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**Impact of Life Skills Training  
(LST)  
in  
Allegany County Schools:  
Prevalence of Substance Use**

**Longitudinal Analysis  
of  
2005 Sixth Grade Cohort**

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## Summary

The current analysis supports the long-term effects of Life Skills Training on reducing substance use among students in Allegany County schools. Students in five schools who completed LST in 2005 demonstrated significantly smaller increases in substance use between sixth and twelfth grade compared to students from similar schools who did not complete LST. Estimated effects of LST include a 12.6% decrease in smoking; 41.1% decrease in drinking; 62.6% decrease in marijuana use and 52.5% decrease in other drug use.

**LST in Allegany County is estimated to reduce 12<sup>th</sup> grade drinking by 41.1%; marijuana use 62.6% and other drug use by 52.5%.**

## Background

Life Skills Training (LST) is one the most widely used universal substance abuse prevention strategy. LST has been evaluated extensively in controlled settings and is listed as listed on the Substance Abuse Mental Health Services Administration (SAMHSA) National Registry of Evidence-based Prevention Programs (NREPP) and is a designated Model Program on the Center for the Study of Violence Blueprint Projects list. LST is a classroom curriculum program that addresses substance abuse knowledge, perception of risk of harm from use of substances, refusal skills, communication skills and other skills needed to resist the use of substances. LST begins with 15 classroom sessions in 6<sup>th</sup> grade followed by 10 refresher sessions in 7<sup>th</sup> and nine sessions in 8<sup>th</sup> grade.

In 2001, 6<sup>th</sup>, 8<sup>th</sup> and 10<sup>th</sup> grade students in schools in Allegany County completed the Risk and Protective Factor Survey. This survey provides scale scores representing one of 28 risk or protective factors. Significant proportions of students scored above the risk level on perceived availability of drugs, as well as on friends who use drugs and perceived peer-individual rewards for anti-social behavior. Significant proportions scored at the risk level for lack of protective factors such as social skills and belief in moral order.

Life Skills Training was selected as a model prevention program for Allegany County because of its potential effects on all of these factors. For example, LST is designed to change students' perception of norms related to use of alcohol, tobacco and other substances. This should result in a reduction of students' positive attitudes towards anti-social behavior. Life Skills Training is a universal prevention measure in the individual domain and is also designed to increase protective factors.

The Life Skills program developed by Gilbert Botvin is one the most extensively documented prevention programs in use today. ACASA staff provides LST in six districts. Three districts, Scio, Whitesville and Wellsville began 6<sup>th</sup> grade LST in the 2000-2001 school year, 7<sup>th</sup> grade LST in the 2002-2003 school year and 8<sup>th</sup> grade LST in the 2003-2004 school year. Friendship and Fillmore Schools began LST in the 2002-2003 school year. Immaculate Conception School began LST in the 2005-2006 school year.

## Method

In order to determine the impact of LST on substance use, the cohort of Allegany County sixth graders in 2005 was followed longitudinally through their twelfth grade year in 2011. The Evalumetrics Student Risk and Protective Factor Survey has been completed by all students in grades six, eight and ten in 11 Allegany County Schools in every odd numbered year since 2001. In 2011, twelfth grade students also completed the survey. The survey includes multiple items asking about use of alcohol, tobacco, marijuana and other drugs. Rates of self-reported recent (past 30 day) use of each substance was measured for the cohort in 2005 as sixth graders and compared to the same cohort in 2011 as twelfth graders.

As students age and move from one grade level to another, the probability that they will use alcohol, tobacco or other substances generally increases due to increased exposure to substances, increased acceptance by peers, adults and parents and decreased exposure to prevention strategies. In order to determine if LST results in any change in proportion of students using substances in twelfth grade compared to sixth grade, it is necessary to compare those changes to changes in a sample of students in similar schools who were not exposed to LST. The 2005 sixth grade cohort from Allegany County schools in which LST was not offered was selected to serve as the comparison group. These schools have also participated in the Risk and Protective Factor Survey every odd numbered year since 2001.

## Results

The proportions of students reporting recent (past 30 days) use of substances were calculated for the LST exposure group and for the non-exposure group. Table 1 shows the proportions of students reporting use. Though the proportion of sixth grade students reporting recent use of substances prior to the intervention of LST were generally low, rates of reported use were slightly higher for the LST schools sixth grade students with 2.3% reporting smoking cigarettes compared to 1.9% in the comparison group. Similarly, 3.4% of sixth grade students in schools with LST reported drinking alcohol compared to 1.9% of the comparison group.

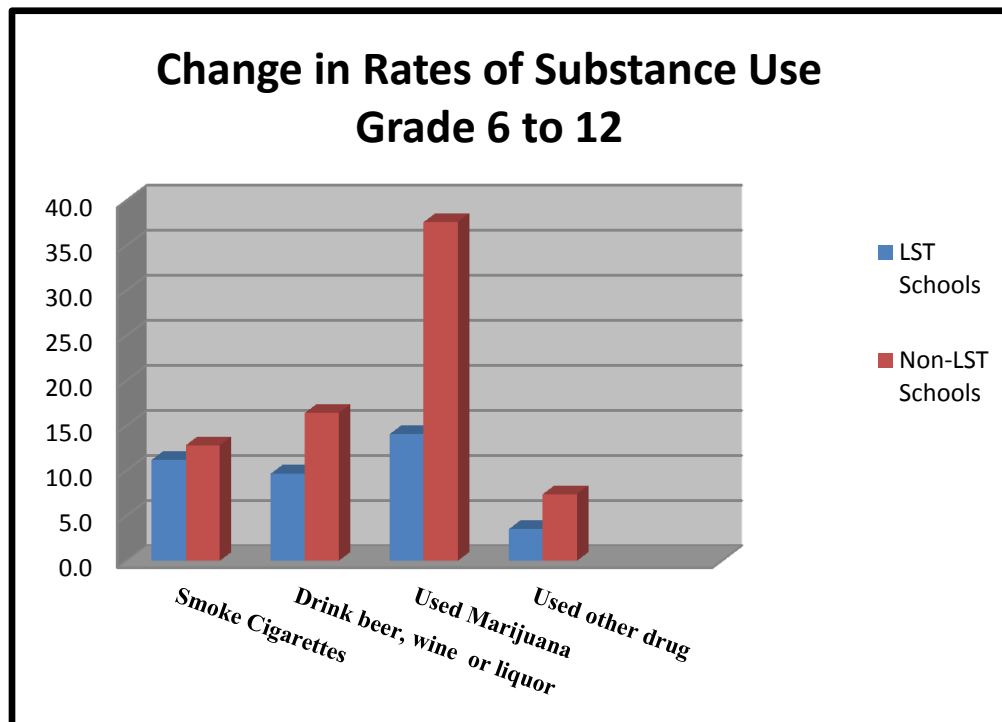
Columns two and five show the rates of use for the same cohort in 2011 when they were in twelfth grade. The proportion reporting use increased dramatically. However, the rate of increase was significantly less for students in schools who were exposed to LST in middle school compared to students in the comparison group who were not exposed to LST. For example, LST twelfth grade students in 2011 were 11.2 times more likely to report smoking cigarettes than when they were in sixth grade. However, twelfth grade students in comparison schools were 12.8 times more likely to smoke than when they were in sixth grade. Thus, twelfth grade students who completed LST in middle school were 12.6% less likely to smoke; 41.1% less likely to drink; 62.6% less likely to use marijuana and 52.5% less likely to use other drugs.

**Students who were exposed to Life Skills Training (LST) demonstrated significantly smaller increases in the proportion of students who used substances.**

The last two columns display the results of log linear analysis expressed as  $\chi^2$  and the corresponding probability. The differences for all comparisons between LST and non-LST schools were statistically significant with probability of less than .001.

**Table 1**

Risk and Protective Survey Pre-LST vs. Post-LST	LST Schools			Non-LST Schools			Change	Diff.	chi <sup>2</sup>	Prob.
	Mean Score 2005 (gr6)	Mean Score 2011 (gr12)	Change (Ratio)	Mean Score 2005 (gr6)	Mean Score 2011 (gr12)	Change (Ratio)				
Substance use in past 30 days	N=175	N=201		N=265	N=305					
Smoke Cigarettes	2.3%	25.6%	11.2	1.9%	24.2%	12.8	12.6%	141.44	<.001	
Drink beer, wine or liquor	3.4%	33.2%	9.7	1.9%	31.0%	16.4	41.1%	194.36	<.001	
Used Marijuana	1.1%	16.1%	14.1	0.4%	14.2%	37.6	62.6%	84.19	<.001	
Used other drug	1.7%	6.0%	3.5	1.1%	8.4%	7.4	52.5%	24.51	<.001	



## **Discussion**

Results of this longitudinal cohort analysis indicate that students who attend Allegany County schools who were exposed to Life Skills Training (LST) demonstrated significantly smaller increases in the proportion of students who used substance. This analysis is limited to a quasi-experimental design, that is, neither students nor schools could be randomly assigned to receive the LST intervention. However, the comparison schools have student- enrollment, demographics and low transiency rates very similar to the schools with LST.

Thus, it is likely that LST was a significant factor in reducing substance use among twelfth grade students.