

Principles of Substance Abuse Prevention for Early Childhood

A Research-Based Guide (In Brief)

Substance use, misuse, and addiction are preventable disorders that interfere with normal healthy functioning. They contribute to physical and behavioral health problems, injuries, lost income and productivity, and family problems. While most substance use begins in the teen years, there are known biological, psychological, social, and environmental factors that contribute to the risk, starting even before birth. This creates opportunities to intervene very early in a child's life to prevent substance use disorders and, along with them, a range of other related problems.

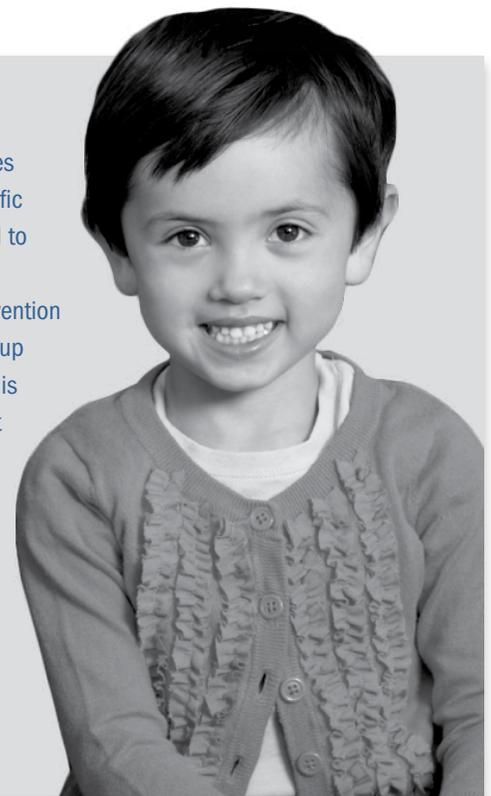
Principles of Substance Abuse Prevention in Early Childhood: A Research-Based Guide (In Brief) highlights seven evidence-based principles of prevention for use in the early years of a child's life (prenatal through age 8), developed from research funded in full or in part by the National Institute on Drug Abuse (NIDA). This guide also lists evidence-based prevention and intervention programs that work with different populations and age groups. More detailed information can be found in the original online-only publication on the NIDA website at www.drugabuse.gov/earlychildhood.

Principles of Substance Abuse Prevention for Early Childhood

PRINCIPLE 1 (*Overarching Principle*) **Intervening early in childhood can alter the life course trajectory in a positive direction.**^{1,2} Substance abuse and other problem behaviors that are seen in the teen years have their roots in developmental changes that occur earlier—as far back as before birth. While prevention can be effective at any age, it can have particularly strong effects when applied early in a child's life.

The following specific principles collectively provide support for Principle 1.

Evidence based refers to programs or principles developed using scientific methods and subjected to rigorous testing. Testing often includes an intervention group and a control group to ensure effectiveness is due to the program, not some other factor. Strategies that are not evidence based may seem to make sense but are not supported by data.



National Institute
on Drug Abuse

PRINCIPLE 2 Intervening early in childhood can both increase protective factors and reduce risk factors.^{3, 4}

Risk factors are qualities of children and their environments that place them at greater risk of behavioral problems and substance abuse. Protective factors are qualities that help young people cope and adapt to reduce risks. All children have a mix of both. Interventions focus on building protective factors.

PRINCIPLE 3 Intervening early in childhood can have positive long-term effects.^{5, 6} Early childhood interventions

help set the stage for positive self-regulation and other protective factors that ultimately reduce the risk of drug use.

PRINCIPLE 4 Intervening in early childhood can have effects on a wide array of behaviors.⁷⁻¹² Risk factors

for substance use may also put a child at risk for other problems such as mental illness or trouble at school. This is why intervening to prevent one undesirable outcome may have a broad effect, improving the child's life trajectory in multiple ways.

PRINCIPLE 5 Early childhood interventions can positively affect children's biological functioning.^{13, 14}

Research has shown that interventions in childhood can improve physical health as well as behavioral and psychological outcomes.

PRINCIPLE 6 Early childhood prevention interventions should target the proximal environments of the child.^{15, 16}

The family environment is the most influential environment in early child development, so parents and primary caregivers are a major focus of many early childhood interventions.^{17, 18} But as a child grows older, he or she typically spends more and more time out of the home, perhaps attending day care, then attending preschool followed by elementary school.^{7, 9, 10, 19, 20} Interventions targeting different age groups and different types of problems should focus on the most relevant context(s)—the home, school, day care, or a combination.

PRINCIPLE 7 Positively affecting a child's behavior through early intervention can elicit positive behaviors in adult caregivers and in other children, improving the overall social environment.^{21, 22} Behavioral changes in children and

the adults who interact with them can influence each other. Improving the child's family or school environment can, over time, cause the child's social behavior to become more positive and healthy (or pro-social). This, in turn, can lead to more positive interactions with others and improve the social environment as a result.

Research-Based Early Intervention Substance Abuse Prevention Programs

NIDA-supported research over the past 3 decades has led to evidence-based early intervention and substance abuse prevention programs that span the prenatal period, infancy and toddlerhood (0 to 3 years), preschool (ages 3 to 6), and the transition to elementary school (ages 6 to 8). The programs listed in this section are arranged by developmental period. Within each age range, programs are presented according to level of prevention—universal, selective, and tiered.

More detailed information on each of these programs can be found in the original publication on the NIDA website at www.drugabuse.gov/earlychildhood.

Universal: for everyone in the population regardless of risk—for example, all children in a preschool or first-grade classroom or all children in a community.

Selective: for groups of children who are at risk due to some factor they have in common—for example, children with behavior problems or those living in a high poverty or crime area or in foster care.

Tiered: targets more than one level of risk—for example, a universal intervention that also screens for more severe problems and risks and provides additional services for those in need.

NIDA-Funded Early Interventions

Prenatal/Infancy and Toddlerhood

UNIVERSAL PROGRAMS	DESCRIPTION	TARGET POPULATION	CONTEXT
Durham Connects ²³ www.childandfamilypolicy.duke.edu	Postnatal nurse home-visiting program	<ul style="list-style-type: none"> • Mother • Father (when possible) • Child 	<ul style="list-style-type: none"> • Family

SELECTIVE PROGRAMS	DESCRIPTION	TARGET POPULATION	CONTEXT
Early Steps, Family Check Up ⁶	Supports families with young children (ages 2 through 5) who may have stress due to income or other family issues	<ul style="list-style-type: none"> • Mother • Child 	<ul style="list-style-type: none"> • Family
Family Spirit ²⁴ www.jhsph.edu/caih	Prenatal and early childhood (up to age 3) home visitation for American Indian teen mothers and their children	<ul style="list-style-type: none"> • Mother • Child 	<ul style="list-style-type: none"> • Family
Nurse Family Partnership ²⁵ www.nursefamilypartnership.org	Prenatal and infancy home visitation program for young first-time mothers from low socio-economic backgrounds and their children through age 2	<ul style="list-style-type: none"> • Mother • Father (when possible) • Child 	<ul style="list-style-type: none"> • Family

Preschool

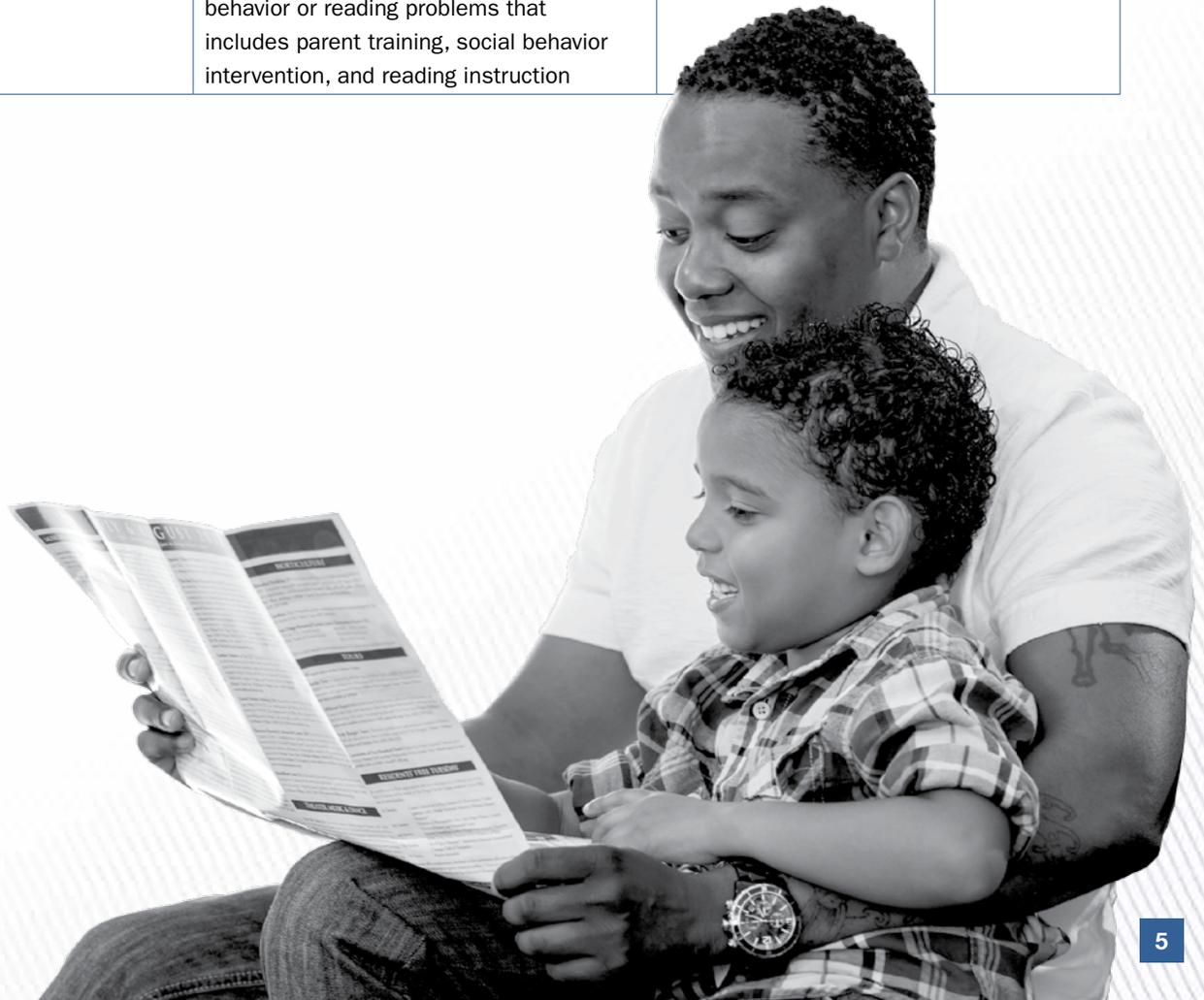
SELECTIVE PROGRAMS	DESCRIPTION	TARGET POPULATION	CONTEXT
Multidimensional Treatment Foster Care for Preschoolers ²⁶ www.oslc.org www.oslccp.org	Parenting training and access to resources for foster parents and therapy for 3- to 6-year-old children in foster care who are referred from the child welfare system by their caseworkers	<ul style="list-style-type: none"> • Foster family • Child 	<ul style="list-style-type: none"> • Family • School

Transition to Elementary School

UNIVERSAL PROGRAMS	DESCRIPTION	TARGET POPULATION	CONTEXT
Caring School Community Program ²⁷ <i>www.devstu.org</i>	Family and school intervention for children making the transition to elementary school to strengthen students' "sense of community"	<ul style="list-style-type: none"> • School • Teacher • Family • Child 	<ul style="list-style-type: none"> • School • Family
Classroom-Centered Intervention ²⁸ <i>www.jhsph.edu/prevention</i>	Multi-component, first-grade intervention that enhances teachers' behavior management and instructional skills through the "Good Behavior Game" and provides enhanced reading and math curricula	<ul style="list-style-type: none"> • Classroom • Child 	<ul style="list-style-type: none"> • School
Linking the Interests of Families and Teachers ²⁹ <i>www.partnersforourchildren.org</i>	Multi-component intervention for students in the 1st and 5th grades in schools in districts with high levels of juvenile delinquency to improve school and family environments while reinforcing stronger links between the two	<ul style="list-style-type: none"> • Classroom • Child • Family 	<ul style="list-style-type: none"> • School • Family
Raising Healthy Children ⁴ <i>www.sdr.org</i>	School- and home-based intervention targeting children in grades 1 through 12 with teacher education, parent workshops, and child programs along with support	<ul style="list-style-type: none"> • Family • Child • Classroom 	<ul style="list-style-type: none"> • School • Family
SAFEChildren ¹⁵ <i>www.curry.virginia.edu/youth-nex</i>	Intervention developed specifically for 1st graders from urban, disadvantaged, or low-income neighborhoods that includes multi-family meetings and tutoring in school	<ul style="list-style-type: none"> • Family • Child 	<ul style="list-style-type: none"> • School • Family
Seattle Social Development Project ¹⁰ <i>www.ssdp-tip.org/SSDP/index.html</i>	Intervention for elementary school children that includes parenting classes, including drug abuse prevention, and teacher training to improve students' academic performance and social skills	<ul style="list-style-type: none"> • School • Parent/Family • Child 	<ul style="list-style-type: none"> • School • Family

SELECTIVE PROGRAMS	DESCRIPTION	TARGET POPULATION	CONTEXT
Early Risers "Skills for Success" Risk Prevention Program ³⁰	Intervention for elementary school-aged children ages 6 to 10 at higher risk for serious conduct problems based on risk factors such as exposure to stressful life experiences and/or early aggressive and disruptive behaviors	<ul style="list-style-type: none"> • Parent • Child 	<ul style="list-style-type: none"> • School • Family
Kids in Transition to School ³¹ <i>www.oslc.org</i>	Designed for children in the foster care system as they enter school by giving caregivers skills for helping with the transition and becoming involved in the child's schooling, including therapy, and support groups	<ul style="list-style-type: none"> • Child 	<ul style="list-style-type: none"> • School

TIERED PROGRAMS	DESCRIPTION	TARGET POPULATION	CONTEXT
Fast Track Prevention Trial for Conduct Problems ³² www.fasttrackproject.org www.channing-bete.com www.episcenter.psu.edu/ebp/altthinking www.pathstraining.com	Comprehensive intervention delivered in grades 1 through 10 including a universal program for all students and selective interventions for high-risk children showing aggression at home and school, as assessed in kindergarten	<ul style="list-style-type: none"> • Family • School • Classroom • Child 	<ul style="list-style-type: none"> • School • Family • Community
Incredible Years ¹⁶ www.incredibleyears.com	Multi-component prevention and treatment intervention for use in day care, preschool (2 to 5 years), and early primary grades (6 to 8 years)	<ul style="list-style-type: none"> • Family • Child • Classroom 	<ul style="list-style-type: none"> • School • Family
Positive Action ³³ www.positiveaction.net	Multi-component, school-based, social-emotional and character development program that includes programs for the classroom, school, families, and the community	<ul style="list-style-type: none"> • Family • School • Classroom • Child 	<ul style="list-style-type: none"> • School
Schools and Homes in Partnership ³⁴ www.ori.org	Intervention for children in kindergarten through 3rd grade who have aggressive behavior or reading problems that includes parent training, social behavior intervention, and reading instruction	<ul style="list-style-type: none"> • Parent • Child 	<ul style="list-style-type: none"> • School • Family



Selected References

1. Kellam SG, Brown CH, Poduska JM, et al. Effects of a universal classroom behavior management program in first and second grades on young adult behavioral, psychiatric, and social outcomes. *Drug Alcohol Depend.* 2008;95 Suppl 1:S5-S28. doi:10.1016/j.drugalcdep.2008.01.004.
2. Kitzman HJ, Olds DL, Cole RE, et al. Enduring effects of prenatal and infancy home visiting by nurses on children: follow-up of a randomized trial among children at age 12 years. *Arch Pediatr Adolesc Med.* 2010;164(5):412-418. doi:10.1001/archpediatrics.2010.76.
3. August GJ, Lee SS, Bloomquist ML, Realmuto GM, Hektner JM. Dissemination of an evidence-based prevention innovation for aggressive children living in culturally diverse, urban neighborhoods: the Early Risers effectiveness study. *Prev Sci Off J Soc Prev Res.* 2003;4(4):271-286.
4. Catalano RF, Mazza JJ, Harachi TW, Abbott RD, Haggerty KP, Fleming CB. Raising healthy children through enhancing social development in elementary school: Results after 1.5 years. *J Sch Psychol.* 2003;41(2):143-164. doi:10.1016/S0022-4405(03)00031-1.
5. DeGarmo DS, Eddy JM, Reid JB, Fetrow RA. Evaluating mediators of the impact of the Linking the Interests of Families and Teachers (LIFT) multimodal preventive intervention on substance use initiation and growth across adolescence. *Prev Sci Off J Soc Prev Res.* 2009;10(3):208-220. doi:10.1007/s11121-009-0126-0.
6. Shaw DS, Dishion TJ, Supplee L, Gardner F, Arnds K. Randomized trial of a family-centered approach to the prevention of early conduct problems: 2-year effects of the family check-up in early childhood. *J Consult Clin Psychol.* 2006;74(1):1-9. doi:10.1037/0022-006X.74.1.1.
7. Beets MW, Flay BR, Vuchinich S, et al. Use of a social and character development program to prevent substance use, violent behaviors, and sexual activity among elementary-school students in Hawaii. *Am J Public Health.* 2009;99(8):1438-1445. doi:10.2105/AJPH.2008.142919.
8. Hawkins JD, Kosterman R, Catalano RF, Hill KG, Abbott RD. Effects of social development intervention in childhood 15 years later. *Arch Pediatr Adolesc Med.* 2008;162(12):1133-1141. doi:10.1001/archpedi.162.12.1133.
9. Snyder F, Vuchinich S, Acock A, Washburn I, Beets M, Li K-K. Impact of the Positive Action program on school-level indicators of academic achievement, absenteeism, and disciplinary outcomes: A matched-pair, cluster randomized, controlled trial. *J Res Educ Eff.* 2010;3(1):26-55. doi:10.1080/19345740903353436.
10. Hawkins JD, Catalano RF, Kosterman R, Abbott R, Hill KG. Preventing adolescent health-risk behaviors by strengthening protection during childhood. *Arch Pediatr Adolesc Med.* 1999;153(3):226-234.
11. Kellam SG, Wang W, Mackenzie ACL, et al. The impact of the Good Behavior Game, a universal classroom-based preventive intervention in first and second grades, on high-risk sexual behaviors and drug abuse and dependence disorders into young adulthood. *Prev Sci Off J Soc Prev Res.* 2014;15 Suppl 1:S6-S18. doi:10.1007/s11121-012-0296-z.
12. Lonczak HS, Abbott RD, Hawkins JD, Kosterman R, Catalano RF. Effects of the Seattle social development project on sexual behavior, pregnancy, birth, and sexually transmitted disease outcomes by age 21 years. *Arch Pediatr Adolesc Med.* 2002;156(5):438-447.
13. Bruce J, McDermott JM, Fisher PA, Fox NA. Using behavioral and electrophysiological measures to assess the effects of a preventive intervention: a preliminary study with preschool-aged foster children. *Prev Sci Off J Soc Prev Res.* 2009;10(2):129-140. doi:10.1007/s11121-008-0115-8.
14. Fisher PA, Stoolmiller M, Gunnar MR, Burraston BO. Effects of a therapeutic intervention for foster preschoolers on diurnal cortisol activity. *Psychoneuroendocrinology.* 2007;32(8-10):892-905. doi:10.1016/j.psyneuen.2007.06.008.
15. Tolan P, Gorman-Smith D, Henry D. Supporting families in a high-risk setting: proximal effects of the SAFEChildren preventive intervention. *J Consult Clin Psychol.* 2004;72(5):855-869. doi:10.1037/0022-006X.72.5.855.
16. Webster-Stratton C, Jamila Reid M, Stoolmiller M. Preventing conduct problems and improving school readiness: evaluation of the Incredible Years Teacher and Child Training Programs in high-risk schools. *J Child Psychol Psychiatry.* 2008;49(5):471-488. doi:10.1111/j.1469-7610.2007.01861.x.
17. Dishion TJ, Shaw D, Connell A, Gardner F, Weaver C, Wilson M. The family check-up with high-risk indigent families: preventing problem behavior by increasing parents' positive behavior support in early childhood. *Child Dev.* 2008;79(5):1395-1414. doi:10.1111/j.1467-8624.2008.01195.x.
18. Fisher PA, Stoolmiller M, Mannering AM, Takahashi A, Chamberlain P. Foster placement disruptions associated with problem behavior: mitigating a threshold effect. *J Consult Clin Psychol.* 2011;79(4):481-487. doi:10.1037/a0024313.
19. Conduct Problems Prevention Research Group. Initial impact of the Fast Track prevention trial for conduct problems: II. Classroom effects. *J Consult Clin Psychol.* 1999;67(5):648-657.

20. Ialongo NS, Werthamer L, Kellam SG, Brown CH, Wang S, Lin Y. Proximal impact of two first-grade preventive interventions on the early risk behaviors for later substance abuse, depression, and antisocial behavior. *Am J Community Psychol.* 1999;27(5):599-641.
21. Fisher PA, Stoolmiller M. Intervention effects on foster parent stress: associations with child cortisol levels. *Dev Psychopathol.* 2008;20(3):1003-1021. doi:10.1017/S0954579408000473.
22. Shaw DS, Connell A, Dishion TJ, Wilson MN, Gardner F. Improvements in maternal depression as a mediator of intervention effects on early childhood problem behavior. *Dev Psychopathol.* 2009;21(2):417-439. doi:10.1017/S0954579409000236.
23. Dodge KA, Goodman WB, Murphy R, O'Donnell K, Sato J. Toward Population Impact from Home Visiting. *Zero Three.* 2013;33(3):17-23.
24. Mullany B, Barlow A, Neault N, et al. The Family Spirit trial for American Indian teen mothers and their children: CBPR rationale, design, methods and baseline characteristics. *Prev Sci Off J Soc Prev Res.* 2012;13(5):504-518. doi:10.1007/s11121-012-0277-2.
25. Olds DL. Prenatal and infancy home visiting by nurses: from randomized trials to community replication. *Prev Sci Off J Soc Prev Res.* 2002;3(3):153-172.
26. Fisher, PA, Chamberlain, P. Multidimensional treatment foster care: a program for intensive parent training, family support, and skill building. *J Emot Behav Disord.* 2000;8:155-164.
27. Battistich V, Solomon D, Watson M, Schaps E. Caring school communities. *Educ Psychol.* 1997;32(3):137-151. doi:10.1207/s15326985ep3203_1.
28. Kellam S, Rebok G. Building developmental and etiological theory through epidemiologically based preventive intervention trials. In: McCord J, Tremblay R, eds. *Preventing Antisocial Behavior: Interventions from Birth through Adolescence.* New York, NY: Guilford Press; 1992:162-195.
29. Reid JB, Eddy JM, Fetrow RA, Stoolmiller M. Description and immediate impacts of a preventive intervention for conduct problems. *Am J Community Psychol.* 1999;27(4):483-517.
30. August GJ, Realmuto GM, Hektner JM, Bloomquist ML. An integrated components preventive intervention for aggressive elementary school children: the early risers program. *J Consult Clin Psychol.* 2001;69(4):614-626.
31. Pears K, Fisher P, Heywood C, Bronz K. Promoting school readiness in foster children. In: Saracho O, Spodek B, eds. *Contemporary Perspectives on Social Learning in Early Childhood Education.* Charlotte, NC: Information Age Publishing; 2007.
32. Conduct Problems Prevention Research Group. Merging universal and indicated prevention programs: the Fast Track model. Conduct Problems Prevention Research Group. *Addict Behav.* 2000;25(6):913-927.
33. Flay BR, Allred CG, Ordway N. Effects of the Positive Action program on achievement and discipline: two matched-control comparisons. *Prev Sci Off J Soc Prev Res.* 2001;2(2):71-89.
34. Barrera M, Biglan A, Taylor TK, et al. Early elementary school intervention to reduce conduct problems: a randomized trial with Hispanic and non-Hispanic children. *Prev Sci Off J Soc Prev Res.* 2002;3(2):83-94.



National Institute
on Drug Abuse

NIH Publication No. 16-DA-8027

Printed September 2016

This publication is available for your use and may be reproduced **in its entirety** without permission from NIDA. Citation of the source is appreciated, using the following language: Source: National Institute on Drug Abuse; National Institutes of Health; U.S. Department of Health and Human Services.