



Botvin *LifeSkills* Training Program Positive Educational Outcomes

- ✦ Botvin’s **LifeSkills Training (LST) Middle School Program** and **LifeSkills Training (LST) High School Program** are substance abuse and violence prevention programs implemented with youth through classroom instruction. These universal prevention programs incorporate age-appropriate and culturally relevant information, facilitated discussion, and structured activities. Using these techniques and well-packaged program materials, instructors teach personal self-management skills, social skills, and general refusal skills to equip adolescents with the knowledge and skills to develop healthy attitudes and behaviors.
- ✦ LST was developed by Dr. Gilbert J. Botvin, Professor of Public Health and Psychiatry and Director of Cornell University’s Institute for Prevention Research.
- ✦ In addition to helping youth resist drug, alcohol, and tobacco use, LifeSkills Training has been shown to help reduce violence and other high-risk behaviors.
- ✦ Although LST has not been evaluated specifically in terms of academic outcomes, objectives and components comprising LST have been linked in other research to positive educational outcomes.
- ✦ This document presents connections between research findings and corresponding LST components. The LST Middle School program was the first LST curriculum developed by Dr. Botvin in 1979; therefore, the majority of research findings on LST, including those presented in the right column below, are based on rigorous evaluations of the Middle School program. The LST High School program, developed in 2009, is based upon the same theories, concepts, and methodologies as the LST Middle School program.

DRUG USE AND SCHOOL ATTENDANCE / ACADEMIC ACHIEVEMENT

Research Findings	Corresponding LST Components
<ul style="list-style-type: none"> • Years of completed schooling predicts important long-term social and economic outcomes, including differences in wage earnings based on education level attained (the “education premium”).^{1,32} • Reductions in frequency of alcohol, stimulants, and other drug use, and the elimination of marijuana use, each independently increase the likelihood of school attendance. Additionally, earlier age of first substance use and higher scores obtained on an index of anxiety each predict lower school attendance. Results suggest that effective adolescent substance use programs may have positive effects on school attendance as well as social and economic benefits that accompany school attainment. These findings have important implications for the cost-effectiveness of adolescent substance use intervention programs.² • There is a negative relationship between specific health-risk behaviors – including tobacco use, alcohol and other drug use, violence-related behaviors, and sexual risk behaviors – and academic achievement in high school.³ 	<ul style="list-style-type: none"> • The <i>Drug-Related Information and Skills</i> component of LST targets youth substance use directly through increasing students’ information about consequences of drug use, normative levels of use, declining social acceptability of use, physiological effects, and media pressures to use. The program also teaches students substance use resistance skills. LST incorporates specific lessons and activities to help students with anxiety reduction and stress management, which may in turn impact school attendance. • Results consistently show that LST can significantly cut adolescent tobacco, alcohol, and marijuana use initiation;⁴ reduce smoking, drinking, drunkenness, inhalant use, and polydrug use;⁵ and prevent cigarette smoking, marijuana use, and immoderate alcohol use.⁶ • Research demonstrates a link between LST participation, reduction in growth of alcohol and marijuana intoxication, and, in turn, reduction in later HIV risk behavior.⁷ • Research has shown that LST can be effective in reducing violence and delinquency in adolescence.⁸ • In addition to reducing substance use, LST can have a direct, positive effect on the cognitive, attitudinal, and personality factors thought to play a part in substance use among adolescents.⁹

SUCCESSFUL TRANSITION TO HIGH SCHOOL

Research Findings	Corresponding LST Components
<ul style="list-style-type: none"> The transition to high school may be a challenge for students, both academically and socially. Healthy strategies for coping with problems, planning skills, and problem-solving skills are among the factors identified as instrumental in students making a successful transition from middle school to high school. Researchers recommend that middle schools foster these skills by providing students with opportunities to improve life skills, by coaching and discussion to learn coping skills, and via programs designed to strengthen social skills.¹⁰ 	<ul style="list-style-type: none"> The LST Middle School Program is implemented in middle school/junior high, in the years immediately preceding the transition to high school. <i>The Personal Self-Management Skills</i> component of LST fosters the development of problem-solving skills through facilitated discussion and structured classroom activities, including brainstorming problem situations, generating alternatives and evaluating consequences, considering factors influencing decision-making, goal-setting, and learning and applying principles of personal behavior change.

SOCIAL SKILLS

Research Findings	Corresponding LST Components
<ul style="list-style-type: none"> Social and emotional learning (SEL) behaviors can strongly impact success in school, and ultimately, in life. Learning is a social process, and it is important for schools to attend to SEL factors that play a critical role in education. SEL education from this perspective involves “teaching children to be self-aware, socially cognizant, able to make responsible decisions, and competent in self-management and relationship-management skills so as to foster their academic success” (p. 195).¹¹ A review of intervention programs indicates that programs successful with adolescents at risk for substance abuse, unintended pregnancy, delinquency, and school dropout have in common, among other features, a social skills training component and engagement of peers in the interventions.^{12, 33} A reciprocal relationship between social competence and academic achievement in elementary school indicates that positive social behaviors are related to later academic competence over time.¹³ Interventions incorporating developmentally appropriate social competence training for children, parent skills training, and in-service training for teachers results in reductions in violent delinquent acts, heavy drinking, sexual intercourse, having multiple sex partners, pregnancy, and school misbehavior and increases in commitment and attachment to school and academic achievement.¹⁴ Positive preventive behavioral interventions and enhancing students’ skills in self-management are two factors identified as instrumental in preventing antisocial behavior.¹⁵ 	<ul style="list-style-type: none"> The <i>Social Skills</i> component of LST is designed to impact several important social skills and enhance social competence. This component incorporates facilitated discussion, structured activities, and behavioral rehearsal. Program material emphasizes teaching: 1) communication skills; 2) general social skills; 3) skills related to close relationships; and 4) verbal and nonverbal assertiveness. Social Skills units teach and provide practice in making social contacts, giving and receiving compliments and other feedback, effective listening, being persistent, having self-awareness, feelings toward others, communication, conversation, and creative thinking. Communication units teach youth how to communicate effectively by using verbal and non-verbal communication, techniques for avoiding misunderstandings, clarifying, asking questions, paraphrasing, and being specific. Assertiveness units emphasize reflecting on actions taken, types of responses, consequences, decision-making, awareness of persuasive tactics, repertoire of refusal responses, verbal and non-verbal assertiveness, self-respect, planning, and goal setting. LST has been demonstrated to increase interpersonal skills and communication skills in adolescents.¹⁶

PERSONAL SELF-MANAGEMENT SKILLS

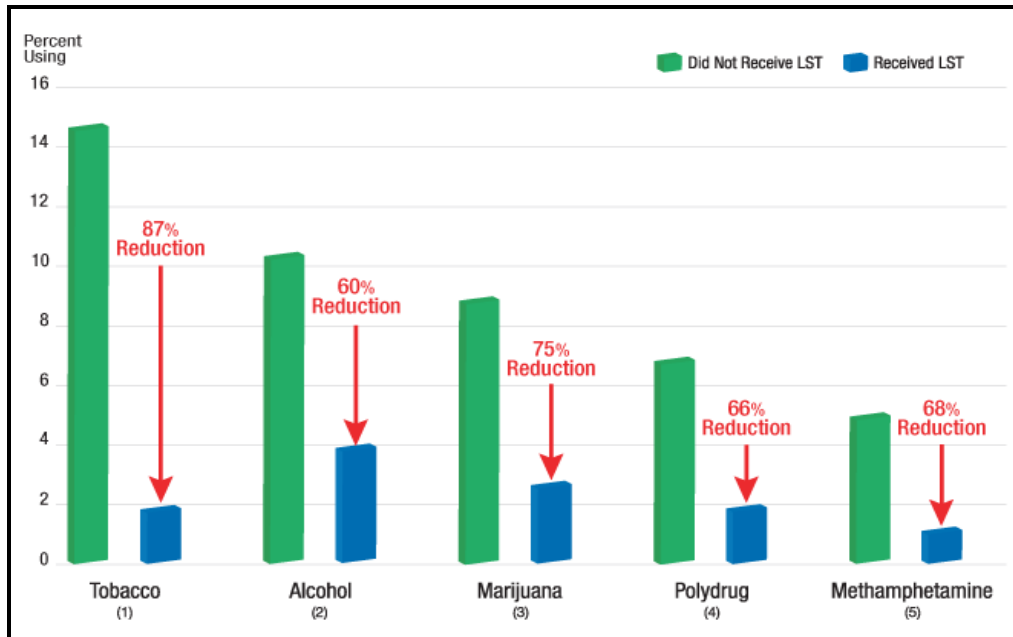
Research Findings	Corresponding LST components
<ul style="list-style-type: none"> • Socially responsible behavior and cognitive self-regulatory processes (goal setting, interpersonal trust, and problem-solving styles) are significantly related to grades in middle school¹⁷ and high school.³⁴ • Providing students with the skills to set specific goals increases self-efficacy for learning, which raises school performance and leads to better skill acquisition.¹⁸ • The CDC labels social-cognitive approaches as a best practice for violence prevention.¹⁹ Social-cognitive models emphasize learning, thinking, and reasoning, and match the school agenda of promoting knowledge acquisition and cognitive development.²⁰ • Individuals who learn goal-setting skills respond better to failure when faced with it²¹ and a significant link exists between goal commitment and conforming behavior.³⁵ • Social-emotional competence fosters academic performance. Specifically, students who set goals, are self-motivated, and manage their stress perform better in school.²² Multiyear and multicomponent programs produce the longest lasting benefits.²³ • Cognitive-behavioral interventions show significant improvement in on-task classroom behavior^{24, 36} as well as academic achievement.³⁷ 	<ul style="list-style-type: none"> • The <i>Personal Self-Management</i> component of LST is designed to: 1) foster decision-making and problem-solving skills; 2) teach skills for identifying, analyzing, and resisting media influences; 3) teach students self-control skills to cope with anxiety and anger; 4) and provide students with skill in goal-setting, self-monitoring, and self-reinforcement. • LST uses interpersonal cognitive problem solving to teach youth how to think about social situations and manage their own behavior. • Examples of LST activities designed to promote self-management skills include: 1) guided stress management and relaxation training; 2) brainstorming problem situations and considering alternatives and consequences; 3) considering how decisions individuals make are influenced by others; and 4) completing a self-improvement project, involving setting specific goals and objectives, and working on that project throughout the program.

SCHOOL CONNECTEDNESS

Research Findings	Corresponding LST Components
<ul style="list-style-type: none"> • A strong relationship exists between school connectedness and educational outcomes including school attendance, staying in school longer, and higher grades and test scores. Further, academically successful students are less likely to engage in risky behavior.²⁵ • Links exist between positive school environment and improved academic performance and between students' perceived protective factors (e.g., caring relationships, high expectations, opportunity to participate) and test scores.²⁶ • The best outcomes are associated with school connectedness and social connectedness, though students who have good social connectedness but are disengaged from school are at an increased risk for anxiety/depressive symptoms.²⁷ • Enhancing students' social environment can increase school bonding, which in turn may enhance academic achievement and reduce problem behavior.²⁸ 	<ul style="list-style-type: none"> • LST aligns with steps identified by the CDC to promote school connectedness by providing students with academic, emotional, and social skills to be actively engaged in school.²⁹ CDC-recommended action steps that are addressed explicitly in LST include providing opportunities for students to improve their interpersonal skills, such as problem-solving, conflict resolution, self-control, communication, and negotiation. <ul style="list-style-type: none"> ○ Teaching refusal and resistance skills: recognizing social influences, identifying consequences of problem behaviors, and generating alternatives. ○ Teaching listening, stress management, and decision making skills. ○ Correcting misperceptions about what normal behaviors are among students, (e.g., number of students who smoke or use alcohol). ○ Engaging students in planning and identifying steps to meet their goals.

REDUCTIONS IN ADOLESCENT SUBSTANCE USE

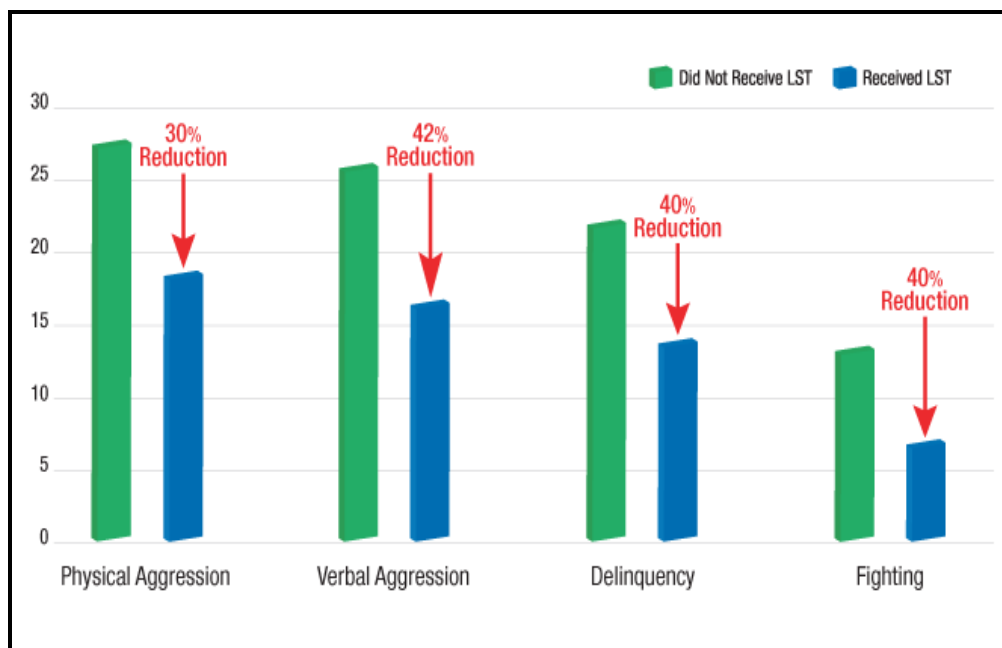
Findings from evaluations of the LST Middle School Program



Sources: (1) *Journal of Behavioral Medicine* (1983), (2) *Journal of Studies on Alcohol* (1984), (3) *Journal of Consulting and Clinical Psychology* (1990), (4) *Journal of the American Medical Association* (1995), and (5) *Archives of Pediatric & Adolescent Medicine* (2006).

REDUCTIONS IN VIOLENCE/AGGRESSION

Findings from evaluations of the LST Middle School Program



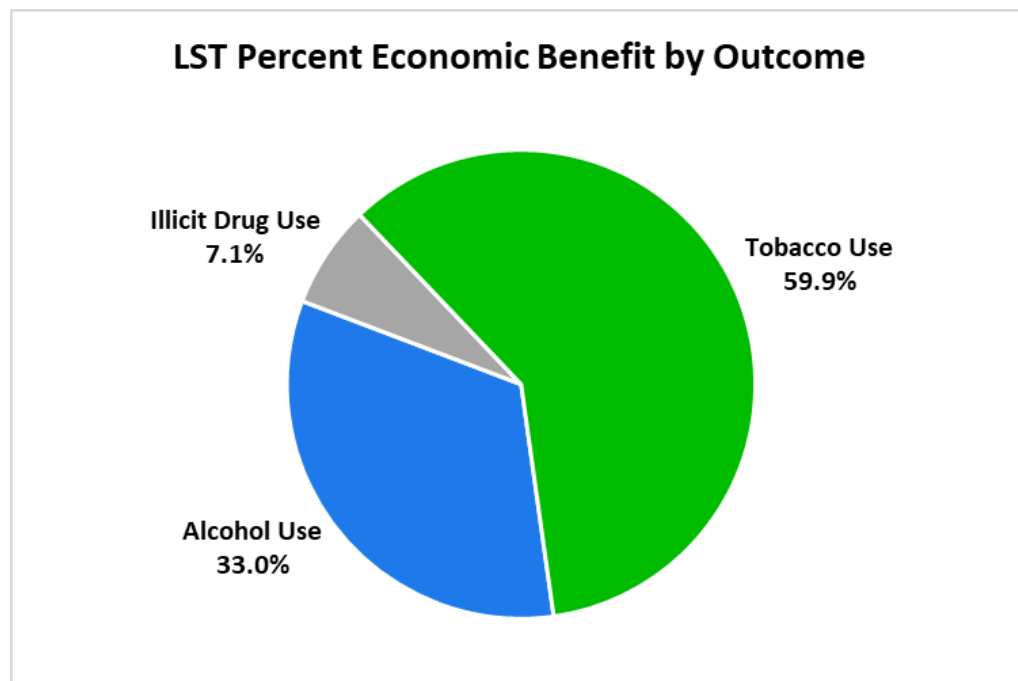
Botvin, G. J., Griffin, K. W., Nichols, T. R. (2006). Preventing youth violence and delinquency through a universal school-based prevention approach. *Prevention Science*, 7, 403-408.

IMPORTANCE OF LST AS AN EFFECTIVE PREVENTION PROGRAM

- ✦ Evidence-based programs (EBPs) produce sizeable effects in well-designed and implemented randomized or matched control group studies. Two common features of EBPs are a high degree of structure or manualization, and monitoring to ensure the program is implemented with fidelity.
- ✦ Because some programs are ineffective, or even harmful, we are obligated to do what we *know* is effective.
- ✦ EBPs have a high likelihood of improving the health and well-being of participants.
- ✦ EBPs offer program materials, staff training, and technical assistance.
- ✦ EBPs provide meaningful accountability of scarce community resources. Information increasingly is available that the financial benefits of EBPs outweigh their costs.
- ✦ The demonstrated effectiveness of EBPs can help in securing support from funding agencies, policy makers, and community leaders.

COST EFFECTIVENESS

- ✦ Washington State Institute for Public Policy reported **\$7.88 in benefits per \$1 spent** in implementing the LST Middle School Program.³⁰
- ✦ Pennsylvania State University reported **\$25.72 in benefits per \$1 spent**, with an estimated \$16,160,000 in potential economic benefit statewide for implementing the LST Middle School Program. For a breakdown of economic benefit by outcome, see the figure below.³¹



Note. Cost-benefit assessment based on implementation of the LST Middle School program.

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