

Correlates of Perceived Effectiveness of the Safe Schools/Healthy Students Initiative

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Abstract

A three-level growth-curve model was applied to estimate perceived impact growth trajectories, using multi-year data from project and school surveys on outcome and program implementation collected from 59 sites and approximately 1,165 participating schools in the Safe Schools and Healthy Students Initiative. Primary interest is to determine whether and how project-level and school-level correlates affect schools' perceptions of the Initiative's effectiveness over time when the effects of the pre-grant environmental conditions, grant operations, and near-term outcomes are considered. Coordination and service integration, comprehensive programs and activities for early childhood development, and change in school involvement were found to be significant predictors of school-perceived overall impact when the effect of poverty was considered. Partnership functioning, perceived importance of school resources, and school involvement were found to be significant predictors of school-perceived impact on substance use prevention when the effect of poverty was considered.

Keywords: Growth curve model, school safety, substance use, partnership

1. Introduction

School safety and student mental health have increasingly become national concerns. The issues gained prominence in the wake of several mass shootings in schools and continued public attention to youth violence/safety, substance use, and student mental health issues. In response, the U.S. Departments of Education, Justice, and Health and Human Services partnered in the Safe Schools and Healthy Students Initiative (SS/HS) to support implementation of comprehensive, community-wide plans to create safe and drug-free school environments. This large, complex effort is directed at promoting school safety and improving student health in the nation's schools through grants to local school districts. Since 1999, the federal government has invested approximately \$2 billion to fund more than 350 school districts across the country, supporting effective partnerships among schools and local mental health, law enforcement, and juvenile justice agencies. The grant program currently includes 175 grantees that target 4,161 schools and approximately 2.5 million students across the U.S. Each grantee targets SS/HS services to an average of 17 schools with an average of 8,763 students.

The ultimate goal of the SS/HS Initiative is to help grantees reduce problem behavior in schools and thereby enhance school safety and student health. The Initiative's strategy to this end is to draw on the best practices of the education, justice, social services, and mental health systems to provide integrated and comprehensive resources for prevention programs and social services for youth. Grantees and their partners propose integrated, comprehensive, and community-based programs and activities to address the problems of school violence and alcohol and other drug use.

The SS/HS Initiative focuses on school and community collaboration. Not only can the problems that students encounter at school have roots in the community (Laub & Lauritsen, 1998), but research also suggests that families, schools, community organizations, and health

care systems working together can increase the effectiveness of prevention programs (Weissberg, Kumpfer, & Seligman, 2003). Partnerships and collaborations can maximize the power of an initiative and reduce duplication of services (Butterfoss, 2007).

Thus, a cornerstone of the SS/HS Initiative is the requirement that the grant must be implemented by a school-community partnership that includes representatives of the local education agency (LEA)—usually a public school district or consortium of districts—mental health agency, law enforcement agency, and juvenile justice agency. The partnerships often include additional community-based organizations, and each partnership is responsible for planning, implementing, and monitoring a comprehensive intervention to fulfill the vision of the SS/HS Initiative.

This article is part of the national evaluation efforts for the SS/HS Initiative and presents findings from a three-level model of school-level and project-level correlates of school-perceived effectiveness of the Initiative over time. The focus of this article on school-level perceptions separates it from other research conducted by the national evaluation that addresses partnership dynamics and more distal outcomes, such as the prevalence of violence and substance use among students. Research has suggested that implementation of comprehensive programs and activities, coordination and service integration, community collaboration, partnership functioning, program operations, and pre-existing conditions are factors that can influence program effectiveness and should be investigated (Gomez, Greenberg, & Feinberg, 2003; Greenberg, 2004). The SS/HS Initiative provides a unique opportunity to examine how these factors influence school perceptions of effectiveness, which can provide insight into their influence on effectiveness of the Initiative. Our current research will also illustrate the utility of this approach in the evaluation of complex collaborative initiatives.

Using a three-level growth-curve model based on the Program Theory Model discussed in the article by Rollison et al. (this issue), the present study addresses the following three questions:

1. Are there any differences in school-perceived impact of the SS/HS Initiative over time?
2. To what extent are pre-grant environment variables related to changes in school-perceived impact of the initiative?
3. Do differences in grant operations and near-term outcomes show how operational differences between partnerships result in systematic differences in perceived impact?

2. Methods

The Program Theory Model in Figure 1 of the article by Rollison et al. (this issue) displays the four measurement domains around which the SS/HS data are collected and structured: the pre-grant environment domain, which constitutes control variables; the grant operations domain and the near-term outcomes domain, from which other independent variables are drawn; and the long-term outcomes domain, from which dependent variables are taken.

2.1 Data sources

Primary data sources are the School-Level Survey (SLS) and the Project-Level Survey (PLS). The SLS provides data from three annual surveys on school-perceived impact (dependent variables) and on school-level grant operations. Completed by the SS/HS project director coordinator or his/her designee in each targeted school, the SLS collects information on changes at the level of the individual schools participating in the Initiative (e.g., implementation priority for comprehensive programs and activities, perceived importance of school resources, involvement of the grant partners in activities, and school-perceived impact of the Initiative). The PLS collects data from grantees (LEAs) on comprehensive programs and activities,

coordination and service integration, the relationship between LEAs and the school, technical assistance and training, evidence-based interventions, and sustainability of activities beyond the grant period.

In addition, data from annual group telephone interviews with participating project directors, local evaluators, and required partners are collected, along with data from annual telephone interviews with project director and a Partnership Inventory. These are used to construct independent variables relating to partnership organization, partnership interaction, partnership contributions, and partnership functioning to supplement SLS and PLS data. Data on pre-grant conditions were extracted from grant applications and other archival sources and were applicable only for the Baseline year.

2.2 Variables

Table 1 presents the dependent, independent, and control variables employed for the analyses and descriptive statistics as well as sample sizes for these variables.

<< Insert Table 1 about here >>

Dependent variables described here are the school-perceived effectiveness variables measuring the school-perceived impact of the Initiative overall and the school-perceived impact of the Initiative on substance use prevention. These two outcomes were selected for reasons of space and because the correlates retained in these final models represented a cross-section of control and independent variables. Each scale ranges from 0 (no impact) to 4 (very great impact), with the overall measure representing the mean of 11 survey items on the perceived effectiveness of the Initiative to improve school safety and reduce violence; reduce substance use; reduce mental health problems; improve school, family, and community connections; improve early childhood development; and help develop and enforce effective policies. School-perceived impact on substance use prevention is based on a single item reporting the degree to which a

school respondent perceived the Initiative has helped the school to reduce alcohol and other drug use. Years 1–3 of the SLS data were collected through the annual SLS of between 1,034 and 1,165 participating schools funded in 2005 and 2006.

Independent variables include variables describing grant operations and near-term outcomes. Grant operations variables include annual measures of perceived importance of school resources and school involvement and Year 1 to Year 3 change scores. Grant operations variables also include project-level measures of partnership organization, interaction, contributions, and functioning. Coordination and service integration is a near-term outcome and is collected from the PLS. Additional near-term outcomes gauge the comprehensiveness of programs and activities overall and are broken out by project-level programs and activities for mental health services, early childhood development, and improving the school's relationship with its community.

Control variables describe the pre-grant environment and include variables representing history of current partnership, poverty, grant recipient structure (whether the grant is comprised of a single school district or multiple school districts), and funding per targeted capita.

2.3 *Analytic methods and procedures*

To reduce the number of independent variables and control variables for modeling, all were reviewed for sufficient variance or correlation with the dependent variables. Table 1 also presents the independent and control variables that remained after this process.

Complex intervention designs require complex analytic frameworks. The nested design of the current evaluation requires specific procedures to model cross-level relationships and calculate unbiased standard errors. Moreover, evaluating change in the Initiative's impact over time introduces further clustering when it involves repeated measures drawn from individual

schools (Raudenbush & Bryk, 2002). We used the three-level growth-curve model to accommodate this repeated-measures, nested design (Murray, 1998; Raudenbush, 2001; Raudenbush, Bryk, & Congdon, 2001; Raudenbush & Bryk, 2002; Willet, Singer, & Martin, 1998). The present analysis is based on the first two cohorts (2005 and 2006) of 59 projects of the Initiative and a maximum of 1,165 schools for which data collection is completed.

Multilevel growth-curve modeling allows for the autocorrelation of within-school data over time, as well as the nesting of schools within projects (Murray, 1998; Raudenbush, 2001; Raudenbush, Bryk, & Congdon, 2001; Raudenbush & Bryk, 2002; Willet, Singer, & Martin, 1998). With longitudinal data, schools or sites act as their own controls to assess change over time. This is particularly critical because of the lack of comparison schools and school districts for assessing the perceived effectiveness of the Initiative on the school-perceived effectiveness outcomes. These models provide a unique way to identify linear trends and estimate more complex curvilinear growth patterns over three measurement occasions, while also generating more sensitive estimates of prevention or intervention effectiveness than is possible with more conventional analytic strategies (Stevenson, Zvoch, & Guglielmo, 2008; Wang, Xie, & Jiang, 2008).

A multilevel growth-curve model estimates a mean trajectory of growth through all of the repeated measures of the dependent variable or, in this case, through the three annual surveys. Thus, the model is fitting a line, or growth trajectory, through each of the repeated measures. The levels, or hierarchies, represent levels of clustering. For the present analysis, there are *three levels of clustering*. The first level of clustering is *within school* and represents the variability of the dependent measure over time within a school; it is the foundation of the model and represents mathematically the trajectory of change. The second level represents the variability *between*

schools. The third level represents variability *between grantees*. Each of these levels is actually a series of equations. Each level of equations is nested within the equation for the previous level.

Given the longitudinal and nested nature of the data from the SLS and PLS, we employed a systematic exploratory approach to developing an optimal multilevel growth-curve model for each evaluation question. This involves specifying and testing a series of models that are progressively more complex to identify the model that most closely approximates the data. As a first step, unconditioned multilevel models and multilevel growth models with variance components are tested to estimate within- and between-school change. Unconditioned models are models without fixed effects for control or independent variables. Significant random effects for the average initial perceived impacts and for linear growth indicate the need to model these terms as characteristics that can vary across schools and grantees, thereby justifying the use of hierarchical growth models. The second step is to add pre-grant control variables and other independent variables to address our research hypotheses, evaluating and selecting each model for fit and stability.

Correlates were evaluated for their effect on initial school-perceived impact, measured at the end of Year 1 when the first annual SLS was collected, and for their effect on the linear growth (rate of change over 3 years) of school-perceived impact. Correlates were not evaluated for their effect on accelerated growth because of limited explanatory power. Also, random terms were sometimes necessary for covariates; however, accelerated growth was treated as a fixed effect.

The three-level growth-curve model was estimated using Hierarchical Linear and Nonlinear Modeling, Version 6.02a (Raudenbush, Bryk, Cheong, & Congdon, 2000).

3. Results

Only statistically significant results are presented and discussed here due to space constraints. Tables 2 and 3 present details of the hierarchical growth models for school-perceived overall impact and school-perceived impact on alcohol and drug use prevention, respectively.

<<< insert Tables 2 and 3 about here>>>

3.1 *Perceived impacts over time*

The models for both overall school-perceived impact (Table 2) and school-perceived impact on substance use prevention (Table 3) show significant results for linear- and random-effects growth. Significant fixed effects indicate that the means of outcomes change significantly over time, while significant linear growth random effects indicate that the rates of change vary significantly between schools. School-perceived overall impact is estimated to increase by 0.69 points on a 0-to-4 scale and school-perceived impact on substance use prevention is estimated to increase by 0.53 points, while controlling for pre-grant effects and grant operations. However, unconditional growth-curve models revealed changes over time to be significantly non-linear, indicating the need for a term to describe and account for acceleration or deceleration in the growth rate. In this case, the rate of growth for both models decelerates significantly, as demonstrated by the negative coefficients.

The nonlinear growth in school-perceived impact over time can be seen in Figure 1, which shows the growth-trajectory data by unconditioned models and fully conditioned models for both outcomes. These are the outcomes predicted by all independent variables in Tables 2 and 3 after the effect of poverty is taken into account. Overall, the pattern of results for the unconditioned models is generally similar and shows the effect of decelerated growth after Year 2. Differences between the conditioned models reflect the magnitude of the coefficients and

indicate the extent to which correlates in the conditioned models explain variability in results beyond the effect of the linear-growth and accelerated-growth terms.

3.2 *Influence of pre-grant environment (control) variables*

The effect of poverty was the only pre-grant environment correlate retained in the two final models. History of current partnership, funding per targeted capita, and grant recipient structure were not significantly related to either outcome measure once other factors were considered. Poverty shows similarly significant and strongly positive coefficients for both overall school-perceived impact ($\beta = 0.353831$, $p = 0.012$) and for school-perceived impact on substance use prevention ($\beta = 0.378390$, $p = 0.002$). The strongly positive skew of this correlate makes interpretation difficult. However, the difference between the maximum value 4.2 (equal to 67.7%) and the mean 2.7 (equal to 14.9%) of the percent of children living in poverty would equate to an average yearly change of 0.53 points¹ on the 0-to-4 scale for the school-perceived overall impact of the Initiative.

3.3 *Grant operations and near-term outcomes*

One grant-operations correlate and two near-term outcome correlates were retained in the model of school-perceived overall impact. Four grant-operations correlates were retained in the model for school-perceived impact on substance use prevention.

For school-perceived overall impact, the two near-term outcome correlates that were retained are Year 1 coordination and service integration and Year 1 comprehensive programs and activities for early childhood development. Year 1 coordination and service integration has a coefficient of 0.022222 for its effect on average initial perceived overall impact. This translates to an increase of 0.022222 points in school-perceived overall impact at the end of Year 1 for

¹ $(4.2 - 2.7) * 0.35381 = 1.5 * 0.35381 = 0.53$

every unit change in coordination and service integration, measured with a scale ranging from 0 to 9.9. The other near-term outcome correlate retained in the model is Year 1 comprehensive programs and activities for early childhood development, which shows a negative coefficient of -0.041766 for its effect on growth of perceived overall impact over time. This correlate describes from 0 to 4 implemented early childhood development programs and activities at the project level and shows that a unit change in this measure reduces the rate of yearly increase in perceived overall impact by 6%.

Year 1 to Year 3 change in school involvement, representing change in the school respondent's assessment of implementation of programs and activities at the school level is also significant but negatively associated with the rate of change in school-perceived overall impact when the other correlates are considered. This seems to suggest local assessments of implementation of programs at the school level are associated with diminishing perception of overall initiative impact.

For school-perceived impact on substance use prevention, no near-term outcome correlates are significant. For this outcome, school resources are positive and significant at multiple points in the 3-year period of study; Year 1 perceived importance of school resources is significantly and positively associated with initial impact, and Year 3 perceived importance of school resources is significantly and positively related to its rate of change. School resources enhance perceived impact on substance use prevention both initially and across time. Year 1 school involvement, on the other hand, is negatively associated with initial school-perceived impact on substance use prevention, but school involvement shows no other significant effect on this outcome.

Unconditional growth models demonstrated significant within- and between-school

changes in all models at the end of Year 1 of the study period, as well as across the 3 years being investigated through the use of a three-level unconditioned growth-curve model. This justified use of three-level conditioned growth-curve models to evaluate the effects of pre-grant environment variables, grant operations variables, and near term outcomes.

As can be seen in Table 1, these analyses began with a relatively large number of correlates, most of which did not ultimately contribute to explaining the overall school-perceived impact of the Initiative or its perceived impact on youth substance use. The residual error terms shown at the bottom of Tables 2 and 3 suggest there are other sources of variance that this analysis does not account for.

4. Discussion

Our models demonstrate that among the 2005 and 2006 SS/HS cohorts, school-perceived effectiveness of the SS/HS initiative does change significantly over time. Positive impact is greatest from Year 1 to Year 2 and then decelerates from Year 2 to Year 3 of funding. The linear and accelerated growth terms describe the school-perceived impacts well, suggesting a ceiling effect as projects mature. This may limit the amount of variance that can be modeled with additional correlates with the exception of pre-grant characteristics like the percentage of households in poverty and other measures that describe initial conditions. Alternatively, decelerating growth may reveal an initial surge of interest as programs and activities get started that is not completely sustained.

Grantees operating in poorer areas had a proportionally higher initial perception of the impact of the SS/HS Initiative. No other pre-grant environment variables contributed to the models. Given the mission of the SS/HS Initiative and the Program Theory Model in the article by Rollison et al., it is likely that poorer school districts had fewer resources prior to the start of

the Initiative to address issues related to substance use prevention, mental health services, and school relationship with the community. Thus, schools in these poorer districts would be more likely to appreciate the importance of the grant and more likely to perceive the overall effectiveness of the Initiative. However, the effect of poverty was only modeled on initial perceptions, and so we cannot say how poorer projects perceived impacts in Years 2 and 3 of the Initiative or how much poverty contributed to the declining perception of impacts in the later years of the program.

Overall, perceived importance of school resources and school involvement were found to be the most prominent and consistent predictors of the perceived-impact outcomes. It may be that perceived importance of school resources and school involvement in planning, selecting, and implementing programs and activities may be more critical than pre-grant environment, grant operations, and near-term outcomes to successful performance on these outcomes. Future programs may consider investing more in these aspects of the school-based prevention Initiatives.

5. Conclusion

In conclusion, this type of multilevel growth-curve model is appropriate to assess the perceived effectiveness of large-scale, multilevel, and multisite prevention initiatives, such as the SS/HS Initiative. These techniques provide an advanced and innovative approach to exploring the multilevel relationships implicit in a large collaborative initiative. Changes over time, including non-linear changes revealing a ceiling effect as programs mature, can be detected and accurately described. The effects of the pre-grant environment can be evaluated as an initial condition and used as a control variable with other correlates. Finally, grant operations and near-term outcomes can be investigated at different points in time and as influences on initial

conditions or on the rate of change.

The research presented here was limited to the first two cohorts of grantees for this Initiative. Differences between these cohorts were not addressed. However, additional data from remaining and new cohorts will allow the investigation of changes occurring in the Initiative itself over time, such as the effect of growing expertise among SS/HS staff or selection effects as the Initiative matures.

This analysis has several limitations, some of which can be addressed as data collection is completed for the subsequent cohorts of the Initiative. The analysis does not distinguish type of school and assumes the variables described here affect elementary, middle, and high schools equally. It is doubtful that substance use prevention has the same priority in elementary schools as it has in middle and high schools. Eliminating certain school types would seriously reduce the power of this analysis, but using data from additional cohorts will support the analysis of school type in detail.

Another major limitation is that the analysis only employs three waves of data to assess the change over time. The limited number of data points may not be sufficient to detect prevention effects that may require a much longer period of time to detect. Additional data points from the continued national evaluation may help address this possibility. Future plans include the addition of a fourth year of support by the Initiative, which will address this limitation somewhat. However, additional follow-up of the Initiative's impact could serve more detailed models of change over time as well as shed light on the Initiative's sustainability.

Also important to note is the fact that the outcome measure for this analysis is *school-level perception* of effectiveness, as opposed to the *actual impact* of the program overall or on substance use specifically. Many factors influence perception that may not be accounted for by

the program theory model—a model designed primarily to explain how the Initiative is expected to change student behaviors.

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Table 1. Descriptive Statistics for Dependent, Independent, and Control Variables Considered for Analysis

Variable	Year 1				Year 2				Year 3			
	Min.	Max.	Mean	N	Min.	Max.	Mean	N	Min.	Max.	Mean	N
I. Dependent Variables												
Perceived Impact on												
Safety/Violence Prevention	1.0	5.0	2.5	810	1.0	5.0	3.0	797	1.0	5.0	3.2	825
Substance Use Prevention	1.0	5.0	2.3	789	1.0	5.0	2.7	796	1.0	5.0	2.9	823
Mental Health Services	1.0	5.0	2.1	777	1.0	5.0	2.5	792	1.0	5.0	2.6	822
Early Childhood Development	1.0	5.0	2.8	804	1.0	5.0	3.3	797	1.0	5.0	3.5	824
School Relationship with the Community	1.0	5.0	2.9	807	1.0	5.0	3.2	797	1.0	5.0	3.5	825
Overall Effectiveness	1.0	5.0	2.5	737	1.0	5.0	3.0	788	1.0	5.0	3.3	818
II. Independent Variables												
School Resources	1.0	5.0	4.3	825	1.0	5.0	4.3	771	1.0	5.0	4.4	825
<i>Change score from Year 1 to Year 3</i>	<i>-4.0</i>	<i>4.0</i>	<i>0.1</i>	<i>825</i>								
School Involvement	1.0	7.0	2.9	825	1.0	7.0	2.9	797	1.0	7.0	2.7	825
<i>Change score from Year 1 to Year 3</i>	<i>-5.7</i>	<i>6.0</i>	<i>-0.2</i>	<i>825</i>								
Partnership Organization	0.0	1.0	0.5	59	0.0	1.0	0.6	59	0.0	1.0	0.6	59
Partnership Interaction	NA	NA	NA	NA	1.8	4.5	3.6	59	1.9	4.7	3.6	59
Partnership Contributions	2.5	5.0	3.7	59	2.5	5.0	3.9	59	2.6	5.0	4.1	59
Partnership Functioning	NA	NA	NA	NA	35.2	58.5	51.9	59	41.3	59.5	52.0	58
Comprehensive Programs and Activities												
Overall	0.0	29.0	14.6	59	3.0	28.0	21.9	59	14.0	29.0	24.0	59
Mental Health Services	0.0	6.0	3.5	59	0.0	6.0	5.2	59	3.0	6.0	5.6	59
Early Childhood Development	0.0	4.0	2.3	59	0.0	4.0	3.3	59	0.0	4.0	3.5	59
School Relationship with the Community	0.0	8.0	3.8	59	0.0	8.0	5.5	59	1.0	8.0	6.2	59
Coordination and Service Integration	0.0	19.0	9.9	59	0.0	20.0	13.9	59	1.0	20.0	16.1	59
III. Control Variables¹												
History of Current Partnership	1.0	4.0	3.0	59								
Poverty	1.8	4.2	2.7	59								
Grant Recipient Structure	1.0	2.0	1.2	59								
Funding per Targeted Capita	0.7	3.4	2.4	59								

¹ Data on control variables were available for baseline year only.
NA=Not available.

Table 2. School-Perceived Overall Impact of the SS/HS Initiative Predicted by School- and Project-Level Predictor and Control Variables

Fixed Effect	Coefficient	SE	t	df	p
Average initial perceived overall impact	2.587845	0.070923	36.488	51	0.000**
Y1 coordination and service integration	0.022222	0.008531	2.605	51	0.012*
Poverty	0.353831	0.099398	3.56	51	0.001**
Linear growth	0.686955	0.099634	6.895	752	0.000**
Y1 comprehensive programs and activities for ECD ¹	-0.041766	0.019272	-2.167	752	0.030*
Y1 to Y3 change score in school involvement	-0.103582	0.011732	-8.829	53	0.000**
Accelerated growth	-0.165717	0.039946	-4.149	2157	0.000**
Random Effect		Var Cmp²	df	Chi-square	p
Average initial perceived overall impact		0.15049	694	1003.436	0.000**
Linear growth		0.01658	693	769.5699	0.022*
Level 3 average initial perceived overall impact		0.07928	51	247.1563	0.000**
Level 3 Y1 to Y3 change score in school involvement		0.00141	53	89.11345	0.002**
Error-1 _{ij}		0.43374	.	.	.

¹Early Childhood Development.

²Variance component.

*Statistically significant at p<0.05 level.

**Statistically significant at p<0.01 level.

Table 3. School-Perceived Impact on Substance Use Prevention of the SS/HS Initiative Predicted by School- and Project-Level Predictor and Control Variables

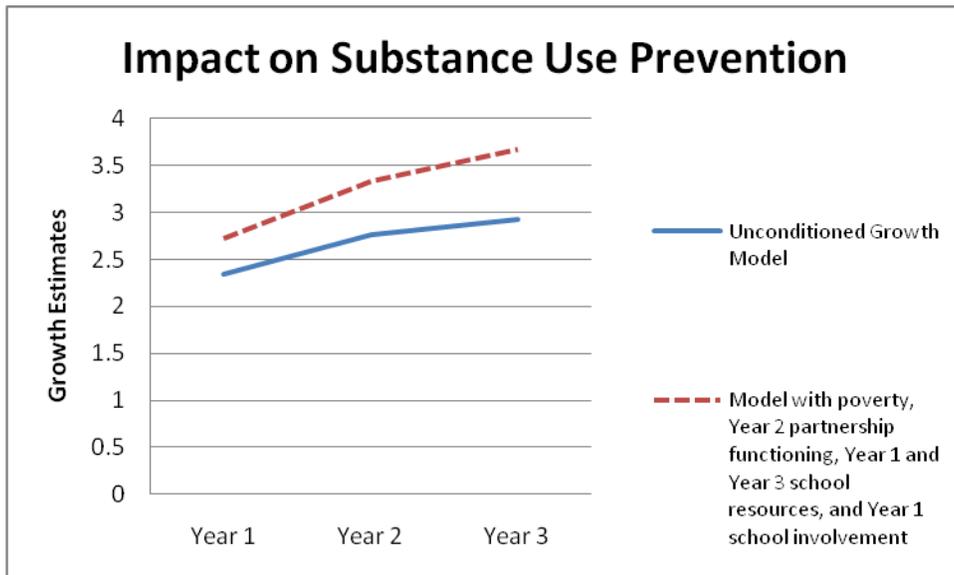
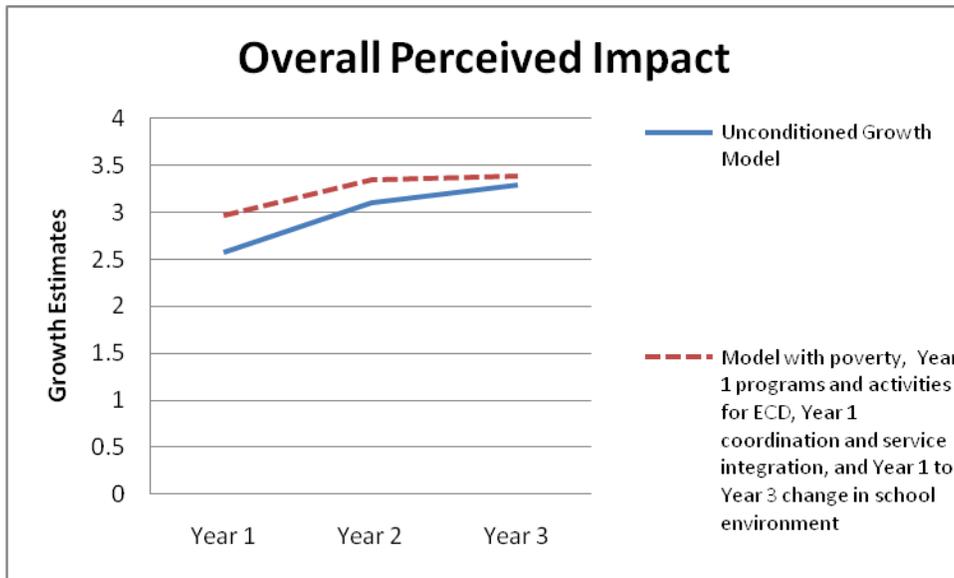
Fixed Effect	Coefficient	SE	t	df	p
Average initial perceived impact on substance use prevention	2.359085	0.073869	31.936	52	0.000**
Poverty	0.378390	0.116294	3.254	52	0.002**
Y1 school involvement	-0.126677	0.039032	-3.245	751	0.002**
Y1 school resources	0.116696	0.034141	3.418	751	0.001**
Linear growth	0.533536	0.127452	4.186	52	0.000**
Y2 partnership functioning	0.022169	0.007102	3.121	52	0.003**
Y3 school resources	0.187244	0.018358	10.199	2216	0.000**
Accelerated growth	-0.126827	0.05436	-2.333	2216	0.020*
Random Effect		Var Cmp¹	df	Chi-square	p
Average initial perceived impact on substance use orevention		0.16129	698	1119.493	0.000**
Level 3 average initial perceived impact on substance use prevention		0.13175	52	191.7874	0.000**
Level 3 Y2 partnership functioning on linear growth		0.03337	52	112.0972	0.000**
Error-1 _{ij}		0.83484	.	.	.

¹ Variance component.

*Statistically significant at p<0.05 level.

**Statistically significant at p<0.01 level.

Figure1. Growth Trajectories by Outcome and by Year of Measurement



Author Vitae

Bruce Ellis, M.S., of Battelle Centers for Public Health Research and Evaluation, has more than 30 years of experience in biomedical and health research, statistical analysis, and substance abuse research. He has served as a Senior Analyst on the national cross-site evaluation of the SS/HS Initiative for three years, focusing on development of hierarchical linear models of the Initiative's survey data and on meta-analyses of Government Performance and Results Act (GPRA) outcome data. Previously, he has played key roles in the analysis of large cross-site evaluations, such as the Residential Women with Children/Pregnant and Post-Partum Women (RWC-PPW) program of the Center for Substance Abuse Treatment and the National Treatment Improvement Evaluation Study (NTIES) of the Substance Abuse and Mental Health Services Administration.

Aaron A. Alford, Ph.D., of Battelle Centers for Public Health Research and Evaluation, is a psychiatric epidemiologist with over 10 years of research and evaluation experience. His area of interest is research and evaluation methods, with an emphasis on longitudinal methods. Dr. Alford has participated in longitudinal epidemiologic analyses of national estimates of drug use and violence, conducted or participated in meta-analyses of school programs, and completed analyses of the impact of early physical growth on adult mental health outcomes. His work has largely focused on how to adequately measure change in order to understand problems of behavior, mental life, or evaluations, using complex longitudinal data.

Ping Yu, Ph.D., of Battelle Centers for Public Health Research and Evaluation, has more than 25 years of experience in community- and school-based substance abuse research, domestic and international program evaluation, and management of large-scale, multi-year, and multi-million-dollar projects. He currently serves as the Project Director for Battelle on the national evaluation of the Safe Schools/Healthy Students Initiative. Dr. Yu has managed a portfolio of research and evaluation projects worth more than \$60 million across a wide range of government and private sector clients. He has designed and directed a number of large-scale studies that use both qualitative and quantitative methods to assess the effectiveness of community- and school-based prevention or treatment initiatives. Dr. Yu's contributions have received broad peer recognition in the form of published articles and participation in such forums as the National Committee on Asian and Pacific Islander Americans Health Research convened by the Director of Minority Health at the National Institutes of Health.

Sharon Xiong, M.S., of Battelle Centers for Public Health Research and Evaluation, is an experienced researcher who has worked on the national cross-site evaluation of the Safe Schools/Healthy Students Initiative for 4 years. She has played an extensive role in the collection and quality control of GPRA outcome data, in the management and editing of school- and project-level survey data, and in support of numerous analyses such as this national evaluation. Prior to the evaluation of the Safe Schools/Healthy Students Initiative, she has supported other large, multi-site program evaluations such as the Substance Abuse and Mental Health Services Administration's Center for Abuse Prevention State Incentive Grant program.

Gary Hill, Ph.D., of MANILA Consulting Group, Inc., has nearly 40 years of increasing responsibility in the fields of health policy, program evaluation, project management, and the design and development of automated information systems. He currently serves as the Project

Director for the Safe Schools/Healthy Students national cross-site evaluation. Previously, Dr. Hill was Division Director at a large federal government contracting firm, overseeing contracts providing, for example, program evaluation, cost-benefit analyses, and reports to Congress. Dr. Hill was the Project Director for the evaluation of the Robert Wood Johnson Foundation's After School Program. He was also the Project Director for the Department of State's International Demand Reduction Program, a \$15 million, multi-year effort designed to coordinate implementation and evaluation of prevention programs across the world.

Marissa Puckett, Ph.D., of MANILA Consulting Group, Inc., is the Statistician responsible for analyzing the School Climate Survey and other data from the Safe Schools/Healthy Students cross-site evaluation. Dr. Puckett's areas of expertise include developing and managing large, complex databases; developing and refining evaluation design and analysis plans; performing advanced statistical analyses; and developing comprehensive reports.