Evaluation proposal for the

Provo School District Truancy Program

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December 2011

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Evaluation Purpose

The Provo School District (PSD) operates and governs all primary and secondary schools within the boundaries of Provo, Utah. PSD oversees two high schools, one alternative high school, two middle schools, and fourteen elementary schools, and is responsible for the education and development of over 13,000 students.

For decades, school districts around the nation—PSD included— have sought to address a variety of youth problem behaviors including drug use, delinquency, violence, and other anti-social tendencies. By addressing these problems in the early years of a child's development, districts hope to curb or prevent these negative behaviors in later adult years.

In 2005, PSD—in conjunction with Utah's Division of Substance Abuse and Mental Health—began participating in a national, comprehensive Student Health and Risk Prevention (SHARP) survey, administered every two years to a random sample of students in grades 6, 8, 10, and 12. The survey aims at determining (1) the risk factors that lead to youth problem behaviors and (2) the protective factors that inoculate against youth delinquency. SHARP surveys have consistently found that a lack of commitment to school is one of the primary risk factors leading to substance abuse, delinquency, teen pregnancy, school dropout, and violence.[1] In an effort to reduce truancy, and thereby reduce the risk factors associated with problem behaviors, PSD created a truancy program with two primary goals: (1) increase commitment to school and (2) prevent early initiation of anti-social behavior.

PSD has sought to achieve these goals by implementing a three-stage truancy prevention program, consisting of a series of escalating interventions and citations, detailed in the program utilization plan in Figure 1.

Figure 1: PSD truancy program utilization plan

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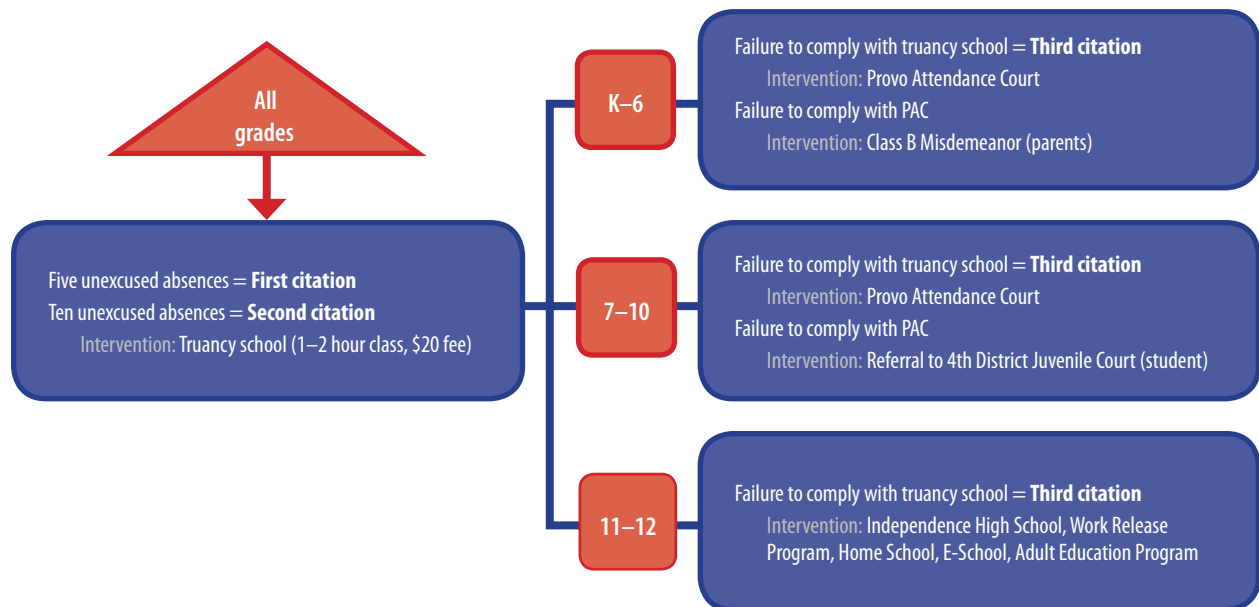
1   "2009 Prevention Needs Assessment Survey Results: Provo School District, Profile Report" (Utah Department of Human Services Division of Substance Abuse and Mental Health, 2009), 23.

Why an evaluation?

The following evaluation model for PSD's truancy program comes from two pressing needs facing the program, both dealing with the administrative and political context of the program. First, the truancy program has been in operation for a number of years and has had apparent success in reducing the number of students receiving 2nd and 3rd citations. Inspired by this success, several other Utah school districts, including neighboring Alpine and Nebo, have borrowed heavily from PSD and have implemented similar truancy reduction programs.

Second, and perhaps more pressing on the immediate future of the program, recent changes in state funding procedures have necessitated that PSD take a more quantitative approach to their program evaluation. PSD's truancy program is funded by two entities: (1) the Utah County Division of Substance Abuse and (2) the State of Utah's Division of Substance Abuse and Mental Health. Due to both a recessionary reduction in state funds and an increased push to fund effective programs, all funding requests at the state Division of Substance Abuse and Mental Health must now be approved by an Evidence-Based Workgroup (EBW), which requires quantitative evidence of the success of all applicants' programs.

The fact that PSD has become a statewide trendsetter in truancy reduction, combined with the pressing need to prove the program's effectiveness (or ineffectiveness), indicates a need to conduct a comprehensive and formal outcome evaluation of PSD's truancy program. Such a model would allow PSD to better justify its current and future funding to the EBW, as well as prove (or disprove) its effectiveness to peer districts.

Evaluation stakeholders

While the truancy program itself seeks to address the needs of students, parents, teachers, administrators, and the general public, there are far fewer evaluation stakeholders. District officials hope to use this evaluation to give a summary judgment on the program's performance for external stakeholders only.[2] Once complete, this accountability evaluation will be read and used by PSD's social services department (the department responsible for running the truancy program) and the EBW to determine if the program merits continued and future state funding.

The final evaluation report will be used as tool in decision-making—the EBW will be able to deny or approve continued grants, and PSD will be able to ascertain whether or not it should continue to sponsor the program.

Because of the summative nature of the evaluation, the relationship between the evaluation's primary stakeholder (PSD) and the program's actual evaluators differs from formative evaluation. In an evaluation model focused on program improvement, evaluators tend to work closely with the sponsoring organization's staff and are generally deeply interested in the immediate outcomes of the evaluation, as the results can have direct bearing on the program's trajectory. In an accountability evaluation such as this, however, program evaluators tend to be consultants who, for the sake of objectivity and accountability, remain independent and less involved in the evaluation outcomes.[3]

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2 Peter Rossi, Mark Lipsey, and Howard Freeman, *Evaluation: A Systematic Approach*, 7th ed. (Thousand Oaks, CA: Sage Publications, 2004), 36.

3 Rossi, *Evaluation*, 36.

As evaluation designers (and ultimate evaluators), we have maintained an independent relationship with PSD staff throughout the development of this evaluation and will remain independent while implementing the evaluation in early 2012.

This report will outline the theoretical and procedural background of the truancy program, and provide a framework for measuring the effect of the program on each of the program's key outcomes: (1) reduced truancy, (2) improved grades, (3) increased commitment to school, and (4) reduced risk for delinquency. It also includes all the survey instruments we will use to conduct the evaluation, as well as a preliminary timeline for the project's completion.

Program Needs and Structure

While the bulk of our evaluation of PSD's truancy program focuses on later stages of program development—primarily program outcomes—understanding the underlying needs and process of the truancy program need is essential to gain a clear understanding of how well the program is actually performing. Knowing the purpose of the program and the program's target population will allow us to determine if the program is achieving its goals and understand how program activities relate and respond to the needs of truant students in Provo.

Analysis of program needs

With the results of each biannual SHARP survey, state researchers have consistently found that a lack of commitment to school is one of the primary risk factors leading to substance abuse, delinquency, teen pregnancy, school dropout, and violence.

PSD's truancy program addresses the risk factor of low commitment to school by seeking to increase that commitment, thereby inoculating students against potential issues of delinquency. By ensuring that students remain actively engaged in school, and by correcting their behavior when they begin to slip, PSD hopes that students will become productive members of society with few to no delinquent tendencies.

The primary (and direct) targets of the PSD truancy program are students who are regularly absent or late to school. Students' parents and the community as a whole are indirect program targets—decreased risk of delinquency and better performance in school lead to happier homes, safer communities, and more productive societies.

Truant students can be considered both "at risk" and "in need,"[4] depending on what stage of the program they're involved in and how the program is framed. When the program's primary purpose is seen as preventing juvenile delinquency, any truant student is at risk of future criminal and antisocial behavior. However, the program seeks to accomplish this by increasing school commitment and only focuses on those students who are in need of motivation and correction. In practice, students only qualify to participate in the truancy program after five unexcused absences.

While it is generally useful to attempt to specify the general characteristics of the average person who needs a social program, in the case of this truancy program it is difficult to do so—the causes of truancy in PSD are so varied that it is nearly impossible to present a "poster child" of a truant student. According to the school district, truant students can range from rebellious teen-aged white middle-class females to elementary-aged Hispanic males who do not attend school because of difficult family financial situations.

PSD is unaware of any predominant ethnicity, gender, or age that uses the truancy program. District officials have stated that the "program focuses on who is truant, which is not necessarily connected to gender, economics, ethnicity, age."[5] To verify that the target population is indeed only truant students, we will conduct a statistical difference of means test on demographic data provided by the district

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4   Rossi, *Evaluation*, 121-22.
5   Meeting with Provo School District, September 30, 2011

to determine if there are any trends that might paint a fuller picture of the average truant student. This information may prove crucial when determining if the program is having a positive effect on demographic segments with the highest prevalence of truancy.

Program theory

PSD's truancy program is based on a wealth of proven academic research. As mentioned previously, the results of the past three SHARP surveys have statistically proven that a lack of school commitment is one of the primary risk factors for delinquent behavior—students who regularly attend school are far less likely to exhibit anti-social tendencies.[6] Three academic studies provide further evidence of this claim, concluding that truancy "has been clearly identified as one of the early warning signs of students headed for potential delinquent activity, social isolation, or educational failure via suspension, expulsion, or dropping out"[7] and that "lack of commitment to school has been established . . . as a risk factor for substance abuse, delinquency, teen pregnancy, and school dropout."[8]

The need for high commitment to school is quite real—research has repeatedly found that truancy tends to lead to criminal behavior. In the early 1990s, state justice department officials found that excessive truancy was one of the three traits the majority of criminals in Dade County, FL had in common.[9] New York showed similar trends: "Of the 85 juveniles convicted of murder in New York State between 1978 and 1986, 57.6% had a history of truancy."[10] A meta-analysis of youth risk factors found that truancy is an excellent predictor of middle school drug use: "truant 8th graders were 4.5 times more likely than regular school attenders to smoke marijuana."[11]

Building on this body of research, PSD sought to build a program that would successfully increase school commitment in order to inoculate against delinquency. The district found an experimental program developed as part of a research project that sought to reduce chronic truancy. Participants in this test program were given direct intervention in early stages of their truancy. Citation letters were sent to a student's parents as soon as that student missed 20% or more days of school in a six-week period. If attendance did not improve after two weeks, a truant officer visited the student's home to meet with the parents. If attendance continued to be an issue, a police officer visited the student's home with the truant officer, which then resulted in an escalation to the municipal or county court system.

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6   "2009 Prevention Needs Assessment Survey Results: Provo School District, Profile Report"(Utah Department of Human Services Division of Substance Abuse and Mental Health, 2009), 23.

7   The National Center for School Engagement, *Truancy Toolkit: Overview of Truancy,* http://www.ncjrs.gov/pdffiles1/ojjdp/truancy_toolkt_2.pdf (accessed October 10, 2011), 3. See also J. D. Morris, B. J. Ehren, B. J., and B. K. Lenz, "Building a Model to Predict which Fourth through Eighth Graders will Drop Out in High School," *Journal of Experimental Education* 59, no. 3 (1991): 286–92.

8   The National Center for School Engagement, *Truancy Toolkit: Overview of Truancy,* 3. See also R. W. Blum, T. Beuhring, and P. M. Rinehart, *Protecting Teens: Beyond Race, Income and Family Structure* (Twin Cities: University of Minnesota Center for Adolescent Health, 2000); D. Huizinga, et al., "Co-occurrence of Delinquency and Other Problem Behaviors," *Juvenile Justice Bulletin,* OJJDP, November 2000; R. Loeber and D. P. Farrington, *Serious and Violent Juvenile Offenders: Risk Factors and Successful Interventions* (Thousand Oaks: Sage Publications, 1998); and D. Huizinga, et al. *Urban Delinquency and Substance Abuse: Initial Findings* OJJDP, March 1994.

9   The Circuit of the 11th Judicial Circuit of Florida in and for the County of Dade, "Dade County's Juvenile Offenders: A Study of the Need for Early Intervention," *Final Report of the Dade County Grand Jury,* Spring 1993.

10   The National Center for School Engagement, *Truancy Toolkit: Overview of Truancy,* 4. Grant, et. al., "Juveniles Who Murder," in *Child Trauma I: Issues and Research,* ed. Ann W. Burgess (New York: Garland Publishing, 1992): 459–72.

11   The National Center for School Engagement, *Truancy Toolkit: Overview of Truancy,* 4. D. Halfors, et al., "Truancy, Grade Point Average, and Sexual Activity: A Meta-Analysis of Risk Indicators for Youth Substance Use," *Journal of School Health* 72, no. 5 (May, 2002): 205–11.

Researchers found that the first two interventions (a letter home and a visit from a truant officer) significantly reduced truancy among the chronically truant student population.[12] Simple interventions were extremely useful in keeping students engaged in school and protected from potential anti-social, delinquent, or criminal behavior.

Program logic model

PSD synthesized the theoretical findings and experimental programs found in this research and developed a comprehensive model for truancy prevention. PSD's three-stage intervention program is a direct adaptation of McCluskey, et al.'s research on early truancy initiatives, and the program directly addresses the need to increase commitment to school. The program's complete logic model is provided in Table 1. Figure 2 contains a flowchart that visually connects each element of the logic model.

PSD's truancy program does not exist to boost the district's attendance records and increase test scores. As mentioned earlier, the program was created out of concern for the welfare of the district's students— district leaders felt a responsibility to inoculate against any factors that lead to criminal or antisocial behavior. The nature and purpose of the program is to help enable those students at risk of these behaviors (and in need of direct assistance and intervention) to gain a useful and practical education, become productive members of society upon graduation, avoid criminal behavior in the future, and enjoy a higher standard of living. It seeks to improve the quality of its students' lives by taking a direct interest in their attendance and engagement in school because district leaders feel that commitment to school truly has an effect on a student's success. Ideally, students who successfully complete any stage of the program (preferably only reaching the first stage of intervention) will recognize the benefits of increased school commitment.

Unlike many far-reaching and ambitious social programs, the boundaries of Provo School District's (PSD) truancy program are clearly delineated. The overarching purpose of the program is to increase commitment to school and reduce the risk of anti-social, delinquent, or criminal behavior among youth. While this may appear to be a broad and nebulous goal, the program is based on a clear logic model that channels the program's activities towards research-based methods of intervention. The program's targets are also clearly defined: all PSD students who have five or more unexcused absences are automatically (and compulsorily) enrolled in the program.

The logic model for the PSD truancy program begins with various inputs and includes legal, human, and financial resources. Rule R277-607 of the Utah State Administrative Code establishes a policy of compulsory education and stipulates that "parents of school-age minors shall cooperate with school boards and charter school boards to secure regular attendance at school by school-age minors for whom they are responsible."[13] PSD, in an effort to (1) comply with its responsibility to keep students in school and (2) help parents ensure the regular attendance of their children, works with the students, their parents, their teachers, and each school administration to ensure that all parties involved understand (1) the legal requirement of compulsory education, and (2) the social benefits of commitment and involvement in school activities.

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12 Cynthia Pérez McCluskey, Timothy S. Bynum, and Justin Patchin, "Reducing Chronic Absenteeism: An Assessment of an Early Truancy Initiative," *Crime and Delinquency* 50, no. 2 (2004): 214–34.

13 *Utah Administrative Code*, Rule R277-607, Truancy Prevention, http://www.rules.utah.gov/publicat/code/r277/r277-607.htm (accessed October 1, 2011).

Table 1: Complete PSD truancy program logic model

Inputs	Activities	Outputs	Short-term outcomes	Intermediate outcomes	Long-term outcomes
Truant students	PSD distributes truancy policies and procedures to all families	Number of students and parents who know attendance expectations	Students will not be truant after the 1st and/or 2nd citations	There is a decrease in the number of students referred to PAC from the previous year	Commitment to school is increased
Parents of truant students	Truancy program provided for truant students	Number of 1st citations mailed	Students attending truancy school with show improvement in attendance	There is a decrease in the number of students referred to the 4th District Juvenile Court from the previous year	Early initiation of anti-social behavior is decreased.
Teachers	Students with five or more unexcused absences are mailed first citation letter	Number of 2nd citations mailed	Students and parents attending truancy school will understand how to track attendance on PowerSchool, what Utah State law requirements for school attendance are, and how to improve their child's attendance		
Principals and school administrators	Students with ten or more unexcused absences (5 absences after the first citation) will receive a second citation letter with a referral to attend one 2-hour session of truancy school	Number of students and parents who attend truancy school			
Judges and volunteer magistrates	Parents required to attend truancy school with their child	Number of 3rd citations mailed	Students referred to PAC or 4th District Juvenile Court will improve attendance		
Program staff	A PowerPoint presentation at truancy school teaches parents how to track attendance on PowerSchool, informs them of Utah state laws regarding truancy, and gives advice on how to improve attendance	Number of students and parents at PAC or 4th District Juvenile Court			
Money from state grants	After 15 unexcused absences (5 more after truancy school), students and/or parents are referred to the PSD attendance court (PAC) and/or the 4th District Juvenile Court	Percent change in truancy after each citation			
State law requiring school attendance	Students referred to PAC or 4th District Juvenile Court receive court supervision, tutors/mentors, after-school programs, testing for placement, counseling services, social workers, and/or family assessments	Change in school commitment			
		Change in student grades			

Figure 2: Visual diagram of PSD truancy program logic model

Logic Model Legend

Adapted from Provo School District, "Truancy Program Logic Model: FY 2011–2012."

- Input (red triangle)
- Output (yellow circle)
- Activity (blue rounded rectangle)
- Outcome (green rounded rectangle)

Diagram elements:

- Law, parents, students, teachers, and administrators (Input) → PSD distributes truancy information to all families (Activity) → # of people who know expectations (Output) → No truancy (Outcome) → Increased commitment to school (Outcome) → Reduced risk factors for delinquency (Outcome)
- No truancy → Better grades ↔ Increased commitment to school
- Truancy (Input), Grants (Input) → PSD offers a truancy program to all schools in the district (Activity)
- % increase in grades and attendance (Output)
- 5 unexcused absences (5 total) (Input) → 1st citation mailed home (Activity) → # of 1st citations mailed (Output)
- 5 unexcused absences (10 total) (Input) → 2nd citation mailed home + referral to truancy school (Activity) → # of 2nd citations mailed (Output) → Students and parents attend truancy school (Activity) → # of truancy school attendees (Output) → PowerPoint presentation + Explanation of state law + Instruction on PowerSchool (Activity)
- Staff (Input)
- 5 unexcused absences (15 total) (Input) → 3rd citation mailed home + referral to truancy court (Activity) → # of 3rd citations mailed (Output) → PSD Attendance Court (K–10) (Activity) → # of court attendees (Output)
- 4th District Juvenile Court (9–10) (Activity)
- Judges (Input)
- Staff (Input) → Meet with district social worker (11–12) (Activity) → Alternative plan created* (Output)

* Because 11th and 12th graders who receive 3rd citations are generally unable to graduate from high school, district social workers no longer attempt to increase their commitment to school. As such, any outcomes that occur as a result of the alternative plans made for these students (work study programs, career development assistance, etc.) are only tangentially related to the outcomes of the truancy program itself. The system for creating alternative plans is an entirely separate program with its own logic model, goals, and outcomes.

PSD distributes information about the district's truancy policy and procedures to all students and parents at the beginning of each school year. While this activity is not a direct intervention aimed at the target audience of truant students, it nonetheless helps students reach the primary immediate outcome of the program—no truancy. Making students aware of the district's policy will automatically create incentive for many students to not be truant, opting to avoid the citations, truancy school, or truancy court.

The students who do not follow the warnings and guidance of the initial truancy guidelines will automatically emerge as the target population and will begin the program, which is funded by external grants from various Utah state agencies. The first stage of direct intervention occurs after five unexcused absences and consists of a citation letter sent home to the truant student's parents. After ten unexcused absences, a second citation letter is sent to the parents, and both the student and their parents are required to attend a two-hour session of truancy school. This session explains Utah's compulsory education law and teaches parents how to track their children's attendance online and how to help improve their children's overall attendance.

A third citation is sent to parents if the student fails to meet the terms of attendance arranged during truancy school. Students in grades K–10 are referred to the Provo Attendance Court (PAC), run by a volunteer magistrate, where new terms of attendance are set and extra services are arranged—including tutors and mentors, after-school programs, additional testing, counseling services, or family assessments.

If students or parents fail to comply with arrangements established by the PAC, legal action is taken. Parents of students in grades K–6 are charged with a Class B misdemeanor. Students in grades 7–8 are referred to the PAC, and students in grades 9–10 are referred directly to both the 4th District Juvenile Court and the PAC for arraignment.

Because their truant behavior eliminates their chances for traditional high school graduation, students in 11th and 12th grades are not referred to the PAC or juvenile court system after failure to comply with the terms set in truancy school. Rather, alternative arrangements are made for home school, e-school, Independence High School, a work release program, or Provo's adult education program.

The purpose of each of these interventions is to produce positive short-term, intermediate-term, and long-term outcomes. Students who receive these early interventions are likely to see a reduction in truancy, which then leads to an increased commitment to school and better grades and test results. Increased commitment to school then leads to a reduction in the risk factors of anti-social, delinquent, or criminal behavior.

Based on our analysis of PSD's truancy program, we feel that the program's underlying theory is exceptionally solid and that it clearly addresses the needs of its target population. The program's goals—to use a series of early interventions to curb potential truancy in order to protect against juvenile risk factors—are incontrovertibly well defined and based on proven research. These goals are also feasible and achievable.

We also feel that the program's logic model does an excellent job of converting theory into practice. The procedures for identifying members of the target population are clear—students who have more than five unexcused absences are automatically enrolled in the program. PSD provides sufficient assistance and resources at each step of the program to ensure that the students are fully served.

Outcome Evaluation

As detailed above, the primary objective of PSD's truancy program is to increase commitment to school, which has been proven to have a powerful inoculative effect against anti-social, delinquent, and even criminal behavior. All of the program's inpucts, activities, and outputs are represented in the first blue rectangle—the entire program is focused on producing the four primary outcomes of (1) reduced truancy, (2) improved grades, (3) increased commitment to school, and (4) reduced risk for delinquency. The program's impact theory, shown in Figure 3, highlights the relationship between the program's general activities (including the actual number of citations mailed out and the number of students who attend truancy school or court) and the intended final outcomes.

Figure 3: PSD truancy program impact theory
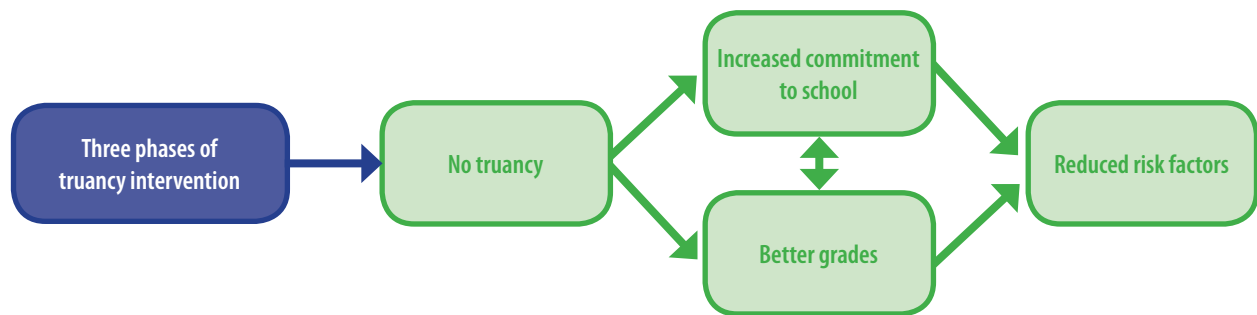
Since its inception, the district has kept detailed statistics on most of the direct outputs of its truancy program's various activities. District officials have records on the number of 1st, 2nd, and 3rd citations mailed to students and their parents, as well as the number of students attending both the special truancy school and attendance court. PSD has used these data in the past to highlight the success of the program—the district regularly shows the sharp decrease from 1st to 2nd and 2nd to 3rd citations in each year of the program (see Figure 4).

Figure 4: Number of PSD truancy program citations, 2004–2011
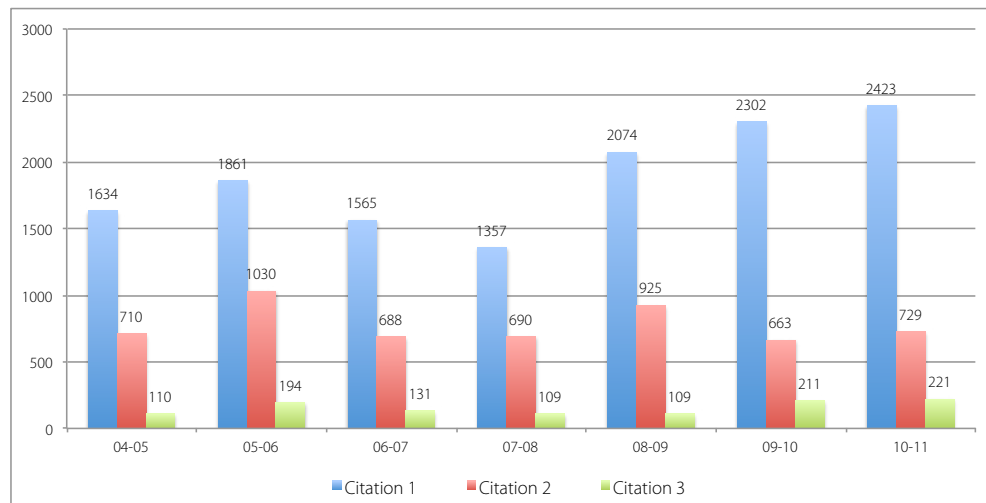
While these data are potentially impressive, they indicate the success of the program *process,* but not the success of the program at achieving its desired outcomes. The number of citations mailed out to students is not directly connected to the number of students who are inoculated against the risk of anti-social behavior. In order to understand if the PSD truancy program is having the desired effects, each of the program's outcomes need to be analyzed.

However, outcomes are more abstract than outputs. Outputs are easily measurable—it is trivial to count the number of envelopes used to send citations or count how many students actually attend truancy school or PAC. Outcomes, on the other hand, represent final changes in the target population that supposedly occur as a result of the program's activities, but may very well occur naturally without any intervention. It is possible that the parents of a truant student intervene before the district does, thereby causing an overall improvement in commitment to school without engaging in any of the program's activities.

The challenge for outcome measurement and evaluation, therefore, is to (1) determine the magnitude of outcome change over the duration of the program and (2) calculate how much of that change is directly attributable to the program, also known as *program effect* (see Figure 5).[14]

Figure 5: General relationship between outcome changes and program effect
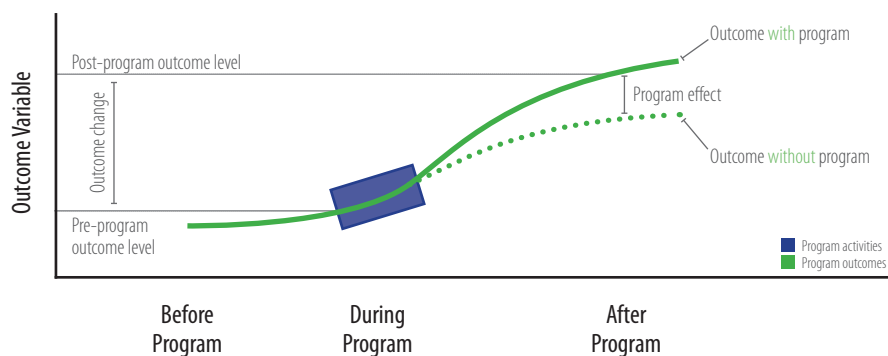
Because the EBW's updated grant requirements are most concerned with the actual effects of intervention programs, rather than simply how well they are structured or how efficiently they operate, it is crucial that PSD measure the effect of its truancy program on each of the four primary outcomes. Because of the complexity involved in measuring program outcomes, we have developed specific strategies for evaluating each of the four key program outcomes: (1) reduced truancy, (2) improved grades, (3) increased commitment to school, and (4) reduced risk for delinquency.

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14   Chart adapted from Rossi, *Evaluation,* 207.

Methodological approaches for outcome measurements

Measuring a reduction in truancy

Reduced truancy is perhaps the most straightforward outcome in the truancy program. Because it is the first outcome in the program's impact theory, it is a proximal outcome, meaning that the program has a direct influence on the magnitude of outcome change. It is also an absolute outcome, which means that it is possible to tell if the outcome has been achieved without comparing it with other data—attendance records clearly indicate whether or not students are truant. The desired outcome also has a clear definition. According to PSD policies, a student is not considered truant when they attend school more than 90% of the time.[15]

Measuring the change in truancy in individual students is also relatively straightforward. In an ideal setting, we would be able to determine accurate truancy levels by using attendance records that (1) were 100% correct and that (2) captured the precise details for every absence and tardy for every student in the district. Although obtaining such accurate data is not entirely feasible (because of minor inconsistencies in attendance reporting throughout the different schools in the district), the data that is available is accurate enough for the purposes of this evaluation. District records are extremely comprehensive and relatively easy to access, and we have already received large datasets from PSD to begin a preliminary analysis.

In order to see a clear picture of the effect of the program on truancy, we will measure truancy rates before and after a student begins the truancy program. By comparing a student's attendance *after* various stages of the program (1st, 2nd, or 3rd citations) to a statistically forecasted projection of what their attendance *might* have been without intervention, we can estimate the actual effect of the program (see Figure 6).

Figure 6: Effect of PSD truancy program on attendance and truancy
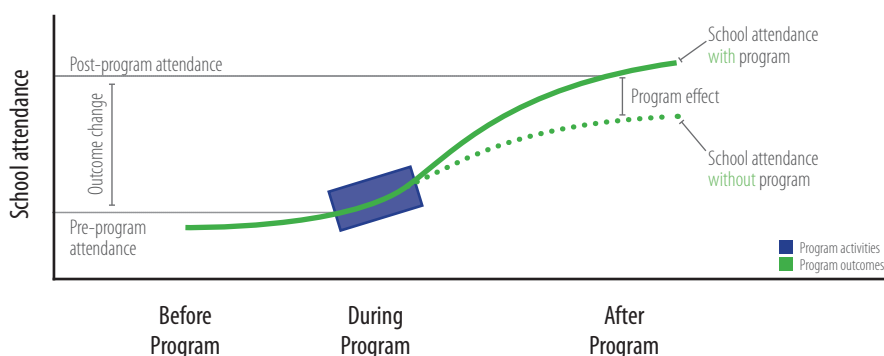
Our estimates of program effect will not be completely accurate. Truant students may change their behavior because of parental interventions, changes in a student's physical or emotional health, or a student's self-motivated desire to recommit to school. However, because this outcome is so directly linked to program activities, we feel that any estimates we derive will indicate the success (or failure) of the program in reducing truancy.

15   Meeting with PSD truancy program staff, October 14, 2011.

Measuring an improvement in grades

Like reducing truancy, measuring an improvement in grades and performance in school is also relatively straightforward. It is both an absolute and a proximal outcome—measurable independently and potentially directly attributable to the program itself. However, unlike truancy, we are unaware of a clear district-level definition of the desired outcome. We will work with PSD to determine what kind of improvement in grades would constitute program success.

The data we need to access to measure improvement in grades is already both ideal and feasible. While attendance records tend to vary by school depending on how busy or understaffed each school's attendance secretary may be, teachers tend to produce accurate records of grades (likely because they deal with classes of 20–30 students rather than schools of 800–1,500 students). These grades are reported to the district on a quarterly basis and generally represent an accurate appraisal of a student's academic performance. We already have access to de-identified quarterly grades for each student involved in the truancy program this year, and should be able to access previous years as well.

Our process for measuring the program's impact on grades is similar to our plan for evaluating the program's impact on truancy. We will look at a student grades for the two quarters previous to their involvement with a specific program activity (mailed citations, truancy court, PAC, etc.) and compare their grades in the academic year after exiting the program and measure the change in performance. For the sake of simplicity, we will use their grades prior to the truancy program as a project of what their grades would have been without intervention. The difference between their projected grades and actual grades should indicate the effect of the program (see Figure 7).

Figure 7: Effect of PSD truancy program on grades
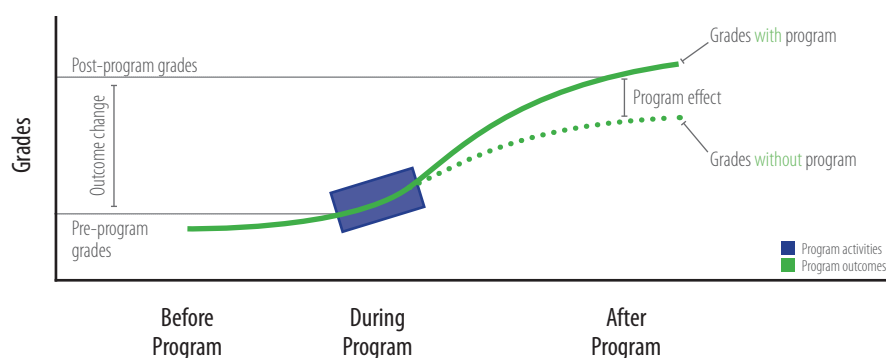
Again, these estimates will not be entirely accurate as improvements in grades could be attributable to a number of outside factors. However, because this outcome is proximal, it is likely that changes can be more easily attributable to the program itself. Therefore, we feel that our estimates of outcome changes will sufficiently reflect program effect.

Measuring an increase in commitment to school

While measuring attendance and grades is a relatively straightforward process, evaluating the success of the more longer-term program outcomes is far more difficult. Whereas the first two program outcomes are proximal, commitment to schools is a distal outcome—the actual truancy program has less direct influence on the magnitude of the outcome change. The outcome is also relative rather than absolute. Commitment to school depends in large part on whether or not a student attends school—a student who is consistently truant is unlikely to have a favorable attitude towards school in general.

Commitment to school is also a more abstract concept to measure. Ideally, we could objectively ascertain each student's level of commitment before and after participating in the program by administering regular surveys to each of their teachers to measure different dimensions of school engagement, from the amount of participation in class to the quality of their contributions to discussions to the quality of their homework assignments. We would also administer regular surveys to the students to determine their personal level of commitment to their education.

Unfortunately, this plan is not feasible. Requiring detailed surveys adds a brand new component to the program, which is already struggling to convince some school principals of its effectiveness. Additional paperwork will further discourage those principals and teachers unconvinced by the program. However, elements of this ideal plan are usable. We will take a random sample of students involved in the truancy program and administer brief surveys or semi-structured interviews to their teachers to determine changes in classroom performance.

In addition, PSD already administers a survey to students attending truancy school and PAC. We have added a few questions to this survey to help measure student attitudes towards school both before and after the program. The data we will gather to measure this outcome will be more qualitative than quantitative, since there is no numeric system to rank commitment to school.

Because our collected data is qualitative, it is extremely difficult (or perhaps impossible) to statistically project what commitment to school would be without program intervention. In a purely scientific context, district officials could create an experimental group and a control group and only administer the program to some students. Program effect in this case would be readily visible—any increase in commitment to school in the experimental group would be directly attributable to the program. However, because of legal and ethical considerations (by law, all students must attend school; PSD can not purposely prevent a student from using the truancy program for the sake of science), finding a control group to measure program effect is more difficult.

Rather than use control groups, we can instead use different *comparison* groups in our analysis. All Utah school districts are legally required to address truancy, and while neighboring Alpine and Nebo school districts have adapted their truancy programs from Provo, districts with similar socioeconomic demographics (such as Ogden or Bountiful) may have entirely different approaches to truancy. We will compare data from these districts with PSD's commitment to school outcomes to determine if Provo's truancy program increases school commitment more or less than other districts.

However, these other districts are less likely to have programs based on the same theory—some may not look at commitment to school as an outcome. Without some sort of standard cross-district

Figure 8: Effect of PSD truancy program on commitment to school
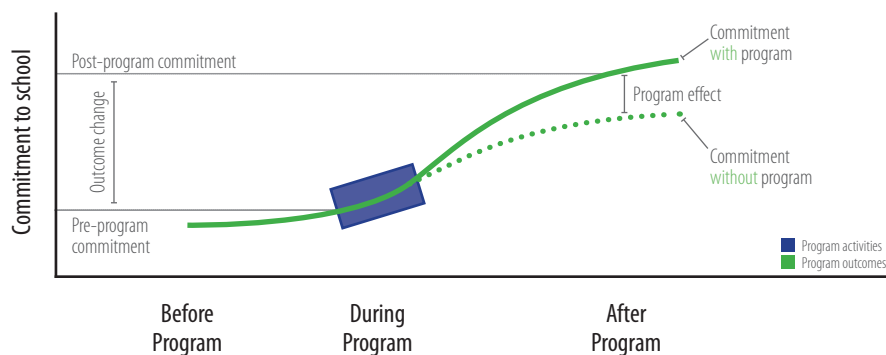
data, comparison will be difficult. To combat this potential data incompatibility, we will use different comparison groups within PSD itself. As outlined in the program logic model, students are supposed to receive a third citation if they are absent five more times after truancy school. In practice, however, each school principal is responsible for referring the student to truancy court. In meetings with PSD staff, we have learned that principals have varying levels of commitment to the truancy program. Some believe in the model and refer their students as prescribed, while others delay referrals. We will use PSD data to test if there are systematic differences in schools' participation in the program. If we find that some schools are less likely to refer students to truancy school or PAC, we can compare levels of commitment across different schools. If schools that properly use the truancy program show more of an improvement in school commitment than the schools that fail to participate, we will be able to prove program effect (see Figure 8).

Measuring a reduction in the risk of delinquency

The most important outcome of the truancy program—a reduction in the risk of anti-social, delinquent, or criminal behaviors—is the most difficult to measure. It is by far the most distal outcome of the program and therefore extremely difficult to directly attribute to program activities. It is also nearly impossible to determine if the outcome has been achieved without measuring a host of other factors, from program outcomes like improved attendance to activities unrelated to the program, such as criminal records or employment histories.

Ideally, we could determine if students are better inoculated against anti-social or criminal behavior by looking at their lives five years after completing the program. If a former truancy school or PAC participant has had regular brushes with law enforcement or is in jail, it may indicate that the truancy program was unsuccessful. Likewise, if a truancy school participant later graduates from university without any delinquent or criminal behavior, it may indicate that the truancy program was extremely successful.

Tracking student behavior to this extent, though, is nearly impossible. The district loses direct contact with students after they graduate or leave the school system. Risk and preventative factors are measured by the statewide SHARP survey, which is administered to a random sample of 6th, 8th, 10th, and 12th graders every other year. If the district could somehow ensure that a truant 8th grader who then

Figure 9: Effect of PSD truancy program on risk of delinquency
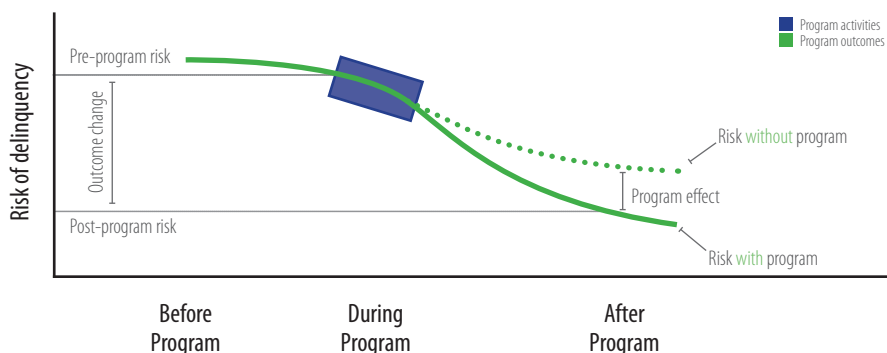
participates in the truancy program is included in the SHARP sample in 6th, 8th, 10th, and 12th grades, and if the district could access that student's individual results, it could perhaps track changes in risk factors and possibly attribute those changes to the program (see Figure 9).

In order to overcome this methodological hurdle, we have adopted a unique strategy for determining the program's effect on risk factors. Case control is a common methodology in used in scientific and social science research that helps determine difficult causal relationships. For example, when epidemiologists discover a case of botulism, scientists do not spend time tracking down the specific bacteria. Instead they interview anyone who has come in contact with the disease to determine any common trends in eating habits. They can then use these results to identify the offending food with relative certainty.

The same principle applies to truancy. Rather than track down every formerly truant PSD student and determine if they show signs of delinquent behavior, we can instead look to academic research. If studies show that criminals were generally truant in school, we can conclude that any reduction in truancy has an effect on the risk factors for anti-social behavior. If we can tie the main outcomes of increased attendance, better grades, and higher commitment to school to existing research, we will have proven indirectly that that the PSD truancy program does have a measurable effect on the risk of delinquency.

Measurement instruments

We have developed a set of measurement instruments to measure the program effect for each program outcome.

Outcome	Measurement tool or approach
No truancy	Agency data (attendance records)
Better grades	Agency data (academic records)
Increased commitment to school	Teacher surveys or interviews before and after a student's first citation
	Surveys of students before and after a student attends truancy school
	Semi-structured interviews of students attending truancy court
Reduced risk factors	Connect results of previous three outcomes with academic research

Agency data will be analyzed using a collection of statistical scripts that will be developed in the next few weeks. All surveys and semi-structured interview questions are included in the appendix, along with a sample code book that provides an interpretation of what levels of measurement reflect a positive or negative program effect.

Validity

We have identified multiple threats to the validity of our evaluation and have attempted to address them in our research design. The tables below explain the potential threats to internal, external, and construct validity and demonstrate how we have worked to overcome these issues in our evaluation design.

Internal validity

We have identified five threats to internal validity. Common threats such as regression, testing, and additive and interactive effects are not applicable in our evaluation.

Type of Threat	Explanation	Potential Error	How Threat is Addressed
Ambiguous temporal precedence	In some cases, students may stop being truant before the citation is received and therefor the program is having no effect.	Type 1	Surveys will be conducted both pre- and post program
Selection	In theory 100% selection because all students must attend, and surveys are automatically administered to everyone. The major problem is the post survey will be e-mailed and those who respond could represent a selection bias	Type 1	We will rely mainly on quantitative agency records (i.e. grades and attendance) to determine program effect
History	There is a potential for a validity issue here because other factors could have more effect than the program. For example, parents getting angry might do more than truancy school.	Type 1	There is no definitive way to address this issue. This is a threat to validity we are unable to address in our evaluation.
Attrition	If a students moves, drops out, or leaves the PSD they are no longer in the program	Type 2	Use data from only a few quarters before and after. If a students does not have both pre and post information they will not be included in the evaluation
Instrumentation	Measuring commitment to school is hard to quantify so the measurement could be imprecise	Types 1 and 2 (the measurements could show both wrong effects or miss real effects)	We are defining commitment to school primarily as an increase in school attendance and grades. Since this information is entirely quantitative it controls for the imprecise concept of commitment to school.

External validity

Because the PSD truancy program is based on solid, academic research, we have identified only one major threat to external validity: interactions of causal relationships with settings. These threats to validity do not apply to our evaluation of the PSD truancy program: (1) interaction of the causal relationship with units, (2) interaction of the causal relationship over treatment variations, (3) interaction of the causal relationship with outcomes, and (4) context-dependent mediation.

Type of Threat	Explanation	How Threat is Addressed
Interactions of causal relationships with settings	PSD could have an issue with this threat if they simply imported another truancy program from another school district.	Instead of just importing someone›s truancy program, PSD looked at a wide variety of research, identified the best practices, and created a program to fit the specific needs of their own district.

Construct validity

Our evaluation faces the greatest number of threats to validity in its constructs. We have identified seven potential threats to construct validity. Several other common threats do not apply: treatment sensitive factorial structure, novelty and disruption effects, treatment diffusion, and compensatory rivalry. Likewise, reactivity to experimental situation, resentful demoralization, and compensatory equalization also do not apply because PSD's truancy program requires 100% participation, we do not need to deal with control group dynamics.

Type of Threat	Explanation	Potential Error	How Threat is Addressed
Mono-method bias	Previously, Provo was primarily using the decreasing number of citations to prove program effect.	This could create either a type 1 or 2 error by missing and/or overstating program effects.	This issue will be addressed by using multiple measurement tools: (1) surveys (of teachers, parents, and students), (2) agency records, and (3) interviews.
Mono-operation bias	See mono-method bias explanation	Type 1 and/or 2	We are addressing this issue by measuring multiple constructs, which are grades, attendance, and commitment to school.
Inadequate explication of constructs	What PSD is measuring may not be what actually needs to be measured. For example, do grades and attendance actually measure commitment to school?; or do teacher opinions of student performance actually measure commitment to school?	Type 1 and/or 2	This is addressed by measuring multiple constructs and defining those constructs in multiple ways.
Construct confounding	Are the operations in the experiment/measurement pure representations of the construct?	Type 1 and/or 2	We are measuring 4 outcomes—not just one. Furthermore, all the outcomes we are measuring are related.
Confounding constructs with levels of constructs	Are we measuring everything we should be? Are we measuring enough to make accurate inferences? Is the model fully specified?	Type 1 and/or 2	We have addressed this issue by thoroughly researching different methods of measuring constructs. Some constructs may not be measured in the ideal way because of lack of time and resources of the PSD truancy program.
Reactive self-report changes	Students potentially will report higher involvement and better habits on anonymous surveys or in interviews to appear they are performing better than they really are.	Type 1	This is controlled for by also asking parents and teachers to participate in surveys for a more balanced view. Also, we are using objective, unbiased agency records to measure student performance in addition to the surveys.
Experimenter expectancies	During interviews or on surveys researchers could ask leading questions or act in a way to illicit certain responses from respondents	Types 1 and/or 2	We control for this by reviewing all surveys, creating questions to ask for the interview, and training interviewers.

Evaluation Implementation

Our team has spent the past four months assessing the best strategy for determining the effectiveness of PSD's truancy program and measuring the program's effect on its four main outcomes: (1) reduced truancy, (2) improved grades, (3) increased commitment to school, and (4) reduced risk for delinquency. We have also developed a detailed set of survey instruments and other tools to measure those outcomes.

Beginning in January 2012, our team will begin to conduct the actual outcome evaluation, using the resources and following the timeline outlined in the tables below.

Once our evaluation is complete, PSD will have a comprehensive report that it can submit to various state agencies to secure continued funding for its truancy program. As an added service, we will also create a package of statistical scripts and survey instruments that will allow PSD staff to perform ongoing outcome monitoring activities. Staff will be able to observe the program's performance and measure the success of its outcomes without assistance from future BYU MPA students, thus allowing the program to be receive more sustainable funding and state support.

Resources

Resource	Quantity needed	Cost	Where to acquire
Paper (surveys, citation letters, etc...)	5000	$40.00	PSD already provides
Brief statistics training for Chris	1 hour	Free	Provided by Hall Monitors
R statistics package	—	Free	http://www.r-project.org/
Interview Time	Varies	Included in staff salary	Use PSD staff at Truancy Court
Training for attendance secretaries	Varies	Included in staff salary	PSD staff/Hall Monitors
Time for data entry from surveys	20 minutes/month	Included in staff salary	Cathy & Chris
Hall Monitors to run initial tests, provide analysis, and write final evaluation report	3 hrs/week	Free	Hall Monitors (Andrew Heiss, Anthony Jenkins, Rachel Finley)
Electronic surveys	—	Free	Google forms (provided)

Timeline

Approximate date	Task	By whom	Notes
Immediately (ongoing)	Begin administering new paper surveys and subsequent e-mail post surveys	PSD Truancy School staff	
January 6, 2012	Obtain IRB approval for research with human subjects	Hall Monitors	
January 6, 2012	Begin administering online teacher surveys or brief in-person interviews	Hall Monitors	Rather than create an automated e-mail system to distribute pre and post surveys to the teachers of truant students, we will take a random sample of those teachers and e-mail them individually or meet with them in-person to determine students' commitment to school
January 9, 2012	Collect and combine all necessary agency data, build official database and code book	Hall Monitors	
January 13, 2012	Create necessary statistical scripts in R	Hall Monitors	
January 20, 2012	Attend Truancy School	Hall Monitors	Exact date TBA
January 25, 2012	Attend Truancy Court & administer semi-structured interviews	Hall Monitors & PSD staff	Exact date TBA
February 17, 2012	Attend Truancy School	Hall Monitors	Exact date TBA
February 22, 2012	Attend Truancy Court & administer semi-structured interviews	Hall Monitors & PSD staff	Exact date TBA
March 2, 2012	Run statistical tests and analyze results	Hall Monitors	
March 16, 2012	Present findings to PSD administrators	Hall Monitors & PSD staff	
March 30, 2012	Present final evaluation results to district and state administrators in Salt Lake City	Hall Monitors & PSD staff	
April 2012	Publish final report	Hall Monitors, PSD staff, and Eva Witesman	

Excerpt from code book with levels of interpretation for each outcome variable

Program outcome	Specific measure	Source of data	Level of measurement	Time frame	Variable name	Type of data	Statistical test	Interpretation
Reduced truancy	Attendance of student before, during, and after truancy program.	Administrative data Number of days absent since beginning of school year	Continuous	1 academic quarter before beginning truancy program; 2 quarters after	`stuattend`	Quantitative	t-tests	Good: Any significant improvement in attendance Neutral: Improved attendance without significance Bad: No improvement in attendance
Improved grades	Student GPA before, during, and after truancy program.	Administrative data Student GPA for current quarter	Continuous	1 academic quarter before beginning truancy program; 2 quarters after	`stugpa`	Quantitative	t-tests	Good: Any significant improvement in grades Neutral: Improved grades without significance Bad: No improvement in grades
Increased commitment to school	Survey data before, during, and after truancy program.	Survey and semi-structured interviews	Ordinal Survey results are ordinal by nature Interview results will be coded and converted to ordinal or continuous data	1 academic quarter before beginning truancy program; 4 quarters after	`stucommit`	Quantitative; Qualitative > Quantitative	t-tests	Good: Any significant improvement in commitment Neutral: Improved commitment without significance Bad: No improvement in commitment
Reduced risk of delinquency	Observe sections of the population that exhibit delinquent tendencies and determine to what extent truancy was related to their behavior Measure not connected to specific PSD students involved in truancy program	Case control research	No measurements are linked to the final evaluation. If we can tie the main outcomes of increased attendance, better grades, and higher commitment to school to existing research, we will have proven indirectly that that the PSD truancy program does have a measurable effect on the risk of delinquency.					Good: Case control research verifies a link between truancy programs and awareness of potential consequences Bad: Case control research fails to verify a link between truancy programs and awareness of potential consequences

Table 1a: Non-outcome variables

Variable name	Specific measure	Source of data	Level of measurement
`stuid`	Student ID number	Administrative data	Nominal
`time_intervent_qtr`	Number of quarters before or after truancy invervention	Administrative data	Continuous
`time_intervent_week`	Number of weeks before or after truancy invervention	Administrative data	Continuous

Table 2: Example of possible database

stuid	time_intervent_qtr	time_intervent_week	stugpa	stuattend	stucommit
0129384	-1	-5	2.4	25	2
0129384	0	0	2.8	15	3
0129384	2	17	3.5	3	7
0024601	-1	-2	1.7	17	3
0024601	0	0	1.6	20	2
0024601	1	8	3.4	2	9

PSD Truancy Program Evaluation Survey Instructions

Pre-Truancy School Paper Surveys:

	Administrator	Respondent	Timeline
Elementary school	Truancy school instructor or PSD staff member	Elementary school students attending truancy school	Distribute survey as participants arrive for truancy school. Collect before truancy school begins.
Middle/High school	Truancy school instructor or PSD staff member	Middle and high school students attending truancy school	Distribute survey as participants arrive for truancy school. Collect before truancy school begins.
Parents	Truancy school instructor or PSD staff member	Parents attending truancy school	Distribute survey as participants arrive for truancy school. Collect before truancy school begins.

Post-Truancy School E-Surveys:

	Administrator	Respondent	Timeline	Other Details
Elementary school	PSD truancy staff	Elementary school students who attended truancy school	Email to participants (to address listed on their pre-survey) 2 week(s) after truancy school	A hidden or read-only field will be prepopulated with identifying information, pending PSD technical assistance
Middle/High school	PSD truancy staff	Middle and high school students who attended truancy school	Email to participants (to address listed on their pre-survey) 2 week(s) after truancy school	A hidden or read-only field will be prepopulated with identifying information, pending PSD technical assistance

Parents	PSD truancy staff	Parents who attended truancy school	Email to participants (to address listed on their pre-survey) 2 week(s) after truancy school	A hidden or read-only field will be prepopulated with identifying information, pending PSD technical assistance

Commitment to School E-Surveys for Teachers:

	Administrator	*Respondent*	*Timeline*	*Other Details*
Pre-survey	PSD truancy staff (auto- generated email)	Teachers of students who receive citation letters	Auto-send to all instructors of a student who received a 1st citation letter when the database shows a citation letter has been sent. If the PSD database system has the capability to do so, e-mails will be sent after the 2nd and 3rd citations as well.	A hidden or read-only field will be prepopulated with identifying information, pending PSD technical assistance
Post-survey	PSD truancy staff (auto- generated email)	Teachers of students who receive citation letters	Auto-send to the same instructors 2 weeks after the first survey was sent.	A hidden or read-only field will be prepopulated with identifying information, pending PSD technical assistance

Elementary School Student Survey

Date: _____   School: _____

I want to come to school more (circle)

    Yes   No   Don't Know

I know that I am supposed to come to school

    Yes   No   Don't Know

I know the rules about coming to school

    Yes   No   Don't Know

I know how to use the computer to find school information

    Yes   No   Don't Know

I know my parents could get in trouble if
I do not come to school

    Yes   No   Don't Know

How important is school to you?

    1   2   3   4   5

It is not important   It is kind of important   It is very important

Middle and High School Student Survey

Date: _____   School: _____

I want to improve my attendance at school (circle)

     Yes   No   Don't Know

It is a law for me to attend school

     Yes   No   Don't Know

I know what my school's attendance policy says

     Yes   No   Don't Know

I know how to use PowerSchool

     Yes   No   Don't Know

I am likely to make more money during my life if
I graduate from high school

     Yes   No   Don't Know

How important is school to you?

     1   2   3   4   5
(Not important at all)   (Very important)

To receive a follow-up survey in two weeks, can you please provide
your e-mail address?

_____

Parent Survey

Date: _____   School: _____

I want to improve my child's attendance at school (circle)

     Yes   No   Don't Know

It is a law for my child to attend school

     Yes   No   Don't Know

I know what my child's school's attendance policy says

     Yes   No   Don't Know

I know how to use PowerSchool

     Yes   No   Don't Know

I can change my child's truancy problems

     Yes   No   Don't Know

How important is school to you?

     1   2   3   4   5
(Not important at all)   (Very important)

To receive a follow-up survey in two weeks, can you please provide your e-mail address?

_____

Truancy School Survey (Elementary Students)

Choose one answer for each question.

I want to come to school more

○ Yes

○ No

○ Don't Know

I know that I am supposed to come to school

○ Yes

○ No

○ Don't Know

I know the rules about coming to school

○ Yes

○ No

○ Don't Know

I know how to use the computer to find school information

○ Yes

○ No

○ Don't Know

I know my parents could get in trouble if I do not come to school

○ Yes

○ No

○ Don't Know

How important is school to you?

	1	2	3	4	5	
It is not important	○	○	○	○	○	It is very important

Submit

Truancy School Survey (Middle and High School Students)

Please select the most accurate answer for each of the following questions.

I want to improve my attendance at school

- ◯ Yes
- ◯ No
- ◯ Don't Know

It is a law for me to attend school

- ◯ Yes
- ◯ No
- ◯ Don't Know

I know what my school's attendance policy says

- ◯ Yes
- ◯ No
- ◯ Don't Know

I know how to use PowerSchool

- ◯ Yes
- ◯ No
- ◯ Don't Know

I am likely to make more money throughout my life if I graduate from high school

- ◯ Yes
- ◯ No
- ◯ Don't Know

How important is school to you?

	1	2	3	4	5	
Not Important At All	◯	◯	◯	◯	◯	Very Important

Submit

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Truancy School Survey (Parents of Students)

Please select the most accurate answer for each of the following questions.

I want to improve my child's attendance at school

◯ Yes

◯ No

◯ Don't Know

It is a law for my child to attend school

◯ Yes

◯ No

◯ Don't Know

I know what my child's school's attendance policy says

◯ Yes

◯ No

◯ Don't Know

I know how to use PowerSchool

◯ Yes

◯ No

◯ Don't Know

I can change my child's truancy problems

◯ Yes

◯ No

◯ Don't Know

How important is school to you?

	1	2	3	4	5	
Not Important At All	◯	◯	◯	◯	◯	Very Important

Submit

PSD Truancy Program Semi-Structured Interview

General instructions:

Administrator	Respondent	Timeline	Other Details
Truancy school instructor or staff member	Students attending truancy court	Administer to students before or immediately after their court hearing, while they wait for the actual hearing.	Responses will be open-coded and classified once several interviews have been completed.

Semi-Structured Interview:

Was this interview conducted before or after the student/parent were in court? (circle)

Before   After

Ask the participant the following questions and note general trends/attitudes that reflect commitment to school:

Commitment in class
- Tell me about your attitude during class

- What are your favorite things about class?

- What are your least favorite things about class?

- How do you remember what is taught during class?

Commitment out of class
- Tell me about what you do after school and on weekends

- What is your homework routine each day/week?

- What stressed you about homework?

- What do you enjoy about homework?

Commitment to School Survey (Teachers)

Please select the most accurate answer regarding your student's commitment for the following questions.

Please indicate the level of the student's commitment to school (in-class) over the past month

	1	2	3	4	5	
Minimal	◯	◯	◯	◯	◯	Exceptional

Please indicate the level of the student's commitment to school (out-of-class, including homework) over the past month

	1	2	3	4	5	
Minimal	◯	◯	◯	◯	◯	Exceptional

Submit