
PPSI Compendium: Research Goals, Models, and Results



"Science with Practice"
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PPSI Compendium: Research Goals, Models, and Results

Table of Contents

1	Overview: Mission, Goals, Results, and Framework
2	Positive Impact on Youth, Families, and Communities
3	Evidence-Based Prevention Saves Money and Reduces Problem Behaviors
4	The PROSPER Partnership Network Model
5	Next Steps: Expanding the PROSPER Partnerships Network
6	Next Steps: Partnerships for Obesity Prevention
7	Honors, Recognitions, Accomplishments

Mission, Goals, Results, and Framework

The Iowa State University motto “science with practice” captures the central theme of PPSI—promoting the application and translation of intervention science into community practice to improve people's health and well-being.

Mission:

To conduct innovative research promoting capable and healthy youth, adults, families, and communities—through partnerships that integrate science with practice.

To establish a premier institute in prevention science with a unique niche in Extension-assisted, partnership-based research, oriented toward community-level impact.

Goals:

- To study the effects of evidence-based prevention, positive youth development, and health promotion interventions for youth, adults, families and communities;
- To examine factors influencing youth, adult, and family involvement in evidence-based prevention, positive youth development, and health promotion interventions and intervention research projects; and
- To evaluate the quality and sustainability of school-community-university partnership networks for widespread implementation of evidence-based prevention, positive youth development, and health promotion interventions.

Results—what we've found:*

Tested interventions are effective, based on **randomized, controlled studies**; we have found—

- Long-term reductions in substance use
- Long-term positive effects on school engagement and academic success
- Long-term conduct/behavior problem reduction
- Positive youth protective factor and skills-building outcomes
- Economic benefits (e.g., \$9.60 return on every dollar invested)

School-community-university partnerships are effective for **delivering evidence-based** interventions**; we demonstrate—

- Consistently high implementation quality
- Consistently high intervention recruitment and retention rates
- Sustainability of interventions
- Successfully implemented cultural adaptations

School-community-university partnerships are effective for **evaluating evidence-based interventions**; we show—

- High levels of school recruitment and retention across studies
- High sample quality across studies
- Successful longitudinal assessment of approximately 30,000 individuals
- Rigorous methods that support strong conclusions

* Funded by the National Institute on Drug Abuse, the National Institute of Alcohol Abuse and Alcoholism, the National Institute of Mental Health, and the Center for Substance Abuse Prevention.

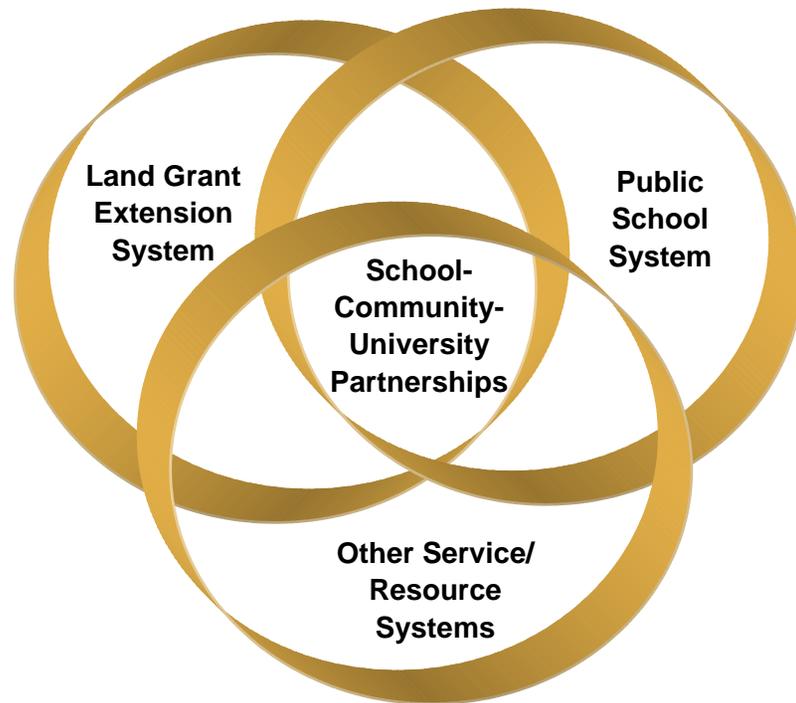
**See *Standards of Evidence* document at <www.preventionresearch.org>

IMPACT Framework for School-Community-University Partnership Network

Linking public education systems with other resource service systems to ensure sustainable interventions and outcomes

PPSI's **IMPACT** framework emphasizes the role of Land Grant University Extension agents in linking public school personnel—who aim to implement evidence-based programs for their students and families—with resources outside of the school to promote health and well-being among youth and families. Extension staff serve as linking agents like those described in Everett Rogers' *Diffusion of Innovation Model*. Our emphasis is on sustained, quality implementation of evidence-based interventions.

IMPACT Framework



Imbed intervention science in Land Grant Extension and public education dissemination systems, linked with other resource systems

Maintain systems-level support for science with practice *Partner* scientists with communities strategically, offering proactive technical assistance

Advance the intervention evidence-base

Conduct high quality implementation and participant engagement

Tailor toward sustainability of both partnerships and evidence-based interventions

Positive Impact on Youth, Families, and Communities

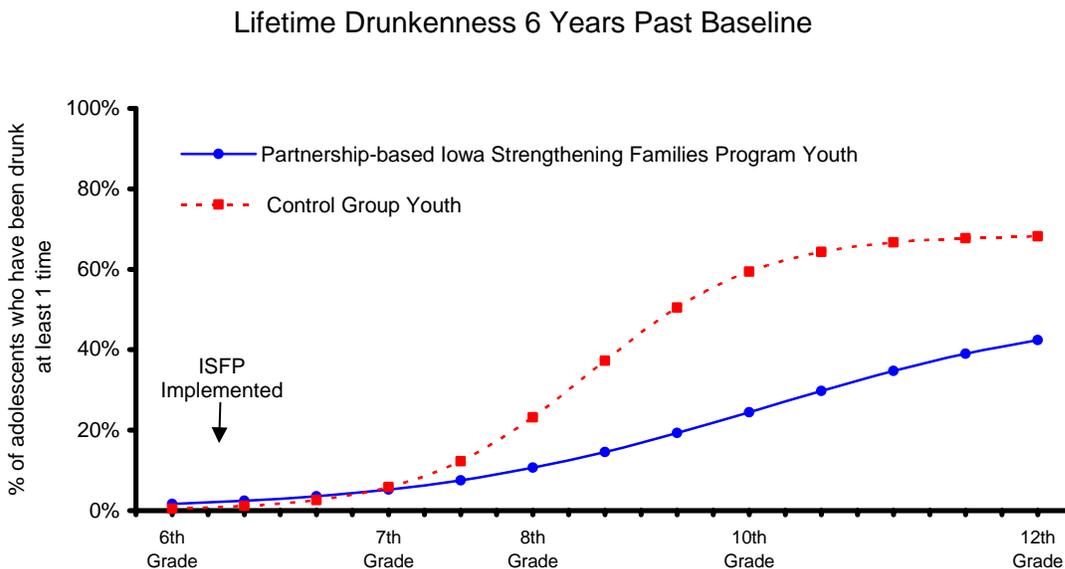
Example I: Youth Alcohol, Tobacco, and Marijuana Use at the Community Level*

Long-term Community-level Prevention Outcomes

As part of the PPSI mission to promote healthy youth and families through school-community-university partnerships, we have gathered substantial positive findings over 15 years from a number of studies. The school- and family-focused evidence-based interventions implemented have shown positive results on a range of alcohol, tobacco and marijuana use measures.

Evidence of intervention effectiveness, based on **randomized, controlled studies**, include:

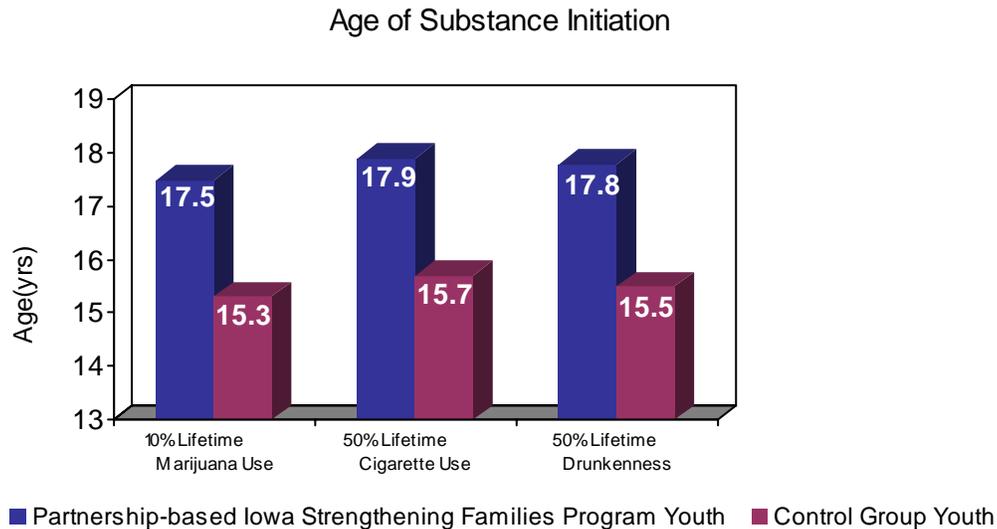
- **Delayed initiation: alcohol use, drunkenness, tobacco use, and marijuana use.** The graph below illustrates the delayed initiation of drunkenness for the Iowa Strengthening Families Program (ISFP), among adolescents from 6th grade through 12th grade. By 10th grade, around 60% of the control group report having been drunk at least once in their lifetime, compared to 25% of the intervention group.



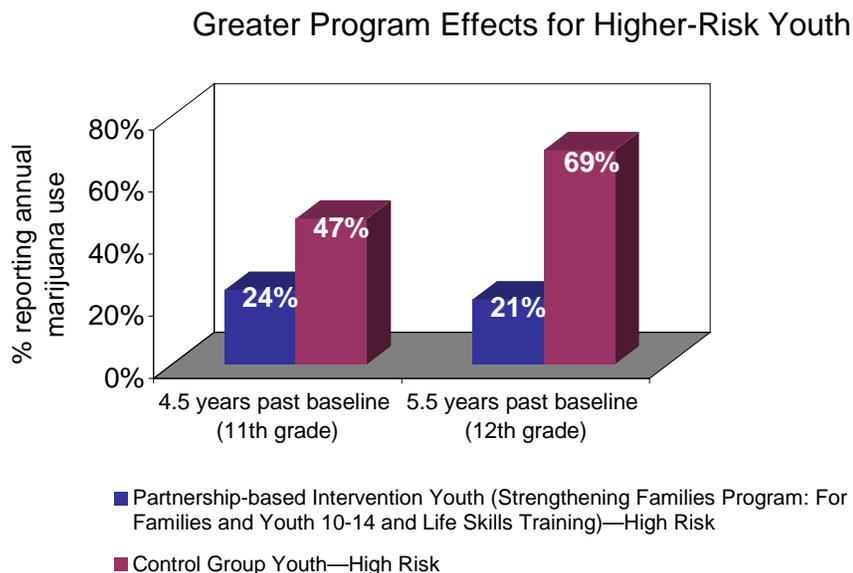
*Note: Funded by the National Institute on Drug Abuse, the National Institute of Alcohol Abuse and Alcoholism, and the National Institute of Mental Health. Articles and presentations reporting results are summarized at www.ppsi.iastate.edu

Example I: Youth Alcohol, Tobacco, and Marijuana Use at the Community Level

- The graph below illustrates that, when compared to the control group, youth in the intervention groups reached a specified level of use over 2 years later.

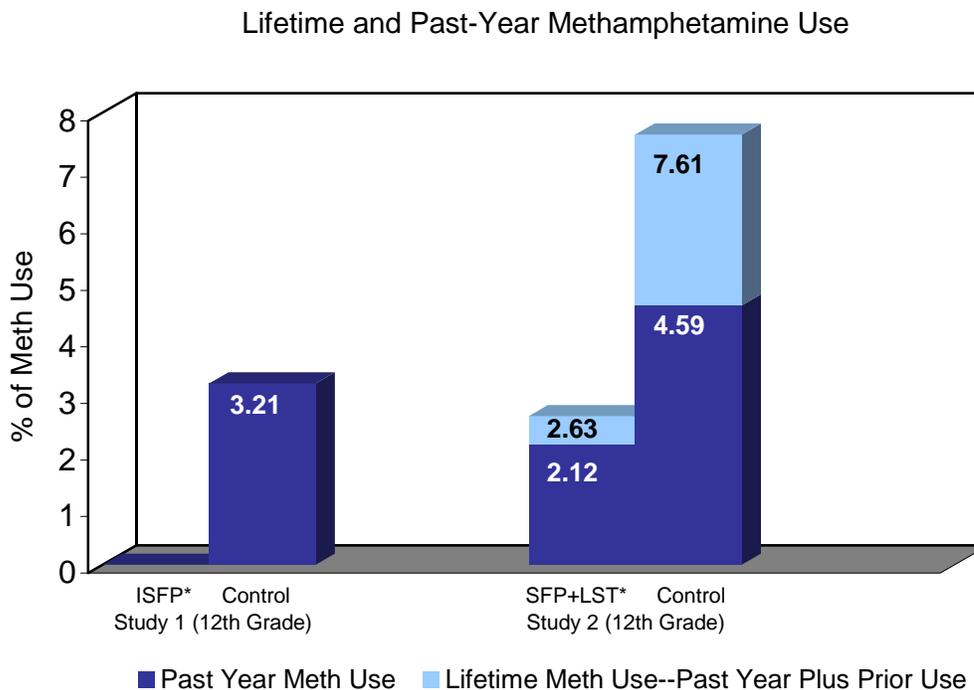


- To determine whether the interventions are effective for **higher-risk adolescents**, it is important to compare intervention effects for higher-risk adolescents with those for lower-risk adolescents. Typically, our interventions show comparable benefits for higher- and lower-risk subgroups. The graph below illustrates intervention effects on **annual marijuana use**. Higher risk is defined as having used two or more substances—alcohol, cigarettes, marijuana—prior to implementation of the interventions. In this study, higher-risk youth benefited more. Among higher-risk 12th graders, 69% of those in the control group reported using marijuana in the past year, compared to only 21% of the intervention group.



Example II: Youth Methamphetamine Use at the Community Level*

- Intervention effects on illicit substance use, such as **methamphetamines**, are important—especially with the increasing methamphetamine problem in rural areas. The following graph illustrates positive partnership-based intervention effects on methamphetamine use across two controlled studies.



*Note: ISFP is the Iowa Strengthening Families Program; SFP + LST is the Strengthening Families Program: For Parents and Youth 10-14 (revised ISFP) plus Life Skills Training.

- 12th Graders who participated in both the Life Skills Training program and Strengthening Families Program: For Parents and Youth 10-14 reported **65% less lifetime methamphetamine use** than youth who did not participate in the interventions.

*Source: Spoth, R., Clair, S., Shin, C., & Redmond, C. (2006). Long-term Effects of Universal Preventive Interventions on Methamphetamine Use Among Adolescents. *Archives of Pediatrics & Adolescent Medicine*.

Funded by the National Institute on Drug Abuse, the National Institute of Alcohol Abuse and Alcoholism, and the National Institute of Mental Health.

Example III: Youth and Family Mental Health at the Community Level*

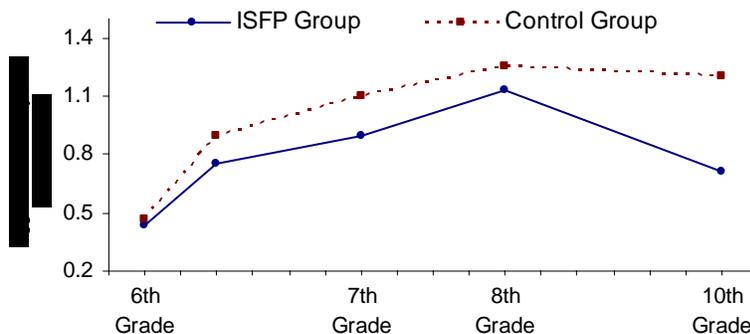
Long-term Community-level Prevention Outcomes

As part of the PPSI mission to promote healthy youth and families through school-community-university partnerships, over the past decade and a half we have collected substantial positive findings from a number of studies. The school- and family-focused evidence-based interventions (EBIs) implemented have primarily focused on reduction of substance- and conduct-related problems. However, benefits of EBI participation are broader, including positive effects on other mental health outcomes and mental health promotion.

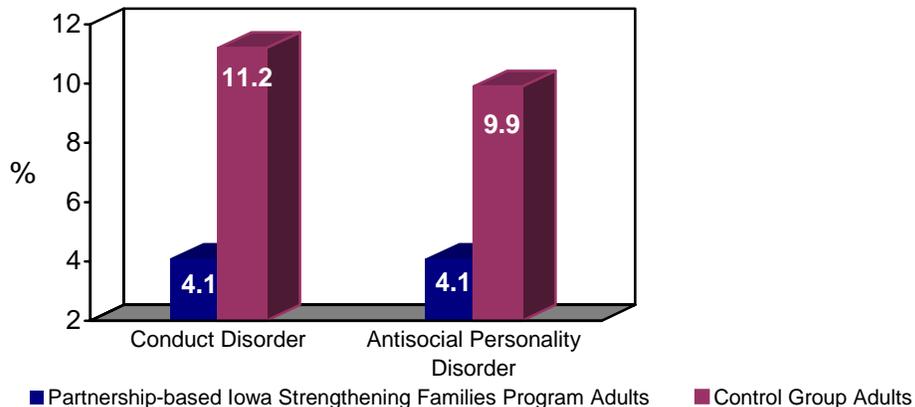
Evidence of effectiveness of the interventions, based on **randomized, controlled studies**, include:

- The long-term **reduction of conduct and behavior problems**, as reported by adolescents, parents, or trained observers. The graph below illustrates the EBI family-focused intervention effects on observer-rated aggressive and hostile behaviors. The second graph shows effects on diagnosable conduct-related disorders (i.e., Antisocial Personality Disorder). Control group young adults were over 2½ times more likely than intervention group young adults to have a diagnosable conduct disorder (11.2% vs. 4.1%).

Differences in Aggressive and Hostile Behaviors



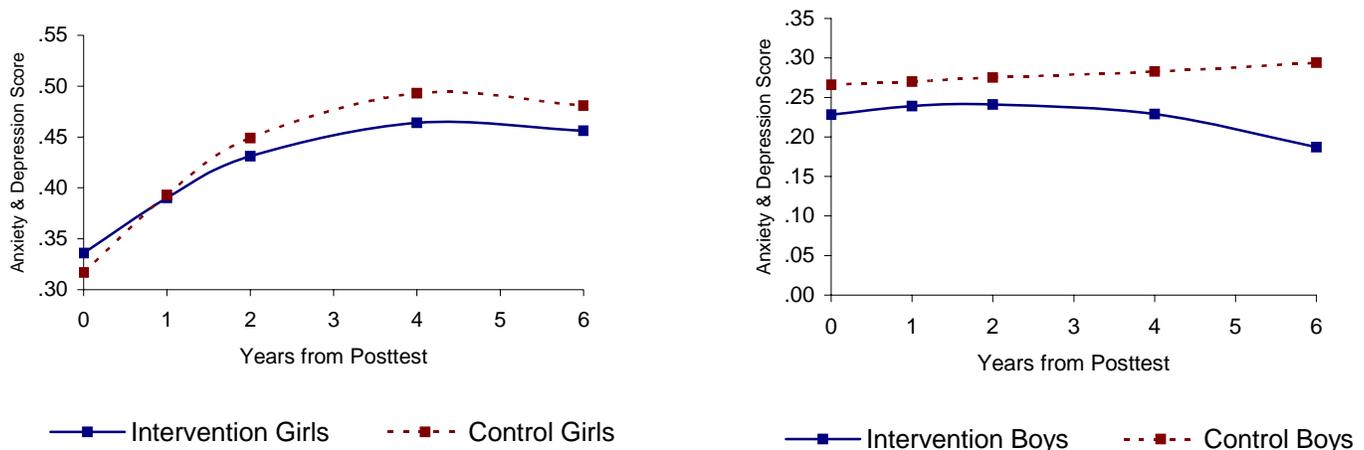
Differences in Diagnosable Disorders
10 Years Past Baseline



*Funded by the National Institute on Drug Abuse, the National Institute of Alcohol Abuse and Alcoholism, and the National Institute of Mental Health. Articles and presentations reporting results are summarized at www.ppsi.iastate.edu.

Example III: Youth and Family Mental Health at the Community Level

- Long-term **reduction of internalizing problems**, such as **anxiety and depression**. Although these problems are not specifically targeted evidence-based interventions, the interventions focus on some of the factors that predict both substance use and internalizing problems (e.g., parent-child relationship and adolescent skills). The graph below illustrates intervention effects on girls' anxiety and depression symptoms from 6th grade through 12th grade.



Positive Mental Health and Academic Outcomes

It is important to consider intervention effects on **positive mental health and academic outcomes**. The interventions enhance parent and adolescent skills; therefore, effects can be expected to generalize to positive mental health and academic outcomes. Some of those outcomes are described below.

- **Academic Success**

Findings from our randomized, controlled study suggest long-term, **positive effects of family skills training in 6th grade (ISFP) on student school engagement in 8th grade and academic success in 12th grade**. The partnership-based, family-focused 6th grade intervention significantly impacted student academic success (parent-reported grades) in 12th grade through:

- Enhanced positive parenting behavior effects on school engagement; and
- Reduced substance-related risk behavior effects on school engagement.

- **Positive Parent-Child Interactions**

Skills training acquired during the family-focused intervention began a sequence of effects by which **the parenting behaviors targeted directly by the intervention influenced the more global parenting practices of general child management and parent-child affective quality**. Significant public health benefits could accrue by widespread dissemination of the intervention to enhance effective parenting.

- **Marital Quality**

Results from a randomized, controlled study suggest **long-term, positive indirect effects of parent skills training on marital quality, through improved parenting skills**. These findings suggest that parents are not only using positive relationship skills with their children, but also are generalizing these positive relationship skills to their marital relationship.

Evidence-Based Prevention Saves Money and Reduces Problems

Alcohol-Related Disorder Costs

- 8.5% of all Americans currently have an alcohol disorder
- 18% of all Americans have an alcohol disorder at some point in their lives
- **\$148 billion** per annum cost to society (1992 figures)

Economic Analysis of Alcohol Use Prevention Programs

Iowa State University Study (www.ppsi.iastate.edu)

- Iowa Strengthening Families Program (ISFP)—estimated reduction of adult alcohol use disorder rates by 13%
- Preparing for the Drug Free Years (PDFY)—estimated reduction of adult alcohol use disorder rates by 6%
- **\$1** spent in implementing ISFP produces an estimated **\$9.60** in savings
- **\$1** spent on PDFY produces an estimated savings of **\$5.85**

These findings suggest that evidence-based interventions disseminated on a large scale have the potential to not only avoid negative outcomes for individuals and families, but also to achieve **substantial economic savings**.

Overall Cost Effectiveness

Washington State Institute for Public Policy Report (<http://www.wsipp.wa.gov/rptfiles/costbenefit.pdf>)

Does prevention pay?

Do investments in prevention avoid the costs associated with expensive cures?

The conclusion of the *Washington State Institute for Public Policy Report* is that some prevention and early intervention programs for youth are excellent investments. The report suggests investment in evidence-based prevention and early intervention programs. Whether funds are federal, state or local government, corporate or private—investing resources in proven, “blue chip” prevention stock is a fiscally-wise choice.

The Washington State Institute for Public Policy estimated the comparative costs and tax payer benefits for over 60 prevention programs. Iowa State University’s PROSPER project is successfully implementing several of the programs reviewed in the report. Each program shows a net savings per child and a positive return on investment:

	Project Alert	All Stars	Life Skills Training	Strengthening Families Program: For Parents and Youth 10-14
SAVINGS per child attending	\$54	\$120	\$717	\$5,805
RETURN on every \$1 invested	\$18.02	\$3.43	\$25.61	\$7.82

PROSPER

(**PRO**moting **S**chool-community-university **P**artnerships to **E**nhance **R**esilience)

Key Features of PROSPER

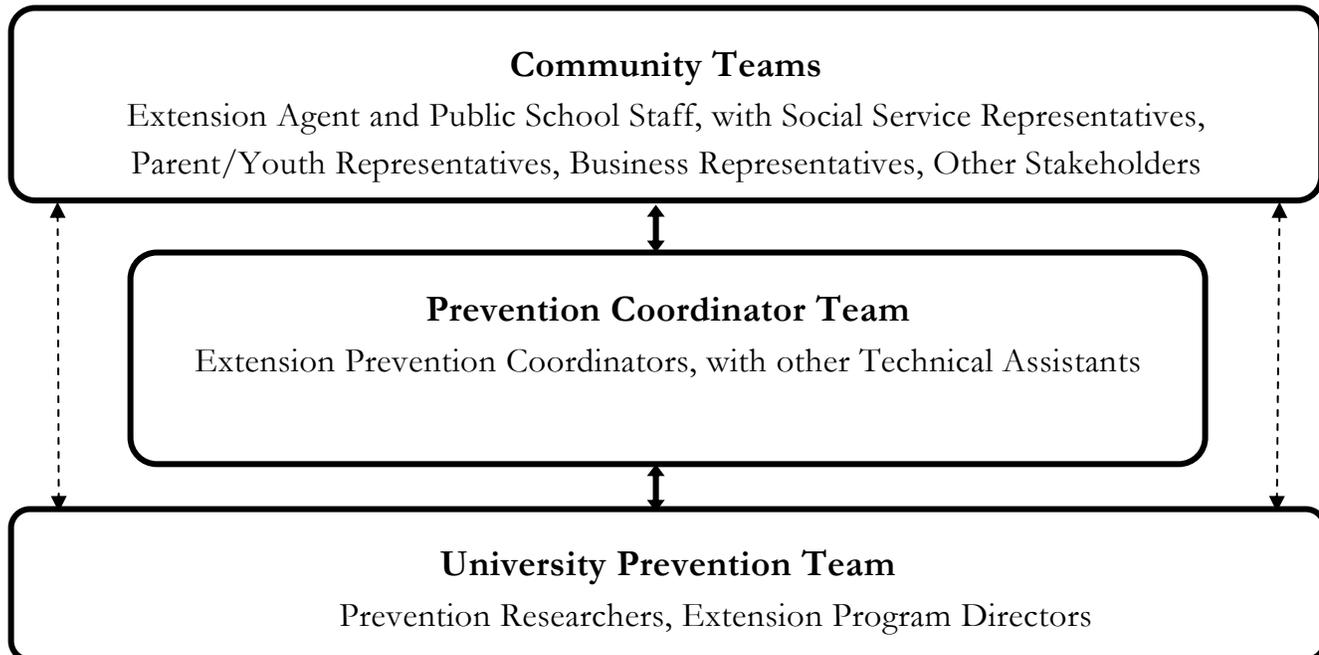
- The **purpose** of **PROSPER** is to cultivate **community-based leadership** for the widespread quality implementation and sustainability of evidence-based prevention and youth development programs.
- The **PROSPER** model is **unique**, utilizing existing and stable resources of **Land Grant University and Extension systems**, along with **Public School systems** to:
 - Help develop and maintain ongoing partnerships;
 - Conduct evidence-based interventions (EBIs) that have the greatest likelihood of producing favorable individual- and community-level outcomes;
 - Have the potential to reach **every community in the country**.
- The **result** is community teams that implement proven interventions, supported by:
 - Extension-based prevention coordinators and other technical assistants;
 - A university-based team of prevention researchers and Extension program directors.
- **PROSPER** centers on community **capacity building and sustainability**, so that selected interventions will continue to be implemented over time.
- **PROSPER** builds on an evidence-base of **substantial positive findings** from 15 years of scientific studies.
- **Evidence that PROSPER works** (see www.ppsi.iastate.edu for citations on published findings)
 - The project guided effective mobilization of community teams in 14 intervention communities, successfully progressing through the team developmental phases generating initial local funding and resources to sustain both the team structure and delivery of family- and school-based EBIs.
 - Teams achieved relatively high recruitment rates; findings on correlates of recruitment success confirmed the importance of ongoing technical assistance.
 - Intervention observations have shown very high levels of implementation quality across measures, types of interventions, and cohort.
 - Recent analyses demonstrate positive effects on proximal family processes expected to influence longer-term adolescent behavioral outcomes.
 - Compared to control communities, students receiving partnership-delivered EBIs scored significantly lower at the 18-month follow-up assessment on a number of behavioral outcomes, including drunkenness, marijuana use, meth use, and use of other illicit substances.
 - Compared to control communities, key informants in intervention communities have a significantly more positive perception of Cooperative Extension and of school leadership.

* Conducted in collaboration with the Prevention Research Center at Pennsylvania State University. Funded by the National Institute on Drug Abuse.

PROSPER

(**PRO**moting **S**chool-community-university **P**artnerships to **E**nhance **R**esilience)

PROSPER Organizational Structure



- **Community Teams**
 - Extension System staff serve as linking agents between public school system staff and service or resource systems (e.g., health and social service organizations) and other local community stakeholders, including parent groups and youth groups.
 - Compared to “big tent” community coalitions, these community teams are relatively small in size, and are designed with highly focused intervention goals.
- **Prevention Coordinator Team**
 - Includes prevention coordinators based in university outreach or Extension system.
 - Provides support to local team.
 - Provides ongoing, hands-on technical assistance, as well as documentation of ongoing partnership processes.
- **University Prevention Team**
 - Includes prevention researchers and Extension Program Directors.
 - Provides resources and support to both local and coordinating team.
 - Provides administrative oversight, offers input on data collection and analyses, and draft project reports.

Next Steps: Expanding the PROSPER Partnership Network

Why expand the PROSPER Partnership Network?

PROSPER Partnership Model Benefits Youth, Families and Communities

Community teams bring together members of the community to help accomplish a common goal in a scientifically-sound way. These teams have improved potential to collaborate on other challenges in their community. Benefits to-date include:

- Enhanced **child management** and **family cohesion**; based on earlier PPSI partnership studies, expected long-term outcomes include improved, long-term youth skills and problem behavior outcomes, plus positive cost-benefit ratios, for similar programs (for more on those and other findings, visit www.ppsi.iastate.edu).
- Early on, teams have been successful in **generating their own sustainability funds**, as part of a larger plan for generating long-term community buy-in and funding.
- **Youth participation** on **PROSPER** teams has:
 - Supported healthy youth development and engagement in community activities; and
 - Contributed to youth self-efficacy and mastery.
- Teams promote **greater parent involvement** with community schools.

What would it entail?

Scaling up the PROSPER Partnership Network

- A large number of states have expressed interest in adopting the **PROSPER** model. **Scaling up the partnership network requires:**
 - State-focused replication projects that bring **PROSPER** to new states—to address a range of youth development and problem-behaviors.
 - The development of infrastructure to support additional partnerships. **PPSI** (ISU) and the **Prevention Research Center** (PSU) will provide **informational materials, technical assistance, and a structure for partnership networking**.
- The infrastructure for a national network of partnerships—**PPRN (PROSPER Partnership Replications Network)**—would include closely-linked centers for information dissemination, technical assistance, and multi-site research.
- **PPRN** could next focus on other public health issues that can best be addressed through community partnership implemented evidence-based interventions.

Next Steps: Partnerships for Obesity Prevention

The Facts

- Rate of obesity among America's children has nearly quadrupled over the past four decades (from 4% in 1960 to over 15% in 2000).
- Obesity is associated with diabetes, cardiovascular disease, and some cancers.
- Obesity is estimated to be responsible for approximately 6% of health care costs.

The Challenge

- Causes of obesity include a wide range of factors including: the individual, the family, education, societal changes, occupational trends, business, media, marketing, and public policy.
- Stakeholders should consider multiple contexts (e.g., home, school, and community) when addressing obesity.
- Ultimately, decreasing obesity rates requires a comprehensive approach.

The Potential

- PPSI has experience in forming partnerships with numerous stakeholders at various levels of public education and government.
- PPSI is developing the PROSPER Partnership Replications Network (PPRN) – a partnership approach that could be tailored to the development and evaluation of obesity preventive interventions.
- PPRN will maximize use of existing infrastructures, including public education, the Land Grant University Extension system, and public health care system; it also will...
 - Build community teams that implement focused and evidence-based obesity prevention strategies for optimum benefit;
 - Facilitate the testing and development of evidence-based interventions;
 - Tailor prevention efforts to individual communities;
 - Build communities' capacity to implement and sustain obesity prevention efforts; and
 - Apply a "value added" approach, with obesity prevention strategies economically disseminated through routine interactions with the health care system, educators, social clubs, and organizations (e.g., 4-H).
- Formative research studies guiding the adaptation of the partnership model will be underway in Fall, 2006

Selected Recognitions, Honors, & Accomplishments for Institute Research Programs, Staff & Director

Recognitions & Honors

- **National Institute on Drug Abuse (NIDA)** MERIT Award for Outstanding Research (Capable Families and Youth Project), Project Family is one of ten featured in Preventing Drug Use Guide
- **White House** Invitation to Participate in First Lady's "Conference on Helping America's Youth"
- **Oxford University** "Highlighted" outcomes in Cochrane Systematic Review
- **Substance Abuse and Mental Health Services Administration** "Award for Program Excellence"
- **National Institutes of Health** "Programs That Work"
- **National 4H Program of Distinction Award for PROSPER and for Strengthening Families Program: For Parents and Youth 10-14**
- **U.S. Department of Justice/Office of Juvenile Justice and Delinquency Prevention** "Exemplary II Program"
- **U.S. Department of Education** "Exemplary Program"
- **Washington State Institute for Public Policy** Cost Effective Programs
- **Institute of Medicine** Founding member of Model Collaboration
- **F. Wendell Miller** Senior Prevention Scientist Endowment
- **Iowa State University/Regents Excellence Awards**
- **Ruben Hill Award** Co-authorship of outstanding research article in family journal
- **Milton S. McDowell Memorial Lectureship**

National Leadership & Professional/Policy Accomplishments

- **Society for Prevention Research**—Board of Directors
- **Annenberg Adolescent Mental Health Commission**—Member
- **U.S. House of Representatives**—Witness on Subcommittee on Educational Reform
- **Congressional Educational Briefing**
- **National Institute on Alcohol Abuse and Alcoholism**—Underage Drinking Initiative
- **National Institutes of Health**—Grant Reviews
- **National Institute on Drug Abuse** Panels
 - Evaluation of the State Incentive Grant Prevention System
 - National Prevention Initiative
 - Evaluation of National Youth Anti-Drug Media Campaign
 - Family and Health Services
 - Measurement Issues for Family Prevention
 - Parental Monitoring
 - Prevention through Family Interventions
- **US Department of Education Expert Panel**—Safe, Disciplined and Drug Free Schools
- **Center for Substance Abuse Panels**
 - Core Measures Initiative
 - Think Tank on Family-based Prevention
 - Family-centered Approaches to Prevention
- **National Institute of Mental Health Panel**—Rural Mental Disorder Prevention Services