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Presentation #2

Title: A systematic Review and Meta-Analysis of Indicated interventions to Increase School Attendance

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Abstract Body

Background / Context:

School absenteeism, also referred to in the literature as school refusal and truancy, has been of concern to schools, courts, communities and social and behavioral scientists since compulsory education laws were first put into effect in the 19th century (Clay, 2004; Leyba & Massat, 2009). Today, school absenteeism remains a serious problem that continues to plague this country and negatively impact our youth and their futures.

The prevalence of absenteeism/truancy has remained relatively unchanged, and by some measures has increased over the past decade. Several large inner-city schools systems report thousands of unexcused absences each day with some reporting absentee rates as high as 30% (Garry, 1996). According to the National Center for Education Statistics (2006), 19% of students in 4th grade and 20% of students in 8th grade reported missing 3 or more days of school in the preceding month. The study also noted that the patterns of absenteeism have remained relatively stable between 1994 and 2005. According to recent statistics available from the U.S. Department of Justice, the number of truancy cases petitioned and handled in juvenile courts increased 69% between 1995 and 2004 and accounted for the largest proportion (35%) of status offense petitions handled by the juvenile courts (Stahl, 2008).

The problem of truancy/school absenteeism has been linked to serious immediate and far-reaching consequences for youth as well as the youth's family, school and community. Youth who are excessively absent from school are at high risk for a number of negative outcomes, including delinquency, poor school performance, school expulsion, school dropout, substance use and other risky and problematic behaviors (National Center for School Engagement, 2007; Petrides, Chamorro-Premuzic, Frederickson & Furnham, 2005; Reid, 1999). Negative economic implications are also significant for absentee students. Students who are chronically absent from school are more likely to perform poorly in school and more likely to drop out of school which negatively impacts their earning potential over their lifetime (Attwood & Croll, 2006; Garry, 1996). The implications for schools whose students are not attending include schools losing funding and not meeting performance requirements. Significant costs to communities associated with truancy/absenteeism include higher rates of criminal activity, citizens not productively contributing to the community and higher government spending for social services (Baker, Sigmon & Nugent, 2001).

The prevalence and serious individual and societal consequences of school absenteeism has led researchers, practitioners and policy makers to study and try to address the problem. Greater attention and substantial efforts have been made over the past decade, including the initiation of a truancy reduction demonstration program by the Office of Juvenile Justice and Delinquency Prevention and the U.S. Department of Education's Safe and Drug Free Schools Program. Despite the increased attention and federal funding of truancy reduction programs, truancy rates in the United States have increased over the past 15 years. The divergent approaches to studying absenteeism and various philosophies of how to best intervene with absentee youth have resulted in diverse and incongruent efforts to combat absenteeism. A number of publications recommend "best practices" and provide examples of "exemplary" programs to be used as models for others to duplicate. Unfortunately, much of the information on which authors rely to recommend specific interventions or strategies are based on case studies, surveys, expert opinion and traditional literature reviews rather than evidence derived from intervention outcome research.

A number of diverse programs have been evaluated, providing a potentially substantial body of research available for assessing the efficacy of interventions to increase student attendance. Unfortunately, there has been no systematic review or meta-analysis of these programs to inform policy and practice in this area. It is important to synthesize the intervention research to provide a comprehensive picture of interventions that are being utilized, to identify interventions and policies that are effective and identify areas in which more research needs to be conducted to better inform practice and policy.

Purpose / Objective / Research Question / Focus of Study:

The main objective of this systematic review and meta-analysis was to examine the effects of intervention programs on school attendance behaviors of elementary and secondary school students to inform policy and practice.

The specific questions guiding this study were:

1) Do indicated programs with a goal of increasing student attendance affect school attendance behaviors of elementary and secondary students?
2) Are there differences in the effects of school-based, clinic/community-based, and court-based programs?
3) Are different modalities (i.e. individual, family, group, multi-modal) of interventions more effective than others in increasing student attendance?

Setting:

Studies included in this meta-analysis were conducted in various settings, including schools, courts and community-based organizations. All settings, with the exception of inpatient or residential treatment settings, were included.

Population / Participants / Subjects:

The population for this meta-analysis was all existing research studies meeting the following inclusion/exclusion criteria:

1. *Types of studies:* Randomized controlled trials (RCT), quasi-experimental designs (QED) and single group pre-post test designs (SGPP)
2. *Types of participants:* Students attending primary or secondary educational institutions and have an identified problem with school attendance (as identified by the researchers). Due to the vast number of studies of interventions addressing school attendance, this review focused on programs targeting students who have been identified prior to treatment as having an attendance problem. Studies in which participants have been identified as previously having dropped out of school were excluded.
3. *Types of outcome measures:* School attendance or absence
4. *Geographical context:* Due to significant differences in educational and legal systems around the world, this review included studies conducted in the United States, Canada, the United Kingdom and Australia. Only English-language articles were included in the review.
5. *Timeframe of field trials:* Studies that were dated between 1990 and May 2009, even though the research itself might have been conducted prior to 1990.
6. *Effect size data:* To be included in the review, authors must have reported enough data to calculate effect sizes.

A total of 62 studies (RCT, QED and single group pre-post) of indicated programs that met basic eligibility criteria were identified through the search process. Figure 1 summarizes the search and selection process. **(Please insert Figure 1 here)** Of the 62 studies found, 33 studies met final eligibility criteria and were included in the review and meta-analysis. Of the studies that were included, 11 were randomized field trials, 9 quasi-experimental studies and 13 single group pre-post-test. A list of studies included in this review can be found in Appendix C. The 29 studies excluded from the review at the final stage were excluded primarily due to the author not providing adequate data to calculate effect sizes. A full listing of the excluded studies and a description of reasons for exclusion can be found in Appendix D.

Intervention / Program / Practice:

Interventions with a stated primary goal of increasing student attendance (or decreasing absenteeism/truancy/school refusal) among students attending primary or secondary school were included in this meta-analysis. The interventions in this review include a broad range of programs and intervention components. All interventions were categorized into 1) school-based interventions; 2) court-based interventions and 3) agency/clinic based interventions as depicted in Table 1. A number of modalities were utilized in the included studies as summarized in table 2. **(Please insert Tables 1 and 2 here)**

Research Design:

A systematic review and meta-analysis was conducted to examine and quantitatively synthesize research related to effects of interventions intended to increase school attendance in primary and secondary students. Due to the methodological differences between comparison group and single group studies, the meta-analytic results of the experimental and quasi-experimental studies were analyzed separately from the single-group pre-post test studies.

Data Collection and Analysis:

Description of the methods for collecting and analyzing data.

This study utilized a systematic method for all aspects of the search, selection and data collection process. Several sources were used to identify eligible studies for inclusion in the review/meta-analysis. These sources include 1) 19 electronic databases; 3) internet searches using several search engines as well as relevant websites; 4) personal contacts with research centers and experts in the field; and 5) bibliographies of narrative reviews and retrieved studies. Every effort was made to include published as well as unpublished studies in the review to minimize publication bias. All studies that met criteria to be included in the review were coded using a coding instrument which specified the data to be extracted from each eligible study. The coding instrument was comprised of two main sections: study characteristics and empirical findings of the study. It included items related to bibliographic information, study design, context, nature and implementation of the intervention, sample characteristics and outcome data needed to calculate effect sizes. All data extracted from the studies were entered into Excel.

To ensure reliability of coding procedures, a random sample of 20% of the studies were coded by two coders. Inter-rater agreement was assessed and differences in coding decisions were resolved by meeting and discussing contested items and clarifying coding policies. If there were more than 10% discrepancy in critical fields between the two coders in the random subsample, the remainder of the studies would have been coded by a second coder and all differences in coding resolved.

Statistical analysis produced descriptive information on the characteristics of the included studies. Analysis of the mean effect size of the interventions, the heterogeneity of effect sizes, and the relationship between effect size and methodological qualities as well as substantive characteristics of the interventions were conducted utilizing Comprehensive Meta-Analysis (CMA) 2.0. The effect sizes were calculated using the standardized mean difference effect size statistic. Because several studies in this meta-analysis contained small sample sizes, Hedges' *g* was employed to correct for small sample size bias (Hedges, 1981). The Analog to the Analysis of Variance was used to examine potential moderating variables related to design, participant and intervention characteristics.

Findings / Results:

Overall, interventions included in this meta-analysis were found to demonstrate a moderate, positive effect on attendance outcomes. The mean effect size of interventions examined in the included RCT/QED studies was .47 and in SGPP studies was .60. A summary of each RCT/QED study and SGPP study included in the review with the weighted effect size, using Hedge's *g*, of attendance outcomes for each intervention can be found in Appendix E and F, respectively. The effect sizes and the variance among those effect sizes are graphically depicted in Figure B (RCT/QED studies) and Figure C (SGPP studies) in the form of a forest plot. **(Please insert Figures B and C here)**

Although the interventions demonstrated a moderate mean effect, the mean absence rates at post-test for the majority of the studies remained above 10%; thus it appears that the majority of interventions are falling short in their attempts to improve student attendance to the point of achieving an acceptable level of regular attendance. In addition, the overall mean effect size is masked by a large amount of heterogeneity between the studies.

The observed variation between studies may be due to the differences in study design, participant characteristics and intervention characteristics, or a combination of these, found in the included studies. Because of the significant heterogeneity observed, moderator analyses were performed to examine potential explanations for this variability.

Variables related to study characteristics that were found to have a relationship with mean effect size was publication status, study design, attrition and initial equivalence of groups. Author involvement was also found to have a relationship to mean effect size in single-group pre-post test studies. Participant characteristics found to have a relationship to mean effect size was the baseline mean attendance rates of participants, although the trends observed in the RCT/QED studies were in direct opposition to those in the SGPP studies, likely a result of methodological confounds.

Of the intervention characteristics tested, behavioral interventions were found to be more effective than other types of interventions. When paired with parental intervention components, behavioral interventions were found to be more effective than behavioral interventions without parental involvement. Group based interventions were also found to demonstrate significant effects, especially when accompanied by attendance monitoring and contracting and/or rewards. Court-based, school-based and clinic-based interventions produced similar effects on attendance behaviors. The available evidence did not support mentoring and family therapy interventions as effective attendance interventions for truant/absentee students.

Several of the significant findings in this study were findings of the absence rather than presence of key relationships or variable. One of the key findings is the lack of available evidence to support the general belief that collaborative and multi-modal interventions are more

effective than simple, non-collaborative interventions. Other significant findings of absence in these studies was the lack of reporting on and statistical analysis of demographic variables, particularly race/ethnicity and socio-economic status. Race was not reported in 51% of the studies and socio-economic status was not reported in 86% of the studies included in this review. Given that race and SES have been linked to absenteeism, the absence of the racial/ethnic and SES description of the participants was startling. Authors also failed to provide statistical comparisons of initial group differences in 48% of the studies, thus pre-group differences could be accounting for the larger effect sizes. The studies also lacked adequate descriptions of the interventions, thus making replication of the intervention difficult. The majority of studies also failed to measure/report long-term outcomes.

Conclusions:

As evidenced by the relatively few studies on outcomes of indicated interventions targeting attendance/absenteeism found in the search process, there is limited evidence on the effectiveness of indicated programs aimed at increasing attendance/decreasing absenteeism. The number and types of interventions currently in operation throughout the United States and other countries contrasts sharply with the number and types of interventions for which there are reasonably rigorous evaluations. It seems reasonable to conclude that the studies in this review do not adequately represent the outcomes of programs currently in existence and therefore cannot be generalized to the population of programs in operation. Due to the lack of rigorous studies in the extant literature and the heterogeneity of the studies included in this synthesis, caution must be used in interpreting these results and utilizing them for application in practice and policy decisions.

Although there are relatively few studies in this review and meta-analysis compared to the number of programs currently in existence, these studies represent the best empirical evidence currently available for outcomes of indicated programs targeting students with attendance problems. A meta-analysis of the current available research provides a starting point to understanding what effects interventions are having on attendance outcomes. Meta-analysis also provides a more transparent and valid analysis strategy than the alternative means of narrative reviews and vote counting methods (Valentine, Pigott & Rothstein, 2010). In addition, it provides a means to more systematically uncover gaps in the knowledge base (Lispey & Wilson, 2001).

Because interventions did result in a moderate effect on student attendance, it is recommended that practitioners and policy makers do take steps and intervene with students who are exhibiting problematic absenteeism/truancy. Doing something is better than doing nothing. Behavioral strategies, parent training and school-based attendance groups appear to be more effective than other interventions, such as mentoring and family therapy. It is also recommended that practitioners and policy makers become better consumers of evidence as well as contribute to the evidence base by conducting outcome research using rigorous methodologies.

The relatively small number of studies that were found and met inclusion criteria for this synthesis, in addition to the heterogeneous meta-analytic findings, affirm the need for increasing and strengthening the evidence-base on which current policies and practices rest. Additional outcome research of indicated interventions to increase attendance is necessary, but not sufficient. Significant improvements in quality and rigor of intervention research is required and identified gaps need to be addressed. A summary of recommendations to improve the quality of outcome research in this area as well as address the identified gaps is provided in Tables 3 and 4.
** (Please insert Tables 3 and 4 here)**

Appendices

Appendix A. References

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Appendix B. Tables and Figures

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Table 1: Types of Interventions

Type of Interventions	RCT/QED Studies	SGPP Studies	All Studies
	N (%)	N (%)	N (%)
School-based	13 (62%)	5 (36%)	18 (51%)
Court-based	3 (14%)	7 (50%)	10 (29%)
Clinic/Agency-based	4 (19%)	2 (14%)	6 (17%)
Unable to determine	1 (5%)	0 (0%)	1 (3%)

Table 2: Components/Modalities of Interventions

Components	RCT/ QED Studies	SGPP Studies	All Studies
	Frequency	Frequency	Frequency
Student Targeted Interventions			
Counseling, Social Work, other therapeutic interventions	31	30	61
CBT- Individual	3	1	4
CBT- Group	1	0	1
Group therapy (non-CBT)	2	3	5
Individual therapy (non-CBT)	0	4	4
Behavioral Interventions (contracting, incentives, social skills training)	8	4	12
Mentoring/Tutoring	3	3	6
Court Proceedings	1	5	6
Pharmacotherapy	1	0	1
Individualized Plans	2	2	4
Informational Presentations	1	2	3
Student Health Center Services	1	0	1
Interdisciplinary Team Meetings	3	3	6
Alternative Education Programs	3	0	3
Case Management	0	3	3
Peer Support	2	0	2
Parent/Family Targeted			

Components	RCT/ QED Studies	SGPP Studies	All Studies
	Frequency	Frequency	Frequency
Interventions	20	20	40
Family Therapy	5	1	6
Educational Group Meetings	1	2	3
Interdisciplinary Team Meetings/ Conferences	4	3	7
Criminal Prosecution	0	2	2
Home Visits	3	2	5
Referrals for services	2	2	4
Parenting Skills/Training	4	3	7
Case Management	1	5	6
Other			
Teacher Consultation/Training	2	1	3

Note: Categories are not mutually exclusive

Table 3: Summary of Methodological Shortcomings and Recommendations

Issue	Recommendation
Study Design	Utilize a comparison group design, preferably with random assignment
Missing Demographic Data	Provide adequate descriptions of the sample including: age, grade, race, SES, gender, special education status, % attendance at baseline
Initial Group Equivalence	Conduct statistical tests to compare the treatment and control groups on key variables, such as demographics and pre-test attendance rates
Inadequate Descriptions of Intervention	Provide a detailed description of the intervention in such a way that the intervention could be replicated.
Attrition	Keep attrition to a minimum. Clearly report attrition and reasons for lost cases.
Sample Size	Keep sample size as large as feasible, taking into account issues of attrition and locating/enrolling participants and student/family mobility
Measuring Attendance	Measure excused and non-excused absences and report separately
Reporting Attendance	Report attendance as a percentage of days attended or absent
Long-term	Measure and report attendance at time points following the

follow-up	intervention, preferably a semester, school year and beyond if possible
Reporting Data for Effect Sizes	Report the sample size, mean and standard deviation for all outcomes measured, regardless of whether the results of statistical tests for that variable were significant

Table 4: Summary of Identified Gaps and Recommendations

Issue	Recommendation
Lack of ethnic minority students	Additional studies are needed with students from various racial/ethnic backgrounds.
Lack of court and community based interventions	Additional studies are needed to evaluate outcomes of court-based programs and clinic/community-based programs.
Cost-benefit analysis	Data regarding the costs of the interventions and a cost-benefit analysis are needed in future studies.
Missing information re: implementation	Description and analysis of implementation issues is needed in future studies.
Lack of consensus on definitions	Further research is needed to examine whether distinguishing students as school refusers as a distinct group is necessary.
Few studies assessed long-term outcomes	Studies need to examine longer term outcomes related to attendance, drop-out and achievement

Figure 1: Flow Chart of Study Search and Selection Process

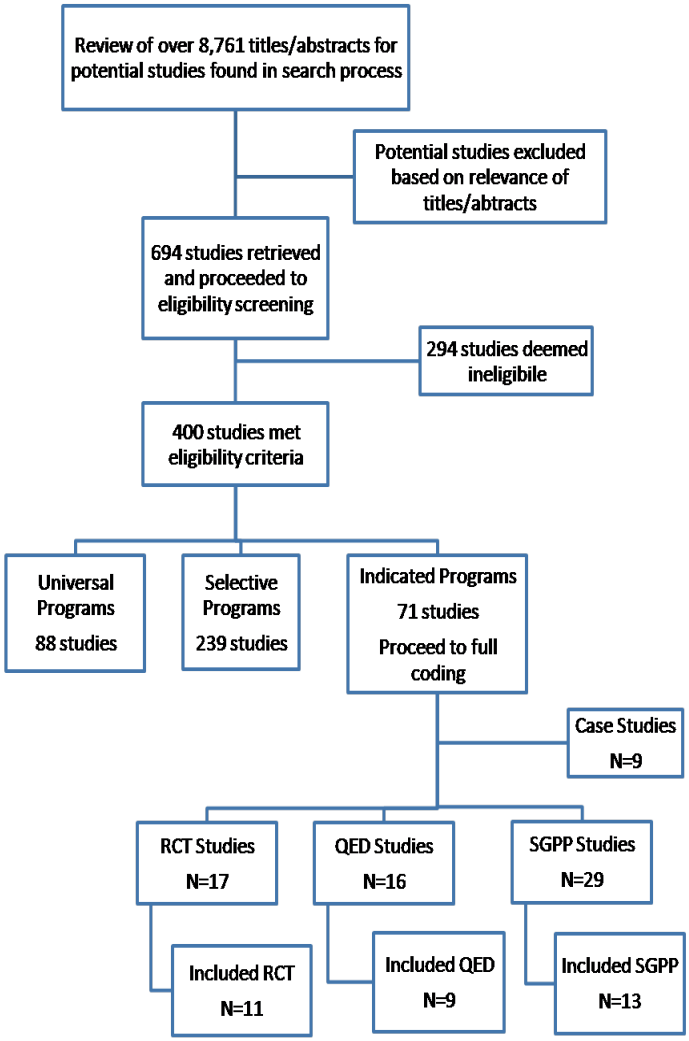


Figure 2: Forest Plot of Mean Effect Sizes of RCT and QED Studies

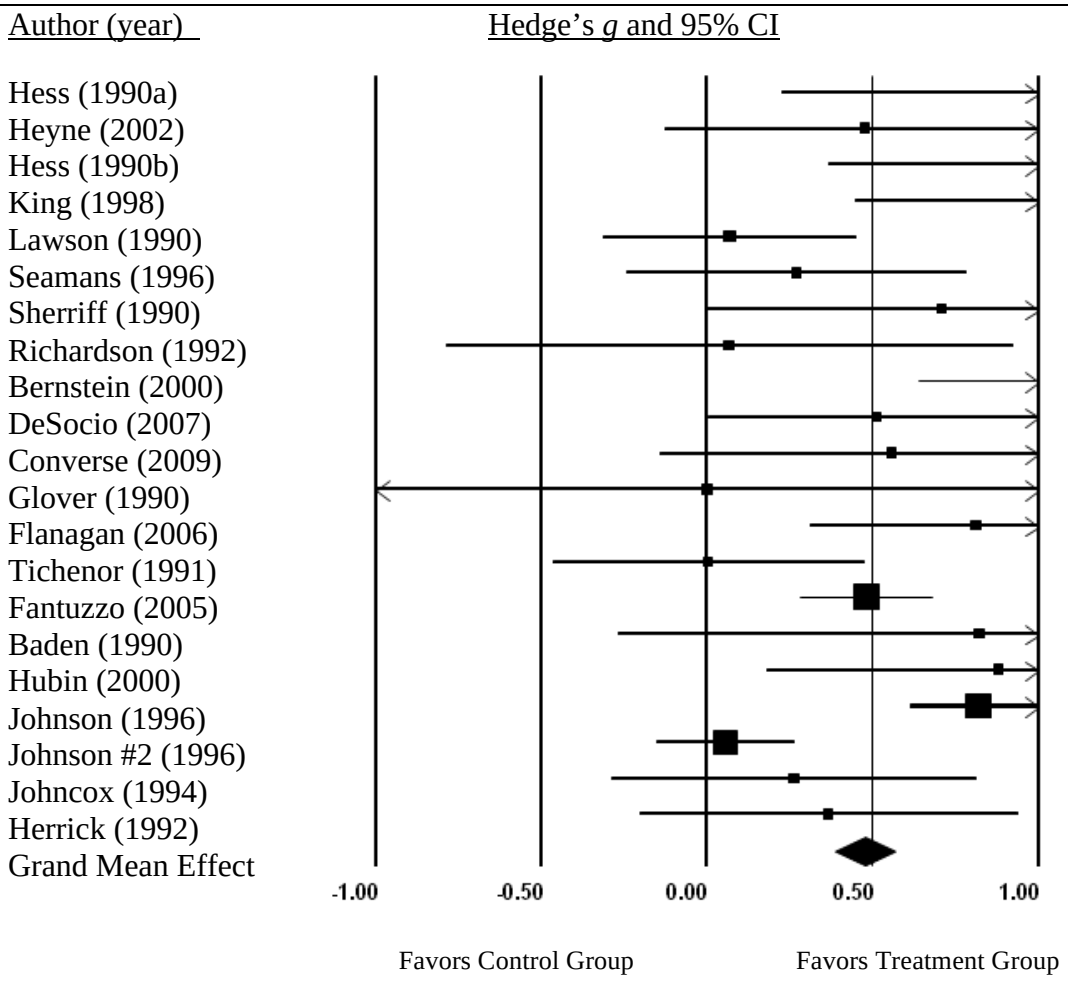
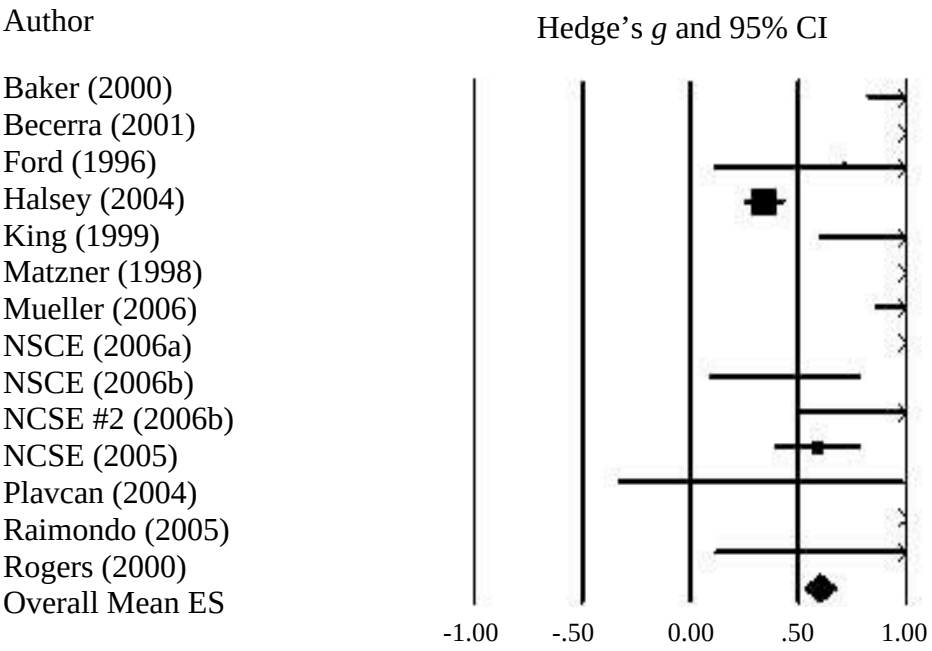


Figure 3: Forest Plot of Mean Effect Size of Single Group Pre-Post Test Studies



Appendix C: Studies Included in the Systematic Review/Meta-Analysis

Randomized Controlled Studies

Bernstein, G. A., Borchardt, C. M., Perwien, A. R., Crosby, R. D., Kushner, M. G., Thuras, P. D., Last, C. G. (2000). Imipramine plus cognitive-behavioral therapy in the treatment of school refusal. *Journal of the American Academy of Child and Adolescent Psychiatry, 39,* 276-283.

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Quasi-Experimental Studies

Baden, N. K. (1990). The effectiveness of systemic family therapy in the treatment of school phobia: A comparative study. *Masters Abstracts International, 29,* 145. (UMI No. 1340791)Fantuzzo, R., Grim, S., & Hazan, H. (2005). Project Start: An evaluation of a community-wide school-based intervention to reduce truancy. *Psychology in the Schools, 42,* 657-667.

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Single Group Pre-Post Test Studies

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Rogers, L. J. (2000). An attendance intervention for elementary students. Unpublished master's thesis, James Madison University.

Appendix D: Excluded Studies

Excluded RCT & QED Studies	Reason for Exclusion
Bazemore, G., Stinchcomb, J. B., & Leip, L. A. (2004)	Interval level data reported- would need to make too many assumptions to calculate ES.
Brown, I., Berg, I, Hullin, R., & McGuire, R. (1990)	Could not calculate ES
Finlay, K. A., & Heilbrunn, J. Z. (2006)	Could not calculate ES
Grooters, L, & Faidley, B. (2002)	Could not calcuate ES
Jenifer, S. J. (1995)	Combined outcomes of three different programs into one analysis. Programs were too different to combine.
Kearney, C. A., & Silverman, W. K. (1999)	Control group received intervention before posttreatment attendance measured; unclear if control group received full course of alternative treatment at "end control"
King et al. (2001)	Could not calculate ES
Last, C. G., Hansen, C., & Franco, N. (1998)	Could not calculate ES
Page, R. C., & Chandler, J. (1994)	Could not calculate ES
Rosenfeld, L. D. (2005)	No control group was used to evaluate outcome of intervention- correlational study.
Shoenfelt, E. L., & Huddleston, M. R. (2006)	Control group was non-truant students, thus comparing means for ES was not relevant for the purposes of this meta-analysis.
Trice, A. D. (1990)	Could not calculate ES
Wright, K. J. (2000)	Could not calculate ES
Excluded SGPP Studies	**Reason for Exclusion**
American Prosecutors Research Institute. (n.d.)	Could not calculate ES
Carruthers et al. (1993)	Could not calculate ES
Cicchelli, T., & Baecher, R. E. (1995)	Could not calculate ES
Holbert, T., Wu, L., & Stark, M. (2002)	Could not calculate ES
Kaber, V. (2008)	Could not calculate ES
Kearney, C. A., & Silverman, W. K. (1990)	Could not calculate ES
Kreps, R. (1999).	Could not calculate ES
Lehr, C. A., Sinclair, M. F., Christenson, S. L. (2004)	Could not calculate ES
Matthews, A., & Swan, W. W. (1999).	Not a true pre-post test study

McCluskey, C. P., Bynum, T. S., & Patchin, J. W. (2004)	Could not calculate ES
National Center for School Engagement (2006d)	Could not calculate ES
Project Success of Decatur & Macon County: Right Track Truancy Reduction Initiative Elementary Results 2002 – 2008	Could not calculate ES
Project Success of Decatur & Macon County: Right Track Truancy Reduction Initiative Middle School Results 2002 – 2008	Could not calculate ES
Sheverbush, R. L., & Sadowski, A. F. (1994)	Descriptive report. Could not calculate ES.
Van Ry, V. L., & King, D. L. (1998)	Could not calculate ES
White et al. (2001)	Could not calculate ES

Appendix E: Included Studies

Author (year)	Program Name	Description/Components	QED/ RCT	N	% Days Absent Pre	% Days Absent Post	Grade level	Study result	ES	95% CI lower/ upper	
Baden (1990)	Systemic Family Therapy	Family therapy- 6 weekly, 50 minute family therapy sessions	*QED*	*tx=6 c=6*	*ng*	*0*	*4*	+	0.82	-0.27	1.91
Bernstein (2000)	CBT and Imipramine	8 session CBT treatment with medication (Imipramine)	*RCT*	*tx=24 c=23*	*72*	*30*	*4*	+	1.25*	0.63	1.87
Converse (2009)	School-based mentoring program	Mentoring by school staff/faculty- once per week over 18 weeks.	*RCT*	*tx=16 c=15*	*9*	*7*	*2*	*nd*	0.56	-0.14	1.26
DeSocio (2007)	Truancy intervention pilot project	Student enrollment in a school-based health center for comprehensive health services and recruitment of teachers from within the students' school to engage in mentored relationships	*RCT*	*tx=28 c=31*	*32*	*63*	*62*	+	0.51	-0	1.03
Fantuzzo (2005)	Project Start	Truancy court- courtrooms within designated school buildings (rather than traditional court room), caseworkers from service organizations located in the truants' community were present to promote family utilization of community services; referrals or direct services provided to families depending on their capacity of the caseworker.	*QED*	*tx =189 c=189*	*23*	*13*	*4*	+	0.48*	0.28	0.69
Flanagan (2006)	Going to Class Pays	Positive behavior support program- engaging in positive verbal interactions, utilizing attendance monitoring, positive parent interactions and preferred reinforcements.	*QED*	*tx=32 c=32*	*46*	*43*	*3*	+	0.81*	0.31	1.32

Author (year)	Program Name	Description/Components	QED/ RCT	N	% Days Absent Pre	% Days Absent Post	Grade level	Study result	ES	95% CI lower	95% CI upper
Glover (1990)	Group intervention and peer support	Social worker facilitated non truant students in providing peer support in the context of group counseling for truant students. The social worker counseled the parents of the students in this group. Group met once per week for thirty minutes over 15 weeks.	*QED*	*tx=5 c=5*	*ng*	*15*	*2*	*nd*	0.57	-1.12	1.12
Herrick (1992)	Incentive Program for Improved School Attendance	Tangible incentives and verbal praise to students; met with social worker weekly to develop contract/receive incentive/praise.	*QED*	*tx=49 c=15*	*25*	*13*	*1*	*nd*	0.37	-0.21	0.94
Hess (1990a)	Contingency Contracting and Parent Training	Contingency contracts were developed with students. Parents attended 3 weekly group parent training sessions.	*RCT*	*tx=12 c=15*	*49*	*23*	*2*	+	1.05*	0.22	1.79
Hess (1990b)	Contingency Contracting and Group Counseling	a) Contingency Contracting – contracts developed with students and progress monitored daily; and b) Group Counseling (6 sessions over ten weeks). Rational-Emotive and theme-centered interactional approaches.	*RCT*	*tx=13 c=13*	*37*	*18*	*2*	+	1.18*	0.37	1.99
Hubin (2000)	Stop Truancy Project (SToP)	Information meeting held at courthouse. County attorney, social worker and school rep discuss the legal, social and educational ramifications of truancy, present on school and community resources.	*QED*	*tx=15 c=8*	*ng*	*ng*	*4*	+	0.88*	0.18	1.58
Heyne (2002)	Child Therapy (CBT) and Parent/Teacher Training	8 child therapy sessions in addition to 8 parent sessions and school consultation. Informed/encouraged parents and teachers to prompt and reinforce the child's use of the strategies included in the child therapy program.	*RCT*	*tx=20 c=21*	*84*	*23*	*4*	+	0.48	-0.13	1.09

Author (year)	Program Name	Description/Components	QED/ RCT	N	% Days Absent Pre	% Days Absent Post	Grade level	Study result	ES	95% CI lower	95% CI upper
Johncox (1994)	School Success Project	Diversion conference with brief assessment, school attendance agreement signed by participants, referral for services (life management skills, in-home family counseling, psychological testing/eval). If further absences, re-staff and develop another plan which may include court appearance.	*QED*	*tx=45 c=17*	*27*	*20*	*4*	*nd*	0.26	-0.29	0.817
Johnson (1996)-1	High School Intervention Centers Program	Students enrolled in three courses (language arts, mathematics, and group guidance); Focused on individual needs of student in small group settings, intensive goal-directed guidance mode was used to promote self-awareness skills and effective problem solving	*QED*	*tx=193 c=184*	*ng*	*28*	*3*	+	0.82*	0.61	1.03
Johnson (1996)-2	High School Intervention Centers Program	Same as above	*QED*	*tx=165 c=169*	*31*	*39*	*3*	*nd*	0.06	-0.16	0.27
King (1998)	CBT and Parent/ Teacher Training	Children received 6, 50 minute individualized treatment sessions for 4 weeks. Parents received 5, 50 minute individualized sessions and training in child bx mgmt skills. Tangible reinforcements for positive bx and attendance emphasized. Teacher involvement for treatment panning and facilitating regular school attendance, bx mgmt strategies, phone contact with teachers to monitor attendance	*RCT*	*tx=17 c=17*	*39*	*7*	*4*	+	1.16*	0.45	1.87

Author (year)	Program Name	Description/Components	QED/ RCT	N	% Days Absent		Grade level	Study result	ES	95% CI	
					Pre	Post				lower	upper
Lawson (1990)	Peer Tutoring	Peer tutors worked with tutees in 16 sessions, 30 minute each (2x/wk for 8wks) covering pre-planned topics/skills. The tutors (also truants) were trained by the PI and biweekly meetings were scheduled with the tutees to address any problems	*QED*	*tx=60 c=45*	*ng*	*11*	*1*	*nd*	0.07	-0.32	0.45
Richardson (1992)	Reframing with Positive Connotation	Four one hour counseling sessions with a telephone contact between sessions 3 and 4. At least one parent took part in the counseling sessions with their child.	*RCT*	*tx=10 c=9*	*50*	*37*	*4*	*nd*	0.07	-0.79	0.93
Seamans (1996)	Brief Family Systems intervention	6, 1-1.5 hr long family therapy sessions over eight weeks	*QED*	*tx=34 c=24*	*46*	*28*	*4*		0.27	-0.25	0.79
Sherriff (1990)	School-based special education program	16/25 weekly lessons in the Project Y classroom. Alternative classroom setting. Involves community work, personal and social development, work experience and recreation	*QED*	*tx=14 c=16*	*58*	*68*	*3*	+	0.71	-0.01	1.43
Tichenor (1991)	Making it in Middle School	Met with counselors as a group, positive reinforcement, problem solving	RCT	tx=32 c=35	15	14	2	nd	0.01	-0.47	0.478

* $p<.05$

Notes: Grade Level: 1= Elementary; 2= Middle school; 3- high school; 4= mixed grade levels

Study Results: + reported significant findings between groups; nd reported no significant difference between groups

Author (year)	Program Name	Description/Components	QED/ RCT	N	% Days Absent Pre	% Days Absent Post	Grade level	Study result	ES	95% CI lower/ upper

% days absent- ng- not given- author's did not state or did not give enough info to calculate. Some authors provided actual %, while others gave absence data in terms of days (or hours) absent/attended, thus % was calculated. If authors did not specify the # of days possible, then the following assumptions were used: 5 school days/ week; 45 school days/grading period; 90 school days/semester; 180 school days/year.
ES- Effect Size (Hedge's *g*)

Appendix F: Summary of Included Single Group Pre-Post Test Design Studies

Author (year)	Program Name	Description/Components	N	% Days Absent		Grade level	Study results	ES	95% CI	
				Pre	Post				Lower	Upper
Ford & Sutphen (1996)	Attendance Incentive Program	Developed individual intervention plans, support and incentives to children and their families (in school and in-home). Intensive intervention for 9 weeks with 18 week maintenance phase. Intensive phase- met daily with student, verbal praise, encouragement, token/prize, counseling session (15 min-1 hr). Family based interventions- problem solving- to address family problem areas and behaviors; also referrals made. Both school based and home based interventions employed.	9	16%	11%	1	+	.71*	1.31	2.31
King, et al. (1999)	Child Therapy and Parent/Teacher Training	Individual child cognitive-behavior therapy and parent/teacher training; 6-50 minute individual CBT sessions; 5-50 minute parent training sessions over 4 weeks; 1meeting held with teachers to discss tx plan and role of teachers in facilitating regular school attendance-practical behaviour management strategies phone contact to monitor attendance.	20	54%	13%	4	+	1.07*	0.59	1.55
Baker (2000)	Attendance Groups	Supportive, goal focused groups in school. Students met 25-35 minutes once weekly over four months.	14	11%	5%	1	+	1.47*	0.82	2.13
Rogers (2000)	Attendance Group	Attendance group met 20-30 minutes weekly for 6 weeks- supportive, eductional, problem solving	4	14%	4%	1	+	1.00*	0.11	1.89
Plavcan (2004)	in-school job assignment outside of the classroom	Students were assigned a small job in the school to be performed in the morning, supervised by a teacher	4	23%	9%	1	+	0.33	-0.34	0.99

Author (year)	Program Name	Description/Components	N	% Days Absent		Grade level	Study results	ES	95% CI	
				Pre	Post				Lower	Upper
Halsey et al. (2004)	Fast Track to Prosecution	Attendance monitoring, letters to parents, home visits, the convening of a school panel/meeting to discuss the attendance issues and the creation of an action plan accompanied by targets to be met. If no improvement in attendance or parental cooperation is achieved, the case proceeds into Fast Track, a summons is issued and panel may be convened to review case and decide whether the case should proceed to court or be withdrawn.	324	47%	36%	4	ng	0.34	0.24	0.44
Raimondo (2005)	Focused intervention for middle school students	Assistant principal met with the student and parent to increase communication, emphasize importance of attendance and developed a contract. For students with more severe absence issues, meeting also included school resource officer and school adjustment counselor. Individualized stretegies developed as part of the contract. Consult with guidance counselor and psychologist also as needed.	26	14%	8%	2	+	1.50*	1.00	1.99
Matzner et al. (1998)	Intensive Day Treatment Program	Day tx program staffed by multidisciplinary team, integrated academic and psychiatric tx., individualized interventions, ind., group, family therapy, academic services, bx modification contingency system	31	65%	25%	3	+	2.13*	1.57	2.69
NCSE (2006b) #1	King County Truancy Reduction Demonstration Program	2.5 hour pre-court attendance workshops , behavior contracts, and possibly case manager assigned; students with more than 15 unexcused absences go to court	32	21%	14%	ng	+	.44*	.09	.80

Author (year)	Program Name	Description/Components	N	% Days Absent		Grade level	Study results	ES	95% CI	
				Pre	Post				Lower	Upper
NCSE (2006b)-#2	King County Truancy Reduction Demonstration Program	Pre-court attendance workshops , behavior contracts, and possibly case manager assigned; students with more than 15 unexcused absences go to court	25	31%	11%	ng	+	.96*	.50	1.42
NCSE (2005)	A comprehensive truancy intervention program; (Jacksonville, FL)	Jacksonville's comprehensive truancy intervention program consisting of a school based intervention that begins with a meeting of school staff and parents to address a child's unexcused absence (Attendance Intervention Team), a non-judicial hearing held at the county court house for parents and students and can include case management, parenting skills classes and referrals (Truancy Arbitration Program). Supplementing the overalll truancy efforts are four truancy centers located across the city for grades 6-12 called the Truancy Interdiction Program.	108	ng	6%	4	+	.59*	.39	.79
NCSE (2006a)	Truancy Arbitration Program (Jacksonville)	Diversion program that holds parents accountable for their child's school attendance. Earlier and less intense version of NCSE (2005)	59	14%	9%	99	+	1.34*	.99	1.69
Mueller et al. (2006)	Ada County Attendance Court	Attendance court- quasi-formal program; one court hearing and follow-up hearings held in neutral, nonthreatening environment	44	23%	11%	1	+	1.24*	0.85	1.63
Becerra (2001)	Buchanan County Prosecuting Attorney's Office intervention program	Prosecuting attorney's office would charge parent with Class C misdemeanor, which carries a possible sentence of 1-15 days in jail or $1-$300 fine and probation	20	18%	6%	4	+	2.58*	1.67	3.48

* $p<.05$

Notes: Grade Level: 1= Elementary; 2= Middle school; 3- high school; 4= mixed grade levels

Study Results: + author reported positive findings from pre to post test- some authors may not have performed statistical tests to make statements of positive findings; nd authorsreported no significant difference between groups

% days absent- ng- not given- author's did not state or did not give enough info to calculate. Some authors provided actual %, while others gave absence data in terms of days (or hours) absent/attended, thus % was calculated. If authors did not specify the # of days possible, then the following assumptions were used: 5 school days/ week; 45 school days/grading period; 90 school days/semester; 180 school days/year.

NCSE- National Center for School Engagement