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A Public Health Approach to Family-Centered Prevention of Alcohol and Drug Addiction: A Middle School Strategy

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Early-onset drug use is highly prognostic of young adult drug and alcohol abuse and dependence (Anthony, 1991; Robins & Przybeck, 1985). Each of the coemerging tobacco, alcohol, and marijuana use patterns that develop in early adolescence has a similar set of childhood antecedent predictors (Dishion, Capaldi, Yoerger, 1999). Careful analyses of onset sequences of tobacco, alcohol, and marijuana use reveal a general transition from legal to illegal substances that typically begins with tobacco and progresses to alcohol and then to marijuana and other illegal substances (Kandel, Yamaguchi, & Chen, 1992). It appears that the early-onset sequence of drug use evolves into concurrent use and abuse of multiple substances downstream in adulthood, and to this extent, youth involved in early patterns of drug use are vulnerable to multiple expressions of addiction as adults.

Two facets of childhood adjustment seem to be prognostic of early-onset drug use and correlated with self-regulation. Antisocial behavior in childhood is highly prognostic of and antecedent to a child's substance use experimentation (Dishion, Capaldi, et al., 1999; Smith & Fogg, 1979). The second facet of adjustment is internalizing self-regulation, which in early childhood manifests as shyness and withdrawn behavior in the company of peers in school settings (Kellam, Brown, & Fleming, 1982) and in middle childhood manifests as depressed mood. Evidence suggests that emotional indicators of poor self-regulation, such as depression, are prognostic of future substance use (Aneshensel & Huba, 1983; Tapert et al., 2003). Especially prognostic of early-onset drug use are comorbidity of problem behavior and emotional adjustment problems (Capaldi, 1992).

Wills and colleagues were the first to conceptualize problem behavior, emotional adjustment problems, and substance use within a self-regulation framework (Wills & Dishion, 2004; Wills, DuHamel, & Vaccaro, 1995; Wills, Sandy, & Shinar, 1999). Ties between self-regulation and escalation to young adult drug and alcohol abuse have been less extensively studied.

Recent longitudinal analyses of a multiethnic sample revealed that for young adults age 22 to 24, adolescent use, adolescent peer relationships that support use, and lack of self-regulation are indicators of dependence on and abuse of tobacco, alcohol, and marijuana (Piehler, Véronneau, & Dishion, under review). Among this study's sample, the progression from early use to later dependence and abuse was similar across substances. The common predictors of escalations in tobacco, alcohol and marijuana use sup-

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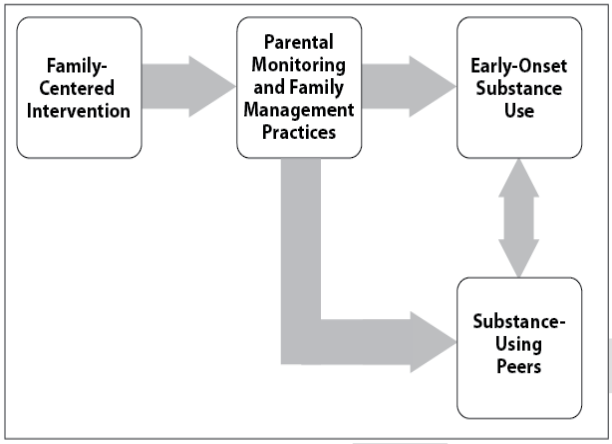

Figure 1. An overview model of motivating family-centered prevention..

port a syndrome model of addictive behavior, which is articulated in this volume (Shaffer, LaPlante, & Nelson, this volume).

An ecological perspective on the etiology of early-onset drug use and progression to dependence suggests the importance of preventive family management practices. In a prospective analysis of childhood risk, we found that parental substance use was a strong univariate predictor of adolescent tobacco use, heavy alcohol use, and marijuana use. Independent of the impact of parental substance use, family management practices, such as parental monitoring and limit setting, were also prognostic (Dishion, Capaldi, et al., 1999; Dishion & Loeber, 1985; Patterson, Reid, & Dishion, 1992). This finding is consistent with the results of systematic literature reviews of risk and protection relevant to early drug use (Hawkins, Catalano, & Miller, 1992). As such, parenting practices lie at the core of our ecological perspective on the etiology of adolescent drug use, which is consistent with other models of social development (Hawkins et al., 1992; Kosterman, Hawkins, Guo, Catalano, & Abbott, 2000).Consistent with this view, Chassin, Pillow, Curran, Molina, & Barrera (1993) found that a low level of parental monitoring was the key mediating mechanism linking parent alcoholism to adolescent substance use.

Parenting is not only directly linked to adolescent drug use, it is indirectly related by means of peer influence. Without doubt, one of the strongest proximal correlates of early-onset drug use is association with drug-using peers (Chassin, Presson, Sherman, Montello, & McGrew, 1986; Dishion & Loeber, 1985; Kandel, 1973). Both parental monitoring and peer influences must be taken into consideration to understand the unique influences of each on the progression toward addiction. In addition, a developmental progression of influence may play a part: parental monitoring may be particularly effective early in adolescence, when parents exert direct influence on substance use and unsupervised time with peers (Dishion, Bullock, & Kiesner, 2008). Later in adolescence, peer relationships may more powerfully influence substance use and dependence because of youths' disproportionate time spent with peers and their preference for peer guidance (Hill, Bromell, Tyson, & Flint, 2007). The conceptual framework presented in Figure 1 summarizes the basic concept that parental monitoring and family management predict early-onset substance use and involvement with drug-using peers. Findings from our studies and from other studies have revealed that involvement with drug-using peers and early-onset substance use are key factors for defining progressions from early-onset use to young adult substance abuse and dependence (Dishion & Owen, 2002; Robins & McEvoy, 1990). Drug use becomes a criterion for selecting friends and relationship partners, and in turn, young adult friends and relationship partners maintain and amplify drug use (Caspi & Herbener, 1990).

Consistent with the syndrome model of addiction, the substance of choice is less important than the process that underlies the addictive behavior (Shaffer et al., this volume). The core principle in preventing young adult addictive behavior is to prevent early-onset drug use and the inevitable involvement with a drug-using relationship network. Given the highly reinforcing nature of early-onset drug use in the company of peers, it is unlikely that youth vulnerable to drug use will respond entirely to classroom-based cognitive behavior curricula that emphasize self-control and resistance skills (e.g., Botvin, 1990), despite their general effectiveness and pragmatic appeal. As a result, several prevention scientists have begun to design family interventions that mobilize parents to improve their skills in monitoring their youth and managing their early adolescent's problem behavior. These interventions not only target drug use, they also address the constellation of vulnerability factors, including antisocial behavior and deviant peer involvement.

Family Interventions

Overview

During the past 25 years a number of research groups have initiated family-based models to treat adolescent substance use, and they have been largely successful (e.g., Friedman 1989; Henggeler, Pickrel, Brondino, & Crouch, 1996; Liddle, 2010; Szapocznik & Kurtines, 1989; Waldron & Brody, 2010). Efforts to target youth at high risk in the context of schools began

with the work of Bry and colleagues (Bry, Conboy, & Bisgay, 1986). Guided by a behavioral family therapy approach that included meeting with families weekly in the school and using behavior contracting, they found that systematically supporting families brought about youths' improved academic performance and decreased tobacco use. As the intervention model developed, it was found that parents in families at high risk were indeed willing to participate in family interventions in the school context (75%) when interventions were kept relatively brief (4–6 sessions) and the focus was relevant to the student's school adjustment (Bry, McGreene, Schutte, & Fishman, 1991).

One strategy for targeting parenting practices in a school context is to offer parent groups. Among the many advantages of parent groups is the opportunity to work with several families at one time, which is a cost-effective means of providing information, training, and support (Dishion, Reid, & Patterson, 1988). Moreover, parent groups can be offered at a universal level. Hawkins and colleagues pioneered this approach in their Preparing for the Drug-Free Years intervention (Hawkins et al., 1992), which was designed to increase protective factors and decrease problem behaviors. The early work of Dishion and colleagues found that parent groups alone were the most effective approach to prevention of drug use and problem behavior for adolescents at very high risk, as compared with parent and peer groups or self-directed change interventions (Dishion & Andrews, 1995). In fact, it was found that aggregating youth at high risk into peer groups actually increases substance use (Dishion, McCord, & Poulin, 1999). Spoth and colleagues have had resounding success applying the Strengthening Families program as a universal parenting intervention offered in the public school context. It has shown pervasive reductions in alcohol and substance use initiation during adolescence (Spoth, Redmond, & Lepper, 1999; Spoth, Redmond, & Shin, 2001; Spoth, Trudeau, Guyll, Shin, & Redmond, 2009).

Nevertheless, attendance can be a serious barrier to the success of parent groups as a universal or selected intervention strategy. Research often does not address the fact that very few parents agree to participate in a school-based study involving parent groups, so participation can be quite low unless there are monetary incentives. Consequently, estimates of intervention effects apply only to the minority of families who agree to participate in a universal intervention study of parent groups. So when 17% of families participate, for example, then the estimates do not apply to the 83% of families not included in the study. Furthermore, parenting groups typically follow a sequence of parent training topics, some of which may not be relevant to all families who participate. In this regard, parenting groups are actually a less efficient strategy than are tailored, adapted approaches to intervention. Child and Family Center researchers have elicited higher rates of participation by having staff make personal visits to families before parent groups start, as recommended by Szapocznik and Kurtines (1989). Offering payments when the group ended may also have bolstered attendance. Because of the various barriers to participation in weekly groups, whether they were offered during the school day or in the evening, we tailored and adapted family interventions in the public school context by using motivational interviewing strategies for encouraging engagement and behavior change.

The Ecological Approach to Family Intervention and Treatment (EcoFIT) Model

The EcoFIT model is an ecological strategy for family intervention that is implemented through public schools and has been under development for more than 15 years (Dishion & Kavanagh, 2003; Dishion and Stormshak, 2007). On the basis of outcomes associated with earlier intervention trials and success in the field using family interventions (e.g., Spoth, Kavanagh, & Dishion, 2002), we designed EcoFIT to focus primarily on parents, address the family dynamics associated with adolescent problem behavior, link with school procedures, be delivered cost effectively, and comprehensively address the wide range of risks typical to school settings. Interventions that focus on helping parents change their parenting practices should be grounded in the context of a child's developmental history. The Family Check-Up (FCU) intervention for families at risk, which is included in the EcoFIT model, involves a comprehensive assessment of family functioning, ecological factors (e.g., financial stress, access to resources), parenting practices, and youth adjustment. The assessment is followed by a feedback session designed to engage families in a collaborative effort and elicit motivation to improve key parenting practices. The assessment and feedback process culminates in the provision of a menu of treatment options that may include family therapy, parenting skills training, or referrals to outside resources, depending on the problem. The feedback session is designed to help the family decide on the best course of action for their particular circumstances. When needed, parent-focused intervention is provided that is adapted to the family's assessment profile. As such, the key components of this intervention are consistent across families, but the particular components of the intervention a family receives will vary according to their needs.

In our first round of studies, all three levels of the EcoFIT model were developed and tested in public

middle school environments: a schoolwide universal intervention, the FCU, and adapted and tailored treatment (Dishion & Kavanagh, 2003). EcoFIT was found to be effective in reducing early-onset substance use (Dishion, Nelson, & Kavanagh, 2003) and an array of problem behaviors and drug use later in adolescence (Connell, Dishion, Yasui, & Kavanagh, 2007). A second trial was instantiated that focused more specifically on the importance of ethnic diversity and enhancing our ability to engage and support a wider range of families with just the FCU, which was also found to be broadly effective in reducing problem behavior and substance use (Stormshak et al., in press).

These two intervention trials of the EcoFIT model involved two to three middle schools. More recently, we modified the model for broader implementation in entire school systems by school personnel. The resulting EcoFIT service delivery model integrates the FCU into a tiered system of family support services that spans universal, selected, and indicated levels of student risk and focuses primarily on preventing escalation of problem behavior and substance use (Dishion & Kavanagh, 2003; Dishion & Stormshak, 2007; Stormshak, Dishion, Light, & Yasui, 2005). The EcoFIT intervention model comprises three major components: (a) a family resource center (FRC) housed in a school, which provides information about schoolwide discipline, rules, family management skills, and behavioral support; (b) the FCU intervention; and (c) a menu of intervention and treatment options. Intervention options for families are based on the *Everyday Parenting Curriculum* (Dishion, Stormshak, & Kavanagh, in press), which was designed to enhance family management skills. A key feature of the EcoFIT model is that it is assessment driven and tailored to the individual needs of youth and families (Dishion & Stormshak, 2007; Stormshak & Dishion, 2002). The FCU, the core of the EcoFIT approach, specifically targets parental monitoring, involvement in the parenting process, and positive behavior support to reduce problem behavior and to encourage child and adolescent development of skills and competence.

During the past 10 years, our research team has been engaged in a randomized prevention trial in which half of the sixth grade population of three metropolitan middle schools was randomly assigned at the individual level to receive EcoFIT family services or public middle school as usual. Parent consultants who were trained in the EcoFIT model were assigned to each school, where they attempted to engage parents of youth who had been identified as at risk by teachers. Services were provided primarily in the seventh and eighth grades.

We actively engaged 25% of families who had been randomly assigned to the EcoFIT condition in FCU intervention services during 2 years of service across the three schools. We had some contact with an additional 25% of the families who did not participate in the FCU. By and large, we found that the families at highest risk were the most likely to participate in the FCU. Efforts to engage the families at highest risk were effective. Connell, Dishion, and Deater-Deckard (2006) found that single-parent families, those with students involved in a deviant peer group, and those rated by teachers as at high risk were most likely to engage in the FCU.

During the course of the 2 years of service, the families at highest risk logged an average of 6 hours of parent consultant contact. As one would expect, contact time decreased commensurate with a student's risk level. Families of students at moderate risk engaged in approximately 3.5 hours of contact and families at low risk averaged less than 1 hour of contact. Contact included telephone calls and personal communication, and parent consultants recorded contact time by the minute (Dishion, Kavanagh, Schneiger, Nelson, & Kaufman, 2002).

We conducted an effectiveness trial of the EcoFIT model in another set of four public middle schools. In this study all four schools implemented the EcoFIT model with their entire school population. We observed how interventionists in the family resource centers creatively engaged parents. In one middle school, the parent consultant established a coffee cart for parents and would meet parents as they dropped off their middle school child and picked up coffee. We found that simply the number of parent contacts (in-person, phone, e-mail, or letter) in Grades 6, 7, and 8 was associated with reductions in growth in child risk measured by teacher ratings (Stormshak et al., 2005).

Several reports have been published about EcoFIT intervention effects on substance use. The first revealed that randomization to the EcoFIT intervention condition in sixth grade was associated with reductions in substance use (Dishion, Kavanagh, et al., 2002) and in deviant peer involvement over time (Dishion, Bullock, & Granic, 2002). We found that for the youth at highest risk, reductions in drug use were mediated by changes in observed parental monitoring practices (Dishion et al., 2003), as is suggested by the overview model shown in Figure 1.

Our recent analyses concur with these findings, suggesting that the most dramatic effects of the EcoFIT intervention are seen among sixth grade students who are most severely problematic and whose families are most in need of services (Connell et al., 2007). Because our work in schools consists of prevention trials, we have recently begun analyzing data using statistical methods that incorporate the level of parents' engagement in the FCU in order to

evaluate long-term outcomes. This approach is substantially different from that of conventional intervention design studies that use an intention-to-treat (ITT) design. In our prevention design, ITT analyses yielded modest outcomes to age 17. However, when we used methods that considered the level at which a family was engaged in the intervention compared with that of control families who would also have likely engaged in the intervention, the effects were quite dramatic (Connell et al., 2007). This approach to the analysis of engagement with an intervention is referred to as complier average causal effect (CACE) analysis (Jo, 2002). The challenge for many randomized prevention trials is that many of the participants do not actually engage in the intervention, especially when it is offered on a voluntary basis. For example, in the public middle school study described earlier, 25% of the families in the randomized EcoFIT group engaged in an FCU, when it was offered to all. Using CACE analyses, one can use the information collected prior to the intervention about those participants who engaged and estimate an "engager" control group resembling those who eventually participated in the FCU. Similarly, data about those who are in the intervention group and declined the FCU can be used to identify those who would most likely decline in the control group. Analysis of problem behavior showed a marked reduction in the percentage of youth arrested at least once in the "engager" group (15% had been arrested) who actually received the FCU, compared with those in the control group (100% had been arrested). Thus, sixth grade students at high risk, whose families likely would have engaged in the FCU, were 6 times more likely to be arrested within the next 5 years if they were not offered the FCU. Similarly, they used marijuana 5 times more frequently during a 1-month period than did the intervention engager group. These findings were also extended to marijuana dependence and tobacco dependence by age 18. These analyses revealed that random assignment to the EcoFIT intervention reliably reduced substance use, antisocial behavior, and the probability of arrest (Connell et al., 2006). Outcome analyses also revealed that random assignment to and engagement in the intervention resulted in a 50% reduction in days absent from high school from 6th through 11th grade. Control engagers missed an average of 32 days during the school year, and intervention youth missed only 13 (Stormshak, Connell, & Dishion, 2009).

Although it is often said that family-based services offered in the school will be received only by families who are at low or no risk, we did not find this to be the case. The proactive approach to offering the FCU suggested that in fact, the families who declined participation were those who were at the lowest risk of all. In other words, these parents accurately assessed their young adolescents' risk status and did not feel the need to receive information or support on behavior management strategies. This is an optimistic finding indeed, because it suggests that if we have the appropriate outreach and engagement strategies in place for caregivers of the highest risk students, we are likely to reduce their long-term risk by supporting their use of positive behavior support strategies and coordinating with school staff to support student success.

From Efficacy to Effectiveness: The EcoFIT Model in Public Middle Schools

To date, evaluations of the EcoFIT model in public middle schools have been accomplished within an efficacy paradigm; that is, indigenous school staff members were not the primary implementers of the intervention. Because we have conducted a number of efficacy trials, we have had the luxury of providing a full-time staff member to conduct our interventions in participating schools. Once evidence supported this model, it became important to bridge the gap between evidence-based efficacy trials and real-world implementation. Although this model has been designed to be efficient and relatively easy to use, crossing the bridge to effectiveness required some shifts in implementation to make this intervention feasible for school staff. A critical adaptation was to integrate the EcoFIT model into existing infrastructures in schools that were using Positive Behavior Interventions and Support (PBIS; Crone & Horner, 2003). PBIS is a schoolwide prevention program that emphasizes systems changes to promote the use of effective reinforcement and discipline practices, consistent procedures for managing student behavior (e.g., data-based decision making), and sustainable universal, targeted/selective, and indicated systems of support.

Implementation of a family-centered intervention package in public schools requires the utmost clarity and efficiency. Staff turnover, cutbacks, and funding shortages present ongoing challenges to effecting this model with fidelity and sustainability. Because maintaining sensitivity to these challenges is a key strategy, we team with school personnel to strike a balance between fidelity to the EcoFIT model and feasibility relevant to each school's resources. This approach has been tremendously rewarding as we refine the model for ease of dissemination and gain the cooperation of school administrators, faculty, and staff in the process. In what follows, we describe the EcoFIT model and how it is organized by tiers of implementation within PBIS yet maintains consistency with its original formulation (Dishion & Kavanagh, 2003).

School–Family Partnership: A Foundation for Family Services in Schools

School–family partnership is increasingly well known as a means to successfully implement ecological interventions that address problem behavior among students (Trickett & Zlotlow, 1990). Although this design is simple in theory, it is often a radical change for schools to shift focus to collaborating with families to support student academic and behavioral success—a guiding perspective across all levels of the EcoFIT model. At the broadest level, this approach advocates for consistency in behavioral management across home and school contexts. School-based interventions commonly focus on making changes within the school context (Crone & Horner, 2003), but school personnel increasingly recognize the importance of generalizing intervention practices from school to the family context for greater impact and more rapid improvement in student behavior.

As shown in Figure 2, we help school personnel recognize how essential consistency between home and school is in terms of expectations for student attendance, behavior, and academic performance. Mixed messages across these settings force students to navigate two distinct systems, and student success in one context may result in consequences in the other. The EcoFIT program is designed to clarify communication about academic, behavior, and attendance expectations between home and school for all students; the program is relevant for universal, selected, and tertiary levels of family support. When schools partner successfully with families, greater consistency across contexts results. Adolescents who perceive this alignment are less likely to engage in high-risk behaviors, including violence, substance use, and suicidality (Resnick et al., 1997). Among the many benefits of strong school–family partnerships are improved attendance, homework completion, and school completion (Barnard, 2004; Henderson & Berla, 1987; Henderson & Mapp, 2002; Jeynes, 2005); improved attitudes about school; and improved behavior in both settings (Christenson & Havsy, 2004; Patrikakou, Weissberg, Redding, & Walberg, 2005), all of which are protective factors against substance use in adolescence.

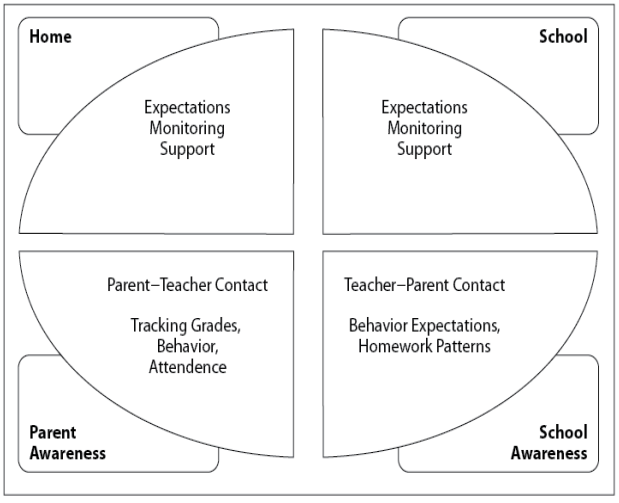

Figure 2. School–family partnership.

Laying a solid foundation is a critical precursor to achieving family-centered programming in schools. Christenson and Sheridan (2001) emphasize the need for school personnel to create a culture of family involvement that helps families successfully engage in support of their student. These foundational characteristics include having a family-friendly approach, attitude, and atmosphere. Approach is critical: schools must actively promote a collaborative spirit and together with parents, address shared concerns about student academics, behaviors, and emotional learning. We help school personnel maintain an open-minded attitude about how they engage with families and advise them to avoid determining solutions before seeking family input about concerns. Likewise, fostering positive perceptions of the benefits of a collaborative strategy serves as a base from which effective school–family partnerships can operate. School personnel who share these values will sustain the program beyond external monitoring and accountability. Finally, the school climate must exude these values to maintain family involvement. Family members can quickly perceive the atmosphere of a school, and they will either feel like outsiders or like welcomed guests whose involvement has been anticipated with excitement.

Of course, characteristics of positive school–family connection are not the same across schools. Malleability is a critical feature of any family intervention. It is important to incorporate the unique characteristics of each school community in terms of family demographics, values, and needs. To establish this program in schools and directly involve school personnel, we have been adapting our format in ways that closely map onto existing PBIS infrastructure. We use PBIS language when describing the tiers of intervention, and we complement school-based support for students with school–family partnership programming and with four key aspects of family involvement: parent training, school–parent involvement, parent–child involvement, and school–parent contact (Albright & Weissberg, 2010). When the EcoFIT model is brought into schools, it is adapted and tailored to the resources and environment of each school (Dishion & Kavanagh, 2003). In the following sections of this chapter we describe the universal, selected, and indicated levels of family support programming and we share examples

of ways in which schools have adapted these services at each level.

EcoFIT Tier 1: Universal Family Supports

To implement a family-centered intervention in the public school setting, it is necessary to create a context within the host environment. Leaders in public schools can take a variety of steps to facilitate home–school collaboration. The first and most pragmatic is to create a physical space that is appropriate for meetings with families and parents. The second is to train school staff to work as allies with parents when responding to a student's problem behavior and emotional difficulties, and to recruit parents early so that these challenges are effectively remediated. Third, a less tangible step but important nonetheless is for the principal and vice-principal to acknowledge daily that collaborating with and supporting families is central to the education of students. Ideally, staff at every school will regularly ask themselves: What are three changes we could make to increase involvement of parents? The host environment and EcoFIT program are symbiotic: as training and structural changes occur to create a family resource center, an overall climate of family involvement is generalized at the school. In turn, school climate changes determine the success of EcoFIT (Christenson & Sheridan, 2001).

Creating a family resource center. The first step in implementation of the EcoFIT intervention in schools is to create a family resource center (FRC). The FRC is valuable on multiple levels: it creates a physical space where family support can be planned and delivered, it involves the identification of staff who will ensure the delivery of family support in the school, and it promotes an atmosphere of advocacy for school–family connection. The FRC is designed specifically as a place parents can go to seek support from the school. This distinct space offers privacy for conversations about parenting concerns related to academic issues or student behavior. We require FRCs to be stocked with basic necessities for operation. The availability of furniture for as many as five people helps make families feel at ease, and we suggest that schools use comfortable furnishings, such as couches or a dining table and chairs, that can be purchased at second-hand stores. We suggest adding decorations that promote inclusion of all families, such as posters about parenting topics and other elements in languages that reflect the diversity of the student population. In addition, FRCs are equipped with informational materials about parenting topics and developmental issues relevant for middle school students, such as brochures and parenting books. A television and DVD player should be available to show parenting videos about core EcoFIT parenting skills. Computers with Internet access provide a way to teach parents how to navigate online grade systems or even provide Internet access for families who don't have the means to use email or obtain online information at home. We work with schools to tailor the FRC to meet specific needs of their school population. Some schools set up closets stocked with students' basic necessities, such as winter jackets, notebooks, and pencils, for families who are struggling financially. The FRC is a good place to provide information to parents about timely school topics, such as athletic schedules, concerts, or talent show announcements, or other details parents may be interested in. In this way, the FRC provides a place where any and all information relevant to families can be made easily accessible.

After an FRC is established, families must be informed about the center and the support services available there. We work with schools to send home flyers, have parents complete paperwork in the FRC at registration, include tours of the FRC during back-to-school nights, and have competitions across classes to see which one has the most parents sign the FRC guestbook. We have found that creating parent awareness of the FRC requires initial effort, but as time goes on, positive word of mouth helps it take on its own life within the school. In the meantime, it is critical to garner the awareness and endorsement of all school staff. To accomplish this support, we offer presentations and train as many school staff as possible to encourage teachers to refer parents to the FRC when appropriate.

Promoting school–family partnerships. After the FRC is established, school personnel are urged to actively initiate a positive, collaborative relationship with parents. Early efforts must be made to create an environment that promotes routine communication about behavioral expectations at school. Our team uses brainstorming and action-planning activities to help schools engage in family outreach. Drawing on past experiences that elicited good parent participation, we help schools design family nights that are appealing to parents and that send the message that their school is a place where parents are invited, welcomed, and pleasantly received.

In addition, positive feedback about student behavior is sent home to all parents during the first month of school. This strategy, adopted from PBIS, can be set in motion before most student behavior problems arise. It promotes parents' positive view of the school and openness to later communications from school regarding student problem behaviors. Positive feedback reaches individual homes by means of teacher phone calls, postcards, and notices sent home with students. We work carefully with schools to ensure that the most time-efficient system of communication is adopted. Frequently, administrative support staff

develop postcards with preprinted address labels and distribute them to teachers to make it easier for them to ensure that each student gets positive feedback. We encourage schools to generate a list of ideas to use for positive feedback, such as feedback in various languages if that is appropriate for their community, and for administrators to set aside 10 to 15 minutes during a staff meeting to allow teachers to get this task done.

This initial positive feedback is a critical first step for another aspect of the EcoFIT model: routine communication with parents about student attendance, behavior, and completion of work. Regular feedback about these key domains of behavior enhances communication and cooperation between parents and school staff and can drastically affect parents' potential for monitoring, limit setting, and supporting academic progress (Blechman, Taylor, & Schrader, 1981; Gottfredson, Gottfredson, & Hybl, 1993; Heller & Fantuzzo, 1993; Reid, 1993). By routinely receiving positive and corrective feedback relevant to multiple domains, parents will know in which areas their student is struggling, and are prompted to increase support for student success.

A multiple gating system to identify students who need support. A critical component to consider when implementing school interventions is how to effectively identify which families need support. We designed a cost-effective screening strategy called the *multiple gating strategy* (Dishion & Patterson, 1993; Loeber & Dishion, 1987; Loeber, Dishion, & Patterson, 1984) to proactively identify students most in need of additional support. Key to this strategy is that decisions regarding children's level of risk are largely based on systematically collected data and less on day-to-day reactions of school staff to students' behavior. This approach has been adopted by many public schools and has been found to be highly feasible (Feil, Walker, & Severson, 1995).

To integrate this approach into existing school infrastructures requires that some adaptations be made. Schools that already use PBIS typically have a process in place to identify student risk, and that system can be built upon. At the start of the academic year, our team consistently has used a parent school-readiness screener adapted from previous work (Dishion & Kavanagh, 1996; Soberman, 1994) to elicit a quick and salient point of entry for schools to partner with families relevant to their academic and behavioral concerns about their student. For efficient use by school staff, the parent screener has check-boxes where parents can indicate areas of "serious concern," "some concern," or "doing well" for each of 10 items. In addition, parents are invited to indicate in which areas they would like support from school staff. After the initial month, we help schools become comfortable with using teacher assessments that include teacher nomination systems and a teacher screener we have used successfully in our previous work (Soberman, 1994). In general, we have found that systematic teacher ratings across a range of student behavioral risk indicators can be an inexpensive way to identify families who need interventions and who are likely to engage. Paradoxically, when analyzing the long-term results of our intervention program, we found that the families at highest risk were the most likely to engage in the intervention and also were the most likely to benefit. In a randomized trial, families with children at high risk who were identified early and participated in our family support were least likely to increase drug use or be arrested (Connell et al., 2007).

EcoFIT Tier 2: Selected Family Interventions

Selected-level interventions are intended to provide support to students whose needs are beyond the support available at the universal level but who may not need intensive help characteristic of tertiary-level interventions (McIntosh, Campbell, Carter, & Dickey, 2009). They are designed to be a quick response to problem behaviors before they escalate into more serious, chronic patterns. A familiar example of selected interventions in PBIS schools is the Behavior Education Plan (BEP; see Crone, Hawken, & Horner, 2010, for a comprehensive description), commonly referred to as *Check-In/Check-Out.* Check-In/Check-Out has been linked to reductions in problem behaviors in school, especially in elementary school settings (Fairbanks, Sugai, Guardino, & Lathrop, 2007; Filter et al., 2007; Hawken, 2006; Hawken & Horner, 2003; Hawken, MacLeod, & Rawlings, 2007; March & Horner, 2002; Todd, Campbell, Meyer, & Horner, 2008). Check-In/Check-Out helps clearly identify and define risk behaviors, structure students' day around improving those behaviors, provide regular feedback throughout the day, and facilitate a relationship with a positive mentor in the school (Crone et al., 2010; McIntosh et al., 2009). Although typical Check-In/Check-Out programming strongly emphasizes student behavior at school, the Check-In/Check-Out form is intended to be sent home to promote parent engagement in the process (Crone et al., 2010).

Because the Check-In/Check-Out system is intended to interface with parents, this system provides a good point of entry for family support services. Our EcoFIT selected-level intervention has been adapted to bolster family involvement in Check-In/Check-Out through its systematically developed three-step system for family involvement (Figure 3). It is designed to work in schools with a strong secondary intervention in place and in schools that may have no secondary supports. Our primary goals are to promote clear

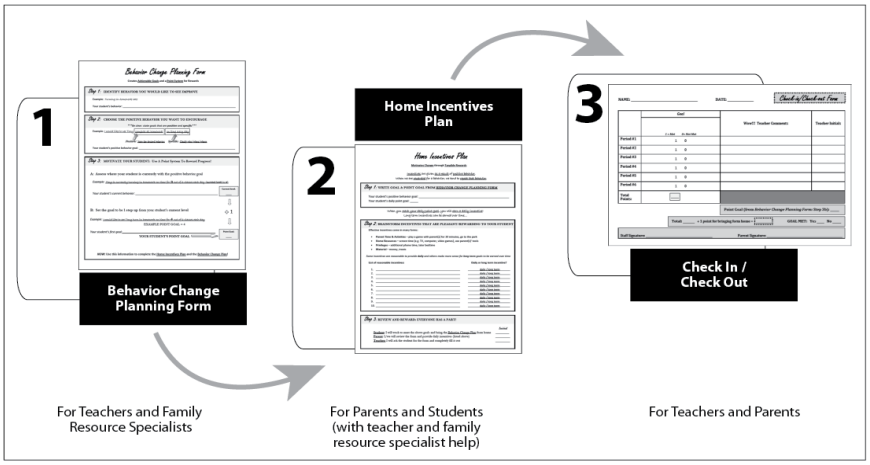

Figure 3. The behavior change plan.

communication about targeted behaviors at school, foster collaboration with parents in terms of which behaviors to support, and involve parents in reinforcing behavioral success in school with incentives at home. Key adaptations to the Check-In/Check-Out program include (a) involving parents at the onset of a Check-In/Check-Out, when behaviors are being identified for support; (b) creating a home incentives plan so parents can reinforce success at home; (c) creating a simple point system to shape desired behavior for parents and school staff to track; and (d) providing structured guidance for parents about consistent, positive support practices to ensure effective reinforcement of successful behaviors.

Bolstering parent involvement in selected-level interventions is a critical start to a school–family partnership. During that process, important information is provided to parents and a collaborative environment is established in which positive student behavior is supported and unity is demonstrated between the two contexts. Research has shown that school–family partnerships with these characteristics are linked with decreased engagement in youth risk behavior (Resnick et al., 1997). The selected-level interventions in our model also form a collaborative foundation for further support if student risk behaviors do not remit in response to this level of intervention.

EcoFIT Tier 3: Indicated (Tertiary) Family Interventions

Tertiary interventions are designed for those youth who are identified as at high risk for an emergent health problem; who do not respond successfully to secondary interventions; who have more established, chronic patterns of problem behavior; or who live in families with several stressors and areas of difficulty. The FCU is the core intervention at the tertiary level of the EcoFIT model. As described earlier in this chapter, the FCU is an intensive intervention that comprises a comprehensive family assessment and feedback, motivation to change, professional support, and follow-up support services that are consistent with parents' needs and interests. The FCU's in-depth method supports parents' accurate appraisal of their child's risk status and leads to a range of empirically supported interventions. This brief family intervention has been effective for reducing risk factors and promoting adjustment and is feasible to implement in a public school setting.

It is critical to have a parent consultant, who is trained and experienced in working therapeutically with parents, in the school. Moreover, other school staff must view this person as an ally when staff respond to the problem behavior and emotional difficulties of individual students; this will help to recruit parents early to effectively remediate the problem. Changing one's parenting practices can be a difficult and emotional journey that requires the skillful intervention of professionals who know how to use effective interventions and how to work with resistance to change (e.g., Patterson & Forgatch, 1985). To maintain flexibility in regard to school resources but retain fidelity to our model, we work with schools to determine the extent of staff resources and training needed to support FCU implementation or to modify the implementation to incorporate outside referrals if necessary. An overview of links between the FCU and a set of interventions is summarized in Figure 4.

The strength of the FCU model is that diverse perspectives are formally integrated while motivation

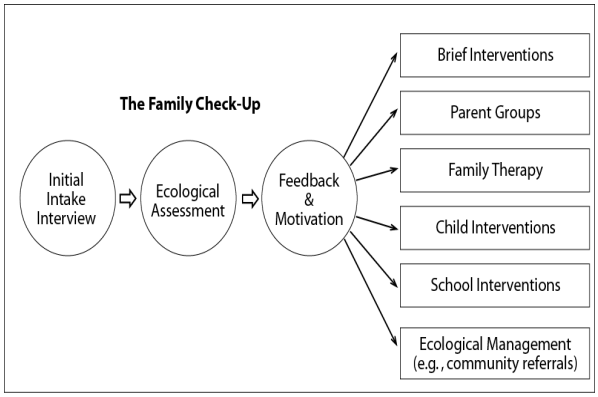

Figure 4. Overview of the Family Check-Up model.

to change is developed. Often, outpatient clinics use unstructured interviews and questionnaires to assess circumstances and rely almost exclusively on parent report to guide their judgment about diagnosis and treatment. In contrast, we integrate multiple perspectives and assessment strategies. Specifically, we obtain structured reports from parents, teachers, and the youth and then compare the reports using normative standards. In addition, we directly observe family interactions. These diverse data sources provide the parent consultant with a "family-centered perspective," that is, one that is inclusive but not overly reliant on any one reporting agent (see Figure 5).

Data are a critical feature of motivational interviewing and change. Not only are data useful for helping parents reconsider "issues" (e.g., aggressiveness) as serious problems that need attention and change, but data also guide the tailoring of the intervention to fit the school setting and individual family. Thus, a fundamental step of the feedback journey is sharing data with the parent; especially useful are data that come from other sources such as teachers and direct observation. Over the years, innovative family intervention researchers have suggested that providing feedback to parents from the findings of psychological assessments is conducive to change (Sanders & Lawton, 1993). The critical feature of such feedback is that it be presented in a supportive and motivating manner.

The FCU uses motivational interviewing and assessment information to help parents identify appropriate services and reasonable change strategies. Typically, this step occurs when parents come to the FRC because of concerns about their adolescent's behavior at home and school, including issues related to conduct problems and substance use. Another motivation-enhancing opportunity occurs when parents are notified of discipline problems in the school. School staff should strive to catch problems early and make recommendations for family intervention, in addition to implementing the typical youth interventions that are common in schools. Engaging families early decreases the probability that problem behavior will escalate into established patterns of antisocial behavior, association with deviant peers, and involvement in substance use (Stormshak et al., in press).

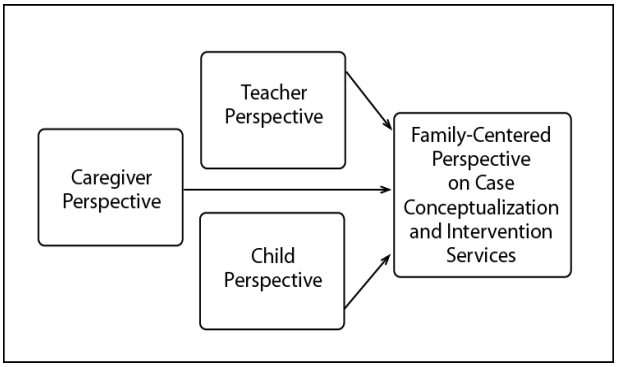

Figure 5. Plan for school-based family intervention.

The FCU approach is a tailored, adaptive intervention strategy (Collins, Murphy, & Bierman, 2004) in that the interventions that follow the FCU are tailored to the assessed and expressed needs of the family. Unlike most parenting programs that have a set agenda (albeit a flexible delivery format), our approach facilitates an assessment-driven intervention that focuses exclusively on aspects of parenting that are most relevant to each family. For example, parents who know about their youth's whereabouts and peer groups, but don't intervene or set limits when necessary, would benefit tremendously from a tailored intervention about setting limits on associating with peers who have behavioral problems or who use substances. The FCU would identify this need, as well as parenting strengths, and motivational interviewing would be targeted to encourage the caregiver in the process of setting limits.

The treatment protocol following the FCU uses the *Everyday Parenting Curriculum* (Dishion et al., in press) and is summarized in Figure 6. The presumption underlying the menu of family intervention services is that a variety of family-centered interventions can be equally effective for reducing problem behavior (Webster-Stratton, 1984; Webster-Stratton, Kolpacoff, & Hollingsworth, 1988). The tertiary intervention menu following an FCU assessment is tailored to the level of need expressed by families (Dishion & Stormshak, 2007). Some families require help only with motivation, support, and minor problem solv-

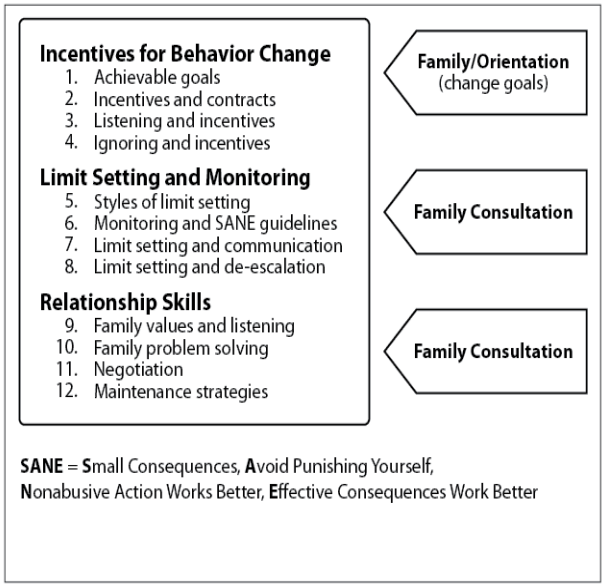

Figure 6. Overview of the Everyday Parenting Curriculum intervention.

ing. Following the FCU, many parents request only follow-up telephone calls (check-ins) from the parent consultant. In Figure 6, we outline 12 sessions within three overall modules that can be provided to meet family needs.

Brief follow-up interventions can be helpful for relatively isolated problems or concerns. A recent but atypical drop in grades, a discipline problem at school, or recent problem behavior are good examples of presenting concerns that are often addressed using brief interventions drawn from relevant sessions of the curriculum. On the basis of the strengths and weaknesses profile, a parent consultant may strategically collaborate with parents about how best to handle these difficulties. For example, in a recently divorced family the adolescent daughter's grades have dropped. She reports normal class attendance, but a recent report card reveals many absences. The parent consultant may establish an email connection with the parents regarding attendance so that one of the parents can monitor attendance daily and compare the daughter's report with that of the teachers. The monitoring system may itself alleviate the problem. It may also reveal more serious concerns, such as drug use, lying, and problems with peers, that require more intensive interventions, including limit setting and more pervasive monitoring in and out of school.

Other families require more intensive support and benefit from what we refer to as *skill-building interventions.* They closely follow the principles of parental management training (Forgatch, Patterson, & DeGarmo, 2005) and involve actively working with parents to improve their family management skills. The skills include positive reinforcement, setting limits, monitoring, problem solving, and communication. Parent consultants conduct these sessions either individually with parents, such as in behavioral family therapy, or we may work with parents in groups. In either venue, we use the *Everyday Parenting Curriculum,* derived from more than 30 years of research, as the manual for these interventions (Figure 6; Dishion et al., in press).

Adolescents in multiproblem, high-risk families are at significant risk for antisocial behavior problems, substance use, and deviant peer association (Fosco, Stormshak, Dishion, & Winter, in press). These high risk families are often contending with severe stressors that disrupt parents' emotional regulation and attention. On occasion, these stressors may be chronic and nascent and do not emerge until a parent consultant has established rapport and a working relationship with a family. For example, sexual abuse, an ongoing affair, or domestic violence may be kept quiet by a parent until he/she feels a connection to a professional with whom such an issue can be shared and addressed. Thus, the family goes into crisis as a function of engagement, not as a cause.

Working with multiproblem families is often challenging with respect to addressing severe life stressors, potential abuse, and family disruption such as divorce and remarriage, which can create a volatile, emotionally dysregulated atmosphere that is not conducive to effective parenting strategies. Family adaptation and coping interventions are designed to reduce emotional dysregulation, support the parents' attention on family-centered issues, and provide support for positive, realistic coping that is within the parents' skill set and control. In conjunction with family-centered intervention services, parents may also seek referrals for help with their own problems with depression or substance use. These interventions are easily coordinated with FCU services relevant to parenting effectiveness.

These skill-building sessions address two interrelated factors related to client responses to severe stress and crises: the emotional response and the self-efficacy for coping with the stress. Emotional response to stress can overwhelm parents, and they may become distracted or engage in maladaptive coping and parenting. Erratic actions such as moving or demonstrating violent behavior can have long-lasting implications for a student's achievement and development in an educational setting. For example, when a parent discovers his partner is having an affair, his response to this information may have more severe implications for the children than does the actual stressor, as traumatic as it may seem. Violence to the partner, suddenly moving to another location, and quitting work can have long-term disruptive effects on children and adolescents. Thus, a timely intervention during this crisis would support the father in coping with emotional reactions without acting them out, and refocus attention on issues of parenting and the long-term interests of the children in general.

In addition to parenting skills support, additional services can be provided in the context of adaptive coping sessions to help the parent improve self-efficacy, primarily by guiding parents to actions that are within their control, immediately beneficial, and minimally harmful to others. For example, interventions during an episode of domestic violence could involve (a) supporting a mother and her children as they transition to a safe shelter, (b) facilitating a court-ordered restraining order, and (c) structured communication with the abusing partner regarding communications during the next week. Thus, the caregiver is able to ensure the safety of herself and her children and is placed in a supportive social context that allows for problem solving the immediate and long-term future of the family.

One of the EcoFIT goals is to facilitate family

engagement in community resources that will best fit the family's long-term needs. Unlike many university-derived interventions, EcoFIT encourages collaborations with community agencies designed to support children and families. For example, when one is working with a mother in recovery from methamphetamine abuse, it is wise to respond to crises by reinforcing her involvement in services designed to keep her in recovery. When a breech in services occurs, the parent consultant can support the caregiver in taking steps to reengage in services.

There are a variety of barriers to effective parenting. Some are historical (e.g., past abuse and trauma), some are contextual (poverty, few resources in communities), and others are chronic (e.g., long-term disabilities, health problems). In these circumstances a key role of the parent consultant is to support caregivers in the course of coping, problem solving, and making efforts to reduce harm to the youth. At times, this strategy requires guiding the caregiver into services that are more appropriate to recovery or safety. Thus, one key function of the parent consultant during the FCU and beyond is to provide a parent with the insight and motivation to seek realistic levels of support to make family changes and to adapt to the stressor.

Summary of EcoFIT Interventions

In summary, the EcoFIT model delivers a variety of specific interventions and addresses student and family needs on the full range of the risk continuum, including universal family support and information, home–school partnership to address school behaviors, and FCU interventions for intensive support. The FCU is the cornerstone of the service delivery system. This brief intervention ideally would be provided to families at risk every year, as is the case in prevention trials. Following the FCU we offer a variety of structured interventions; the most common are:

1) Brief parenting interventions: This service focuses primarily on motivation but also includes problem-solving solutions to address parenting challenges that may be transient (e.g., improving grades).

2) School interventions: A daily, weekly, or biweekly report to parents about their student's attendance, behavior in school, and completion of homework is set up and delivered. This service is contingent on working with parents on positive reinforcement for meeting goals.

3) Family management skill support: This set of services includes more intensive support for family management practices known to reduce the emergence and growth of problem behavior in children and adolescents.

4) Support in crises and family disruption: This service focuses primarily on the parents' immediate response to acute crises and family disruption in the context of sessions that emphasize adaptation and coping.

5) Community referrals: A key concept of the EcoFIT model is that it is designed as a collaborative service that is adjusted from community to community. Therefore, referrals to services may vary depending on resources and cultural values.

Conclusion

Our approach to model building links the understanding of etiology with the design of effective intervention strategies. This process is iterative and builds on the collective knowledge of many research teams focused on understanding and preventing adolescent drug use and abuse (Dishion & Patterson, 1999). During the past 20 years, several empirically supported interventions have been developed to help communities reduce the prevalence of adolescent problem behavior and substance use and promote youth well-being (Biglan, Brennan, Foster, & Holder, 2004). The EcoFIT intervention strategy, described in this chapter, emerged from a small intervention experiment into a schoolwide intervention approach that can be broadly implemented and disseminated, with the hope of improving outcomes for youth in larger communities.

There are several ways in which evidence from the etiological and intervention studies discussed in this chapter supports a syndrome model of addictive behavior. First, the primary contextual factors predicting substance abuse problems are shared across substances. Consistent with the findings of other researchers, we find that youths who organize their lives around friends who use substances are those whose experimentation escalates to dependence and abuse in adulthood. Individual factors, such as self-regulation, also appear to serve a similar function across substances. For instance, we have found that weak self-regulation in adolescents uniquely and consistently accounts for progression of adolescent use to abuse of tobacco, alcohol, and marijuana. Finally, systematic changes to the family environment are linked with changes in risk for substance abuse. Implementing family-centered interventions that enhance the involvement of caregiving adults who discourage drug use and promote healthy development is a core strategy to reduce peer influence and drug use. By working within the family context, our family-centered intervention does indeed prevent escalations in tobacco, alcohol, and marijuana use, especially for the highest risk youth (Connell et al., 2007; Dishion et al., 2003).

Although the previously summarized research offers support for a syndrome perspective, impor-

tant questions require further exploration in order to clearly understand the progression toward substance dependence. A critical limitation to much of the research is general conceptualizations of variables, as well as group-level analyses. For one, it is important to acknowledge that correlation among symptoms does not necessarily imply similarity in function. For example, proactive and reactive aggressive behaviors are highly correlated (greater than .6) in children, yet a functional analysis of these behaviors suggests that each should be understood in its own right (Dishion & Patterson, 2006; Poulin & Boivin, 2000). With respect to early-onset drug use, developmental pathways of tobacco use, alcohol use, and marijuana use are both shared and unique when it comes to a variety of ecological factors, including peer relationships and friendships (Dishion, Capaldi, et al., 1999; Dishion & Owen, 2002). More specifically, tobacco use commonly emerges from a context in which youth are isolated in their peer networks (Ennett & Bauman, 1994), whereas alcohol use in early adolescence appears to be an outcome of positive peer relationships (Kreager, Rulison, & Moody, in press).

The psychopharmacology of each drug, and their combined use, has unique functional characteristics that must be understood individually. It may well be that some individuals move from experimental tobacco use to addictive use because of nicotine's enhancing effects on attention and self-regulation (Gardner, Dishion, & Posner, 2006). If this is true, then it will be important to understand how prevention and intervention efforts can address the proclivities of adolescents to progress from experimentation with particular substances to abusing them. To better comprehend these dynamics of use and abuse that may not fit the syndrome perspective, it is necessary to move from compiling yearly survey reports and instead collect two types of data. First, researchers need to gather information about weekly and monthly use patterns and model the ebb and flow of use with respect to changes in emotion and the environment over time (e.g., Dishion & Medici Skaggs, 2000; Larson & Richards, 1991). Second, researchers need to study drug use, abuse, and dependence by using multilevel strategies to examine genetic, neurocognitive, and psychophysiological reactions to specific substances in the context of environmental demands. As investigations are conducted with greater precision in measurement and conceptualization of these factors, and as they carefully consider the level of analysis, explore intervention strategies for specific patterns of substance abuse, and address the specific functions that substances serve, the field may move away from a syndrome model of addictive behavior. However, consistent with findings about common factors in contextual proclivities to substance dependence, a syndrome model of drug use and problem behavior may have an important role in the development of intervention programs and strategies for use at a more comprehensive level in communities of children and families.

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