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A School-Based, Family-Centered Intervention to Prevent Substance Use: The Family Check-Up

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Abstract

Background/Objectives—The Family Check-Up (FCU) is a selected intervention model that can be delivered in contexts such as schools that serve at-risk children and families. It is grounded in developmental theory and targets salient risk factors for the development of later problem behavior such as substance use, family management deficits, deviant peer affiliations, and problem behavior at school.

Methods—The FCU model has been implemented in schools across several randomized trials. The model includes the development of a family resource center in the schools and interventions that target youth at risk for problem behavior and substance use.

Results—Twenty years of research associated with the FCU have produced outcomes that show that the model is effective for enhancing family management skills, reducing risk behavior, and reducing the long-term risk for substance use in adolescence.

Conclusions and Scientific Significance—Implications for public policy and the delivery of interventions to prevent substance use in public schools and communities are discussed.

Keywords

Family intervention; prevention; schools; substance use

INTRODUCTION

The number of children who have mental health problems has been increasing in the past decade. Some reports suggest that the rate is as high as 1 in 5 children, yet only 20% of these children receive the services they need (1,2). Undeniably, mental health problems such as aggression, disruptive behavior, poor self-regulation, and peer rejection form the foundation of risk for later substance use and abuse (3–5). These early risk factors lead to a variety of proximal risk factors for substance use, such as school failure and associations with deviant peers. Family management skills mediate the link between distal or environmental risks and the risk of substance use in adolescence. Skills such as effective monitoring and limit setting decrease the risk of problem behavior, even in the context of early risk factors and environmental stress (6). This developmental model has guided our prevention model, which focuses on reducing the risk for substance use in early adolescence.

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Declaration of Interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the article.

It is clear from the literature on empirically based interventions for problem behavior that parent training and family-centered interventions are the most effective for reducing problem behavior and preventing the risks associated with substance use and abuse (7–9). We now realize that child-focused interventions, although successful at one level, do not address all the problems and can be strengthened by including parents and families (10,11). Unfortunately, family-centered approaches to intervention and school-based interventions have remained separate in practice. Schools are generally more comfortable adopting curricula that focus on providing services to groups of children and globally targeting problem behaviors such as aggression and social skills. These curricula, which are typically cognitive-behavioral and structured, provide children with many of the skills needed to succeed in the school context. Outcomes associated with these programs are strong, especially outcomes that are directly related to behavior at school (12). On the other hand, the clinical outcome literature clearly suggests that effective approaches to child mental health involve both a child and a family target (13). It is no surprise, then, that the majority of successful school-based cognitive-behavioral approaches to social skills training are enhanced when the parenting component is included in the curriculum (14, 15).

THE ADOLESCENT TRANSITIONS PROGRAM (ATP)

In the mid-1980s, we designed a model-based selected intervention for youth at high risk referred to as the Adolescent Transitions Program (ATP) (16). The ATP comprised two components at that time, both based on cognitive-behavior principles of intervention: (a) self-regulation skills delivered in the context of peer groups, and (b) family management skills delivered in the context of parent groups. Random assignment to the peer group interventions resulted in increases in problem behavior, despite the intervention's association with improved family interactions (17–19). A focus on family management was the most likely to reduce problem behavior (20). Parents who received the family management curriculum showed reductions in negative engagement and conflict with their youth (17).

The ATP family management curriculum used a 12-session group intervention with parents amenable to program delivery in school settings. However, our experience showed that when services were provided to families outside of a funded prevention trial, very few attended parent groups without the added benefit of payment for research (21). Thus, our intervention model evolved to one that is multilevel within the context of a school environment, with the universal (family resource center) and selected (Family Check-Up) interventions focused primarily on supporting parents of youth who are currently not showing signs of problem behavior and on engaging parents of youth who are at moderate to high risk (22). As we continued to work with the model, we developed a general framework: the ecological approach to family intervention and treatment (EcoFIT) (7). The current version of the ATP is an ecological intervention that includes multiple components such as our parenting curriculum and the Family Check-Up.

ECOFIT MODEL

The multilevel EcoFIT model for engaging and intervening with families explicitly integrates intervention targets (e.g., family management, self-regulation) with principles of behavior change (7,23). The intervention approach described in this article has three additional emphases that are unique in comparison with a social learning approach to family treatment (23). First, when using the EcoFIT model we tailor our interventions with children and families to fit their current family circumstances on the basis of FCU assessment results. Intervention targets for some families may simply be encouragement of skills (e.g., positive reinforcement), especially if the assessment had revealed that limit setting, parental monitoring, and communication are parenting strengths. We may tailor our approach to limit setting with families depending on the number of parents in the family, the physical context of the living situation, and the family's

sociocultural background. In this sense, the EcoFIT approach proposes a menu of empirically supported interventions with diverse venues of service delivery. Offering diverse, flexible services and service delivery options promotes parent engagement and motivation (22,24).

A second unique component of this approach is that it includes periodic and sometimes brief interventions during times of developmental and contextual transition (25). For example, the move to high school during adolescence is a time of social and emotional transition. The risk of drug use, problem behavior, and academic failure increases during this period, especially for culturally diverse youth (26,27). The optimal service settings for the delivery of EcoFIT are those that provide continual contact with a child and family throughout a specific period of development. Our school-based, family-centered model for intervention includes establishing a family resource center in the school itself. Our approach is similar to that used in a health maintenance model of mental health service delivery. Specifically, we propose that six to eight intervention contacts provided in contexts that are easily accessible to families can lead to relatively large effect sizes if delivered skillfully and strategically over the course of 2 to 3 years.

A third unique component of EcoFIT is that motivation to change is actively addressed at all stages of the intervention process. The FCU provides an assessment and addresses parents' motivation to change (24). During the intervention, we address motivation at several stages of the change process and focus specifically on issues of resistance. In addition, we provide brief, motivational support for families to reinforce persistence and maintenance of change.

FCU

The centerpiece of services available for families receiving the EcoFIT intervention is the FCU, whose design derives from Miller and Rollnick's (24) motivation-based Drinker's Check-Up. The FCU is an empirically validated intervention that has been used to effectively reduce the growth of problem behavior, enhance parenting skills, reduce family conflict, and reduce the growth of substance use in middle-school youth (7,28).

Briefly, the FCU involves three meetings with caregivers. The first meeting is an initial interview during which the practitioner facilitates the discussion about goals and concerns with parents and about their personal motivation for change. The second session involves a brief assessment packet given to the parent, child, and teacher and a videotaped family interaction assessment. The third meeting is a feedback session to discuss the results of the assessment in terms of (a) providing motivation to change, and (b) identifying the appropriate resources with respect to a menu of family-based intervention options. The feedback interview leans heavily on Miller and Rollnick's motivational interviewing techniques.

Cultural Sensitivity

A critical feature of the EcoFIT approach is the use of assessments to tailor and adapt interventions to the needs of youth and families who are clearly at risk. The cultural sensitivity of assessment measures is a growing area of concern in prevention science. Few research studies have directly tested cultural adaptation effects, and culturally validated measures of outcomes are also limited (29). The FCU is designed to reduce cultural bias in that it measures constructs such as acculturation and racial socialization that are relevant to various cultures and gives feedback to parents that is sensitive to cultural norms and the context of the family. For example, parents are asked directly about their experiences with discrimination in the community and at their child's school. Interventions are delivered accordingly, with sensitivity to cultural differences and experiences of the family in the school.

Intervention Menu

The EcoFIT approach is tailored and adaptive (30) in that the interventions that follow the FCU accommodate the assessed and expressed needs of the family. Adaptive intervention approaches take into account the risk factors of the sample and target the intervention on the basis of assessment and need (31). Unlike most parenting programs that have a set agenda (albeit a flexible delivery format), our approach allows a focus on a specific aspect of parenting.

The presumption underlying the provision of a menu of family intervention services is that offering a variety of family-centered interventions can be effective for reducing problem behavior. The indicated intervention menu typically includes three levels of intervention sessions (7). The first level provides motivation, support, and problem solving of relatively minor problems and adjustment issues. Following the FCU, many parents request only check-ins, which are follow-up telephone calls from the parent consultant.

Skill-building interventions, another type of indicated intervention, involve actively working with parents to improve their family management skills. The sessions closely follow the principles of parental management training (32), and they include guidance in positive reinforcement, setting limits, monitoring, problem solving, and communication. We conduct the sessions either individually with parents, as in behavioral family therapy, or we may work with parents in groups. We have found that a brief, targeted parenting intervention can produce changes in both self-reported parenting and observed parenting skills (33).

Outcomes

During the past 10 years, we have been engaged in randomized prevention trials (Project Alliance 1 and Project Alliance 2) in which half of the sixth grade population of three metropolitan middle schools was randomly assigned at the individual level to EcoFIT versus public middle school as usual. We have actively engaged 25% to 40% (Project Alliance 1 and 2, respectively) of the families in the FCU during two years of service across the three schools. We had contact with an additional 25% of the families but did not conduct an FCU with them. By and large, we found that the families at highest risk were the most likely to participate in the FCU. Connell, Dishion, and Deater-Deckard (34) found that single-parent families, those with students involved in a deviant peer group, and those rated by teachers as at high risk were the most likely to engage in the FCU.

During the course of the two years, parent consultant contact averaged 6 hours per family among families at highest risk. As one would expect, contact time decreased as a function of a student's risk level. Students at moderate risk engaged in approximately 3.5 hours of contact. Total contact with families at low risk averaged less than 1 hour. Contact included telephone calls and personal contact and was recorded by the parent consultants by the minute (28).

Our parent engagement outcomes confirm that each level of intervention was key to the process of actively engaging caregivers and their youth in various stages in the continuum of risk. The critical attention given to the ecological needs of families at each stage of intervention (e.g., conducting home visits, providing a tailored intervention menu) proved to be fundamental to parent engagement, which in turn reduced the long-term risk of their youth.

Intervention effects on parent engagement were also examined in an effectiveness trial of the EcoFIT model in another set of four public middle schools. In this study we also carefully counted the minutes of contact with students' parents. Parent consultants often devised creative means to engage parents. In one middle school, the parent consultant established a coffee cart for parents and met parents as they dropped off their middle school child and picked up coffee. This study found that the number of parent contacts in Grades 6, 7, and 8 was associated with reductions in growth in teacher ratings of risk (35).

Several reports have been published about intervention effects on substance use. The first results from Project Alliance 1 revealed that randomization to the Family Check-Up in sixth grade was associated with reductions in substance use (28) and depression (36). We found that for the youth at highest risk, reductions in drug use were mediated by changes in observed parental monitoring practices (37). We recently examined outcomes associated with Project Alliance 2 and found that the intervention significantly reduced the risk of antisocial behavior, tobacco use, marijuana use, and alcohol use from sixth to eighth grade (38).

Our analyses suggest that the most dramatic effects of EcoFIT are with sixth grade students who are most severely problematic and whose families are most in need of services (39). We used complier average causal effect (CACE) analysis (40) to incorporate the level of parents' engagement, or dosage, in the FCU in the evaluation of long-term outcomes. When using an intention to treat design in which a participant's outcome is analyzed and reported on the basis of the initial randomization regardless of whether or not he or she actually had the intended treatment, the outcomes up to age 17 are modest. However, if one considers the level at which a family was engaged in the intervention compared with that of control participants had they engaged in the FCU intervention, the effects are quite dramatic.

The challenge for 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. Similarly with an adaptive approach to intervention, the content or dosage of the intervention varies on the basis of the characteristics of the participants (41). For example, when we tested the EcoFIT intervention in public middle schools, 25% of the families in the randomized intervention 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, 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. CACE analyses is particularly useful for analyzing data from an adaptive intervention model such as the FCU, in which only certain families receive the most intense aspects of the treatment (31).

Two outcome studies on these findings, which are summarized in Table 1, reveal the outcomes for the four groups described in the previous paragraph, but with control and intervention participants who were classified as having declined aggregated into one group, because the findings were nearly identical. In our analysis of problem behavior, we found a marked reduction in the percentage of youth arrested in the "engager" group (15%) who actually received the FCU, compared with the control (100%). Thus, sixth grade students at high risk whose parents were in need of support were more than six times as likely to be arrested within the next 5 years if they were not offered the FCU. Similarly, they used marijuana five times more frequently during a 1-month period than did the intervention group. These findings were extended to marijuana and tobacco dependence by age 18 as well. These analyses revealed that random assignment to the EcoFIT intervention reliably reduced substance use, antisocial behavior, and the probability of arrest (39).

Table 1 also reveals that random assignment to the intervention resulted in a 60% 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. These results were also statistically reliable for days absent from school (42).

Another trend is particularly important to consider when inspecting Table 1. Although it is often said that only families that are at low or no risk will receive family-based services offered in the school, we did not find this to be the case. Our 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 child's long-term risk by supporting their use of positive behavior support strategies and coordinating with school staff in supporting student success.

SUMMARY

During the course of 20 years, our developmental and intervention trial research has evolved in an iterative fashion. The original ATP model has evolved into a general approach to family intervention that is applicable to children and families across the developmental spectrum. We recently found that random assignment to the Family Check-Up, for example, improved parenting and reduced problem behavior in early childhood (43–45). Our intervention model has improved by virtue of a data-driven, iterative approach in the following ways:

1. **Effectiveness:** We improved the effectiveness of the intervention approach by eliminating the peer aggregation component of the original model and designing the FCU. We now see significant intervention effects 4 years after the intervention and 7 years after the intervention using statistical analysis strategies that incorporate intervention engagement.
2. **Efficiency:** The current version of the intervention program requires approximately 6 hours of intervention time for the highest risk families. This brief model of intervention is consistent with the need to reduce the amount of time families spend in treatment and maximize results.
3. **Expense:** Because high-risk families tend to select themselves into the intervention, and because of the reduced number of sessions for even high-risk families, the intervention can now be affordably delivered in a public school context;
4. **Ethics:** Given the growing number of ethnically diverse children in the United States, it is unethical to provide family interventions with a mono-cultural bias. We have attempted to develop measurement and intervention protocols that are unbiased and respectful to a wide range of families. Our intervention model can be adapted to the population served, and it will be improved by research and practice with diverse families in the years to come.

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TABLE 1

Summary of outcomes applying EcoFIT to public middle schools

11th grade outcomes	Engagers (intervention)	Engagers (control)	Declined (all)
Percent arrested at least once	15	100	5
Frequency of marijuana use last month	1	5	.3
Days absent from school	13	32	12