, K. Sociodemographic factors and parent beliefs relevant to the prevention of adolescent behavior problems. *Fam Pers* 27(3):285-303, 1993.
- Todres, R., and Bunston, T. Parent education program evaluation: A review of the literature. *Canadian J Comm Ment Health* 2:225-257, 1993.
- Werner, E.E., and Smith, R.S. *Overcoming the Odds: High Risk Children from Birth to Adulthood*. Ithaca, NY: Cornell University Press, 1992.
- Wiese, M.R. A critical review of parent training research. *Psychol Schools* 29:229-236, 1992.
- Yoshikawa, H. Prevention as cumulative protection: Effects of early family support and education on chronic delinquency and its risks. *Psychol Bull* 115:28-54, 1994.

ACKNOWLEDGMENT

Work on this chapter was supported by National Institute on Drug Abuse research grant no. DA07029-01A1.

AUTHORS

Richard F. Catalano, Ph.D.
Associate Director and Professor

Rick Kosterman, Ph.D.

Kevin Haggerty, M.S.W.
J. David Hawkins, Ph.D.
Professor and Director
Social Development Research Group
University of Washington
9725 Third Avenue N.E., Suite 401
Seattle, WA 98115

Richard L. Spoth, Ph.D.
Project Director for Prevention Programming and Research
Social and Behavioral Research Center for Rural Health
Center for Family Research in Rural Mental Health
Iowa State University
2625 North Loop Drive, Suite 500
Ames, IA 50010

**Click here
to go to
next section**