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The Absence of Presence: A Systematic Review and Meta-Analysis of Indicated Interventions to Increase Student Attendance

Brandy R. Maynard
Loyola University Chicago

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LOYOLA UNIVERSITY CHICAGO

THE ABSENCE OF PRESENCE:
A SYSTEMATIC REVIEW AND META-ANALYSIS OF
INDICATED INTERVENTIONS TO INCREASE STUDENT ATTENDANCE

A DISSERTATION SUBMITTED TO
THE FACULTY OF THE GRADUATE SCHOOL
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

PROGRAM IN SOCIAL WORK

BY

BRANDY R. MAYNARD

CHICAGO, IL

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For my mom, Bonnie, my husband, John and
my children, Jacob, Peyton and Ethan

Only after the important variables from the evidence (empirical or clinical) have been extracted, their mutual linkages explicated, the whole assortment summarized, organized, and interpreted does evidence become knowledge.

Hedges and Waddington

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	iii
LIST OF TABLES	xi
LIST OF FIGURES	xiv
ABSTRACT	xv
CHAPTER ONE: INTRODUCTION	1
Background	1
Prevalence of Absenteeism	3
Costs of Absenteeism	4
Causes and Correlates of School Absenteeism	5
Interventions Aimed at Increasing Student Attendance	7
Statement of the Problem	8
Purpose of the Study	12
Research Questions	12
Significance of the Study	13
Relevance to Social Work	15
CHAPTER TWO: LITERATURE REVIEW	17
Definitions	17
Truancy	17
School Refusal Behavior	18
School Phobia	19
School Absenteeism and School Non-Attendance	20
Discussion of Terminology	20
Causes and Correlates of School Absenteeism	22
Individual Factors	23
Family Factors	26
School Factors	28
Community and Other Contextual Factors	30
Discussion	31
Interventions Targeting School Absenteeism	32
Individual Level Interventions	34
Parent and Family Level Interventions	39
School Level Interventions	42
Multi-Level Interventions	44
Discussion	45
Prior Reviews of Interventions Targeting Truancy, School Refusal and/or Absenteeism	46

Published Reviews Exploring the Effects of Interventions on School Attendance	46
Published Reviews of Related Intervention Outcome Research	50
Databases of Truancy Intervention/Reduction Programs	51
Discussion	52
 CHAPTER THREE: METHODOLOGY	 54
Criteria for Inclusion and Exclusion of Studies in the Review	56
Search Strategy for Identification of Relevant Studies	57
Electronic Databases	57
Internet and Website Searches	58
Personal Contacts	59
Reference Lists	59
Conducting and Documenting the Search and Selection Process	59
Results of Search	60
Data Extraction and Coding Procedures	64
Statistical Analysis	64
Calculation of Effect Sizes	65
Statistical Analysis of Effect Sizes	66
Test of Homogeneity	67
Moderator Analysis	67
Publication Bias	68
 CHAPTER FOUR: RESULTS	 70
Descriptive Findings	70
Study Characteristics	70
Participant Characteristics	76
Intervention Characteristics	78
Effect Size Analysis: Randomized and Quasi-experimental Studies	87
Mean Effect of Interventions on Attendance Outcomes	87
Analysis of Homogeneity	93
Publication Bias	94
Moderator Analyses	94
Effect Size Variation Associated with Methodological Variables	95
Effect Size Variation Associated with Participant Characteristics	100
Effect Size Variation Associated with Intervention Characteristics	102
Mean Effect of Interventions on Attendance Outcomes at Follow-Up	108
Clinical Significance	108
Effect Size Analysis: Single Group Pre-Post Test Studies	109
Mean Effect of Interventions on Attendance Outcomes	109
Analysis of Homogeneity	114
Publication Bias	114
Moderator Analyses	115
Effect Size Variation Associated with Methodological Variables	116
Effect Size Variation Associated with Participant Characteristics	118

Effect Size Variation Associated with Intervention Characteristics	121
Mean Effect of Interventions on Attendance Outcomes at Follow-Up	125
Clinical Significance	126
Summary of Findings	126
CHAPTER FIVE: DISCUSSION	131
Overview of Findings	131
Variables Related to Study Characteristics	133
Variables Related to Participant Characteristics	140
Variables Related to Intervention Characteristics	144
Duration of Effect: Long-term Follow Ups	153
Clinical Significances	154
Implications for Practice and Policy	155
What works...and What Doesn't	156
Recommendations for Practice	159
Implications for Research	166
Methodological Shortcomings of Included Studies	166
Identified Gaps in the Literature	180
Why So Little Evidence	185
The Politics of Research	186
The Problem of Complexity and the Perplexity of Causes	190
Strengths and Limitations	192
CHAPTER SIX: CONCLUSIONS	198
APPENDIX A: REVIEWS EXPLORING THE EFFECTS OF INTERVENTIONS ON SCHOOL ATTENDANCE	206
APPENDIX B: KEY FEATURES OF PRIOR REVIEWS	209
APPENDIX C: SCREENING FORM	215
APPENDIX D: STUDY CODING FORM	218
APPENDIX E: STUDIES INCLUDED IN THE SYSTEMATIC REVIEW/META-ANALYSIS	234
APPENDIX F: EXCLUDED STUDIES	238
REFERENCES	241
VITA	256

LIST OF TABLES

Table	Page
1. Databases Searched	58
2. Study Characteristics	71
3. Other Outcomes Measured	75
4. Participant Characteristics	76
5. Types of Interventions	79
6. Components/Modalities of Interventions	80
7. Settings of Interventions	83
8. Primary Providers of Interventions	83
9. Collaborative Interventions	84
10. Funding Sources	86
11. Treatment Duration	87
12. Grand Mean Effect Size of Attendance Outcomes for Randomized and Quasi-Experimental Studies	87
13. Summary of Included Randomized and Quasi-Experimental Studies	91
14. Moderator Analysis: Publication Status	96
15. Moderator Analysis: Study Design/Randomization	96

16. Moderator Analysis: Study Design- Between and Within Group	97
17. Moderator Analysis: Attrition	98
18. Moderator Analysis: Researcher-Practitioner Relationship	98
19. Moderator Analysis: Initial Group Equivalence	99
20. Moderator Analysis: Baseline Rates of Absenteeism	100
21. Moderator Analysis: Grade Level	101
22. Moderator Analysis: Race	102
23. Moderator Analysis: Program Type	103
24. Moderator Analysis: Duration of Treatment	103
25. Moderator Analysis: Collaborative Interventions	104
26. Moderator Analysis: Multiple Modality	105
27. Moderator Analysis: Parental Participation	106
28. Moderator Analysis: Behavioral Component	106
29. Moderator Analysis: Behavioral Component with Parental Participation	107
30. Mean Effect Size of Attendance Outcomes at Follow-Up	108
31. Post-Test Mean Rates of Absenteeism	109
32. Grand Mean Effect Size of Attendance Outcomes for Single Group Pre-Post Test Studies	109
33. Summary of Included Single Group Pre-Post Test Studies	110
34. Moderator Analysis: Publication Status	116
35. Moderator Analysis: Attrition	117
36. Moderator Analysis: Researcher-Practitioner Relationship	118
37. Moderator Analysis: Baseline Rates of Attendance	119

38. Moderator Analysis: Grade Level	120
39. Moderator Analysis: Race	120
40. Moderator Analysis: Program Type	121
41. Moderator Analysis: Collaborative Interventions	122
42. Moderator Analysis: Multiple Modality	123
43. Moderator Analysis: Parental Involvement	124
44. Moderator Analysis: Behavioral Component	124
45. Moderator Analysis: Behavioral Component with Parental Participation	125
46. Mean Effect Size of Attendance Outcomes at Follow-Up	125
47. Post-Test Mean Rates of Absenteeism	126
48. Recommended Data to be Reported: Participant Characteristics	169
49. Recommended Data Related Reported: Intervention Characteristics	171
50. Summary of Methodological Shortcomings and Recommendations	180
51. Summary of Identified Gaps and Recommendations	184

LIST OF FIGURES

Figure	Page
1. Flow Chart of Study Search and Selection Process	63
2. Forest Plot of Mean Effect Sizes of Randomized and Quasi-Experimental Studies	93
3. Funnel Plot of Standard Error by Hedge's g for Randomized and Quasi-Experimental Studies	94
4. Forest Plot of Mean Effect Size of Single Group Pre-Post Test Studies	114
5. Funnel Plot of Standard Error by Hedge's g for Single Group Pre-Post Test Studies	115

ABSTRACT

School absenteeism and truancy have been of concern to schools, courts, communities and researchers since compulsory education laws were first put into effect. Despite the attention given to this problem and significant effort aimed at improving student attendance, school absenteeism remains a serious problem. A number of qualitative reviews of attendance interventions have attempted to summarize the extant research; however, there are a number of limitations to utilizing qualitative reviews to synthesize and evaluate the effectiveness of intervention research.

The present study utilized systematic review methods and meta-analysis to quantitatively synthesize research and systematically examine the effects of indicated intervention programs on school attendance behaviors of elementary and secondary school students. A comprehensive search strategy resulted in the identification 11 randomized studies, 9 quasi-experimental studies and 13 single group pre-post test studies that met criteria for inclusion in the current study. Effect sizes as well as study, participant, and intervention characteristics were coded and analyzed. Analysis of the randomized and quasi-experimental studies was performed separately from the single group pre-post test studies due to methodological differences.

The meta-analytic findings showed overall positive and moderate effects of indicated attendance interventions on attendance outcomes. There was, however, significant heterogeneity found between studies indicating significant variability in effect

sizes. Moderator analyses were conducted to examine potential variables related to study, participant and intervention characteristics that may explain the variability in effect sizes.

Behavioral interventions were found to be more effective than other interventions and, when combined with parental interventions, demonstrated greater effects than behavioral interventions alone. Attendance groups were also found to be effective, especially when combined with attendance monitoring and contracting/awards. Court-based, school-based and clinic-based programs produced similar effects. The available evidence did not support the use of family therapy or mentoring interventions for indicated students. Although multi-modal or collaborative programs are often recommended in the literature and commonly believed to be best practice, the findings of this meta-analysis did not support their use over more simple, non-collaborative interventions. 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, several study characteristics demonstrated a relationship with effect size, thus methodological features may be confounded with substantive variables used in the moderator analyses.

In addition to evaluating the effects of interventions, this systematic review and meta-analysis uncovered a number of methodological shortcomings, absence of important variables and data as well as gaps in the evidence base. The author questions and calls for a critical analysis of the practices, assumptions and social-political context

underlying the extant evidence base. Implications for practice, policy and research are discussed as well as limitations of the present study.

CHAPTER ONE

INTRODUCTION

Background

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.

According to the National Center for Education Statistics (2006), 19% of students in 4th grade and 20% of students in 8th grade reported missing three or more days of school in the preceding month, with patterns of absenteeism remaining relatively stable between 1994 and 2005. 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. According to recent statistics available from the U.S. Department of Justice, 55,790 petitioned truancy cases were handled by juvenile courts (Stahl, 2008). Of the five major status offense categories, which include truancy, running away, curfew violations, ungovernability and underage drinking law violations, truancy cases resulted in out-of-home placement more so than any other status offense in 2004 (Stahl, 2008).

The school systems recognize absenteeism/truancy as a major issue facing the education of the youth in the United States. In a national study, principals identified student absenteeism, class cutting and tardiness as the top discipline problems in their schools (Heaviside, Rowand, Williams, & Farris, 1998). The U.S. Department of Education (2007) reported that 30% of teachers identified class cutting and tardiness as interfering with their teaching. In another study, school system representatives saw the issue of raising school attendance as highly important and gave attendance issues the highest priority in their schools (Malcolm, Wilson, Davidson, & Kirk, 2003).

In addition to school systems, absenteeism has been recognized as a significant problem by the United States Government. For the past decade, the Office of Juvenile Justice and Delinquency Prevention and the U.S. Department of Education's Safe and Drug Free Schools Program have been partnering to fund demonstration programs across the United States to initiate and maintain programs designed to reduce truancy (Office of Safe and Drug Free Schools, 2008). The government also recognized the importance of attendance by including attendance as an indicator for elementary and middle schools to meet Adequate Yearly Progress and requires districts to report unexcused absences to the state as part of the No Child Left Behind Act (Railsback, 2004). In addition, the United States Senate recognized truancy as a significant problem by passing a resolution on August 1, 2008 declaring the month of August, 2008 as National Truancy Prevention Month (S. Res. 624, 2008).

Student absenteeism is also a major concern in Australia, Canada and The United Kingdom (UK) (Davies & Lee, 2006). The UK has implemented policies and provided guidance for education services throughout the country to combat absenteeism. In

addition, the British government has invested significant resources to combat absenteeism, spending over one billion pounds on related initiatives between 1997 and 2005 (Attwood & Croll, 2006). Although significant attention and resources have been devoted to address the problem of absenteeism in the UK, there is very little evidence that there has been any positive impact on absence rates over that time period (Attwood & Croll, 2006; Davies & Lee, 2006; Sheppard, 2007).

Prevalence of Absenteeism

Although school absenteeism is a recognized problem in the United States, as well as in other countries around the world, accurate data on the prevalence of truancy or school absenteeism is difficult to obtain. It is estimated that hundreds of thousands of youth are not attending school on a regular basis, many without an excuse (Baker, Sigmon, & Nugent, 2001). Several large inner-city schools systems report thousands of unexcused absences each day with some reporting absentee rates as high as 30% (Garry, 1996). Although data on individual school districts is relatively easy to obtain, it is difficult to compare due to the differences in definitions and reporting. The ways in which states and school districts define truancy and report truancy rates varies from state to state and even school system to school system. Different reporting techniques can provide different pictures of truancy/absenteeism in a school system. These differences in the ways in which states and school systems define and report truancy rates presents a challenge to obtaining accurate prevalence data (Kearney, 2003; Lyon & Cotler, 2007; Pellegrini, 2007, US Dept. of Education, 2008).

Costs of Absenteeism

The problem of school absenteeism has several implications for the youth who do not attend school regularly as well as his/her family, school and community. The negative outcomes associated with absentee youth include delinquency and crime, poor school performance, difficulties making and keeping friends, school expulsion and dropout, substance use and other risky and problematic behaviors (Dynarski & Gleason, 1999; Kaplan, Peck, & Kaplan, 1995; Lamdin, 1996; Lochner & Moretti, 2004; Loeber & Farrington, 2000; Malcolm et al., 2003; Petrides, Chamorro-Premuzic, Frederickson, & Furnham, 2005; Reid, 1999). The economic implications for students are also significant. Students who are chronically absent from school are more likely to perform poorly in school, are less likely to be employed six months after the end of compulsory schooling and more likely to drop out of school which negatively impacts their earning potential over their lifetime (Attwood & Croll, 2006; Garry, 1996).

Parents are also negatively affected by their child's non-attendance at school. Parents may be held legally accountable for their child's attendance at school, resulting in fines or possible jail time for parents. Parents may also be affected by missing work in attempts to get their child to school or for conferences with the school or court hearings. Another cost for parents is the conflict between the parent, their child and the school that may result from their child's absences from school (Kearney & Bensaheb, 2006).

The implications for schools whose students are not attending include schools losing funding, not meeting performance requirements and a loss of learning time and costs that result from the time teachers and administrators spend on students who are absent (Goldstein, Little, & Akin-Little, 2003). Other "costs" identified by school

personnel include negative effects to regular attending students from the disruption caused in class and attention diverted from the whole class to help truant students when they return to class (Malcolm et al., 2003).

Significant costs to communities associated with absenteeism have been measured in several ways. The financial impact of absenteeism and dropout include a less educated workforce, costs associated with higher rates of criminal activity, loss to businesses as a result of youth shoplifting, and higher government spending for social services (Baker et al., 2001).

Causes and Correlates of School Absenteeism

Due to the serious and far reaching effects of absenteeism, researchers from several different fields, including social work, education, psychology, nursing and criminal justice, have been studying and trying to understand and address the problem. A large body of literature has been accumulating over the past several decades related to the causes, correlates and outcomes associated with non-attendance.

The causes of school absenteeism have been given extensive attention in the empirical research in the field. Research points to a number of factors that have demonstrated some causal or correlational relationship to school absenteeism. These will be discussed more extensively in the literature review, but some of these factors/causes include individual, family, school, and community/contextual factors.

Individual risk factors associated with absentee youth include lower academic self-concepts, lower self esteem, less competent social relations, phobia, anxiety, personality traits, race/ethnicity and learning disabilities (Corville-Smith, Ryan, Adams,

& Dalicandro, 1998; Lounsbury, Steel, Loveland & Gibson, 2004; Malcolm et al., 2003; Romero & Lee, 2008; Sheppard, 2005; Southwell, 2006).

School factors identified as causal or correlational to absenteeism include school culture, curriculum, poor teaching, negative school environment, conflictual or poor relationships with teachers, dissatisfaction with school, school disciplinary practices, and threats to physical safety such as bullying (Corville-Smith et al., 1998; Enomoto, 1994; Malcolm et al., 2003; Reid & Kendall, 1982).

Family factors, such as family conflict, poor/unhealthy family relationships, parental attitudes and values toward education, lack of cohesion, inconsistent and ineffective discipline, sanctioning/colluding of school absences by parents, parent-child interactions, parental involvement in school, family poverty and family structure have been implicated as causal/correlational factors in absenteeism research (Corville-Smith et al., 1998; Malcolm et al., 2003; McNeal, 1999; Romero & Lee, 2008).

Community/contextual factors have also been found to have effects on school absenteeism. These factors include race/ethnicity, socio-economic status, employment and other opportunities in the community, neighborhood characteristics and level of organization, levels of social support, community norms, and community violence (Bowen, Bowen, & Ware, 2002; Lyon & Cotler, 2007; MacDonald & Marsh, 2007).

School absenteeism is increasingly being recognized as a complex and heterogeneous problem that can be influenced by a number of factors (Kearney, 2008a; Kim & Streeter, 2006; Lauchlan, 2003). Researchers and practitioners have developed various strategies targeting a number of risk factors that have been associated with

absenteeism resulting in diverse intervention strategies being implemented in various settings.

Interventions Aimed at Increasing Student Attendance

Interventions to address absenteeism/truancy have substantially increased both in terms of the number as well as the types and scope of interventions being implemented. In 1998, the Office of Juvenile Justice and Delinquency Prevention and the U.S. Department of Education's Safe and Drug Free Schools Program initiated a demonstration program for truancy reduction. As a result, the attention given to addressing the issue of non-attendance has resulted in a number of interventions and programs being developed to increase school attendance. For example, OJJDP lists 16 model programs in their Model Programs Guide, the National Center for School Engagement has 171 truancy programs registered in their database, of which 69 have had external evaluations and 30 have final evaluations completed. The National Dropout Prevention Center lists 60 model programs for truancy reduction in their database.

Because school absenteeism is a recognized problem among various disciplines, including education, psychology, social work, nursing, criminal justice, sociology and others, the conceptualizations of the problem as well as the approaches used to intervene with school absenteeism are diverse. Intervention strategies targeting school attendance range from individual level interventions utilizing a cognitive-behavioral approach to school wide initiatives to change organizational culture. Interventions tend to take place in a variety of settings including clinics, schools, courts, police agencies and in the community. These interventions are initiated and led by a number of different professionals including psychologists, social workers, law enforcement officers,

probation officers, judges, teachers and other school personnel. Some interventions are very narrow in focus, such as truancy sweeps conducted by law enforcement officers, while others comprise a multi-systems approach involving a coordination of multiple efforts through collaboration between the court, school, community and law enforcement.

Statement of the Problem

Despite the widespread attention to school absenteeism and the increase in interventions designed to increase student attendance, absenteeism remains a significant problem. Although there is much that we know about school absenteeism, much of the literature has focused on its causes and outcomes rather than on effectiveness of interventions (Kim & Streeter; National Center for School Engagement, 2006a). Over the past two decades, however, a growing interest and attention in the development, implementation and evaluation of interventions has taken hold.

In 1998, the Office of Juvenile Justice and Delinquency Prevention and the U.S. Department of Education's Safe and Drug Free Schools Program initiated a demonstration program for truancy reduction. As a result, the attention given to addressing the issue of non-attendance has resulted in a number of interventions and programs being developed to increase school attendance. However, 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 narrative literature reviews have been conducted related to truancy, absenteeism and school refusal to try to summarize what is known about absenteeism and the causes, costs and best ways to intervene; however, there are several limitations to these reviews.

First, all literature reviews reviewed for this study except for two failed to include any unpublished studies, increasing the chance for publication bias which may lead to conclusions biased toward significant findings. Several of the reviews focused solely on effective or promising programs, which limits the ability to gauge the effectiveness of the field in general as well as limits knowledge of ineffective programs. In addition, a number of reviews recommended “best practices” and provided examples of “exemplary” programs to be used as models for other schools, communities, etc. to duplicate; however, little, if any empirical evidence was used to support authors’ conclusions/recommendations about the interventions they were reporting as effective. Because authors are citing few to no research studies in their reports/reviews, much of the information on which authors relied to recommend specific interventions or strategies seems to be based on case studies, surveys, expert opinion, anecdotal information and/or other traditional literature reviews rather than a synthesis of intervention outcome research. For example, Reimer and Dimock (2005) list model, promising and emerging truancy programs, stating that programs were included “based on the author’s familiarity with the specific program or approach” and “demonstrated success and practicality of implementation” (p. 7). It is, however, not clear upon which Reimer and Dimock are basing their claims of “demonstrated success” of the included programs as they do not cite any research studies of outcomes of the specific programs included in the booklet.

Prior reviews have also been limited to a qualitative, narrative approach presenting a description of programs or using a vote-counting method to categorize outcomes of programs as significantly positive, significantly negative or no significance. Conclusions regarding effective interventions are then made based on the number of

studies that were found to demonstrate significant positive results. The vote-counting method, however, disregards sample size, thus leading to erroneous conclusions (Glass, McGaw, & Smith, 1981). Also, the vote-counting method relies on statistical significance and does not take into account measures of the strength of the study findings, thus also leading to misleading conclusions (Glass et al., 1981). Meta-analysis, on the other hand, represents key findings in terms of effect size rather than statistical significance. Thus, meta-analysis provides information about the strength and importance of a relationship, the magnitude of the effects of the interventions and the characteristics of effective interventions (Lipsey & Wilson, 2001).

Another problem and limitation of prior reviews results from the various definitions and conceptualizations of the problem of absenteeism. Researchers and those conducting literature reviews in this field often make a distinction between “truancy” and “school refusal” which has resulted in a lack of consensus across disciplines regarding intervention strategies (Kearney, 2003). School refusal behavior is most often characterized by a student refusing to attend school due to emotional distress and anxiety (Elliot, 1999; King & Bernstein, 2001) while truancy is characterized by students being absent from school without reason and without parental consent (Reid, 1999; Kahn, Nursten, & Carroll, 1981). Reviews of school refusal behavior include interventions specific to treating students with school refusal behavior, often involving a component to address the emotional distress and anxiety, such as cognitive-behavioral therapy or pharmacological treatment. Reviews of absenteeism and/or truancy, on the other hand, tend to include interventions that are more diverse as they are influenced by the perspective of the person/system that is intervening and the philosophies behind those

interventions. For example, police and the courts viewing truancy as a legal matter may utilize police or the court system to impose sanctions or other deterrence efforts. The school system may utilize school counselors or social workers to provide individual or group interventions; parental notification or parental engagement strategies; or possibly in school or out of school suspension to address truancy/non-attendance depending on the resources of the school and the policies they have in place.

Several authors in various fields studying the problems of student non-attendance have concluded that the problem of non-attendance is heterogeneous and lies along a continuum, thus maintaining a distinction between truancy and school refusal is unnecessary and can be counterproductive (Kearney, 2008a; Lauchlan, 2003; Lyon & Cotler, 2007). They have called for a more inclusive and integrated conceptualization of absenteeism and a need to include all students exhibiting problems with absenteeism in research, assessment and treatment. Many of the prior reviews were bound by specific conceptualizations or definitions of absenteeism, making a distinction between school refusal behavior and truancy/absenteeism. Although there are several literature reviews related to absenteeism, truancy and school refusal, there has not been a systematic review or meta-analytic study to provide a synthesis of the effectiveness of interventions aimed at increasing attendance across disciplines and inclusive of truancy, school absenteeism and school refusal. This systematic review and meta-analysis will be inclusive of all indicated interventions that aim to improve attendance/decrease absences regardless of how the author defines or conceptualizes the problem.

In order to overcome limitations of prior reviews and better inform public policy and practice in the area of school attendance, a systematic review and meta-analysis of

intervention programs intended to affect school attendance, regardless of conceptualization or definitions used, across all fields of study is necessary.

Purpose of the Study

This study will quantitatively synthesize the research from a large and widely scattered body of studies to determine what knowledge this body of research has produced and what, if any, affects these interventions have on attendance. Specifically, the purpose of this study is to: 1) conduct a systematic review and meta-analysis of indicated programs/interventions targeting school attendance to examine the effects of intervention programs on school attendance behaviors of elementary and secondary school students; 2) to provide evidence-based recommendations to inform policy and practice; and 3) recommend priorities for future research. The review will also compare the effects of school-based, clinic/community-based, and court-based programs as well as the effects of various modalities of interventions including individual, group, family, and multi-systems.

Research Questions

The three research questions guiding this study are:

- 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?

Significance of the Study

There are a number of diverse programs that have been evaluated, both published and unpublished, providing a 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 help guide policy and practice in this area. A systematic review and meta-analysis to synthesize the research in this area is greatly needed and warranted. This review and meta-analysis will fill this gap in the literature and make a significant contribution to the field by being the first systematic review and meta-analysis of indicated interventions to increase student attendance.

Although a number of literature reviews have been written, this systematic review will improve upon prior work in several ways. First, this review will apply a systematic and transparent process for searching, retrieving and coding studies. Utilizing a systematic method to conduct the review of outcome research limits bias and reduces chance effects, leading to more reliable results (Cooper, 1998). The application of explicit and transparent description of the review process also allows for the review to be replicated and expanded to include new studies or criteria.

Second, this review will include evaluations of interventions operating in a broader set of geographical contexts than previous reviews, including programs across the United States as well as other countries with similar educational systems. This will allow for other potentially relevant studies to be identified and included that have been missed from prior reviews.

Third, this review will include evaluations of interventions targeting student attendance, rather than being bound by specific conceptualizations or definitions of

truancy or school refusal behavior which have defined prior reviews. Researchers in this field have often made a distinction between “truancy” and “school refusal”, thus reviews are often specific to either truancy or school refusal. Several authors in various fields studying the problems of student non-attendance have concluded that the problem of non-attendance is heterogeneous and lies along a continuum, thus maintaining a distinction between truancy and school refusal is unnecessary and can be counterproductive (Kearney, 2008a; Lauchlan, 2003; Lyon & Cotler, 2007). They have called for a more inclusive and integrated conceptualization of absenteeism and a need to include all students exhibiting problems with absenteeism in research, assessment and treatment. Thus, for the purposes of this review, studies of indicated interventions with a stated primary goal of increasing student attendance (or decreasing absences) will be included, regardless of how the author conceptualized or defined the problem.

Fourth, this review will assess whether the research base of attendance interventions is an adequate representation of programs currently in operation. Although a systematic assessment of all programs in operation will not be performed, summary reports by government and non-government entities and prior reviews will be utilized to inventory strategies aimed at increasing student attendance. The extent to which there is credible evidence of the impacts of these particular strategies will be assessed by comparing programs in operation and recommended intervention strategies with the studies included in this review.

And lastly, prior reviews have been limited to a narrative approach, presenting a description of programs or using a vote-counting method to categorize outcomes of programs as significantly positive, significantly negative or no significance. Conclusions

regarding effective interventions have then been made based on the number of studies that were found to demonstrate significant positive results. The vote-counting method, however, disregards sample size, thus leading to erroneous conclusions (Glass et al., 1981). Also, the vote-counting method relies on statistical significance and does not take into account measures of the strength of the study findings, thus also leading to misleading conclusions (Glass et al., 1981). Meta-analysis, on the other hand, represents key findings in terms of effect size rather than statistical significance. Thus, meta-analysis provides information about the strength and importance of a relationship, the magnitude of the effects of the interventions and the characteristics of effective interventions.

Relevance to Social Work

Social workers are confronted with the problem of school absenteeism as they are often in positions within schools, community mental health centers, social service organizations or juvenile justice settings working with youth who are having difficulties attending school or are at risk of school absenteeism. Social workers are often expected to implement interventions or programs to address this problem within the schools or other settings in which they work. The problem of school absenteeism is also a concern to social workers as many of the risk factors identified, such as poverty and race, are social conditions that social workers are committed to alleviating. Social workers also serve as the link between the community, family, school and student, providing a valuable role and resource to assist students, parents and teacher and thus impact student attendance (Constable, 2002). Given the roles social workers play in many of the settings in which absentee students may be found, social workers are well positioned to help

absentee youth both at the micro level and macro levels of practice and policy. Thus, the knowledge gained in this study can directly inform the way in which social workers intervene in systems and with students and parents to impact the problem of school absenteeism.

CHAPTER TWO

LITERATURE REVIEW

Definitions

There is a substantial body of literature related to school absenteeism; however, there is a lack of consensus and “considerable disparity about fundamental concepts of definition and meaning, assessment, and treatment” (Kearney, 2003, p. 57). Terminology utilized in this body of literature includes truancy, school absenteeism, school refusal behavior, school phobia, anxious school refusal, problematic absenteeism, and school non-attendance. There is no universally agreed upon definition for any of the terms used in the literature. Many terms are used interchangeably, are used differently by different authors and have evolved over the years. However, I will attempt to provide an overview of the terms and definitions frequently utilized in the literature to provide some understanding of how the terminology is utilized and in what contexts.

Truancy

Truancy is applied as an overall descriptive term for students who are absent from school for one reason or another, as well as used as a legal term referring to absences that are illegal as defined by statute. Broadwin (1932) broadly defined truancy as “absence from school without proper leave” (p. 253), citing various reasons why one might be absent from school. Reid (1999) more specifically defined truancy as “miss[ing] school illegally, with or without the consent of their parent” (p. xi). Some authors distinguish

truancy from other forms of absenteeism as an absence which is unexcused, is done without the knowledge of the parent and is not due to anxiety or fear (Kahn et al., 1981; Lauchlan, 2003). Truancy has also been used to refer to students whose parents keep their child home to work, take care of siblings, etc. (Kahn et al., 1981). Kearney (2008b) defined truancy as “unexcused, illegal, surreptitious absences, non-anxiety-based absenteeism, absenteeism linked to lack of parental knowledge about the behavior, absenteeism linked to delinquency or academic problems, or absenteeism linked to social conditions such as homelessness or poverty” (p. 452).

In addition to the various ways in which truancy is used in the scholarly literature, the term truancy also carries local meaning (Reid, 1999). Different states have different compulsory education laws, thus making the definition of the term dependent upon state statutes. School districts, and even different schools within the same school district, have different definitions of truancy and different standards for when they consider a child ‘truant’ (Garcia-Gracia, 2008). This makes it difficult, perhaps impossible, to find consensus regarding the meaning of the term truancy or to compare rates of truancy from one state or school district to another.

School Refusal Behavior

The conceptualization and definition of school refusal behavior has evolved over the years and has been employed differently by various authors/researchers. Kahn et al. (1981) defined school refusal as “cases where there is a psychosocial component” (p. 3). King and Bernstein (2001) define school refusal as “difficulty attending school associated with emotional distress, especially anxiety and depression” (p. 197). Kearney and Bates (2005) define school refusal behavior as “any refusal to attend school for an entire day by

a child” (p. 207) and include youth who “miss long periods of school time; miss sporadic periods of school time, skip classes, or arrive tardy to school; or attend school with great dread and somatic complaints that precipitate pleas for future non-attendance” (p. 207). Kearney (2007) defined school refusal behavior as an “umbrella term that covers many hypothesized subtypes of youths with problematic absenteeism, including truancy, school phobia and anxiety-based school refusal” (p. 53). King & Bernstein (2001) defined school refusal as “difficulty attending school associated with emotional distress, especially anxiety and depression” (p. 197).

School refusal behavior is often distinguished from truancy by 1) an absence of antisocial behavior/characteristics; 2) parental awareness of the problem and knowledge of the absence from school; and 3) presence of emotional distress, separation anxiety, anxiety and/or depression (Elliot, 1999; King, Tonge, Heyne, Pritchard, Rollings, Young, et al., 1998; Heyne, King, Tonge, & Cooper, 2001). There is considerable debate in the literature as to whether school refusal behavior should be more broadly used to encompass truancy as Kearney (2007) suggests or whether school refusal behavior should be distinguished from truancy as a different type of school attendance problem as Heyne et al. (2001) recommends.

School Phobia

The term school phobia is applied to describe students who are not attending school due to the fear of going to school and who meet DSM criteria for specific phobia (Fremont, 2003). Although the definition of school phobia is probably the most concrete of all the terminologies used in this body of literature, school phobia is often used interchangeably with school refusal behavior or gets subsumed under this more broad

term (King & Bernstein, 2001). Kearney (2008b) noted that the prevalence of students being phobic of school is rare and thus the term has been deemphasized in the literature.

School Absenteeism and School Non-Attendance

School absenteeism and school non-attendance are broad terms used interchangeably to describe an occasion when a student misses school, regardless of reason. Kearney (2008b) defines absenteeism as “excusable or inexcusable absences from elementary or secondary (middle/high) school” (p. 452). School absenteeism and school non-attendance are more neutral terms than truancy, school refusal behavior and school phobia, as the former do not carry the emotive connotations associated with the latter (Reid & Kendall, 1982). Truancy, school refusal behavior and school phobia are all based on a pathological model, with non-attenders either being viewed as ‘mad’ or ‘bad’ (Carlen, Gleason, & Wardhaugh, 1992). Authors who utilize the terms school absenteeism and school non-attendance argue that these terms provide a non-pathological conceptualization of the problem and advocate the use of these terms over truancy and school refusal (Lauchlan, 2003; Lyon & Cotler, 2007; Pellegrini, 2007).

Discussion of Terminology

This brief overview of the terminology utilized in this body of literature highlights the lack of shared definition and conceptualization of the problem of school non-attendance. Although the literature often differentiates school refusal from truancy based on the reasons students are not attending school and whether or not the absence was known by the parents, some authors have argued that the distinction between the two terms and whether or not the absence was excused is unnecessary, counterproductive and

logistically difficult (Lauchlan, 2003; Kearney, 2008a; Lyon & Cotler, 2007; Pellegrini, 2007).

The utility of classifying students as excused or unexcused has come under debate. Some argue that the outcomes for students, schools and communities are the same regardless of the reasons for students missing school or if the absences were known by the parent (National Center for School Engagement, 2007). Eaton, Brener, & Kann (2008) found that absentee students, regardless of whether they had permission or not to miss school, are more likely to engage in risk behaviors than those with no absences. Malcolm et al., (2003) also argue that distinguishing between authorized and unauthorized absences is unhelpful. Schools apply the terms differently and accept a range of evidence for authorizations, thus making the distinction invalid, or at least inaccurate. Also, parents, or clever students posing as a parent, may provide an excuse for an absence after the fact, thus validating an absence as excused when it really was not. Malcom et al. (2003) argued that classifying absences in this way only masks the scale of the problem, thus reducing the imperative to seek solutions to the problem.

Distinguishing between truancy and school refusal has also been criticized. The differences between students who are classified as truant and those classified as school refusers are not clear cut. There is considerable diagnostic heterogeneity in both groups and substantial overlap in symptoms (Egger, Costello, & Angold, 2003; Kearny, 2008). There is also evidence that some students can exhibit both truant behavior as well as school refusal behavior either concurrently or sequentially (Berg, Butler, Franklin, Hayes, Lucas, & Sims, 1993; Bools, Foster, Brown, & Berg, 1990).

Lauchlan (2003) and others argue that the problem of school non-attendance is heterogeneous and we should not be bogged down in making invalid and unnecessary distinctions when addressing the problem. Because of the conflicting, confusing and changing constructs and definitions used for school refusal behavior, truancy and other terminology, the categorical distinctions perpetuated in the literature have not necessarily been useful when responding to the problem (Kearney, 2003; Lauchlan, 2003).

Several authors have called for more consistent use of the terms and criteria used to classify/categorize students, while others have questioned the need for the categories and limited discourses currently used to distinguish between truancy and school refusal behavior (Kearney, 2003; Lyon & Cotler, 2007; Pellegrini, 2007). Lyon and Cotler (2007), for example, have called for future research to move away from the artificial distinction between truancy and school refusal and toward a more integrated “system of categorization that simultaneously stresses individual, family, school and larger contextual variables (p. 559).

Causes and Correlates of School Absenteeism

The causes of school absenteeism have been given extensive attention in the extant literature in the field; however causation remains unclear as it is difficult to ascertain if absenteeism is a cause or an effect of the factors identified in research. Much of the research only lends itself to concluding significant correlation with a number of variables that have been studied. Historically, individual and family factors were the primary focus of research in the search for the causes of school non-attendance (Milner & Blythe, 1999). The school refusal and truancy discourses that have historically dominated the literature have influenced both the variables being studied and the types of students

participating in the studies, thus often leading to a focus on individual and family factors (Milner & Blythe, 1999; Lyon & Cotler, 2007; Pelligrini, 2007). Over the past decade, researchers have begun to take a more critical look at absenteeism and have begun exploring alternative hypotheses and variables, thus leading to additional explanations of why some children are absent from school.

Because empirical evidence regarding the causes and correlates of school absenteeism often provides the basis for the development of interventions targeting absenteeism, this research will be explored. Thus, factors that have been linked to school absenteeism, including individual, family, school, and community/contextual factors, will be considered.

Individual Factors

Individual factors linked to absenteeism include psychological/psychiatric conditions, personal characteristics and medical problems. Some examples include lower academic self-concepts, lower self esteem, less competent social relations, phobia, anxiety, personality traits, medical conditions and learning disabilities (Corville-Smith, Ryan, Adams & Dalicandro, 1998; Kaplan et al., 1995; Lounsbury et al., 2004; Sheppard, 2005; Malcolm et al., 2003; Romero & Lee, 2008; Southwell, 2006).

Psychiatric conditions have been associated with children who have attendance problems, especially related to school refusal behavior, school phobia and school anxiety. However, some studies have also examined psychiatric conditions in a non-clinical population of students having problematic absenteeism. Berg et al. (1993) studied 80 students enrolled in a school in England who had 40% or more missed days of school and a control group of 30 students selected at random. Berg et al., found that about half of

the absentee children met criteria for a DSM-III-R diagnosis, compared to 10% of the control group. Of the absentee students who did meet criteria for a DMS-III-R diagnosis, a third met criteria for a disruptive disorder and a fifth for an anxiety/mood disorder (Berg et al., 1993). Similarly, in a study by Bools et al. (1990) of 100 children in a school setting, 53% of the children studied met criteria for an ICD-9 disorder, with 22% having anxiety and fearfulness, 58% having a conduct disorder and 15% having a mixed disturbance of conduct and emotions. In a more recent study conducted by Egger, Costello & Angold (2003) using data from the Great Smoky Mountains Study, 25% of the children identified as either having pure anxious school refusal ($n= 130$) or pure truancy ($n=482$) had at least one psychiatric disorder. Ninety percent of the children with mixed school refusal ($n=35$), those who met criteria for both anxious school refusal and truancy, had at least one psychiatric disorder. Separation anxiety disorder and depression were most significantly associated with pure anxious school refusal whereas conduct disorder, depression and oppositional defiant disorder were associated with pure truancy. With the mixed school refusal group, separation anxiety disorder, conduct disorder, attention deficit hyperactivity disorder, panic disorder and substance abuse were significantly associated with the mixed school refusers (Egger et al., 2003).

Personal characteristics of individual students have also received a great deal of attention in the school absenteeism literature. Corville-Smith et al., (1998) found students who feel inferior academically or were less likely to be socially competent in their relations in class emerged as two of six predictor variables distinguishing absentee students from regular attending students. They also found that absentee students were more likely to have lower global self-esteem than regular attenders (Corville-Smith et al.,

1998). Reid (1982) also found that persistent absentees had significantly lower academic self-concepts and general levels of self esteem than two control groups. Southworth (1992) found youth who have lower degrees of social competence with peers have higher rates of absenteeism. Redmond and Hosp (2008) found that students who receive special education for emotional disturbance had higher absentee rates than those with communication disorders and learning disabilities or students in general education. In a study of personality traits in relation to school absenteeism, Lounsbury et al. (2004) found significant correlations between the 'Big Five' personality traits, agreeableness, conscientiousness, emotional stability, extraversion and openness, with school absenteeism. The set of 'Big Five' traits accounted for 12% of the variance in absences across traits (Lounsbury et al., 2004).

In addition to psychiatric conditions and personality characteristics, medical conditions, such as asthma, respiratory illnesses, infectious diseases, injuries and cancer, as well as somatic complaints, have been linked to school absenteeism (Kearney, 2008b; Klerman, 1988). Students who are ill, recovering from surgery or have other acute or chronic medical conditions account for a number of absences from school. The Centers for Disease Control and Prevention (2004) estimate 14.7 million days of school were missed in 2002 due to asthma alone. School days lost caused by an acute or chronic health condition in school age children was estimated in 1986 by the National Health Interview Survey as 226.4 million days (Klerman, 1988). Low-grade physical symptoms may also contribute to absenteeism. Youth with school refusal may exaggerate low-grade physical symptoms to gain attention from significant others or to convince their parents to stay home from school (Kearney, 2008b). Parents may react inappropriately to

their child's symptoms and encourage their child to stay home from school for a condition that may not warrant it (Klerman, 1988). Somatic complaints that have been associated with school absenteeism include headache, stomachache, abdominal pain, menstruation symptoms and fatigue (Egger et al., 2003; Kearney, 2008b). In a community study by Egger et al., (2003), somatic complaints were found in 26.5% of anxious school refusers and in 42% of mixed school refusers (youth with both anxious school refusal and truancy) compared to 1.4% of non-school refusers.

Family Factors

Several family factors have been identified as important influences in student absenteeism, although Lyon and Cotler (2007) argue that insufficient attention has been paid to cultural differences when examining family influences. Family conflict, poor/unhealthy family relationships, parental attitudes and values toward education, lack of cohesion, inconsistent and ineffective discipline, sanctioning/colluding of school absences by parents, parent-child interactions, parental involvement in school, inconsistent messages about school and attendance, family poverty and family structure have been linked to school absenteeism (Corville-Smith et al., 1998; Kearney & Silverman, 1995; Malcolm et al., 2003; McNeal, 1999; Romero & Lee, 2008; Sheppard, 2007).

Corville-Smith et al. (1998) found significant differences between absentee students and regular attending students on measures of parental discipline, parental control and family cohesion. Absentee students perceived their families to be less cohesive and their parents' discipline practices to be more inconsistent and less effective

than the regular attending students' perceptions of their parents (Corville-Smith et al., 1998).

Parental support was found by Guare & Cooper (2003) to be strongly correlated with skipping school. Students who reported their parents cared that they did well in school and talked to their teachers were less likely to skip school than those students who reported their parents did not care or talk to their teachers (Guare & Cooper, 2003). McNeal (1999) also found parental involvement to be associated with reduced likelihoods of truancy and dropping out. Parents who engaged in discussions with their children pertaining to education, were involved in the PTO and monitored their child's behavior, such as homework, were effective at reducing the likelihood of truancy. Once racial variables were controlled, however, the positive influences of parental involvement were found to consistently affect outcomes for white students, were more limited for black students and had virtually no effect for the outcomes of Hispanic or Asian students (McNeal, 1999). When controlling for SES and household structure, McNeal found that parental involvement is more effective for higher SES students and non-single-headed households.

Other studies have also shown a link between lower socio-economic status and household structure of the family with truancy/absenteeism (Reid, 1999; Reid & Kendall, 1982). In Malcolm et al.'s (2003) study of seven LEAs in England, absentee/truant students were more likely to come from disadvantaged homes. A study by the National Center for Education Statistics (2006) reported that students who were eligible for a free or reduced-priced lunch were more likely to be absent from school three or more days per month than students who were not eligible. A study conducted by the National Center for

Children in Poverty (Romero, 2008), found that children in elementary grades living in poverty, born to teenage mothers, living in mother-only households, living with mothers who were unemployed, receiving welfare and who had less than a high school education missed a greater number of school days than children who did not have these risk factors. Although children living in poverty and mother-only households are more likely to have attendance problems than those in more affluent families, the majority of students from lower socio-economic levels and mother-only family structures are attending school regularly. Thus family structure and poverty are only part of the equation (Reid, 1999).

School Factors

By the 1980's, research on school effectiveness began to demonstrate a relationship between absenteeism and school characteristics, regardless of the characteristics of the students attending the schools and their families (Milner & Blyth, 1999). School factors implicated in influencing attendance include school culture, indoor environmental quality, school size, curriculum, poor teaching, teaching style, a negative school environment, impersonal, conflictual or poor relationships with teachers, overly strict or lax school disciplinary practices, and threats to physical safety such as bullying (Corville-Smith et al., 1998; Enomoto, 1994; Fallis & Opotow, 2003; Jones, Toma, & Zimmer, 2008; Macdonald and Marsh, 2004; Malcolm et al., 2003; Mendell & Heath, 2005; Moos & Moos, 1978; Reid, 1983; Reynolds, Jones, St. Leger, & Murgatroyd, 1980).

Corville-Smith et al. (1998) found significant differences between absentee and regular attending students in the students' evaluations of school characteristics and school personnel. They noted that student dissatisfaction with school was the single most

important variable differentiating absentee students from regular attending students (Corville-Smith et al., 1998). Malcolm et al. (2003) found school factors to be the largest group of reasons given for missing school by absentee students, whereas very few reported home factors as a cause of their absences.

In a qualitative study of students who were truant, students reported that the ways in which classes are run, teaching styles and large classes contribute to their sense of boredom and the irrelevance of school, which left them not wanting to attend school (Cullingford, 1999). Another qualitative study involving absentee students found that absentee students had little positive reflections of school, reported poor quality and content of teaching, low achieving and negative environment of the school, and peer culture that encouraged truanting (Macdonald & Marsh, 2004). A study involving a survey of 230 randomly selected middle and high school students found a negative correlation between teacher caring, school climate and school rules (Guare & Cooper, 2003). Students who perceived their teachers as not caring or their school as unsupportive or unsafe were more likely to report having skipped school than those students who feel their teachers do care about them and their schools are safe, supportive and well-run (Guare & Cooper, 2003). These findings have led some to conclude that absenteeism may be a rational choice resulting from dissatisfaction of students, the customer, with the services being offered in the school, or of critique of the school by the students' whose solution to the problems they have with the school is to not attend (Davies & Lee, 2006; Guare & Cooper, 2003).

Parents may also be impacted by the school system which then affects their child's attendance. Some parents may want their child to attend school regularly, but

may not feel comfortable with school, may feel excluded by the teachers/school or may be confused or unsure of how to cooperate with the school thus leaving parents feeling angry and/or helpless to intervene. The exclusion of parents from the school system, either by the actions of the teacher/school system or by the parents' making, can lead to indifference by the parents, resulting in further exclusion of the student from school (Cullingford, 1999).

Community and Other Contextual Factors

Community and other contextual factors have also been found to be linked to school absenteeism. These factors include race/ethnicity, socio-economic status, employment and other opportunities in the community, neighborhood characteristics and level of organization, levels of social support, community norms, and community violence (Bowen et al., 2002; Chapman, 2003; Lyon & Cotler, 2007; MacDonald & Marsh, 2004).

MacDonald and Marsh (2004) concluded from their qualitative study of school leavers, many of whom had been truant when in school, that paucity of employment opportunities in the lower class communities in which the youth lived “undermined the traditional educational contract that served to incorporate the majority of working-class pupils into begrudging acceptance of the instrumental value of schooling” (p. 159). Thus, the lack of employment opportunities in a community serves as a disincentive for youth to want to attend and graduate from high school. Furthermore, children who live in low-income communities in which there is a lack of general educational attainment may believe there is little to be gained from school (Crocker & Major, 1989).

In a study conducted by Bowen et al. (2002), the authors looked at the effects of family and neighborhood characteristics on self-reported educational behavior, measured in terms of social behavior, grades and attendance of middle and high schools students. Neighborhood characteristics related to social disorganization, “the presence or absence of resources and support for families, crime, violence, and norms for peer behavior” (Bowen et al., 2002, p. 485) were found to affect educational behavior. Perceptions of neighborhood social disorganization had the strongest direct relationship to educational behavior as well as an indirect effect through perceived levels of supportive parenting and educational support. Bowen et al. (2002) also found that the independent effects of neighborhood social disorganization were greater than the effects of two family process variables that have been shown in past research to be highly predictive of educational behavior.

Discussion

It is well agreed upon by scholars in this field that school absenteeism is a multi-dimensional and complex phenomenon. A number of variables, either individually or in combination with other variables, have been identified as causing or being linked to absenteeism. These variables cover several levels: the level of the individual student, the family, the school and the community/society. Policy makers, schools, clinicians, program developers, researchers and others have been utilizing the knowledge gained related to these factors to develop programs and interventions targeted at all levels to improve school attendance. Despite the widespread attention given to school absenteeism, the known factors contributing to school absenteeism and the growing number of interventions developed to improve student attendance, students, families,

schools and society continue to struggle with school absenteeism and the resultant outcomes associated with not attending school.

Although a large number of interventions have been developed to mitigate the identified factors at all levels, research related to the effectiveness of these interventions is in its infancy. Interventions have been developed to target various factors at different levels, with some interventions targeting a single factor and level for intervention while others target multiple factors and levels for intervention. The types of programs and targeted areas of intervention are as diverse and numerous as are the number and complexity of contributing factors identified in the literature. In the following section, the various interventions aimed at improving school attendance will be discussed.

Interventions Targeting School Attendance

A number of interventions have been implemented across the country as well as in other countries around the world to impact student attendance. In the United States, several federal and community initiatives have been established to reduce truancy/absenteeism, resulting in a growing number of interventions. The Office of Juvenile Justice and Delinquency Prevention (OJJDP) established a database of programs that have shown some effectiveness in reducing truancy/absenteeism. Included in this database, the Model Programs Guide, are 16 model programs. The National Center for School Engagement (NCSE) lists 171 truancy programs registered in their database, of which 69 were listed as having had external evaluations and 30 were listed as having had final evaluations completed. Because the information about each of the programs on NCSE's website is entered by those who are implementing the intervention/program, and the information is not verified by NCSE, it is unclear what constitutes an "external

evaluation” or a “final evaluation”. These are not defined by NCSE and the evaluations themselves are not provided/accessible to the public, at least not via the NCSE website. The National Dropout Prevention Center/Network (NDPC/N) lists 60 model programs for truancy reduction in their database. The programs in the NDPC/N’s model program database are rated by the NDPC/N based on three dimensions of program effectiveness. These dimensions include the number of years the program has been in existence, the evaluation design used to evaluate the program, and the empirical evidence demonstrating reduction of dropout, improvement in graduation rates or significant impact on drop-out related risk factors (National Dropout Prevention Center/Network, 2008). Reid (2002) identified 119 short-term strategies and several long-term strategies currently in use in schools in the United Kingdom. These numerous interventions encompass a variety of philosophies, strategies and targeted levels of intervention designed to increase student attendance.

Interventions targeting school attendance fall into several different categories, target a variety of different risk factors and levels, are implemented in different settings and are delivered through a variety of modalities. Interventions generally target individual risk factors, such as anxiety/phobia, low self-esteem, social skills and medical conditions; family factors, such as communication and parental support, discipline/contingency management, parental involvement and communication with the school; and school factors, such as school climate, attendance policies, relationships between teachers and students and bullying. Several interventions target multiple risk factors across all three levels.

In addition to the variety of risk factors targeted, interventions also differ in terms of the settings in which the interventions are implemented. Interventions have been implemented in clinical and community agency settings, schools, courts and police agencies. Interventions may be conducted as part of a collaborative effort between community agencies, schools, courts and/or police agencies or by a single entity.

Depending on the risk factor(s), the level being targeted and the setting(s) in which the intervention is being carried out, programs intended to increase student attendance are delivered in a variety of modalities. These include, but are not limited to individual therapy, parent training, family therapy, group therapy, monitoring/supervision, case management, incentives/rewards, fines/sanctions, prosecution, social service referrals, tutoring, teacher training/development, and school improvement strategies.

An overview of interventions will be discussed below. These interventions/programs will be categorized in terms of the primary level (individual, family, school, or multi-systems) that is the focus of the intervention. Discussion of the setting in which they are implemented as well as the modality through which they are delivered will be included in the discussion.

Individual Level Interventions

Interventions targeting the individual student generally fall into three broad categories: clinical interventions, medical interventions and legal interventions. Clinical interventions have been primarily targeted to reduce symptoms associated with school refusal behavior and are generally conducted with the individual student or a group of students in an agency or school setting. Clinical interventions generally employ shorter

term cognitive-behavioral or behavioral strategies designed to manage and reduce symptoms of anxiety/phobia and modify irrational thoughts. Cognitive-behavioral and behavioral treatments include recognizing and modifying negative self statements and generating positive self-statements, systematic desensitization, relaxation training, contingency management and social skills training (Fremont, 2003; King, Heyne & Ollendick, 2005).

Research on the effectiveness of cognitive-behavioral strategies for treating school refusal behavior have been published (Blagg & Yule, 1984; King, Tonge, Heyne, Turner, Pritchard, & Young, 2001; King, Tonge, Heyne, Pritchard, Rollings, Young, et al., 1998 & 2001; Heyne, King, Tonge, Rollings, Young, Pritchard, et al., 2002; Kearney & Silverman, 1990; Last, Hanson & Franco, 1998; Mansdorf & Lukens, 1987). Case studies, open clinical trials as well as some experimental and quasi-experimental studies have demonstrated cognitive-behavioral strategies to be effective in treating school refusal behavior (King, et al., 2005; King, Tonge, Heyne, & Ollendick, 2000). The majority of research on the effectiveness of cognitive-behavioral approaches have only included students with anxiety based absenteeism, thus we do not have empirical support for cognitive-behavioral treatment for non-anxiety based absenteeism (Kearney, 2008a).

Other individual level interventions employed in school settings include strategies involving school social workers, counselors and other school personnel in working one-on-one with youth to address issues and factors that are leading to absences, coordinating services to meet educational and other needs, and developing strategies to more effectively reintegrate absentee students into the classroom. Pritchard and Williams (2001) and Bagley and Pritchard (1998) conducted quasi-experimental studies of school-

based social work interventions to reduce truancy and other problematic behaviors. Both studies involved a multi-disciplinary team approach involving a social worker as the lead, a full time teacher/counselor and a part-time teacher/counselor. Multiple interventions were employed, including family, group and individual counseling led by the social worker, a focus on assisting students in transitioning to secondary school, a model to address bullying, truancy interventions with a focus on helping parents, health education classes, community development and interagency collaboration and a interventions to prevent/reduce school exclusion (Bagley & Pritchard, 1998; Pritchard & Williams, 2001). Positive outcomes related to improving attendance as well as other behavioral variables were reported in both studies.

Medical interventions include pharmacotherapy to treat children presenting with school refusal behavior who exhibit anxiety or phobia as well as other medical interventions for youth who are absent from school due to illness or other physical conditions. Pharmacological treatment is often used in conjunction with other behavioral or psychotherapeutic interventions as part of a multi-modal treatment plan (Fremont, 2003; King & Bernstein, 2001). Pharmacological treatment for school refusal has included tricyclic antidepressants, selective serotonin reuptake inhibitors (SSRIs) and benzodiazepines (Fremont, 2003; Heyne et al., 2001; King & Bernstein, 2001). The results of clinical trials of tricyclic antidepressants have been mixed (King & Bernstein, 2001). Trials of SSRIs demonstrated positive results in children with anxiety disorders and are thus being used to treat school refusal behavior due to the symptoms of anxiety present in school refusers (King & Bernstein, 2001). Benzodiazepines have also demonstrated effectiveness in alleviating acute anxiety symptoms in children and have

been used on a short-term basis, either alone or in combination with SSRIs or a tricyclic antidepressant, to treat a child with severe school refusal (King & Bernstein, 2001).

Although pharmacological treatment has shown some efficacy in the treatment of anxiety related disorders in children, very few double-blind, placebo-controlled studies have been conducted with children with school refusal (Fremont, 2003; Heyne et al., 2001). The use of medications to treat non-anxiety based absenteeism has received very little examination (Kearney, 2008a). Caution must be taken when generalizing the outcomes of clinical trials of pharmacological treatments on other anxiety related disorders to children with school refusal and absenteeism.

Other medical interventions used for youth who are absent from school due to illness or other physical conditions include asthma and other health conditions management programs, disease prevention strategies, and the provision of primary medical care, either directly within the school or by referral. Medical interventions can be the primary method of intervention or one part of a multi-modal strategy to reduce absenteeism (Kearney, 2008a; Klerman, 1988). Interventions targeting chronic health conditions, such as asthma and juvenile diabetes, include school-based and primary care-based management programs. These programs often include education about the disease, monitoring of symptoms, regular contact with the physician/clinic, use of medication and education/training of school staff to understand and cope with students' health conditions to help prevent and reduce symptoms, thus reducing absences (Klerman, 1988). A review of educational interventions for self-management of asthma in children and adolescents found these programs to be effective in reducing school absenteeism (Guevara, Wolf, Grum, & Clark, 2003). Other medical interventions, such as

comprehensive handwashing and use of hand sanitizers have also demonstrated effectiveness in reducing absenteeism (Guinan, McGuckin, & Ali, 2002; Maughan, 2003).

Legal interventions targeting the individual student include court sanctions/consequences, truancy sweeps by police, truancy intake centers, truancy courts, probation, and detention. Legal interventions are initiated and carried out by criminal justice agencies, such as police departments and juvenile courts, using crime control strategies often designed to deter or punish truant youth (Bazemore, Stinchcomb, & Leip, 2004). These interventions can be very brief, such as in the case of truancy sweeps in which police officers pick up youth who are on the street during school hours, contact their parents and may also provide either a sanction in the form of a fine or a referral to a service. Other legal interventions may be longer term, as in the use of juvenile probation or truancy courts designed to monitor and enforce attendance over several months in duration (Mueller, Giacomazzi, & Stoddard, 2006).

Research on effectiveness of police and court-based interventions for truant youth has been mixed. Some findings have demonstrated positive outcomes of court/police interventions, some demonstrated negative outcomes (youth actually have worse attendance after the intervention) and others have found both positive and less favorable outcomes (Bazemore et al., 2004; Hoyle, 1998; Epstein & Sheldon, 2002; Reid & Kendall, 1982). Bazemore et al. (2004) conducted an evaluation of a police-led truancy intervention in which youth who are not accompanied by an adult during school hours are picked up by police officers and taken to the truancy intake unit. The youth underwent a basic assessment and interview and were required to be silent while at the unit as they

waited for a parent, guardian or competent adult for a maximum of 6 hours. In comparing a group of youth who were processed through the truancy intake unit and a group of youth who were stopped and questioned by police on the street and released after questioning, the processed youth were more likely to return the school the next day and miss fewer total school days 30 days after the intervention. However, when looking at longer term outcomes, the non-processed youth missed fewer days and were more likely to have perfect attendance for the entire school year than the processed youth (Bazemore et al., 2004). In a brief summary of official responses to truancy, the National Center for School Engagement (2007) concluded that while police or court-led interventions can be effective, those that involve punitive actions alone, without other supports or services, may not be sufficient to correct the problem.

Parent and Family Level Interventions

A number of strategies directed at parents of absentee youth have been utilized to increase student attendance. These strategies include prosecution/sanctions by courts, financial sanctions of welfare benefits, psycho-educational groups or workshops, parent training, family therapy, letters or phone calls to parents, parents attending school with their child, case management, and increasing involvement of parents in school. These strategies vary substantially in amount of contact with parents/families and length of intervention. Sending letters to parents to inform them that their child has been absent can be a one-time intervention, while some family level interventions, such as the Families and Schools Together (FAST) program, can last two-years in duration. Parent and family level interventions can be implemented in the school system or community agencies as well as part of a court/police led intervention. For example, the Save Kids

Partnership program utilizes two interventions directed toward parents by two different agencies (Baker, Sigmon, & Nugent, 2001). The first intervention involves the school personnel contacting the parents when the child has missed three or more days of school. If the parent does not respond or their child continues to be truant, the prosecutor sends a letter to the parents. If the student continues to miss school, the prosecutor can file criminal charges against the parent and can then offer a diversion program that consists of a parent skills support group along with other counseling and supportive services.

Court involvement and financial sanctioning of parents of truant youth have also been used as part of a broader intervention as the one described above, but sanctions have also been used as the sole intervention to address truancy. Several jurisdictions across the country arrest, prosecute and/or fine parents for their child's non-attendance as a way of holding parents accountable and trying to get parents to ensure their children attend school (National Center for School Engagement, 2007). Other sanction programs have involved the use of financial sanctions of welfare benefits of parents whose children had excessive absences (Campbell & Wright, 2005). Research on the effectiveness of sanctions to increase student attendance has been mixed. In a review of the impact of welfare-school attendance policies on student attendance, Campbell & Wright (2005) found that sanction-only programs were ineffective in increasing student attendance. Programs that combined sanctions with case management, supportive services, and positive financial incentives, however, demonstrated positive results in increasing school enrollment, but no improvement in attendance (Campbell & Wright, 2005). Sanctioning, prosecuting and incarcerating parents for their child's non-attendance in school is likely one of the most controversial strategies to tackling truancy. Although there are parent

sanction-only interventions that have been identified as programs that work (see Reimer & Dimock, 2005), there seems to be few evaluations of sanction-only interventions published in the extant literature.

Parental involvement in their child's education/school has been linked to academic achievement and attendance (Kearney, 2008b; Railsback, 2004; Reimer & Dimock, 2005). A number of strategies have been implemented to increase parental involvement in their child's education to improve attendance. These programs can range from reactive programs, which attempt to reach out through letters or personal contact from schools, to communicate with parents about their child's absences, to proactive strategies that promote parent-school communication through a number of ongoing initiatives and activities at the school. There is some evidence that contacting parents by mail or phone at the first sign of problematic absences is effective in significantly increasing student attendance (McCluskey, Bynum, & Patchin, 2004), while others maintain that informing parents of attendance problems is not enough and calls for additional strategies (Railsback, 2004). More comprehensive parent involvement strategies, which will be discussed below, have demonstrated effectiveness in improving student attendance (Epstein & Sheldon, 2002; Reimer & Dimock, 2005; Sheldon, 2007; Volkman, 1996).

Parent skills training and family therapy have also been used as interventions to improve student attendance. These interventions are often part of a broader strategy that may also include concurrent services for the student, such as social skills groups and counseling, as well as other interventions, such as sanctions or police contact (Baker et al., 2001; Garry, 1996; Lauchlin, 2003; Pelligrini, 2007; Reid & Kendall, 1982; Reimer

& Dimock, 2005). Research on effectiveness of parent skills training and family therapy to increase student attendance has been mixed. Spence, Donovan, & Brechman-Troussaint (2000) evaluated a CBT-based social skills training in which children were randomly assigned to three groups: parent and child treatment group, child only treatment group and wait-list control group. Children in both treatment groups experienced statistically and clinically significant effects, suggesting the parental training did not appear to make a significant difference (Spence et al., 2000). Other studies or reviews have found parent training or family therapy to be effective in increasing student attendance (Kearney & Silverman, 1990; Railsback, 2004; Reimer & Dimock, 2005; Teasley, 2004).

School Level Interventions

As evidence for school related causes for absenteeism have increased, attention to the development and implementation of interventions targeting school-level factors has resulted in an increasing number and range of school-wide interventions. School-wide approaches to improve student attendance include strategies to address school-level risk factors and barriers that were identified in research as contributing to school attendance problems. Some of these strategies include reducing school violence and improving safety within the school, increasing parent-teacher collaboration, improving school climate and curriculum, developing school policies to address attendance/absences differently, developing alternative educational and after-school programs, restructuring roles of school staff and training teachers to work with at-risk youth more effectively.

In a study of 59 public high schools, Petzko (1991) found that schools policies can impact school attendance. School attendance was found to be higher in schools that

had policies containing an excessive absence clause and those in which students lose credit if truant, than schools that did not have these policies. Other studies and reviews have found policies involving incentives to have a positive effect on absences (California School Board Association, 1981; Railsback, 2004; Reimer & Dimock, 2005). Reid and Bailey-Dempsey (1995) conducted a study to assess the effectiveness of incentives for school performance. The authors compared a control group with two experimental groups: one receiving case management services and the other receiving financial incentives for improving their school performance. Significant positive effects were observed for both experimental groups.

Studies of schools that have implemented a school-wide program of school, family and community partnerships to improve school performance and attendance have found positive results (Epstein & Sheldon, 2002; Sheldon, 2007). Sheldon (2007) conducted a study of sixty-nine schools that were engaged in implementing the National Network of Partnership Schools (NNPS) program and compared them to a matched sample of 69 non-NNPS schools. NNPS schools engage in various activities to build and improve partnerships for six different types of involvement: parenting, communicating, volunteering, learning at home, decision making, and collaborating with the community (Sheldon, 2007). Sheldon found that NNPS schools had higher rates of daily student attendance, with NNPS schools that had stronger partnership programs more likely to experience an increase in student attendance than NNPS schools that had weaker programs. Other whole-school initiatives to improving school attendance have also been shown to be effective (California School Boards Association, 1981; Reid, 2003; Reimer & Dimock, 2005).

Multi-Level Interventions

Collaborative and multi-level interventions have been developed to provide a flexible and comprehensive approach to absenteeism to address the multiple needs, risks and barriers that are contributing to non-attendance (Epstein & Sheldon, 2002; Kearney, 2008a,b; Railsback, 2004; Reid, 2003; Reimer & Dimock, 2005; Sheldon, 2007) . These collaborative interventions have been implemented, led and primarily housed in schools, community-based agencies, courts and police agencies. They are comprised of a multi-disciplinary collaborative involving many or all of these entities. The assessment of both individual needs of students as well as system needs is conducted. Prevention efforts and interventions are targeted at the areas identified to address the root causes of absenteeism (Reimer & Dimock, 2005). Collaborative and comprehensive programs are comprised of a combination of several different interventions at various levels, administered concurrently or sequentially.

An example of a collaborative and comprehensive program is the ACT Now program, highlighted by the OJJDP as an effective program. This program administers a variety of interventions in a sequential manner (Baker et al., 2001). The first step involves a letter from the school to the parent after a student's first unexcused absence. After the third unexcused absence, a truancy referral form is sent to Center for Juvenile Alternatives, a community-based agency. The parents are then contacted and informed that they may be subject to prosecution and are offered the opportunity to participate in a program. Parents and youth who agree to participate in the diversion program, undergo a psychosocial evaluation to determine the cause of the truancy. The youth and family are then referred to community agencies that provide counseling, parenting skills, and

support groups for youth and parents. Upon completion of the program, the case is dismissed from court. In this case, the program was initiated and is led by the prosecutor's office. The school system and community-based agencies are collaborative partners who administer the program and services provided to the families based on the needs of the youth and family as determined by an assessment.

Discussion

A number of programs have been developed to improve student attendance and decrease absenteeism at various levels based on the known factors that have been implicated in contributing to absenteeism. In theory, if the interventions are targeting known "causes" or factors, then the programs should be effective in reducing the problem of absenteeism. Unfortunately, there seems, at least from published reviews of interventions to increase student attendance, that there is little outcome research to support the effectiveness of the programs being developed and implemented. The outcome research that has been published is scattered and varies in quality, making it difficult for policy makers and practitioners to use research to guide their decision making. With limited outcome research, knowing which of the interventions to implement is challenging. Some reviews of interventions and outcome research have been conducted to address this issue and bring together what is known about different interventions and the effectiveness of these interventions. These reviews will be examined in terms of their findings as well as a critique of the methods employed in conducting the review.

Prior Reviews of Interventions Targeting Truancy, School Refusal and/or School Absenteeism

Published Reviews Exploring the Effects of Interventions on School Attendance

A search for previous reviews and meta-analysis of interventions related to the problems of school absenteeism, school refusal, school attendance, school non-attendance and truancy was undertaken. Six databases (ERIC, PsychInfo, Academic Search Premier, Dissertation Abstracts, Criminal Justice Periodicals and Pegasus, Loyola's book search database, were searched and twenty-two reviews of intervention research were identified. A summary of the findings of the search will be discussed below.

A number of recent traditional narrative literature reviews related to the treatment of truancy, school refusal and/or absenteeism have been published (see Appendix A). Of the 23 reviews identified, 17 were traditional narrative reviews of the literature which included a review of intervention research. These literature reviews reviewed literature regarding causes, correlates, diagnostic features, etc. as well as highlighted various treatment modalities, citing published intervention studies to provide evidence of effectiveness of the treatment.

Much of the discussion of interventions in these reviews covered a range of programs and settings, providing discussion and descriptions of different types of interventions available. These reviews cited relatively few studies of intervention. The studies that were cited used various methodologies including case studies, open clinical trials, randomized and non-randomized studies (see Appendix B). The findings of the cited studies were primarily positive and in favor of the intervention being discussed. However, there was no discussion related to how the studies were identified, criteria for

inclusion into the review or, in many cases, the methodologies employed. None of these reviews included unpublished studies. Many of the reviews cited the same research studies, thus there is a great deal of repetition within the body of literature reviews on this topic. This is especially the case as it relates to the reviews related to the subgroup of school refusal, which tends to cite the same studies on cognitive behavioral treatment and pharmacology.

A narrative review of strategies to encourage attendance conducted by Railsback (2004) was more comprehensive and inclusive than the above traditional narrative reviews. Railsback “surveyed the last decade of research that discusses strategies or experiments to increase student attendance” (p. iii). The author did not describe her search strategy, but did include unpublished studies. The author’s stated intent was to include only “scientifically based” research, but broadened her inclusion criteria to include a range of research designs as well as surveys and expert opinions because “it was quickly determined that little research of that kind [scientifically based] exists” (p. iii). The reviewer concluded that “we found no research that definitively answers the question: Do some strategies [to encourage attendance] work better than others?” (Railsback, 2004, p. 11). The author then summarized the literature and strategies found during the search and provided guidelines to readers interested in implementing policies and programs to increase student attendance.

Three of the 23 reviews were narrative reviews of specifically outcome studies which were narrow in focus. Two were of cognitive-behavioral interventions in the treatment of school refusal (King, Tonge, Heyne, & Ollendick, 2000; King, Heyne, & Ollendick, 2005) and one was a review of welfare-school attendance programs (Campbell

& Wright, 2005). King was the primary author of both reviews related to cognitive-behavioral treatment of school refusal behavior (2000, 2005). The 2000 review (King et al., 2000), included 8 studies. The authors' search strategy was not specified; however, all studies in the review were published. Their inclusion/exclusion criteria comprised of including only cognitive-behavioral interventions and including experimental, quasi-experimental and single group pre-post test studies. King et al. (2000) concluded that "At first glance, our review of research suggests empirical support for cognitive-behavioral therapy in the treatment of school refusal..." (p. 501). "However, since very few controlled studies have been reported at this stage in treatment research, it would be premature to extol the clinical virtues of cognitive-behavior therapy" (King et al., 2000, p. 506).

King, Heyne, & Ollendick (2005) conducted another narrative review published in 2005. This review was more generally on cognitive-behavioral treatment for anxiety and phobic disorders; however, the authors reviewed 7 studies on school refusal behavior separately from other anxiety and phobic disorders. The search strategy for this review included searching literature in peer-reviewed journals from the 1980s. The authors did not specify which journals or databases they searched, but provided some examples of specific journals they included in the search. The authors included published case studies, open clinical trials, non-randomized and randomized clinical trials of research using cognitive-behavioral treatment with children with severe phobias or anxiety disorders. The authors excluded analogue studies conducted in a university setting or studies concerning obsessive-compulsive disorder and post-traumatic stress disorder. Of the seven studies included in this review, 5 of them were used in the previous review.

Two case studies and one open clinical trial used in the previous review were not included in this review. Two additional studies were added to the 2005 review that had not been included in the 2000 review. One of the studies was a follow-up study of a randomized control trial included in the previous review and the other was a randomized trial with a comparison group which received an alternative treatment (which showed no significant difference between CBT and the alternative treatment). Although the authors used substantially the same studies in both reviews, they came to a different conclusion. The authors concluded that “overall, school refusal has responded to CBT programs as demonstrated in a number of controlled studies, with general maintenance of gains” (King et al., 2005, p. 249).

Another review identified was a narrative listing of 23 model, promising and emerging truancy programs published by the National Dropout Prevention Council (Reimer & Dimock, 2005). The programs chosen for this publication were based on the author’s familiarity with the program and if the program “demonstrated success and practicality of implementation in a variety of environmental realities and programmatic contexts” (Reimer & Dimock, 2005, p. 7). The authors did not specify the criteria they used to establish a program as a “success” and did not provide outcome data or method of evaluation in their narrative descriptions of the programs.

The last review, although narrative, was the most systematic of the narrative reviews found. Sutphen, Ford, and Flaherty (2010) conducted a systematic review of outcome research of truancy interventions. Their review included 16 studies of truancy intervention outcome studies published in peer-reviewed journals between 1990-2007. The search strategy was fairly broad, but excluded studies examining school refusal and

school phobia. The review included experimental, quasi-experimental and single group pre-post test studies from a broad range of truancy interventions, including universal, selective and indicated programs.

These prior reviews have been limited to a narrative approach, summarizing the truancy, school absenteeism and/or school refusal literature. Some of the reviews provide program synopses based on prior evaluations or reports, some have summarized the findings of published studies categorized by specific intervention types, while others have used a vote-counting method. Traditional literature reviews tend to have several limitations, thus caution should be taken when interpreting the conclusions of the reviews. These limitations include: 1) the inclusion of studies or programs included in the review is selective and based on subjective criteria; 2) the interpretation of the findings of the studies are subjective, leading to bias and potentially misleading interpretations; 3) other study characteristics are not examined or taken into account as potential explanations of results across studies; and 4) moderator variables are not examined in relationship to the outcome variable (Cox, Davidson, & Bynum, 1995).

Published Reviews of Related Intervention Outcome Research

Reviews and meta-analyses have also been conducted of interventions to target other related school problems, such as problem behaviors, school performance, and anxiety and phobic disorders, with school attendance being one of the measures used (King, Heyne, & Ollendick, 2005; Little & Harris, 2003; Mattison, 2000; Maughan, 2003; Wilson, Gottfredson, & Najaka, 2001). However, not all studies included in these reviews and meta-analyses measured attendance as attendance was not the primary

outcome being reviewed. Thus there is limited information in these reviews related to interventions intended to increase attendance per se.

Databases of Truancy Intervention/Reduction Programs

In addition to published reviews of interventions targeting school attendance, lists of “model” truancy reduction programs have been developed by the Office of Juvenile Justice and Delinquency Prevention (OJJDP), the National Center for School Engagement (NCSE) and the National Dropout Prevention Center (NDPC). OJJDP lists 16 model programs in their Model Programs Guide, the National Center for School Engagement lists 171 truancy programs registered in their database, of which 69 have had external evaluations and 30 have final evaluations completed. The National Dropout Prevention Center lists 60 model programs for truancy reduction in their database.

Only the OJJDP database of model programs specifies criteria for inclusion of programs in the database. They rate programs as exemplary, effective or promising dependent upon the rating criteria. Programs classified as exemplary must have demonstrated effectiveness using and experimental design; programs classified as effective must have demonstrated effectiveness with a quasi-experimental design; and promising programs demonstrate promising findings using limited evaluation designs such as single group pre-post test designs. The rating and classification system is also based on four dimensions of program effectiveness: 1) conceptual framework of the program; 2) program fidelity; 3) evaluation design; 4) empirical evidence demonstrating the prevention of problem behavior; the reduction of risk factors related to the problem behavior; or the enhancement of protective factors related to problem behavior (OJJDP Model Programs Guide). The National Center for School Engagement’s database is a

self-registry of programs, requiring no minimum criteria to be met in order to be registered in the database. Thus programs that are ineffective could be listed amongst those that have demonstrated effectiveness. The National Dropout Prevention Center's list of model programs does not specify criteria by which the programs have been determined to be "model" programs.

Although having lists of programs in various databases may be helpful at some level, merely listing programs with varying levels of evaluation and evidence of effectiveness can be very confusing and misleading to those who are looking for programs to implement. A review and synthesis of these outcomes of interventions, using what is likely unpublished evaluations of the programs, is needed to summarize the extant research in this area, estimate the magnitude of the program impacts (effect size) and establish the evidence base for programs being disseminated through these guides and registries.

Discussion

The knowledge being gained related to outcomes of interventions to increase student attendance is growing substantially. From the literature reviews and lists of "model" programs, there seems to be a number of diverse programs that have been evaluated, both published and unpublished, providing a substantial body of research available for assessing the efficacy of interventions to increase student attendance. Unfortunately this knowledge is disparate, confusing, and much is possibly unpublished, making it difficult for policy makers and practitioners to use evidence of effectiveness to guide policy and practice.

To date, I have not been able to locate a meta-analysis or systematic review of interventions intended to increase school attendance in primary or secondary school students. It is important to synthesize the intervention research to provide a comprehensive picture of interventions that are being utilized in the field to increase student attendance and to identify interventions that are effective and areas in which more research needs to be conducted to better inform practice and policy.

CHAPTER THREE

METHODOLOGY

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 to inform practice, policy and research in this area.

A systematic review method was utilized for several reasons. A systematic review method requires an explicit and well-defined process for searching and selecting studies included in the review as well as for coding and analyzing data found in the studies. This explicit and transparent process limits bias and reduces chance effects, leading to more reliable results (Higgins & Green, 2006). A well defined process also allows for the review to be replicated and/or expanded, either by other reviewers who want to expand upon the criteria established by the original reviewer or by adding additional studies in the future to the original review as more data becomes available.

Meta-analysis is a form of research integration that applies statistical analysis to quantitatively aggregate and compare results of different individual research studies (Glass et al., 1981; Lipsey & Wilson, 2001). Meta-analysis offers several advantages over other means of research synthesis. As the amount of empirical research has grown, from perhaps a few studies one would find in the 1940's and 1950's to hundreds and even thousands of studies one would find on a particular topic today, the form of research

integration has evolved. Narrative reviews of research may have been appropriate and satisfactory when few studies were available; however, it becomes increasingly difficult to narratively synthesize a vast amount of data when there are a large number of studies (Glass et al., 1981). Glass et al. (1981) suggest that “the findings of multiple studies should be regarded as a complex data set, no more comprehensible without statistical analysis than would be hundreds of data points in one study. Contemporary research reviewing should be more technical and statistical than narrative” (Glass et al., 1981, p. 12).

Meta-analysis provides a way of organizing, handling and analyzing data from a large number of studies in a more differentiated and sophisticated way than narrative reviews or vote counting methods. Narrative reviews and vote counting methods make determinations about whether an intervention was effective based on the number of studies that were found to demonstrate statistically significant positive results. These methods disregard sample size, thus possibly leading to erroneous conclusions (Lipsey and Wilson, 2001). Meta-analysis, on the other hand, represents key findings in terms of effect size rather than statistical significance. Thus, meta-analysis provides information about the strength and importance of a relationship, the magnitude of the effects of the interventions and the characteristics of the effective interventions (Lipsey and Wilson, 2001). Also, meta-analysis produces synthesized effect estimates by pooling effect sizes across studies, producing effect estimates that have more statistical power than an individual study alone (Lipsey and Wilson, 2001).

This chapter provides a detailed description of the methods used in the systematic review and meta-analysis. Specifically included is a description of the search and

selection process for studies included in the review as well as the process for extracting, managing, coding and analyzing the data.

Criteria for Inclusion and Exclusion of Studies in the Review

The following criteria were used to determine whether a study would be included in the review for purposes of estimating program effects:

1. Types of studies: Randomized Controlled Trials, Quasi-Experimental Designs and single group pre-post test designs were included in the review. Case studies were also included in the search process, but not in the analysis, for the purpose of providing a fuller picture of strategies that are being utilized in the field.
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 will be excluded.
3. Types of settings: All settings, with the exception of inpatient or residential treatment settings.
4. Types of intervention: Interventions with a stated primary goal of increasing student attendance (or decreasing absenteeism/truancy/school refusal) among students attending primary or secondary school. Interventions involving solely pharmacotherapy will be excluded from this review.
5. Types of outcome measures: School attendance or absence.

6. 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.
7. 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.

Search Strategy for Identification of Relevant Studies

A comprehensive search strategy was conducted in an attempt to identify and retrieve all relevant studies, both published and unpublished, that met the search criteria as described above. Although this review was limited to indicated intervention programs serving students with an identified attendance problem, the search process was conducted for universal and selective programs as well to be used in future reviews. Several sources were used to identify eligible studies, including:

Electronic Databases

A total of 18 databases were searched (see Table 1). Two librarians specializing in social work, criminal justice and education as well as consultants through the Campbell Collaboration were consulted in determining appropriate databases to search as well as keyword search terms to utilize. Three of the 18 databases (Canadian Research Index, CBCA Education, and FRANCIS) were searched by a librarian associated with the Campbell Collaboration as I did not have access to those databases through Loyola University Chicago's library system.

Table 1: Databases Searched

Academic Search Premier	FRANCIS
CBCA- Education	MEDLINE
Canadian Research Index	PsychInfo
Cochrane Controlled Trial Register	Questia
Criminal Justice Abstracts	Social Service Citation Index
Databases of Abstracts of Reviews of Effectiveness	Social Service Abstracts
Dissertation Abstracts	Social Work Abstracts
ERIC	Sociological Abstracts
Education Complete	WorldCat

Keyword searches within each database included combinations of keywords grouped into four main categories:

- 1) Outcome: Attendance OR Absen*
AND
- 2) Intervention: Evaluation OR Intervention OR Treatment OR Outcome OR Program
AND
- 3) Targeted behavior/problem: Truancy OR “School refusal” OR absen* OR attendance OR “School phobia” OR school anxiety OR dropout OR “expulsion OR suspension
AND
- 4) Targeted population: Students OR Schools

Internet and Website Searches

Websites of relevant government, research centers, foundations and professional associations were searched for published and unpublished studies. Some relevant websites included the U.S. Department of Education, Office of Juvenile Justice and Delinquency Prevention, coloradofoundation.org, hfrp.org, truancyprevention.org, drgonline.com, Colorado.edu/cspv/blueprints/, schoolengagement.org, dropoutprevention.org, ies.ed.gov/ncee/wwc/, and Google Scholar.

Personal Contacts

Personal contacts with research centers, organizations and researchers who do work in the field of truancy, school refusal and school absenteeism. An e-mail query of authors/researchers and experts in the area of truancy/school absenteeism/school refusal were attempted in an effort to uncover additional published or unpublished studies relevant to the review. In addition, efforts were made to contact all truancy/attendance programs listed on the National Dropout Prevention Center's and National Center for School Engagement's websites as well as programs listed in Reimer and Dimock's (2005) booklet. Contact was attempted via e-mail inquiry to the contact person listed for the program. If no response was received from the e-mail inquiry or the e-mail came back as undeliverable, a letter was mailed to the contact person.

Reference Lists

Reference lists of prior reviews and related meta-analyses were reviewed for relevant studies. In addition, the references of the retrieved primary studies were examined for potential studies relevant for the review.

Conducting and Documenting the Search and Selection Process

A comprehensive search log was maintained in Excel to keep track of all searches including 1) search engines used; 2) database or main source searched and 3) number of hits. All titles and abstracts found through the search procedures were reviewed. The titles and abstracts were reviewed primarily for relevance, with final eligibility screening based on the entire article. For example, studies that would be deemed as inappropriate at the title/abstract review stage would be those that do not involve the target population (e.g. college students or adults) or were theoretical in nature where no intervention was

being evaluated. All abstracts deemed potentially appropriate were retrieved in full text and assigned an identification number. The bibliographic information as well as location of where the study was found was entered into the Search Documentation Log, an Excel spreadsheet. If there was any question as to the appropriateness of the study at this stage, the full text was obtained and screened. If the study was in electronic format, the study was saved into a folder on the computer. If the study was obtained in hard copy, usually through InterLibrary Loan, the study was kept in a file drawer.

Once the full text of the studies were retrieved and documented in Excel, each study was reviewed and the basic information needed to determine whether the study met the inclusion criteria was coded on the screening instrument (Appendix C) and entered into the Search Documentation Log in Excel. Also at this time, interventions were coded into one of three categories: 1) universal programs targeting whole school or the general population of students; 2) selective programs targeting students who are “at-risk” but may or may not have an identified attendance problem; or 3) indicated programs targeting students who have an identified attendance problem. For those studies that were determined to be indicated programs and met all other inclusion criteria described previously, data was extracted and entered onto the full coding instrument (Appendix D).

Results of Search

The database and website searches yielded 8,521 “hits”. After review of titles and abstracts, 998 of these were identified for full text retrieval. Of the 998, 328 of these studies were duplicates that were listed in more than one database/source. A total of 670 unique studies were retrieved for screening.

E-mail inquiries to authors/researchers and experts in the field as well as programs listed with the National Dropout Prevention Center, the National Center for School Engagement as well as in Reimer and Dimock's (2005) booklet yielded no studies that passed the screening stage. A total of 260 programs were listed in these three sources; however, a number of programs were listed in more than one source. E-mails and/or letters were sent to all of the programs listed in these sources. Of the 60 programs listed in NDPCs register, ten programs responded. Of these ten responses, six responded that they did not have any reports or evaluations of the program and four sent reports/evaluations via e-mail or mail. Of the four reports received, one did not measure attendance, two were not indicated programs and one was not an actual study but rather a two page report providing information about students referred to the program and a simple tally of students whose attendance improved right after the program. None of the reports received passed the screening stage.

The National Center for School Engagement provided an Excel spreadsheet of 177 programs listed in their registry, including contact information. Of these 177 programs, no response was received from 82 of them, information from two were obtained from another source, and 29 came back as undeliverable/return to sender. Of the 21 programs that did respond, 11 of them stated they had not conducted a formal study of the program, seven were not useable due to being a descriptive year end report or did not measure attendance as an outcome, and two were selective programs. Of the 177 programs listed in the database, two reports were received that passed the full text screening stage and were coded; however, both of these reports were evaluations that had

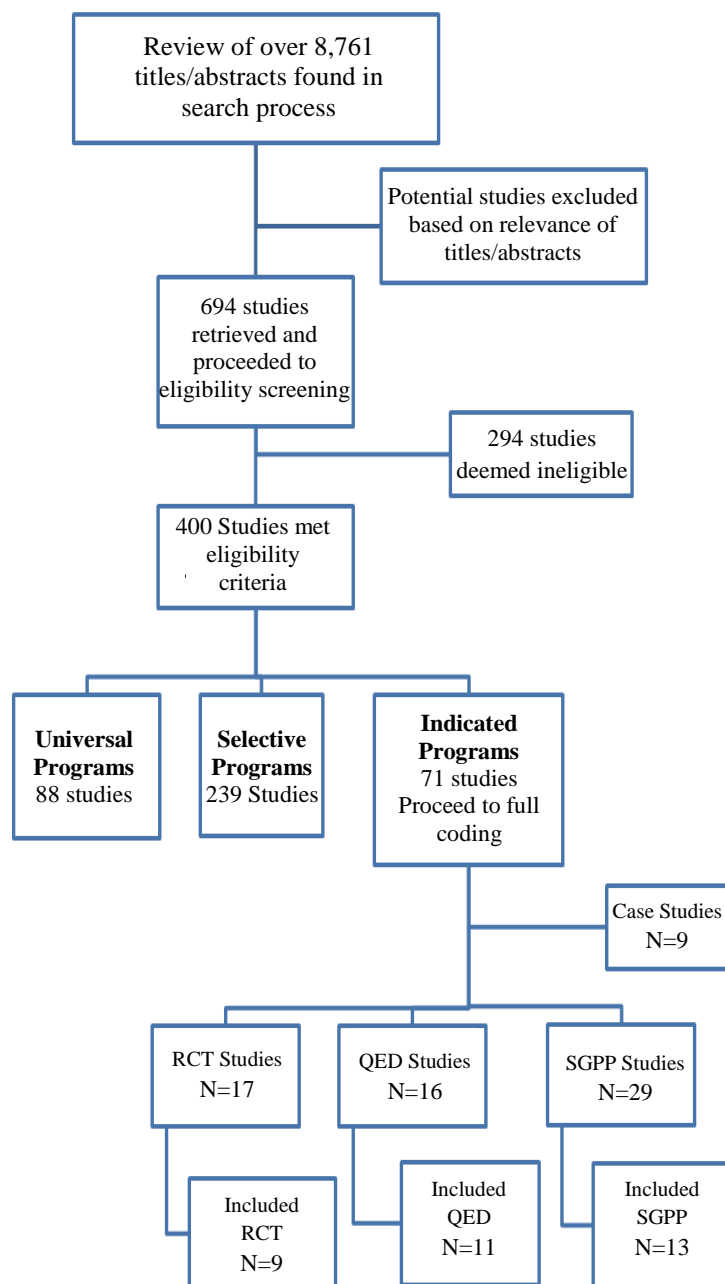
been conducted by the National Center for School Engagement and had been identified through another source.

Of the 23 programs listed in Reimer and Dimock's (2005) booklet, five had been identified and obtained through other sources. The remaining 18 were either excluded after reading the description of the program, due to being a selective program or targeting suspension, or attempts were made to contact and no response was received.

Reference lists of prior reviews and retrieved primary studies yielded 11 studies that were retrieved and screened for eligibility criteria.

Through an exhaustive search process, the full text of 694 studies were retrieved and screened for basic eligibility criteria. With the exception of whether the program was an indicated, selective or universal program, 400 studies met the basic eligibility criteria. Of those 400 that met basic eligibility criteria, 71 of those studies were indicated programs, 239 were selective programs and 88 were universal programs.

Of the 71 studies of indicated programs, 17 were randomized control trials, 16 were quasi-experimental studies, 29 were single group pre-post test studies and 9 were single case studies. Of those studies, 11 randomized control trials, 9 quasi-experimental studies and 13 single group pre-post test studies met final eligibility criteria and were included in the review and meta-analysis. A list of studies included in this review can be found in Appendix E. The 29 studies that were excluded from the analysis at this 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 F. The flowchart below (Figure 1) illustrates the above-described study search and retrieval process.

Figure 1: Flow Chart of Study Search and Selection Process

Data Extraction and Coding Procedures

The 62 studies (RCT, QED and single group pre-post) identified through the search process that met basic eligibility criteria and were identified as an indicated program were coded using a data coding instrument developed by the author (see Appendix C). The data coding instrument is similar to a survey form designed to capture information to be extracted from each eligible study as described by Lipsey and Wilson (2001). The coding instrument was comprised of five sections: 1) source descriptors and study context; 2) sample descriptors; 3) treatment/intervention descriptors; 4) research methods and quality descriptors; and 5) outcome/effect size data.

To ensure reliability of coding procedures, a random sample of 20% of the studies were coded by myself and a second coder trained in coding studies for meta-analysis. There was less than 10% discrepancy in critical fields between the coders. If there had been more than 10% discrepancy in critical fields between the coders in the random subsample, the remaining 80% of the studies would have been coded by a second coder and all differences in coding resolved.

Statistical Analysis

Data was entered into Comprehensive Meta-Analysis (CMA) 2.0 statistical software for the purposes of data analysis. The statistical analysis was designed to produce descriptive information on the characteristics of the studies included, the mean effect size of the interventions, the heterogeneity of effect sizes around those means, and the relationship between effect size and methodological qualities as well as substantive characteristics of the samples and interventions. Due to the differences in inherent methodological differences of two group experimental and quasi experimental designs

with single group pre-post test designs, studies using a single group pre-post test design were analyzed separately from studies utilizing a randomized or quasi experimental design and results discussed separately.

Calculation of Effect Sizes

Effect sizes were calculated for attendance outcomes only. Although multiple outcome variables were measured in several studies, there were not enough studies measuring the same variables to allow for meaningful analyses. The effect sizes were calculated using the standardized mean difference effect size statistic. The standardized mean difference was calculated by subtracting the post-test mean of the control group from the post-test mean of the comparison group and dividing by the pooled standard deviation of the two groups (Lipsey and Wilson, 2001). In the case of a study utilizing a single group pre-post test design, the standardized mean difference was calculated by subtracting the post-test mean from the pre-test mean and dividing by the pooled standard deviation. Because several studies in this meta-analysis contained small sample sizes, Hedges' g was employed to correct for small sample size bias (Hedges, 1981).

In cases where the authors did not report the means or standard deviations, but did report the results of a t -test or one-way analysis of variance (ANOVA), the effect size was calculated in CMA by inputting the means, sample sizes and t -value, or in the case of an F-ratio, the sample sizes and square root of the F-ratio. In cases of critical data not being adequately reported to allow for the calculation of effect sizes, and it was not possible to estimate the effect sizes with values from a t -test or ANOVA, the study was excluded. In total, eight RCT/QED studies and ten single group pre-post studies were excluded due to authors not reporting adequate data to calculate effect sizes.

To maintain statistical independence of data, only one effect size was computed for each study. There was one exception to this rule. Johncox (1994) measured attendance outcomes on two independent samples that went through treatment at two different times, thus two effect sizes were calculated. In cases of studies with more than one treatment, the group that was deemed to be most relevant was included in the meta-analysis. In cases of studies with more than one comparison group, the comparison group that received the least amount of intervention was utilized.

In studies that reported follow-up data for attendance outcome measures, all reported only one point of follow up. A separate analysis for effect sizes at follow-up time points for which there was adequate retention of the original study sample (at least 60 percent of the initial study sample) was conducted.

Statistical Analysis of Effect Sizes

A fixed-effects model using the method of inverse variance weighting was used. Weighted effect sizes were calculated by multiplying each effect size by its inverse variance, giving studies with larger sample sizes greater weight.

A fixed effects model assumes that the effect size observed in a study estimates the corresponding population effect, with sampling error being the only random influence on it (Cooper, 1998 and Lipsey and Wilson, 2001). A random effects model assumes that the variability between studies is due to subject level sampling error as well as another random component assumed to be, or act like, study-level sampling error (Lipsey and Wilson, 2001). Between study variance using a random effects model is conceived to be unsystematic and thus cannot be explained, whereas between study variance using a fixed effects model is conceived as being a function of study or intervention characteristics that

can be systematically explained (Hedges, 1992). It was anticipated prior to conducting this meta-analysis that there would be significant variability between studies due to the diversity of interventions as well as participant and methodological characteristics of the studies. It was postulated that the excess variability was not random, but could be explained by characteristics of the source studies. For this meta-analysis, a fixed effects model was employed because a thorough search for influences on effect sizes was part of the analytic strategy a priori.

Test of Homogeneity

A test of homogeneity (Q -test) was conducted to compare the observed variance to what would be expected from sampling error. The Q statistic is distributed as a chi-square with $k-1$ degrees of freedom (k = the number of effect sizes) (Hedges and Olkin, 1985). The Q statistic is calculated by adding the squared deviations of each study's effect size from the mean effect size, weighing their contribution by its inverse variance. A significant Q rejects the null hypothesis, indicating that the variability of effect sizes between studies is greater than what would be expected by sampling error alone. In the case of a significant Q -value, a fixed effects model can be employed when one adds the assumption that the variability is systematic and can be explained by variables found in the studies (Lipsey and Wilson, 2001). This assumption provides the basis for further investigation and analysis to examine whether study characteristics are associated with the variance in effect sizes (Cooper, 1998; Lipsey and Wilson, 2001).

Moderator Analysis

An analysis of moderator variables was warranted due to the heterogeneity of effect sizes between studies being larger than expected from sampling error alone (details in

the results section). Rather than assuming this heterogeneity was due to random sources, analyses were conducted to determine if this excess variability was associated with variables found in the studies included in the meta-analysis. One way in which to test the association between categorical independent variables and variability in the effect sizes is with the analog to the Analysis of Variance. The analog to the analysis of variance is similar to the one-way analysis of variance (ANOVA). Using a fixed-effects model, effect sizes were grouped into mutually exclusive categories on the basis of the independent variable (i.e. duration of treatment, type of intervention, setting of intervention, etc.). The homogeneity of effect sizes within each category and the difference between the categories was then tested using Comprehensive Meta-Analysis software. The independent variables tested were: study design; publication type; attrition; grade level; treatment setting; treatment duration; modality of treatment; parental involvement in treatment; student grade; race; and chronicity of absenteeism at baseline.

Publication Bias

Publication bias can occur as a result of decisions on the part of authors as well as editors to publish studies which demonstrate a significant affect and to not publish studies when findings may be insignificant, or run counter to the hypothesis or conventional wisdom (Cooper, 1998). Including only published studies in a meta-analysis could likely introduce an upward bias into the effect sizes (Lipsey and Wilson, 2001). Therefore, it is recommended that meta-analysis include both published and unpublished studies to minimize this bias (Cooper, 1998 and Lipsey and Wilson, 2001). This review made every attempt to include both published and unpublished reports to minimize the

occurrence of publication bias. In addition, publication bias was assessed by constructing a scatterplot of the effect size by sample size, called a funnel plot. The more symmetrical the funnel plot, the less likely publication bias exists.

CHAPTER FOUR

RESULTS

This chapter begins with a description of the studies included in this review and meta-analysis. Descriptive information regarding study characteristics, participant characteristics and intervention characteristics will be summarized for all of the studies included in the review. In the second part of the chapter, the results of the meta-analysis, including effect sizes, grand mean effect size and moderator analyses will be presented. Due to the methodological differences between two group and single group studies, the meta-analytic results of the experimental and quasi-experimental studies will be presented separately from the single-group pre-post test studies.

In total, this chapter presents findings on 2,598 students who were participants in 35 independent samples reported in 33 studies of interventions intended to increase attendance/decrease absenteeism in elementary and/or secondary school students. Nine of those studies were randomized controlled trials (RCT), 11 were quasi-experimental designed studies (QED) and 13 were single group pre-post test studies (SGPP).

Descriptive Findings

Study Characteristics

Table 2 provides a summary of descriptive findings related to the characteristics of the included studies. The studies included in this review were published/dated between 1990 and 2009. Sixteen (48%) studies were dated between 1990 and 1999 and

the remaining 17 (52%) were dated between 2000 and 2009. It is interesting to note that the majority (80%) of the single group pre-post test studies were published/dated in the 2000s, while the majority (70%) of the RCT and QED studies were published/dated in the 1990s. Only five studies were conducted outside of the United States. One was conducted in Canada, three in Australia and one in the United Kingdom.

Table 2: Study Characteristics

Characteristic	RCT/QE	SGPP	All
	D Studies	Studies	Studies
	N (%)	N (%)	N (%)
Study design	20 (61%)	13 (39%)	33
Publication year			
1990-1999	13 (65%)	3 (23%)	16 (48%)
2000-2009	7 (35%)	10 (77%)	17 (52%)
Publication type			
Peer reviewed journal	7 (35%)	5 (38%)	12 (36%)
Dissertation, thesis or Master's research paper	12 (60%)	4 (31%)	16 (48%)
Other report	1 (5%)	4 (31%)	5 (15%)
Sample size (tx group)			
1-19	9 (43%)	4 (29%)	13 (37%)
20-49	8 (38%)	7 (50%)	15 (43%)
50-99	1 (5%)	1 (7%)	2 (6%)
100-199	3 (14%)	1 (7%)	4 (11%)
200+	0 (0%)	1 (7%)	1 (3%)
Sample size (total)			
1-19	3 (14%)	----	3 (14%)
20-49	8 (23%)	----	8 (23%)
50-99	6 (17%)	----	6 (17%)
100-199	1 (3%)	----	1 (3%)
200+	3 (9%)	----	3 (9%)
Country of study location			
United States	17 (85%)	11 (85%)	28 (85%)
United Kingdom	0 (0%)	1 (8%)	1 (3%)
Canada	1 (5%)	0 (0%)	1 (3%)
Australia	2 (10%)	1 (8%)	3 (9%)
Discipline of first author			
Social Work	3 (15%)	2 (15%)	5 (15%)
Psychology	4 (20%)	2 (15%)	6 (18%)
Education	9 (45%)	4 (31%)	13 (39%)
Criminal Justice	0 (0%)	1 (8%)	1 (3%)
Other	2 (10%)	1 (8%)	3 (9%)
Unable to determine	2 (20%)	3 (23%)	5 (15%)

Table 2: Study Characteristics

Characteristic	RCT/QE D Studies	SGPP Studies	All Studies
Attrition rates			
< 20%	17 (81%)	6 (43%)	23 (66%)
> 20%	4 (19%)	7 (50%)	11 (31%)
Not given	0 (0%)	1 (7%)	1 (3%)
Control group experience			
Alternative Intervention	5 (24%)	----	5 (24%)
Nothing	16 (46%)	----	16 (46%)
Pre-test differences			
Significant differences	2 (10%)	----	2 (10%)
No significant differences	9 (43%)	----	9 (43%)
Not reported	10 (48%)	----	10 (48%)
Length of time attendance measured at post-test			
1-5 weeks	6 (29%)	3 (21%)	9 (26%)
6-10 weeks	5 (24%)	8 (57%)	13 (37%)
11-18 weeks	5 (24%)	2 (14%)	7 (20%)
19+ weeks	3 (14%)	1 (7%)	4 (11%)
Not enough information	2 (10%)	0 (0%)	2 (6%)

Notes: N (QED/RCT) = 20 studies; 21 independent sample;

N (SGPP) = 13 studies; 14 independent samples

Researchers and practitioners from a variety of disciplines authored the studies included in this synthesis, including social work, psychology, education, criminal justice, psychiatry/medicine and nursing. It is worth noting that there were some instances in which the same author or group of authors published more than one study that is included in this review. Three single group pre-post test studies representing four of the 14 (29%) samples included in the review were funded by the Office of Juvenile Justice and Delinquency Prevention and evaluated by the National Center for School Engagement. Two of the studies (NCSE, 2005 & NCSE, 2006a) were evaluations of the same program in Jacksonville, Florida during two different time periods. According to the report (NCSE, 2006a), the program was less intensive in its earlier years. The third report

produced by the National Center for School Engagement (NCSE, 2006b) included in this review reported on outcomes of a program implemented in two different school districts, thus two independent samples were included in this review from this study. Two sets of RCT studies included in this review shared the same authors. Two studies were authored by Hess (1990a & 1990b) and two studies were co-authored by Heyne and King (Heyne et al., 2002; King et al., 1998).

Of the 33 studies included in this meta-analysis, 39% (n=13) were published in peer reviewed journals while the majority (61%) of studies (n=20) were found in the grey literature. Those found in the grey literature include 16 dissertations, theses, or Master's research papers and 12 other reports by government entities, schools or private foundations. Due to the large number of unpublished studies included in this review, the possibility of publication bias has been reduced.

The majority of the QED/RCT and single group pre-post test design studies had small sample sizes. Of the 21 treatment groups in the QED/RCT studies, 17 (81%) were comprised of less than 50 participants and 9 (43%) were comprised of less than 20 participants. Of the 14 samples in the single group pre-post test studies, the size of 11 (79%) samples was less than 50 and 4 samples (29%) were less than 20.

In the RCT and QED studies, attrition was a problem with four (19%) of the 21 trials, and with seven (50%) of the 14 samples reported in the single group pre-post test studies, representing 31% of the total studies included in the synthesis. Attrition was more of a problem in non-published studies, with 72% of the studies experiencing significant attrition being non-published studies. Of the 11 studies experiencing attrition greater than 20%, 7 provided explanations for lost cases. Authors of these seven studies

reported that attrition was due to one or more of three issues: 1) missing data/school records; 2) mobility of students (moving, withdrawing from school, etc.); and 3) participant drop out due to issue related to treatment or control condition (dropped out of treatment/declined further participation, did not comply with treatment). Six of the studies cited missing data on some participants at one or more time points (Becerra, 2001; Halsey et al., 2004; Mueller et al., 2006; NCSE 2006b, NCSE 2005, Johnson & Syropoulos, 1996). Missing data resulted from researchers unable to obtain complete data or school records from the school system or another third party. Participants moving or withdrawing from school was cited in five of the studies (Becerra, 2001; Ford & Sutphen, 1996; Mueller et al., 2006; Hubin 2000; Bernstein et al., 2000). Two studies cited issues related to the treatment/control condition. Bernstein et al. reported that some participants were dropped due to missing too many doses or therapy sessions or had declined further participation in the study. Richardson (1992) acknowledged a problem with the therapeutic intervention provided to the control participants that resulted in several dropping out of the study and made adjustments to the intervention as a result.

Of the 21 independent trials included in the RCT and QED studies, treatment groups were compared to control groups that received an alternative intervention in five (24%) instances while control groups in the other 16 (76%) of the trials received no alternative intervention. Statistically significant differences between the treatment and control groups regarding baseline attendance rates were noted in two (10%) of the trials, while nine (43%) reported no statistically significant differences between treatment and control groups, and ten (48%) did not report pre-test differences between treatment and control groups.

The length of time researchers measured attendance at post-test ranged from 2 weeks to 2 years. The majority of studies (66%) measured attendance in terms of number of days, classes or hours the students were absent, one measured number of days attended, six measured percentage of days attended and two measured percentage of days absent. Only four RCT/QED studies and 4 SGPP studies reported follow-up data on absenteeism.

Although attendance is the outcome of interest in this synthesis and the only outcome for which effect sizes were calculated, it is interesting to note the other outcomes authors measured. Table 3 lists the frequency for which other outcomes were measured in the included studies.

Table 3: Other Outcomes Measured

Outcome	RCT/QED Studies		SGPP Studies		All Studies	
	N	(%)	N	(%)	N	(%)
Child Behavior and/or Functioning	5	(25%)	3	(23%)	8	(24%)
Academic Performance	9	(45%)	2	(15%)	11	(33%)
Fear	2	(10%)	1	(8%)	3	(9%)
Anxiety	4	(20%)	1	(8%)	5	(15%)
Depression	3	(15%)	1	(8%)	4	(12%)
Self-efficacy	2	(10%)	0	(0%)	2	(6%)
Self esteem	2	(10%)	1	(8%)	3	(9%)
Self-perception	1	(5%)	0	(0%)	1	(3%)
Grade retention	1	(5%)	0	(0%)	1	(3%)
Disciplinary referrals	1	(5%)	1	(8%)	2	(6%)
Attitude toward school	3	(15%)	1	(8%)	4	(12%)
Credits earned	2	(10%)	2	(15%)	4	(12%)
Court referrals	1	(5%)	0	(0%)	1	(3%)
Family Functioning	0	(0%)	1	(8%)	1	(3%)
Attachment	0	(0%)	1	(8%)	1	(3%)
Parent or Teacher Survey	0	(0%)	3	(23%)	3	(9%)
None	5	(25%)	4	(31%)	9	(27%)

Note: Categories are not mutually exclusive

Participant Characteristics

A total of 2,598 students participated in the included studies. Of those, 978 students received the treatment condition in the RCT/QED studies and 720 students received the treatment condition in the single group pre-post test studies. Table 4 summarizes the characteristics of the participants of the included studies.

Table 4: Participant Characteristics

Characteristics	RCT/QE D Studies	SGPP Studies	All Studies
	N (%)	N (%)	N (%)
# of Participants			
Treatment group	978	720	1698
Control group	900		
Total	1878	720	2598
Grade level*			
Elementary	2 (10%)	5 (36%)	7 (20%)
Middle school	5 (24%)	1 (7%)	6 (17%)
High school	5 (24%)	1 (7%)	6 (17%)
Mixed grades	9 (43%)	7 (50%)	16 (46%)
Mean age*	13.17	10.13	12.16
Pre-test mean rates of absenteeism by study*			
<10%	1 (5%)	0 (0%)	1 (3%)
11%-20%	1 (5%)	6 (43%)	7 (20%)
21%-30%	3 (14%)	3 (21%)	6 (17%)
31%-40%	4 (19%)	1 (7%)	5 (14%)
41%+	7 (33%)	3 (21%)	10 (29%)
Not given	5 (24%)	1 (7%)	6 (17%)
Predominant race by study*			
Caucasian	7 (33%)	2 (14%)	9 (26%)
African American	3 (14%)	2 (14%)	5 (14%)
Hispanic	2 (10%)	1 (7%)	3 (9%)
Not given	9 (43%)	9 (64%)	18 (51%)
Socio-economic status*			
Low	3 (14%)	1 (7%)	4 (11%)
Working class	1 (5%)		1 (3%)
Not given	17 (81%)	13 (93%)	30 (86%)

Notes: * Data given for treatment groups only

N (QED/RCT) = 20 studies; 21 independent sample

N (SGPP) = 13 studies; 14 independent samples

The mean age of participants in the treatment group in all studies was 12.6. The mean age of participants in RCT/QED studies was 13.17 and in the SGPP studies was

10.13. It should be noted, however, that the mean age of participants was only given for 13 (62%) of the treatment groups in the RCT/QED studies and for only 3 (21%) of the single group pre-post test samples. All of the studies reported grade level (or a range of ages that crossed grade levels) of participants in addition to or rather than reporting age. Participants were from a mixture of grade levels in 46% of the total studies. Elementary students were targeted for intervention in 20% of the studies, middle school students in 17% of the studies and high school students in 17% of the studies.

Information about the race and socio-economic status of the participants was also lacking in many studies. The race of the participants was not given in 51% of the studies and socio-economic status of the participants was not given in 86% of the studies. Of the 49% of the studies that did provide participants' race, Caucasian participants were the predominant race in 53% of the studies, whereas African American participants were the predominant race in 29% of the studies and Hispanics in 18% of the studies.

The participants in the included studies had a high rate of absenteeism prior to the intervention (at baseline). In 60% of the studies, the treatment group had a mean rate of absenteeism of 31% or more days absent. The RCT and QED studies had a higher percentage of participants with high rates of absenteeism than single group pre-post test studies. The participants in 76% of the RCT/QED studies had a baseline absenteeism rate of 31% or higher, whereas only 35% of the single group pre-post test studies had absentee rates at that level. It should be noted that the percentage of days students were absent at baseline was often not given in the studies, but was calculated for this review with the data given by the authors. If the actual percent of days absent/present was not given in the study, the percentage of days absent was estimated by taking the mean

number of days absent/present given by the author, dividing that by the number of days attendance was measured at pre-test and multiplying by 100. Also, because authors did not always give the exact number of days or weeks for which they measured baseline attendance, the number of possible days was also estimated with the information given by the author. The assumptions used to calculate the number of days baseline attendance was measured were: 20 school days per month, 90 school days per semester and 180 school days per school year.

Intervention Characteristics

The interventions in this review represent a broad range of modalities, components, providers, and settings. Because this review is examining indicated interventions for students who have identified attendance problems, all interventions in this review target the student and/or parent, rather than a more universal or secondary prevention effort that may target communities or schools. Although some RCT/QED studies utilized more than one treatment group compared to the same control group, only one treatment group was selected for inclusion in the analysis due to the importance of maintaining data independence when analyzing effect sizes. As a result, only the intervention to which the selected treatment group was exposed will be included in the description of intervention characteristics.

Modalities and Components of Interventions

Developing meaningful categories of interventions was challenging due to the diversity of interventions evaluated in the studies included in this review. In addition to the diversity of interventions, several interventions were comprised of multiple components being provided by multiple providers. In the literature, interventions and

programs are often characterized as court-based, school-based or community-based programs. As all of the interventions included in this review could logically be categorized in this way, each intervention was placed into one of the following three categories: 1) school-based interventions; 2) court-based interventions and 3) agency/clinic based interventions. The number of interventions in each of the three categories is presented in Table 5.

Table 5: Types of Interventions

Type of Interventions	RCT/QE	SGPP	All Studies
	D Studies	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%)

In defining interventions in terms of school, court or clinic/agency-based programs, the treatment setting was a significant determinant in the categorization scheme, but not the only determinant. Due to some interventions being conducted in more than one setting or in non-traditional settings, the primary organization responsible for the program and the providers implementing the intervention were also used in determining the category. When the court or court personnel had a major role in the intervention from the outset (as opposed to being the last step in the intervention process), regardless of location, the intervention was categorized as a court-based intervention.

The majority of interventions evaluated in the RCT/QED studies were school-based programs (62%), with court-based programs comprising 14% (n=3) and clinic/agency-based programs comprising 19% (n=4). In one study (Baden, 1990), the

intervention could not be categorized due to a lack of information. The majority of interventions evaluated in the single group pre-post test studies were court-based programs (50%), with 14% (n=2) being clinic/agency-based programs and 36% (n=5) being school-based programs.

The coding protocol for the meta-analysis included numerous items to capture the various components of interventions. Because there were several components that were not found in the included studies that had been anticipated and several that were found that were not included in the coding protocol, all studies were re-read and descriptive information about the components was extracted. From the qualitative analysis of the program components found in the included studies, a revised list of intervention components was developed. Table 6 provides a summary of the intervention components/modalities utilized in the included studies. Because several interventions used more than one component, the categories are not mutually exclusive.

Table 6: Components/Modalities of Interventions

Component	RCT/QE D Studies	SGPP Studies	All Studies
	Frequency	Frequency	Frequency
<u>Student Targeted Interventions</u>			
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

Table 6: Components/Modalities of Interventions

Component	RCT/QE D Studies	SGPP Studies	All Studies
Case Management	0	3	3
Peer Support	2	0	2
	20	20	40
<u>Parent/Family Targeted Interventions</u>			
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
<u>Other</u>			
Teacher Consultation/Training	2	1	3

Note: Categories are not mutually exclusive

The majority of interventions evaluated in the included studies were multi-modal, meaning that the intervention was comprised of more than one component. Of the interventions studied in the RCT/QED studies, 13 (62%) of the interventions included more than one component and 10 (71%) of the interventions in the SGPP studies included more than one component.

In addition to the interventions being comprised of multiple components, multiple recipients were often targeted by the interventions. Parents were either targeted as a primary recipient of the intervention or were involved as a recipient along with the student in 12 (57%) of the 21 interventions included in the RCT/QED studies and in 10 (71%) of the 14 interventions included in the SGPP studies. In only one study, in which parents were criminally prosecuted for their child's truancy, was the parent the only

target of the intervention (Becerra, 2001). The level of parental involvement in the interventions varied tremendously from being included in 15 minutes of the student's therapy sessions to being a primary target of the intervention and receiving the same amount or more of services than the student.

Setting

The majority of interventions evaluated in RCT/QED studies were conducted in a single setting, but some were conducted in multiple settings for all participants or the setting varied depending on the participant's and/or family's needs and preferences. Of those that were conducted in a single setting, the majority of the interventions were conducted in the school (52%), 3 were conducted in clinics/agencies and one was conducted in the courthouse. For the remaining four interventions, services were provided in a combination of settings, including some combination of school, court, agency and home settings. In one study (Baden, 1990), the setting of services was not specified. The majority of interventions evaluated in the single group pre-post test studies were also conducted in a single setting. Four (29%) of the interventions were conducted in the school, two (14%) were conducted in a clinic/agency setting and one (7%) in the court setting. Five (36%) interventions were conducted in a combination of settings or the setting varied across sites implementing the intervention. In two (14%) studies, the setting could not be identified. Table 7 summarizes settings of interventions by study type.

Table 7: Settings of Interventions

Setting	RCT/QED	SGPP	All Studies
	Studies	Studies	
	N (%)	N (%)	N (%)
School	11 (52%)	4 (29%)	15 (43%)
Court	1 (5%)	1 (7%)	2 (6%)
Clinic/Agency	3 (14%)	2 (14%)	5 (14%)
Multiple/Varied	5 (24%)	5 (36%)	10 (29%)
Unable to determine	1 (5%)	2 (10%)	3 (9%)

Service Delivery: Providers and Collaborations

As anticipated, a number of disciplines were involved in the provision of services with the students and/or family. Social workers, psychologists, counselors, teachers and other school personnel, court staff as well as peers were involved in the provision of services to student participants in the included studies. In interventions where multiple components were implemented, multiple providers from various disciplines may have been involved with the student and/or family. Table 8 summarizes the primary providers of the interventions included in this review. If there was more than one provider from a different discipline, the category of “multiple providers” was utilized.

Table 8: Primary Providers of Interventions

Provider	RCT/QED	SGPP	All
	Studies	Studies	Studies
	N (%)	N (%)	N (%)
Social Worker	2 (10%)	2 (14%)	4 (12%)
Psychologist	3 (14%)	1 (7%)	4 (12%)
Counselor/Therapist (unspecified)	5 (24%)	0 (0%)	5 (15%)
School Staff	7 (20%)	2 (14%)	9 (26%)
Court Staff	0 (0%)	2 (14%)	2 (6%)
Peers	1 (5%)	0 (0%)	1 (3%)
Multiple providers	3 (14%)	6 (43%)	9 (26%)
Unable to determine	0 (0%)	1 (7%)	1 (3%)

As partly indicated by the multiple settings and providers in the above characteristics of interventions, a number of programs either identified themselves as being collaborative programs or it was determined from the descriptions of the interventions that a collaborative relationship was evident. For the purposes of this review, an intervention was considered collaborative if it a) described itself as a collaborative program or b) the development or implementation of the program involved two or more distinct organizations or personnel from two or more distinct organizations in the management and/or provision of services. In cases where the only relationship between entities was that of making/receiving referrals or providing data, this was not considered collaborative. Of the 21 interventions evaluated in the QED/RCT studies, 5 (24%) met the criteria of a collaborative intervention and 7 (50%) of the 14 interventions in the SGPP studies met the criteria of a collaborative intervention. See table 9 below.

Table 9: Collaborative Interventions

Collaborative?	RCT/QED	SGPP	All
	Studies	Studies	Studies
	N (%)	N (%)	N (%)
Yes	5 (24%)	7 (50%)	12 (34%)
No	16 (76%)	7 (50%)	23 (66%)

Funding Sources

Studies provided very little information on how the interventions or studies were funded. Only four of the SGPP studies specifically reported the funding source for the intervention. In these four studies, the funding for the intervention as well as the evaluation came from the Office of Juvenile Justice and Delinquency Prevention. Three other studies reported receiving funding, although it was unclear as to whether the funding was used for the study or the intervention. One study reported funding from the

NH, MRC and Ian Potter Foundation and the other received funding from a faculty research grant from their university. Nine of the RCT/QED studies reported funding sources, but in most cases it was difficult to determine if the funding was for the research or the intervention. Funding was reported to come from NIMH, the National Health & Medical Research Council, Ian Potter Foundation, U.S. Department of Education, SAMHSA, Title I Elementary and Secondary Improvement Amendment, Rochester City School District, Health Care Reform Act, and a University faculty research grant. Two programs received tangible goods for use in their interventions. One received items donated from local merchants to be used for incentives and the other received medication from a laboratory, pill containers from a supplier and an ECG machine through a grant from a manufacturer. See Table 10 for summary of study funding source.

Seven studies published in the 1990's reported some funding, whereas 10 of the studies published in the 2000's reported a funding source. Of the RCT/QED studies, five published in the 1990's received funding whereas four published in the 2000's received funding. Of the SGPP studies, one published in the 1990's received funding whereas six published in the 2000's received funding. From the small amount of studies that provided information about funding, it appears that more studies were funded in the 2000's when more funding may have been made available. On the other hand, studies published in the 2000's may also have been more likely to report funding as concerns regarding conflict of interest and increased appeals for more transparency regarding funding sources.

Table 10: Funding Sources

Funding Source	RCT/QED Studies		SGPP Studies		All Studies	
	N	(%)	N	(%)	N	(%)
Public	7	(33%)	5	(36%)	13	(37%)
Private	0	(0%)	2	(14%)	2	(6%)
Combination	2	(10%)	0	(0%)	2	(6%)
Nothing Reported	12	(57%)	7	(50%)	19	(54%)

Duration of Treatment

The duration of treatment was coded in both hours and weeks of intervention. Because many studies did not provide enough detail regarding the number of hours students and/or parents were engaged in the intervention, number of weeks was used as the measurement for duration of treatment in this review. The majority of interventions were ongoing and lasted for at least 4 weeks; however, there was one intervention that occurred in one event lasting two and a half hours and was coded as one week in duration. The duration of treatment for the interventions evaluated in the QED/RCT studies ranged from 1-72 weeks, with a mean of 15.06 weeks (n= 18). The duration of treatment was not able to be determined in three of the studies. In the SGPP studies, treatment duration ranged from 4-27 weeks, with a mean of 13.17 weeks (n=6). The duration of treatment was not able to be determined in 8 of the studies due to lack of information. The level and intensity of interventions is not necessarily reflected in the duration, as the frequency of contacts over the duration of treatment varied between the interventions; however, many studies did not provide enough detailed information about frequency of contact to provide more detail related to program intensity. Table 11 provides an overview of the number of weeks the interventions were provided to participants.

Table 11: Treatment Duration

Duration (weeks)	RCT/QED	SGPP	All
	Studies	Studies	Studies
	N (%)	N (%)	N (%)
1-4 weeks	4 (19%)	1 (7%)	5 (14%)
5-9 weeks	5 (24%)	2 (14%)	7 (20%)
10-18 weeks	6 (29%)	2 (14%)	8 (23%)
19+ weeks	3 (14%)	1 (7%)	4 (11%)
Unable to determine	3 (14%)	8 (57%)	11 (31%)

Note: For interventions that occurred in one event, duration was coded as 1 week

Effect Size Analysis: Randomized and Quasi-Experimental Studies

Mean Effect of Interventions on Attendance Outcomes

The mean effect sizes were calculated for attendance outcomes for each of the 21 effect sizes extracted from the 20 different RCT/QED studies included in this synthesis. The overall mean effect size for attendance outcomes assuming a fixed effects model and correcting for small sample sizes using Hedge's g was .47 (95% CI .38 to .56, $p < .000$), demonstrating an overall positive and moderate effect of interventions on attendance outcomes (see Table 12).

Table 12: Grand Mean Effect Size of Attendance Outcomes for Randomized and Quasi-Experimental Studies

Outcome	Mean ES	SE	95% CI		z	p
			Low	High		
Attendance	.47	.048	.38	.56	10.05	.000

Table 13 below summarizes each study included in the review with the weighted effect size, using Hedge's g , of attendance outcomes for each intervention.

Table 13: Summary of Included Randomized and Quasi-Experimental Studies

Author (year)	Program Name	Description/Components	QED/ RCT	N	% Days Absent		Grade level	Study result	ES	95% CI	
					Pre	Post				lower/	upper
Baden (1990)	Systemic Family Therapy	Family therapy- 6 weekly, 50 minute family therapy sessions	<i>QED</i>	<i>tx=6 c=6</i>	<i>ng</i>	<i>0</i>	<i>4</i>	<i>+</i>	<i>0.82</i>	<i>-0.27</i>	<i>1.91</i>
Bernstein (2000)	CBT and Imipramine	8 session CBT treatment with medication (Imipramine)	<i>RCT</i>	<i>tx=24 c=23</i>	<i>72</i>	<i>30</i>	<i>4</i>	<i>+</i>	<i>1.25*</i>	<i>0.63</i>	<i>1.87</i>
Converse (2009)	School-based mentoring program	Mentoring by school staff/faculty- once per week over 18 weeks.	<i>RCT</i>	<i>tx=16 c=15</i>	<i>9</i>	<i>7</i>	<i>2</i>	<i>nd</i>	<i>0.56</i>	<i>-0.14</i>	<i>1.26</i>
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	<i>RCT</i>	<i>tx=28 c=31</i>	<i>32</i>	<i>63</i>	<i>62</i>	<i>+</i>	<i>0.51</i>	<i>-0</i>	<i>1.03</i>
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.	<i>QED</i>	<i>tx =189 c=189</i>	<i>23</i>	<i>13</i>	<i>4</i>	<i>+</i>	<i>0.48*</i>	<i>0.28</i>	<i>0.69</i>
Flanagan (2006)	Going to Class Pays	Positive behavior support program- engaging in positive verbal interactions, utilizing attendance monitoring, positive parent interactions and preferred reinforcements.	<i>QED</i>	<i>tx=32 c=32</i>	<i>46</i>	<i>43</i>	<i>3</i>	<i>+</i>	<i>0.81*</i>	<i>0.31</i>	<i>1.32</i>

Table 13: Summary of Included Randomized and Quasi-Experimental Studies

Author (year)	Program Name	Description/Components	QED/ RCT	N	% Days Absent		Grade level	Study result	ES	95% CI	
					Pre	Post				lower/	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.	<i>QED</i>	<i>tx=5 c=5</i>	<i>ng</i>	<i>15</i>	<i>2</i>	<i>nd</i>	<i>0.57</i>	<i>-1.12</i>	<i>1.12</i>
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.	<i>QED</i>	<i>tx=49 c=15</i>	<i>25</i>	<i>13</i>	<i>1</i>	<i>nd</i>	<i>0.37</i>	<i>-0.21</i>	<i>0.94</i>
Hess (1990a)	Contingency Contracting and Parent Training	Contingency contracts were developed with students. Parents attended 3 weekly group parent training sessions.	<i>RCT</i>	<i>tx=12 c=15</i>	<i>49</i>	<i>23</i>	<i>2</i>	<i>+</i>	<i>1.05*</i>	<i>0.22</i>	<i>1.79</i>
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.	<i>RCT</i>	<i>tx=13 c=13</i>	<i>37</i>	<i>18</i>	<i>2</i>	<i>+</i>	<i>1.18*</i>	<i>0.37</i>	<i>1.99</i>
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.	<i>QED</i>	<i>tx=15 c=8</i>	<i>ng</i>	<i>ng</i>	<i>4</i>	<i>+</i>	<i>0.88*</i>	<i>0.18</i>	<i>1.58</i>

Table 13: Summary of Included Randomized and Quasi-Experimental Studies

Author (year)	Program Name	Description/Components	QED/ RCT	N	% Days Absent		Grade level	Study result	ES	95% CI	
					Pre	Post				lower/	upper
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.	<i>RCT</i>	<i>tx=20 c=21</i>	84	23	4	+	0.48	-0.13	1.09
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.	<i>QED</i>	<i>tx=45 c=17</i>	27	20	4	<i>nd</i>	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	<i>QED</i>	<i>tx=193 c=184</i>	<i>ng</i>	28	3	+	0.82*	0.61	1.03
Johnson (1996)-2	High School Intervention Centers Program	Same as above	<i>QED</i>	<i>tx=165 c=169</i>	31	39	3	<i>nd</i>	0.06	-0.16	0.27

Table 13: Summary of Included Randomized and Quasi-Experimental Studies

Author (year)	Program Name	Description/Components	QED/ RCT	N	% Days Absent		Grade level	Study result	ES	95% CI	
					Pre	Post				lower/	upper
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	<i>RCT</i>	<i>tx=17 c=17</i>	39	7	4	+	1.16*	0.45	1.87
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	<i>QED</i>	<i>tx=60 c=45</i>	<i>ng</i>	11	1	<i>nd</i>	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.	<i>RCT</i>	<i>tx=10 c=9</i>	50	37	4	<i>nd</i>	0.07	-0.79	0.93
Seamans (1996)	Brief Family Systems intervention	6, 1-1.5 hr long family therapy sessions over eight weeks	<i>QED</i>	<i>tx=34 c=24</i>	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	<i>QED</i>	<i>tx=14 c=16</i>	58	68	3	+	0.71	-0.01	1.43

Table 13: Summary of Included Randomized and Quasi-Experimental Studies

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

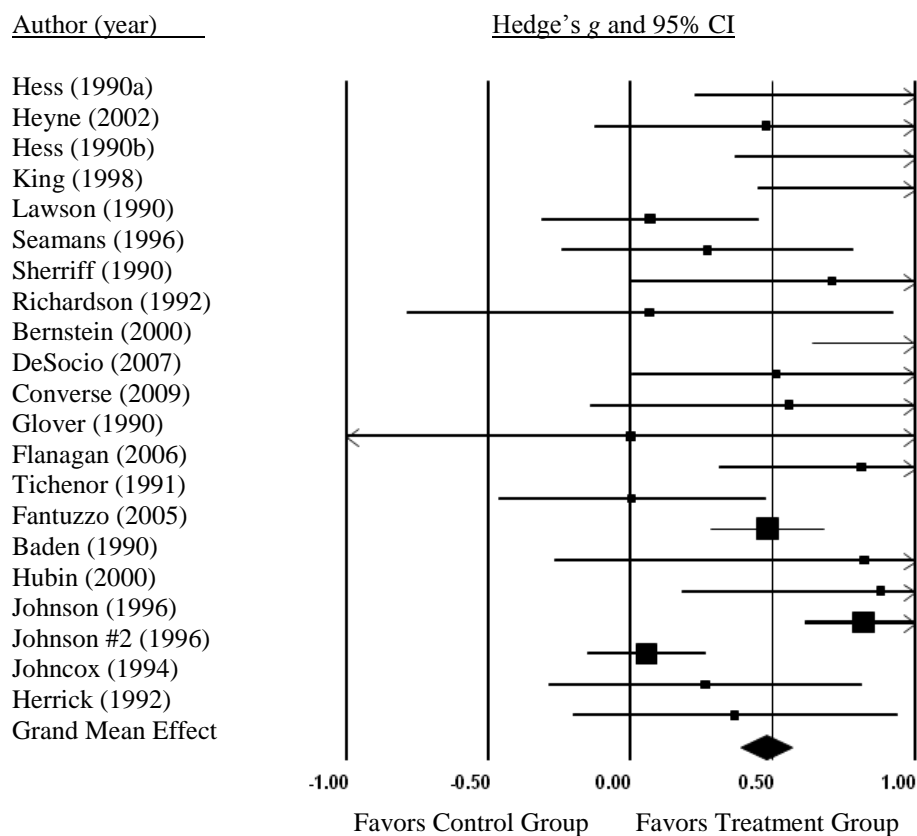
% days absent- ng- not given- author's did not state or did not give enough info to calculate. Some authors provided actual %, while others gave absence data in terms of days (or hours) absent/attended, thus % was calculated. If authors did not specify the # of days possible, then the following assumptions 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)

Analysis of Homogeneity

The homogeneity of the effect size distribution was assessed. The results of the statistical test for homogeneity was highly significant ($Q=54.25$, $df=20$, $p<.000$), thus rejecting the null hypothesis of homogeneity. A significant Q indicates that there is substantial variance among the effects, more so than would be expected from sampling error alone. Figure 2 graphically depicts the effect sizes and the variance among those effect sizes in the form of a forest plot.

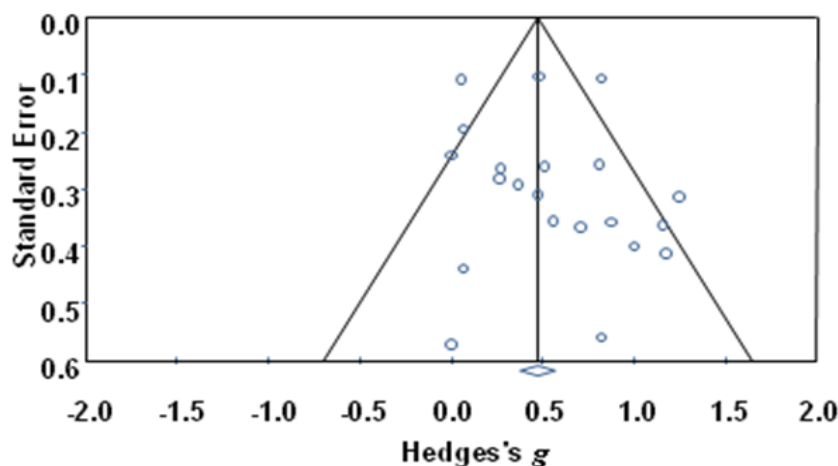
Figure 2: Forest Plot of Mean Effect Sizes of RCT and QED Studies



Publication Bias

Special efforts were made to search for and retrieve unpublished reports, resulting in 65% of the RCT/QED studies in this meta-analysis being unpublished. Due to the large number of unpublished studies included in this meta-analysis, publication bias was likely mitigated. To assess for the potential of publication bias, a funnel plot depicting the effect size (Hedge's g) by the standard error was examined and is presented in Figure 3. The scatter of effects sizes takes the shape of a funnel and is basically symmetrical, indicating that publication bias is not a factor in this analysis.

Figure 3: Funnel Plot of Standard Error by Hedge's g for Randomized and Quasi-Experimental Studies



Moderator Analyses

Although the grand mean of effect sizes provides evidence that the attendance interventions were, on average, moderately effective, the highly heterogeneous nature of the distribution suggests large differential effects across studies. Because the studies

disagree on the magnitude of effect, it is important to further examine the reasons for this variability. The between -study differences in effects may be a result of factors associated with the study methodology or with sample or intervention characteristics. To explore the variability between studies and examine independent variables that may be contributing to the heterogeneity, moderator analyses using the Analog to the Analysis of Variance was conducted.

Effect Size Variation Associated with Methodological Variables

Publication Status

A moderator analysis was conducted to determine if publication status accounted for the variability in the observed effect sizes (see Table 14). It has been found, and is widely accepted, that published studies generally report larger effects than unpublished reports. The mean effect size of interventions in published studies found in this analysis is .62 (CI .46 to .78, $p < .000$) and of unpublished studies is .40 (CI .28 to .51, $p < .000$). The published studies in this synthesis reported larger effects than unpublished studies, confirming what has been found in other syntheses (Lipsey & Wilson, 1993). The between study variance is significant ($Q=5.01$, $p < .000$), indicating that the mean effect size across groups differs by more than sampling error. In addition, the distribution of effect sizes within the group of published studies is homogeneous while the distribution of effect sizes within the group of not published studies remains heterogeneous.

Table 14: Moderator Analysis: Publication Status

Publication Status	N	Mean		95% CI		z	p	Heterogeneity		
		ES	SE	Low	High			Q	df	p
Published *	8	.62	.08	.46	.78	7.72	.000	11.06	7	.136
Not Published	13	.40	.06	.28	.51	6.82	.000	38.15	12	.000
Total								50.11	19	.024
Within										
Total								5.01	1	.000
Between										

Note: *Studies published in peer reviewed journals

Study Design/Randomization

A second moderator analysis was conducted for study design to assess if the difference in study design/randomization accounted for the variability observed in the effect sizes (see Table 15). The mean effect size for interventions studied using a randomized design was .61 (CI .40 to .82, $p < .000$) and for interventions studied using a non-randomized design was .44 (CI .34 to .55, $p < .000$). Although there appears to be a difference in the mean effect sizes between the randomized and non-randomized studies, the between group difference is insignificant ($Q = 1.94$, $p > .1$). The distribution of effect sizes within each of the groups remains heterogeneous.

Table 15: Moderator Analysis: Study Design/Randomization

Study Design	N	Mean		95% CI		z	p	Heterogeneity		
		ES	SE	Low	High			Q	df	p
RCT	9	.61	.11	.40	.82	5.62	.000	17.4	8	.026
QED	12	.44	.05	.34	.55	8.44	.000	34.91	11	.000
Total Within								52.3	19	.000
Total Between								1.94	1	.163

In addition to randomization, an analysis was conducted to examine differences in effects of studies using a between group design and those using a within group design

(see Table 18). The mean effect for interventions studied using a between group design (RCT or QED) was .47 ($p < .000$, CI .38 to .57), and for those using a within group design (SGPP) the effect size was .60 ($p < .000$, CI .52 to .68). The magnitude of effect of interventions studied using a within group design was significantly larger than that using a between subject design ($Q=4.19$, $p < .05$). The distribution of effect sizes within each of the groups remains heterogeneous.

Table 16: Moderator Analysis: Study Design- Between and Within Group

Study Design	N	Mean		95% CI		z	p	Heterogeneity		
		ES	SE	Low	High			Q	df	p
Between Group (RCT & QED)	21	.47	.05	.38	.57	10.05	.000	54.25	20	.000
Within Group (SGPP)	14	.50	.04	.52	.68	15.449	.000	127.42	13	.000
Total Within								181.66	33	.000
Total Between								4.19	1	.041

Attrition

Attrition for both treatment and control groups were coded for all studies. Studies were then divided into two categories, those that experienced attrition over 20% in treatment and/or control groups and studies that experienced less than 20% attrition in both groups. The mean effect size of studies that experienced significant attrition is .23 (CI .04 to .42, $p < .001$) and those that experienced little to no attrition is .55 (CI .45 to .66, $p < .022$), with no overlap in the confidence intervals between the two groups of studies. The studies that experienced greater attrition reported significantly smaller effects than studies that experienced no or low attrition. The between study variance is significant ($Q=8.4$, $p < .004$), indicating that the mean effect size across groups differs by more than

sampling error. The effect size distribution within each group remains heterogeneous; indicating the variance around the mean remains unexplained. See Table 17.

Table 17: Moderator Analysis: Attrition

Attrition Rates	N	Mean		95% CI		z	p	Heterogeneity		
		ES	SE	Low	High			Q	df	p
< 20% attrition	17	.55	.05	.45	.66	10.19	.000	29.34	16	.022
> 20% attrition	4	.23	.1	.04	.42	2.37	.018	16.51	3	.001
Total Within								45.9	19	.001
Total Between								8.4	1	.004

Researcher-Practitioner Relationship

All studies were coded by whether the author or a student supervised by the author was involved in the implementation or administration of the intervention to the treatment group to assess for allegiance effects. In the QED/RCT studies, one-third of the interventions were either administered by the author or a student supervised by the author. In one-third of the studies, author involvement in the intervention could not be determined due to lack of information. The magnitude of effects were not significantly different for interventions where the author was involved than those interventions in which the author was not involved ($Q=1.7, p>.1$), indicating that the author's involvement, or allegiance, did not create an upward bias in effect sizes (see Table 18).

Table 18: Moderator Analysis: Researcher-Practitioner Relationship

Author Involvement?	N	Mean		95% CI		z	p	Heterogeneity		
		ES	SE	Low	High			Q	df	p
Yes	7	.56	.12	.33	.79	4.76	.000	17.76	6	.007
No	7	.43	.06	.32	.55	7.73	.000	29.49	6	.000
Unsure	7	.58	.13	.33	.83	4.51	.000	5.30	6	.51
Total Within								52.55	18	.000
Total Between								1.70	2	.428

Initial Group Equivalence

Studies in which the experimental and control groups are significantly different in some way can confound the effects of the intervention. Some studies reported statistics regarding the initial equivalence of groups; however, almost half did not. Although a number of studies did not report equivalence of the experimental and comparison groups, an analog to the analysis of variance was used to examine differences in the effects of studies that reported no statistically significant differences, those that reported statistically significant differences and those that did not report any data regarding initial equivalence of groups (see Table 19). Statistically significant differences between the three groups were observed ($Q=9.92, p<.01$), with those studies that did not make comparisons of the experimental and comparison groups at pre-test demonstrating a significantly larger mean effect than studies that reported no statistical differences and those reporting statistically significant differences. In addition, there is no overlap in the confidence intervals between the group of studies in which no initial group equivalence was tested and the group of studies with no statistically significant differences.

Table 19: Moderator Analysis: Initial Group Equivalence

Author Involvement?	N	Mean ES	SE	95% CI		z	p	Heterogeneity		
				Low	High			Q	df	p
No Comparison Made	10	.65	.08	.49	.80	8.28	.000	18.27	9	.032
No statistically sig. differences	9	.41	.06	.28	.53	6.47	.000	25.51	8	.001
Statistically sig. differences	2	.13	.18	-.22	.48	.70	.482	.55	1	.459
Total Within								44.32	18	.001
Total Between								9.92	2	.007

Effect Size Variation Associated with Participant Characteristics

Baseline Attendance Rates of Participants

Studies included in this intervention differed in terms of the participants' severity of absenteeism at baseline. The mean rates of absenteeism between studies ranged from 9% to a high of 83%. Due to the potential effect of regression to the mean, it seemed plausible that those studies examining the effects of interventions on students with the extreme rates of absenteeism would result in greater effects. In looking at the mean effect sizes by baseline absenteeism in Table 20 below, the effect sizes do appear to increase as the severity of absenteeism at baseline increases. In fact, the differences between effect sizes are significant between the three groups ($Q=8.87, p<.05$). The distribution of effect sizes within the group of studies reporting mean rates of baseline absenteeism at 9%-20% as well as those reporting 41% or greater mean rates of absenteeism are homogeneous while variation within the middle group (21-40%) remains significant.

Table 20: Moderator Analysis: Baseline Rates of Absenteeism

Rates of Absenteeism	N	Mean ES	SE	95% CI		<i>z</i>	<i>p</i>	Heterogeneity		
				Low	High			<i>Q</i>	<i>df</i>	<i>p</i>
9%-20%	2	.18	.20	-.21	.57	.89	.373	1.64	1	.200
21%-40%	7	.35	.07	.22	.48	5.3	.000	18.31	6	.005
41%+	7	.66	.12	.43	.90	5.51	.000	8.99	6	.174
Total Within								26.66	12	.009
Total Between								8.87	3	.031

Notes: 1) Number of categories used in this analysis were reduced from the number used in the coding form to allow for more studies to be included in each cell. 2) For some studies (n=5), the baseline rates of absenteeism were not given or were not able to be calculated.

Grade Level

Only two studies specifically targeted elementary aged students, five targeted middle school students, five targeted high school students and the remaining interventions served a mixture of grades. Although the mean effect sizes of interventions targeting elementary level students was small (.16) compared to the effect sizes of interventions targeting middle school students (.44) and high school students (.49), the differences in mean effect sizes were not significant ($Q=4.47, p>.1$). See Table 21.

Table 21: Moderator Analysis: Grade Level

Grade Level	N	Mean		95% CI		<i>z</i>	<i>p</i>	Heterogeneity		
		ES	SE	Low	High			<i>Q</i>	<i>df</i>	<i>p</i>
Elementary	2	.16	.16	-.16	.48	.99	.323	.72	1	.04
Middle School	5	.44	.16	.13	.75	2.78	.005	9.10	4	.06
High School	5	.49	.07	.35	.62	7.02	.000	27.32	4	.000
Mixture of Grades	9	.54	.08	.39	.69	6.89	.000	12.64	8	.125
Total Within								49.78	17	.000
Total Between								4.47	3	.215

Race

The predominant race served by the interventions in most studies was Caucasian, followed by African American and Hispanic. Due to a lack of reporting race in nine of the studies, this analysis includes effect sizes for only 12 of the 21 effect sizes of the included studies. Differences between the means of effect sizes grouped by race was not significant ($Q=.51, p>.1$). See Table 22 below.

Table 22: Moderator Analysis: Race

Race	N	Mean ES	SE	95% CI		z	p	Heterogeneity		
				Low	High			Q	df	p
Caucasian	7	.50	.12	.26	.74	4.14	.000	13.82	6	.032
African American	3	.42	.09	.25	.60	4.72	.000	5.73	2	.057
Hispanic	2	.55	.18	.19	.91	2.98	.003	2.18	1	.140
Total Within								21.74	9	.010
Total Between								.51	2	.174

Note: Nine studies were not included in this analysis due to studies not reporting data related to participants' race.

Effect Size Variation Associated with Intervention Characteristics

Program Type

All programs were categorized into one of three program types: school-based, court-based or clinic/agency-based programs. The mean effect size for school-based programs was .43 (CI .32 to .55, $p < .000$), for court-based programs was .49 (CI .30 to .67, $p < .000$) and for agency/clinic-based programs was .71 (CI .41 to 1.01, $p < .000$). All of the mean effect sizes for each group were in the range of a medium effect. The between group variance is not significant ($Q=3.$, $p > .1$). The distribution of effect sizes within the school-based studies and within the clinic-based studies was heterogeneous, while the distribution of the effect sizes within the court-based group was homogeneous. Although there were only three studies in the court-based group, it appears that the effect sizes within this group are all estimating the same population mean. See Table 23.

Table 23: Moderator Analysis: Program Type

Program Type	N	Mean		95% CI		z	p	Heterogeneity		
		ES	SE	Low	High			Q	df	p
School-based	13	.43	.06	.32	.55	7.35	.000	41.22	12	.000
Court-based	3	.49	.09	.30	.67	5.16	.000	1.83	2	.401
Clinic-based	4	.71	.15	.41	1.01	4.64	.000	7.81	3	.050
Total Within								50.86	17	.000
Total Between								3.00	2	.223

Note: One study was left out of this analysis as it could not be categorized due to lack of information in the study.

Duration of Treatment

All studies were categorized by the mean number of weeks the intervention was provided to the treatment group to examine whether treatment duration had a moderating effect. As shown in table 24 below, the differences between group means was not significant ($Q=2.18, p>.5$).

Table 24: Moderator Analysis: Duration of Treatment

Treatment Duration (weeks)	N	Mean		95% CI		z	p	Heterogeneity		
		ES	SE	Low	High			Q	df	p
1-4	4	.68	.18	.33	1.03	3.77	.000	4.4	3	.222
5-9	5	.45	.13	.20	.70	3.52	.000	13.11	4	.011
10-18	6	.49	.07	.35	.63	7.01	.000	30.47	5	.000
19+	3	.33	.16	.01	.64	2.05	.040	3.37	2	.186
Total Within								51.34	14	.000
Total Between								2.18	3	.536

Note. Three studies were not included in this analysis due to lack of information re: duration of intervention

Collaborative Interventions

All interventions in the synthesis were coded as being either collaborative interventions or not collaborative. An intervention was considered collaborative if it a) identified itself as a collaborative intervention or b) if the development or implementation

of the intervention involved multiple organizations in the management or implementation or delivery of services. Of the interventions evaluated in QED/RCT studies, 31% of the interventions were considered a collaborative intervention. As shown in Table 25, the differences in magnitude of effect sizes between the two groups was not significant ($Q=.48, p>.1$), indicating that there is no relationship between magnitude of effect size with whether or not an intervention was collaborative. The distribution of effect sizes within the studies of interventions that were collaborative is homogeneous, thus it appears that the effect sizes within this group are estimating the same population mean.

Table 25: Moderator Analysis: Collaborative Interventions

Collaborative?	N	Mean		95% CI		z	p	Heterogeneity		
		ES	SE	Low	High			Q	df	p
Yes	5	.53	.09	.35	.70	6.00	.000	5.05	4	.283
No	16	.45	.06	.34	.56	8.09	.000	48.72	15	.000
Total Within								53.77	19	.000
Total Between								.48	1	.489

Multiple Modalities

All interventions included in this synthesis were categorized into one of two categories: those that were comprised of multiple modalities and those that were characterized as using one modality. In the QED/RCT studies, 62% of the interventions were made up of more than one modality. As shown in Table 26, the magnitude of effects between interventions that used multiple modalities and those that used only one modality was not significant ($Q=3.45, p>.05$), indicating no relationship of effect size to whether or not an intervention included multiple modalities. The effect size distribution of studies evaluating interventions that were not multi-modal interventions were

homogeneous, indicating the effect sizes of those studies were all estimating a common population mean. Variation within the multi-modality group of studies, on the other hand, was significant.

Table 26: Moderator Analysis: Multiple Modalities

Multiple modalities?	N	Mean ES	SE	95% CI		z	p	Heterogeneity		
				Low	High			Q	df	p
Yes	13	.52	.05	.42	.62	9.78	.000	42.59	12	.000
No	8	.31	.10	.11	.51	2.98	.003	8.21	7	.314
Total Within								50.80	19	.000
Total Between								3.45	1	.063

Parental Participation in Intervention

All interventions were categorized as whether or not parents had been involved in receiving either all or part of the intervention in any way. Parents were recipients of all or part of the intervention in 12 cases. The mean effect size of those interventions that included parents was .56 (CI .51 to .66, $p < .000$) and of those that did not include parents was .41 (CI .52 to 1.2, $p < .000$). The difference in the means of effect sizes between interventions that did include parents and those that did not were not significant ($Q = 2.62$, $p > .1$). The variation in effect sizes within the group of studies involving parents in the treatment was homogeneous, indicating the effect sizes in those studies were all estimating the same population mean. On the other hand, the studies that did not involve parents in the intervention were heterogeneous. See Table 27.

Table 27: Moderator Analysis: Parental Participation

Parent Involvement	N	Mean		95% CI		z	p	Heterogeneity		
		ES	SE	Low	High			Q	df	p
Parent(s) involved	12	.56	.07	.42	.70	7.90	.000	15.70	4	.153
Parent(s) not involved	9	.41	.06	.28	.53	6.42	.000	35.93	8	.000
Total Within								51.63	19	.000
Total Between								2.62	1	.106

Presence of a Behavioral Component to the Intervention

Eight (38%) of the 21 effect sizes included in this analysis were derived from studies that utilized a behavioral component to their intervention. Although the interventions were all categorized as being behavioral interventions, there was great diversity in the interventions. The interventions included simply providing positive reinforcement to students in a group setting, individual cognitive-behavioral therapy sessions with students, contingency contracting with/without parent training and a full Positive Behavioral Support program implemented in a school setting. As shown in Table 28, the magnitude of effect for those interventions that included a behavioral component (.67, $p < .000$) was statistically significantly larger than those that did not include a behavioral component (.43, $p < .000$). In addition, the within group variance of the studies with a behavioral component was homogeneous while the studies without a behavioral component were heterogeneous.

Table 28: Moderator Analysis: Behavioral Component

Behavioral Component?	N	Mean		95% CI		z	p	Heterogeneity		
		ES	SE	Low	High			Q	df	p
Yes	8	.67	.11	.46	.88	6.13	.000	16.74	7	.019
No	13	.43	.05	.33	.53	8.21	.000	33.59	12	.001
Total Within								50.33	19	.000
Total Between								3.92	1	.048

Presence of a Behavioral Component Combined with Parental Participation

Of the eight interventions that utilized a behavioral component, five (63%) of them also included a parental intervention as another component. As shown in Table 29, the magnitude of effect for those interventions that included a parental component in addition to a behavioral component was statistically significantly larger (.91, $p < .000$) than those that did not include a parental component (.325, $p > .05$). The effect size distribution was also homogeneous within this group of studies, indicating all effect sizes were estimating the same population mean. The mean effect for the behavioral interventions that did not include a parental component was not statistically significant at the .05 level. In addition, the effect size distribution within this group was heterogeneous.

Table 29: Moderator Analysis: Behavioral Component with Parental Participation

With Parental Participation?	N	Mean ES	SE	95% CI		<i>z</i>	<i>p</i>	Heterogeneity		
				Low	High			<i>Q</i>	<i>df</i>	<i>p</i>
Yes	5	.91	.14	.63	1.19	6.40	.000	3.76	4	.439
No	3	.33	.17	-.01	.66	1.91	.056	6.03	2	.050
Total Within								9.76	6	.135
Total Between								6.98	1	.008

Mean Effect of Interventions on Attendance Outcomes at Follow-Up

Only five (24%) QED/RCT studies reported follow-up data for attendance outcomes (see Table 30). Four of these studies were published in peer reviewed journals and one was a Master's research paper. Three were RCT designs and two were QED designs. Follow-up time periods ranged from 6 to 18 weeks. The overall mean effect size at follow up was .47 (CI .29-.64, $p < .000$), indicating a moderate effect at follow-up.

Table 30: Mean Effect Size of Attendance Outcomes at Follow-Up

Study	Time (weeks)	Mean ES	SE	95% CI		<i>z</i>	<i>p</i>
				Low	High		
Hess (1990a)	8	.75	.40	-.03	1.52	1.9	.058
Hess (1990b)	10	.88	.42	.04	1.71	2.06	.040
Heyne (2002)	6-18	-.202	.31	-.81	.41	-.65	.515
Fantuzzo (2005)	4-8	.522	.10	.32	.73	5.00	.000
Johncox (1994)	8	.281	.28	-.27	.83	1.00	.319
Grand Mean		.47	.09	.29	.64	.52	.000

The results of the statistical test for homogeneity was not significant ($Q=6.79$, $p>.1$), thus the null hypothesis of homogeneity is accepted. The variance among the effect sizes is no greater than what would be expected from sampling error.

Clinical Significance

The post-test absence rates for the participants receiving the treatment group are presented in Table 31 below. Absence rates at post-test were coded on the coding form using the data provided by the author; however, some studies did not report absence or attendance rates in terms of a percentage of days present or absent. Rather, many studies provided number of hours or days present or absent and the percentage was then calculated based on the information provided by the author to provide a meaningful comparison of absence rates at post-test across studies. It should be noted that several studies did not provide the exact number of school days for which they measured post-test absence/attendance, so assumptions were made in calculating the post-test absence rates. It was assumed that there are 180 days in a school year, 90 days in a school semester, 45 days in a marking period and 5 days in a school week.

Table 31: Post-Test Mean Rates of Absenteeism

% of Days Absent	N (%)
<10%	3 (14%)
11%-20%	7 (33%)
21%-30%	5 (24%)
31%-40%	2 (10%)
41%+	3 (14%)

Note: 1 study did not provide data in way that % of post-test absences could be calculated.

Effect Size Analysis: Single Group Pre-Post Test Studies

Mean Effect of Interventions on Attendance Outcomes

The mean effect sizes were calculated for attendance outcomes for each of the 14 effect sizes extracted from the 13 different studies included in this synthesis. The overall mean effect size for attendance outcomes in the single group pre-post test studies, assuming a fixed effects model, was .60 (95% CI .52 to .68), $p < .000$, demonstrating an overall positive and moderate effect of interventions on attendance outcomes (see Table 32).

Table 32: Grand Mean Effect Size of Attendance Outcomes for Single Group Pre-Post Test Studies

Outcome	Mean ES	SE	95% CI		z	p
			Low	High		
Attendance	.60	.04	.52	.68	15.45	.000

Table 33 below summarizes each study included in the review with the weighted effect size, using Hedge's g , of attendance outcomes for each intervention.

Table 33: Summary of Included Single Group Pre-Post Test 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; 1 meeting held with teachers to discuss 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, educational, problem solving	4	14%	4%	1	+	1.00*	0.11	1.89

Table 33: Summary of Included Single Group Pre-Post Test Studies

Author (year)	Program Name	Description/Components	N	% Days Absent		Grade level	Study results	ES	95% CI	
				Pre	Post				Lower	Upper
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
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 strategies 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

Table 33: Summary of Included Single Group Pre-Post Test Studies

Author (year)	Program Name	Description/Components	N	% Days Absent		Grade level	Study results	ES	95% CI	
				Pre	Post				Lower	Upper
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
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 overall 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

Table 33: Summary of Included Single Group Pre-Post Test Studies

Author (year)	Program Name	Description/Components	N	% Days Absent		Grade level	Study results	ES	95% CI	
				Pre	Post				Lower	Upper
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 authors reported no significant difference between groups

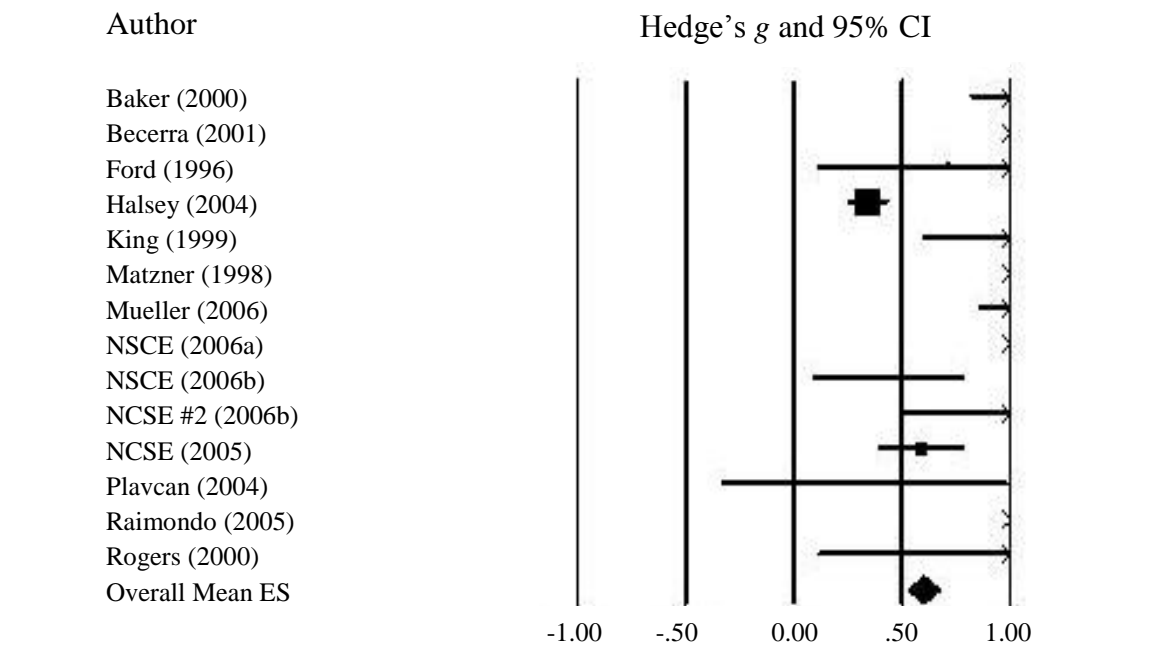
% days absent- ng- not given- author's did not state or did not give enough info to calculate. Some authors provided actual %, while others gave absence data in terms of days (or hours) absent/attended, thus % was calculated. If authors did not specify the # of days possible, then the following assumptions 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

Analysis of Homogeneity

The homogeneity of the effect size distribution was assessed. The results of the statistical test for homogeneity was highly significant ($Q=127.4$, $df=13$, $p<.000$), thus rejecting the null hypothesis of homogeneity. A significant Q indicates that there is substantial variance among the effects, more so than would be expected from sampling error alone. Figure 4 graphically depicts the effect sizes and the variance among those effect sizes in the form of a forest plot.

Figure 4: Forest Plot of Mean Effect Size of Single Group Pre-Post Test Studies

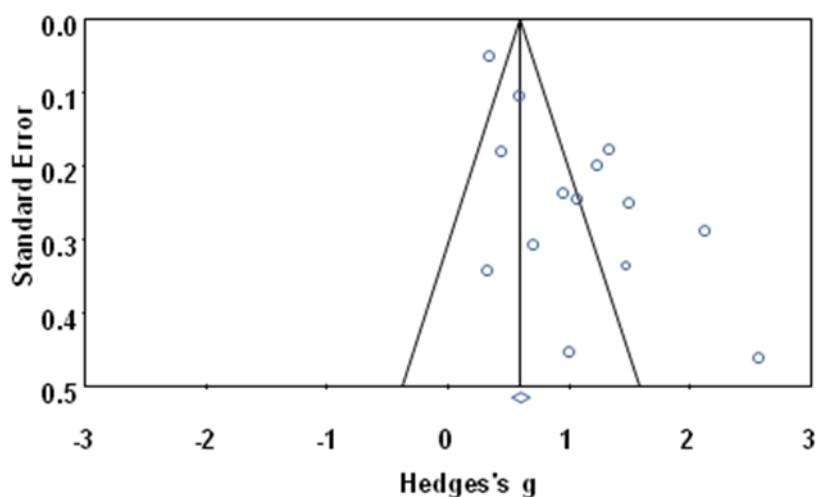


Publication Bias

A large number of unpublished studies were included in this synthesis, thus potentially mitigating publication bias. To assess for the potential of publication bias, a funnel plot depicting the effect size (Hedge's g) by the standard error was examined. As seen in Figure 5, the scatter of effects sizes takes the shape of a funnel; however, there

are not any effect sizes in the bottom left portion of the funnel, indicating studies with small effects may be missing and possible publication bias could be present.

Figure 5: Funnel Plot of Standard Error by Hedge's g for Single Group Pre-Post Test Studies



Moderator Analyses

Although the grand mean of effect sizes provides evidence that the attendance interventions evaluated in the single-group pre-post test studies were, on average, moderately effective, the highly heterogeneous nature of the distribution suggests large differential effects across studies. Because the studies disagree on the magnitude of effect, it is important to further examine the reasons for this variability. The between study differences in effects may be a result of factors associated with the study methodology or with sample or intervention characteristics. To explore the variability between studies and examine independent variables that may be contributing to the heterogeneity, moderator analyses using the Analog to the Analysis of Variance was used.

Effect Size Variation Associated with Methodological Variables

Publication Status

A moderator analysis was conducted to determine if publication status accounted for the variability in the observed effect sizes. It has been found, and is widely accepted, that published studies generally report larger effects than unpublished reports. As shown in Table 34, the mean effect size of interventions in published studies found in this analysis is 1.30 (CI .1.07 to 1.53, $p < .000$), indicating a large effect, and of unpublished studies is .51 (CI .43 to .59, $p < .000$), indicating a moderate effect. The published studies in this synthesis reported larger effects than unpublished studies, confirming what has been found in other syntheses (Lipsey & Wilson, 1993). The between study variance is significant ($Q=40.53$, $p < .000$), indicating that the mean effect size across groups differs by more than sampling error. Variation within each group of studies remains significant.

Table 34: Moderator Analysis: Publication Status

Publication Status	N	Mean ES	SE	95% CI		z	p	Heterogeneity		
				Low	High			Q	df	p
Published *	5	1.3	.12	1.07	1.53	11.14	.000	13.19	4	.010
Not Published	9	.51	.04	.43	.59	12.45	.000	73.69	8	.000
Total Within								86.89	12	.000
Total Between								40.53	1	.000

Note: *Studies published in peer reviewed journals

Attrition

Attrition for both treatment and control groups were coded for all studies. Studies were then divided into two categories, those that experienced attrition over 20% in treatment and/or control groups and those that experienced less than 20% attrition. Differences in effect sizes were then compared between these two groups to determine

whether rates of attrition accounted for the variability observed between studies. The mean effect size of studies that experienced significant attrition is .47 (CI .39 to .456, $p < .001$) and those that experienced little to no attrition is .131 (CI .107 to .155, $p < .01$), noting no overlap in the confidence intervals between the two groups of studies (see Table 35). The studies that experienced greater attrition reported smaller effects than studies that experienced no or low attrition. The between study variance is significant ($Q = 42.30$, $p < .000$), indicating that the mean effect size across groups differs by more than sampling error. Variation within the each group of studies remains significant.

Table 35: Moderator Analysis: Attrition

Attrition Rates	N	Mean ES	SE	95% CI		z	p	Heterogeneity		
				Low	High			Q	df	p
< 20% attrition	6	1.31	.12	1.07	1.55	10.75	.000	18.62	5	.002
> 20% attrition	7	.47	.04	.39	.56	11.27	.000	48.37	6	.000
Total Within								67.00	11	.000
Total Between								42.30	1	.000

Note: One study was not used in this analysis as there was not enough information to calculate attrition

Researcher-Practitioner Relationship

All studies were coded by whether the author or a student supervised by the author was involved in the implementation or administration of the intervention to the treatment group to assess for allegiance effects. In the single group pre-post studies, authors, or someone they supervised, were involved in the implementation of 4 of the interventions included in this review. For two of the interventions, author involvement could not be determined, thus those effect sizes were not included in this analysis. The mean effect size for those interventions in which the author was involved was 1.23 (CI .92 to 1.53, $P < .000$), indicating a large magnitude of effect. Whereas the effect size for

those interventions in which the author was not involved was .51 (CI .43 to .59, $p < .000$), indicating a moderate effect. The differences in the magnitude of effect sizes were statistically significant ($Q = 19.00$, $p < .000$) between the two groups (see Table 36).

Table 36: Moderator Analysis: Researcher-Practitioner Relationship

Author Involvement?	N	Mean		95% CI		z	p	Heterogeneity		
		ES	SE	Low	High			Q	df	p
Yes	4	1.23	.16	.92	1.53	7.75	.000	4.74	3	.192
No	8	.51	.04	.43	.59	12.52	.000	70.67	7	.000
Total Within								75.41	10	.000
Total Between								19.00	1	.000

Note. Two effect sizes were not used in this analysis as there was not enough information to determine if authors were involved in the intervention.

Effect Size Variation Associated with Participant Characteristics

Baseline Attendance Rates of Participants

Studies included in this analysis differed dramatically in the mean percentage of days students were absent at baseline. Mean baseline rates of absenteeism ranged from 11% to over 41%, thus some interventions were targeting students who had higher rates of absenteeism than were others. Due to the possibility of regression to the mean, it seemed plausible that studies examining the effects of interventions on students with the highest rates of absenteeism would have greater effects. In looking at the mean effect sizes by baseline absenteeism in Table 37 below, the differences between the three groups is significant ($Q = 59.20$, $p < .000$). However, the magnitude of effect appears to decrease as the severity of absenteeism at baseline decreases. *This indicates that interventions targeting less severe absentees had greater effects than those targeting*

more severe absentee students. This is in reverse to what was found in the QED/RCT studies.

Table 37: Moderator Analysis: Baseline Rates of Attendance

Rates of Absenteeism	N	Mean		95% CI		<i>z</i>	<i>p</i>	Heterogeneity		
		ES	SE	Low	High			<i>Q</i>	<i>df</i>	<i>p</i>
9%-20%	6	1.36	.11	1.13	1.58	11.84	.000	12.45	5	.029
21%-40%	4	.79	.11	.57	1.00	7.15	.000	11.19	3	.011
41%+	3	.42	.05	.33	.52	8.62	.000	44.56	2	.000
Total Within								68.20	10	.000
Total Between								59.20	2	.000

Note. 1) Number of categories used in this analysis was reduced from the number used in the coding form to allow for more studies to be included in each cell. 2) For one study, the baseline rates of absenteeism were not given or were not able to be calculated.

Grade Level

In this synthesis, five studies evaluated interventions specifically targeting elementary aged students and only one study evaluated interventions for middle school students, one for high school students, with the remainder of the interventions targeting a range of grades. Because there was only one effect size in each of the middle school and high school categories, this analysis was limited. As shown in Table 38, the differences in mean effect sizes between groups was significant ($Q=57.15, p<.000$). The magnitude of effect was larger in those interventions working with specific grade levels than were those interventions working with a broader range of grade levels.

Table 38: Moderator Analysis: Grade Level

Grade Level	N	Mean		95% CI		<i>z</i>	<i>p</i>	Heterogeneity		
		ES	SE	Low	High			<i>Q</i>	<i>df</i>	<i>p</i>
Elementary	5	1.03	.13	.77	1.28	7.82	.000	8.2	4	.085
Middle School	1	1.497	.25	1.0	1.99	5.94	.000	.000	1	1.00
High School	1	2.130	.29	1.56	2.69	7.39	.000	62.01	6	.000
Mixture of Grades	7	.500	.04	.42	.58	12.03	.000	62.01	6	.000
Total Within								70.27	10	.000
Total Between								57.15	3	.000

Race

The majority of studies did not provide sufficient data in the studies to extract for coding, therefore, only five effect sizes are included in this moderator analysis.

Differences between the means of effect sizes grouped by race was significant ($Q=40.93$, $p<.000$) as seen in Table 39. In addition, the total within group variance in each group of studies is homogenous, indicating that there is no further variation among the effect sizes. Since only five studies of the 14 were included in this analysis and so few effect sizes were in any given cell, caution must be used when interpreting the results.

Table 39: Moderator Analysis: Race

Race	N	Mean		95% CI		<i>z</i>	<i>p</i>	Heterogeneity		
		ES	SE	Low	High			<i>Q</i>	<i>df</i>	<i>p</i>
Caucasian	2	.34	.05	.24	.44	6.78	.000	.000	1	.960
African American	2	.61	.10	.41	.81	6.03	.000	.79	1	.375
Hispanic	1	2.13	.29	1.56	2.69	7.39	.000	.000	0	1.00
Total Within								.79	2	.674
Total Between								40.93	2	.000

Note. Nine studies were not included in this analysis due to studies not reporting data related to participants' race.

Effect Size Variation Associated with Intervention Characteristics

Program Type

All programs were categorized into one of three program types: school-based, court-based or clinic/agency-based programs. The mean effect size between program types was significant ($Q=38.74$, $p<.000$). For school-based programs the mean effect was 1.07 (CI .79 to 1.35, $p<.05$), for court-based programs it was .52 (CI .44 to .60, $p<.000$) and for agency/clinic-based programs it was 1.51 (CI 1.15 to 1.88, $p<.01$). The magnitude of effects for school-based and clinic-based programs was large, whereas the magnitude of effect for court-based programs was medium. In addition, the confidence intervals for the court-based interventions do not overlap with the confidence intervals of the other two program types. The within group variance for all three groups remains heterogeneous. See Table 40.

Table 40: Moderator Analysis: Program Type

Program Type	N	Mean ES	SE	95% CI		z	p	Heterogeneity		
				Low	High			Q	df	p
School-based	5	1.07	.14	.79	1.35	7.43	.000	10.96	5	.033
Court-based	7	.52	.04	.44	.60	12.5	.000	70.36	6	.000
Clinic-based	2	1.51	.19	1.15	1.88	8.12	.000	7.86	1	.005
Total Within								88.68	11	.000
Total Between								38.74	2	.000

Duration of Treatment

All studies were categorized by the mean number of weeks the intervention was provided to the treatment group in the studies. Eight of the single group pre-post test studies did not provide enough information to code for the duration of treatment, leaving only 6 effect sizes amongst the four categories. Due to the low number of effect sizes

and the larger number of categories in this variable, there were not enough effect sizes to adequately examine duration of treatment as a moderator variable.

Collaborative Interventions

All interventions in the synthesis were coded as being either collaborative interventions or not collaborative. An intervention was considered collaborative if it a) identified itself as a collaborative intervention or b) if the development or implementation of the intervention involved multiple organizations in the management or implementation or delivery of services. As shown in Table 41, 50% of the interventions evaluated in the single group pre-post test studies were considered a collaborative intervention.

Differences in magnitude of effect sizes between the two groups was significant ($Q=43.16, p<.000$). The effects of the collaborative interventions was moderate at .51(CI .43 to .60, $p<.000$) and for non-collaborative interventions was large at 1.37 (CI 1.13 to 1.61, $p<.000$), noting no overlap in the confidence intervals of the two groups.

Table 41: Moderator Analysis: Collaborative Interventions

Collaborative?	N	Mean		95% CI		z	p	Heterogeneity		
		ES	SE	Low	High			Q	df	p
Yes	7	.51	.04	.43	.60	12.61	.000	55.5	6	.000
No	7	1.37	.12	1.13	1.61	11.08	.000	28.76	6	.000
Total Within								84.25	12	.000
Total Between								43.16	1	.000

Multiple Modalities

All interventions included in this synthesis were categorized into one of two categories: those that were comprised of multiple modalities and those that were characterized as using one modality. For the single group pre-post test studies, 71% of the interventions were made up of more than one modality. As shown in Table 42, the

magnitude of effects between interventions that used multiple modalities and those that used only one modality was significant ($Q=21.74, p<.000$). The mean effect size of interventions that were comprised of multiple modalities was .5 (CI .47 to .63, $p<.000$), indicating a moderate effect. The mean effect size of interventions that were characterized by one modality was 1.25 (CI .97 to 1.53, $p<.000$), indicating a large effect. Within group heterogeneity was significant for each of the groups.

Table 42: Moderator Analysis: Multiple Modalities

Multiple modalities?	N	Mean ES	SE	95% CI		z	p	Heterogeneity		
				Low	High			Q	df	p
Yes	10	.5	.04	.47	.63	13.64	.000	89.61	9	.000
No	4	1.25	.15	.97	1.53	8.63	.000	16.07	3	.001
Total Within								105.68	12	.000
Total Between								21.74	1	.000

Parental Involvement in Intervention

All interventions were categorized as whether or not parents had been involved in receiving either all or part of the intervention in any way. Parents were recipients of all or part of the intervention in 10 cases. The mean effect size of those interventions that included parents was .59 (CI .51 to .66, $p<.000$) and of those that did not include parents was .86 (CI .52 to 1.2, $p<.000$). The difference in the means of effect sizes between interventions that did include parents and those that did not were not significant ($Q=2.33, p>.1$). Although the differences were not significant, it should be noted that the group of studies in which parents did not participate was homogeneous, indicating the studies are estimating the same population mean and variation within those studies is no more than what one would expect from sampling error. See Table 43.

Table 43: Moderator Analysis: Parental Involvement

Parent Participation	N	Mean		95% CI		z	p	Heterogeneity		
		ES	SE	Low	High			Q	df	p
Parent(s) participated	10	.59	.04	.51	.66	14.72	.000	118.96	9	.007
Parent(s) not participated	4	.86	.17	.52	1.2	4.92	.000	6.13	3	.106
Total Within								125.08	12	.000
Total Between								2.33	1	.127

Presence of a Behavioral Component to the Intervention

Six (43%) of the 14 effect sizes included in this analysis were derived from studies that utilized a behavioral component to their intervention. Although the interventions were all categorized as being behavioral interventions, there was great diversity in the interventions. The interventions included providing incentives to students in a group setting, developing contracts with rewards, and individual cognitive-behavioral therapy sessions with students with parent skills training. As shown in Table 44, the magnitude of effect for those interventions that included a behavioral component (1.02, CI .83 to 1.21, $p < .000$) was statistically significantly larger than those that did not include a behavioral component (.52, CI .44 to .61, $p < .000$), noting no overlap in the confidence intervals between the two groups of studies. Within group heterogeneity remains significant for both groups of studies.

Table 44: Moderator Analysis: Behavioral Component

Behavioral Component?	N	Mean		95% CI		z	p	Heterogeneity		
		ES	SE	Low	High			Q	df	p
Yes	6	1.02	.10	.83	1.21	10.35	.000	29.73	5	.000
No	8	.52	.04	.44	.61	12.37	.000	76.26	7	.000
Total Within								105.99	12	.000
Total Between								21.43	1	.000

Presence of a Behavioral Component Combined with Parental Participation

Of the six interventions that utilized a behavioral component, five (83%) of them also included a parental intervention as another component, with only one not having parental involvement. As shown in Table 45, the magnitude of effect for those interventions that included a parental component in addition to a behavioral component was not statistically significantly larger (1.05, $p < .000$) than those that did not include a parental component (.71, $p > .05$). Within group variance remains significant for each of the two groups of studies.

Table 45: Moderator Analysis: Behavioral Component with Parental Participation

With Parental Participation?	N	Mean ES	SE	95% CI		z	p	Heterogeneity		
				Low	High			Q	df	p
Yes	5	1.05	.10	.85	1.26	10.14	.000	28.63	4	.000
No	1	.71	.31	.11	1.31	2.31	.021	.00	0	1.00
Total Within								28.63	4	.000
Total Between								1.11	1	.293

Mean Effect of Interventions on Attendance Outcomes at Follow-Up

Four studies provided data for follow-up time points. The time points ranged from 2 to 27 weeks after post-test. As shown in Table 46, the mean effect size at follow-up was .19 (CI .09 to .28, $p < .000$).

Table 46: Mean Effect Size of Attendance Outcomes at Follow-Up

Outcome	Mean ES	SE	95% CI		z	p
			Low	High		
Attendance	.19	.05	.09	.28	3.9	.000

Clinical Significance

The post-test absence rates are presented in Table 47 below. Post-test absence rates, as provided by the authors, were coded on the coding form. Some studies did not report absence or attendance rates in terms of a percentage of days present or absent. Rather, many studies provided number of hours or days present or absent. A percentage of days absent was calculated based on the information provided by the author in order to provide a meaningful comparison across studies. It should be noted that several studies did not provide the exact number of school days for which they measured post-test absence/attendance, so assumptions were made in calculating the post-test absence rates. It was assumed that there are 180 days in a school year, 90 days in a school semester, 45 days in a marking period and 5 days in a school week.

Table 47: Post-Test Mean Rates of Absenteeism

% Days Absent	N (%)
<10%	7 (50%)
11%-20%	5 (36%)
21%-30%	1 (7%)
31%-40%	1 (7%)
41%+	0 (0%)

Note: 1 study did not provide data in way that % of post-test absences could be calculated.

Summary of Findings

Thirty five effect sizes from 33 studies were included in this review and meta-analysis. Surprisingly, the demographic data were sparse enough that distinctions about race and income could not be reliably discussed in these findings. Authors neglecting to report the racial/ethnic makeup and socio-economic status of the participants in their studies was quite surprising, especially given that ethnic minority students and students in

lower SES are more likely to be absent from school than their Caucasian, middle class counterparts.

The mean baseline attendance rates varied between studies, with some studies having participants with a mean rate of absences as low as 11% and some well over 50%. The characteristics of interventions were also quite diverse among the studies. The types, number and nature of modalities, settings and providers of services varied tremendously from study to study. Interventions in this review ranged from a two and a half hour informational group meeting to alternative educational programs.

Intervention outcomes of attendance synthesized in this analysis indicated an overall positive effect of those interventions on attendance. The overall mean effect size for interventions on attendance outcomes in the QED/RCT studies was .47 and in the SGPP studies was .60, both indicating a positive, moderate magnitude of effect of interventions on attendance. Overall, students who received the interventions included in this review had better attendance than the control group, or in the case of those investigated with a pre-post test design, had better attendance after the intervention than they had before.

The results of the homogeneity test in both the QED/RCT studies as well as the SGPP studies found significant heterogeneity among effect sizes. This indicates that the observed variance is significantly different from what would be expected by sampling error alone and that the mean effect size does not estimate the common population mean (Cooper, 1998; Lipsey & Wilson, 2001). As a result, moderator analyses were conducted to examine potential moderating variables that could explain the variance in effect sizes.

Variables that were considered as moderators included methodological, participant and intervention characteristics.

For the RCT/QED studies, significant differences between group means were found for the following variables: publication status, attrition, initial group equivalence, baseline attendance and presence of a behavioral component to the intervention. In the subgroup of studies that utilized a behavioral component, the presence of a parental intervention component was found to have a moderating effect. For the SGPP studies, significant differences between group means were found for the following variables: publication status, attrition, author allegiance, baseline attendance, grade level, race, program type, collaborative nature of intervention, multiple modalities of intervention and having a behavioral component to the intervention.

The methodological variables tested included publication status, study design/randomization, attrition, author allegiance, and initial group equivalence. Published studies reported larger mean effects than unpublished studies in both the RCT/QED studies as well as the SGPP studies. The published RCT/QED studies were found to be homogeneous, whereas unpublished RCT/QED and published and unpublished SGPP studies remained heterogeneous, indicating those studies were not estimating a common population mean and variation remained within those studies that was unexplained. Studies reporting little to no attrition reported larger mean effects than studies where attrition was greater than 20% in both the RCT/QED studies as well as the SGPP studies. The heterogeneity, however, remained significant within each groups of studies. Author allegiance was not found to make a significant difference in the mean effects found in the RCT/QED studies, but a larger mean effect was observed in the

SGPP studies in which the author was involved in the intervention. Surprisingly, 10 of the 21 treatment and comparison groups in the RCT/QED studies did not test the equivalence of the treatment and comparison groups on important characteristics. The studies that did not make/report comparisons reported larger mean effects than studies that did make/report initial group equivalence.

Participant characteristics tested in moderator analyses included rates of baseline attendance of participants, grade level and race. It is important to note that the reporting of sample characteristics were lacking in many of the studies. The majority of studies did not provide data on socio-economic status and thus a moderator analysis could not be performed. Of the participant characteristics that were able to be tested, baseline rates of participants was the only variable in which significant differences were found between groups in both the RCT/QED studies as well as the SGPP studies. The trends observed, however, were exactly the opposite between the two sets of studies. The trend observed in the RCT/QED studies was an increase in mean effect size as the rate of absenteeism increased; whereas the trend observed in the SGPP studies was a decrease in mean effect size as the rate of absenteeism increased. Interventions evaluated utilizing a between group design were observed to be more effective with participants whose mean absence rate was above 41%; whereas interventions evaluated with a within group design were observed to be more effective with participants whose mean rate of absenteeism was below 21%. Because of the small number of RCT/QED studies with participants in the lowest range of mean attendance rates and the small number of SGPP studies with participants in the highest range of mean attendance rates, there may have not been adequate statistical power in each of those categories for meaningful analysis and

comparison. The homogeneity found within the group of RCT/QED studies in which participants' baseline absenteeism rate was 41% or greater indicates that these studies were estimating a common population mean and greater confidence can be placed in this finding.

Intervention characteristics tested in moderator analyses were: program type, duration of treatment, whether or not the intervention was collaborative, whether or not the intervention involved multiple modalities, parental participation, and the presence of a behavioral component. The only intervention characteristic in which significant differences between studies was found in both the RCT/QED and SGPP studies was the presence of a behavioral component. Interventions that included a behavioral component reported larger mean effects than interventions that did not include a behavioral component. Of the eight interventions evaluated in the RCT/QED studies that utilized a parental component in addition to the behavioral component, larger mean effects were observed compared to those that did not have a parental component. In addition, the studies that included both a behavioral and parental component were homogenous, providing some evidence that parental participation is important.

Further discussion of the findings and as well as the implications for practice, policy and research will be presented in the following chapter.

CHAPTER FIVE

DISCUSSION

This study presents the first systematic review and meta-analysis of indicated interventions for school attendance/absenteeism. Although a number of narrative reviews have been done in the past, this review and meta-analysis provides a quantitative synthesis of attendance outcomes that had been missing from the literature. The purpose of this study was to locate and retrieve outcome studies of indicated interventions targeting truancy, school refusal, and absenteeism and quantitatively synthesize the findings to 1) determine what this large and widely scattered body of research has produced and provide a descriptive overview of the current research; 2) examine the effects of these interventions on attendance outcomes; 3) provide evidence-based recommendations to inform policy and practice; and 4) recommend priorities for future research.

To these ends, this chapter will provide a discussion of the findings of the review and meta-analysis and discuss implications for practice, policy and research. An examination of the strengths and limitations of the study will follow.

Overview of Findings

This review and meta-analysis included 33 published and unpublished studies representing 35 outcomes of indicated interventions targeting truancy/absenteeism among

elementary and/or secondary students who had pre-identified problems with attendance. After a comprehensive and exhaustive search for studies, only 9 RCT, 11 QED and 13 SGPP studies met the inclusion criteria for this review/meta-analysis. When compared to the number and types of interventions reported in prior reviews, other articles on truancy, absenteeism and school refusal, listings of intervention programs as well as the programs listed on the websites of NCSE and NDPC, there were relatively few interventions for which there were outcome studies that met inclusion criteria.

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.

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).

The mean effect size of interventions examined in the included RCT/QED studies was .47 and in SGPP studies was .60. As a whole, the interventions included in this review demonstrated a moderate, positive effect on attendance. Although a moderate effect on attendance outcomes is encouraging, the overall mean effect size is masked by a large amount of heterogeneity between the studies. In addition, the rates of absenteeism of participants in several studies included in this analysis remained high following the intervention, bringing into question the clinical significance of the interventions.

While all of the interventions included in this synthesis were aimed at increasing attendance/decreasing absenteeism with students who have problematic attendance, they varied in their approaches and in the populations they served. The study methodologies and quality varied across studies as well. The variations between study characteristics as well as the characteristics of the participants and interventions under investigation were related to differences in magnitude of observed effects.

Variables Related to Study Characteristics

In this meta-analysis, variables related to study characteristics that were coded and analyzed to examine relationship with observed effects included the following: publication status, study design, equivalence of participants at baseline, rate of attrition, and whether authors were involved in the intervention. The results indicated that publication status, study design and quality were related to the magnitude of the effects observed.

Publication Status

One of the main objectives of this review was to find and include the largest number of studies possible to examine the effects of targeted interventions to increase attendance/decrease absenteeism. To that end, there was a strong reason to keep the inclusion criteria broad, to conduct an exhaustive search of unpublished studies and not to discard lower quality studies a priori. Unpublished studies have been largely neglected by prior reviews; only two of the 23 reviews identified and discussed in the preceding literature review included unpublished studies. The reasons for the exclusion of unpublished studies by prior reviewers are unknown. The possible exclusion could be due to the time and effort involved in locating unpublished papers or the assumption that unpublished studies are of lesser quality than those published in peer reviewed journals. Glass et al. (1981) contend that the issue of study quality is an a posteriori one. Study quality should be examined in relationship to study findings, not used to judge or exclude studies a priori.

Published studies yielded significantly larger mean effect sizes than unpublished studies in both the RCT/QED studies as well as the SGPP studies. This is a common finding in meta-analyses. If unpublished studies are excluded a priori, an upward bias in effect sizes can result because of the larger effects often reported in published studies versus unpublished studies (Lipsey & Wilson, 2003). In addition to published studies yielding larger effects in this analysis, the published studies were found to be homogeneous in the RCT/QED group of studies, indicating that those studies are measuring a common population mean. The unpublished RCT/QED studies as well as both published and unpublished SGPP studies remained heterogeneous.

Study Design

Randomized designs yielded a larger mean effect than the quasi-experimental (non-randomized) designs; however this difference was not statistically significant. The inclusion of the weaker design (QED studies) did not appear to have upwardly biased the results. Because there was a lack of relationship between randomized and quasi-experimental study designs and effect size, separating the QED studies from the RCT studies, or excluding them all together, would have served no purpose since they yielded essentially the same results (Glass et al., 1981). In addition, including the QED studies allowed for a larger data set with which to conduct moderator analyses (Glass et al., 1981).

Although no statistically significant differences were observed between the effects of the RCT studies and the methodologically weaker QED studies, there were observed differences found between the studies using a comparison group design (RCT and QED) and those using a single group design (SGPP). In addition, there was very little overlap between the confidence intervals of the two groups of studies. The comparison group designs (RCT and QED) yielded a statistically significant smaller mean effect size than the studies using the methodologically weaker single group design. Analyzing the single group designs with the comparison group designs would have upwardly biased the overall results and affected the conclusions drawn from the review. Because of the differences in effect sizes, as well as the differences in issues related to validity and ability to draw causal inferences, including the single group design studies with the comparison group design studies in the analysis was not indicated (Glass et al.,

1981). However, the SGPP studies can be informative and provide some evidence of potentially effective programs, thus were included in this review, but analyzed separately.

Attrition

In addition to study design, a relationship between attrition rates and magnitude of effects was observed. In both the RCT/QED and the SGPP studies, smaller effects were observed in studies with significant attrition (20% or greater) than studies that experienced low or no attrition, with no overlap in the confidence intervals. The within group effect sizes remained heterogeneous, thus rates of attrition did not account for the variation in the mean effect sizes found in either the RCT/QED studies or the SGPP studies. The relationship between attrition and mean effect size could be confounded with other quality as well participant and intervention characteristics. Studies with high attrition could have had other methodological flaws in the design or execution of the study and/or the intervention.

In addition to the differences in mean effects found in the studies, a surprising finding in the analysis is the lack of attention to, or discussion of, the issue of attrition in those studies that experienced significant attrition. The majority of studies did not discuss the high attrition and the limitations of their study as a result of the attrition. Also, in only one of the four studies that experienced significant attrition did the author compare completers to non-completers to examine if there were any differences in participants who were lost to attrition and those that completed. If there is no comparison to determine if the completers and non-completers were significantly different in some way, the validity and generalizability of the study is compromised.

As described in Chapter 4, 7 of the 11 authors provided some explanation for cases that were lost; however, 36% of the studies did not provide any explanation for attrition. Authors who did provide explanations attributed lost cases to the following reasons: 1) missing data/not able to access complete school records; 2) mobility of students and/or 3) participant drop out due to issues related to treatment or control conditions. The majority of the attrition was due to incomplete data/records provided by a third party and/or the high amount of mobility of the participants in the study. Some students who started in the study either moved or otherwise left the school/school system, thus were no longer able to participate in the intervention, or their records were not able to be accessed for attendance data following their withdraw from the school.

Researcher-Practitioner Relationship

Another variable related to study characteristics that demonstrated a relationship to the magnitude of the effects observed in the SGPP studies, but not in the RCT/QED studies, was the author's involvement in the administration or delivery of the intervention, either directly or indirectly. The observation of larger effects in studies in which the author has some involvement and possible bias toward a particular intervention is not uncommon (see Leykin & Derubeis, 2009). Although one third of the studies in both the SGPP studies as well as the RCT/QED studies involved the author or students the author supervised in the administration of the treatment, it was only in the SGPP studies in which a relationship between effect size and the author's participation in the intervention were observed. It is possible that the higher quality of the RCT/QED studies and the use of a comparison group mitigated possible author allegiance effects on the outcomes of the RCT/QED studies.

Initial Group Equivalence

The last variable related to study quality in which a relationship was found to observed effects is the initial equivalence, or lack thereof, between the experimental and comparison groups. Of the 21 control/comparison groups included in this review, 10 studies did not test or report equivalence of groups at pre-test, nine studies reported no statistically significant differences, and two reported statistically significant differences between groups at pre-test. Studies that did not report statistics regarding equivalence of groups at pre-test had a significantly higher mean effect size than studies that reported no statistically significant pre-test differences as well as those that reported statistically significant pre-test differences. Studies that did not test for or did not report initial group equivalence could have unknown confounds that affected the outcomes. Because they did not test for, chose not to report, or simply ignored differences between the groups, they could not otherwise control for or examine those differences, thus leading to a potentially inflated magnitude of effect.

For a study to demonstrate validity in its findings, it is important for the reader to know whether or not the treatment and comparison groups were equivalent at the outset. If they were not equivalent, it is important for authors to report how they controlled for the differences. Otherwise, the reader will not be able to determine if the differences in effect of the intervention was due to the intervention or to the pre-test differences between groups. The lack of detailed reporting and testing for initial group differences on demographic variables is disappointing as it precludes replication of the study and limits the reader's ability to assess the validity and generalizability of the findings. It also

limits our understanding of the types of students for which programs are effective or ineffective as well as limits our ability to sufficiently build our evidence base.

It is also important to consider and question why it is that authors did not test for equivalence of groups at pre-test to determine whether or not there were any differences between the experimental and control groups. As will be discussed below, authors did not report on basic demographic variables in a large percentage, and for some variables, the majority of studies. Not collecting or reporting on demographic variables would, of course, make it impossible to then test the groups for equivalence on those variables. In studies examining intervention effects on attendance outcomes, not assessing group equivalence on variables such as pre-test attendance rates and grade, as well as other demographic variables that have been linked to truancy, such as race and socio-economic status (SES), seem to be negligent at best and repressive at worst. Would have the authors results been different (i.e. not statistically significant) had they controlled for any differences between the groups on important variables, making it less likely that the results would get published or that their programs might be cast in a negative light? Do authors not feel race and SES are important variables that need to be taken into account when evaluating the outcomes of attendance interventions? This is a significant issue as it not only calls into question the validity and generalizability of the findings of many studies included in this synthesis, but also calls into question ethical and social justice concerns as well as practical considerations of the research being conducted. The related issues associated with lack of data reporting of important demographic variables will be further discussed below.

Variables Related to Participant Characteristics

In addition to variables related to study design and quality, the characteristics of the students included in the studies were also related to magnitude of observed effects. The variables tested were baseline attendance rates of the participants, grade level and race. Socio-economic status (SES) was coded during study coding, but due to the majority of studies not reporting SES, a moderator analysis was not able to be performed.

Baseline Attendance Rates of Participants

A relationship was found with the baseline attendance rates of participants in both the RCT/QED studies as well as the SGPP studies; however, the trend observed in the relationship was different between the two groups of studies. In the RCT/QED studies, the mean effect size increased as the mean rates of absenteeism increased. The largest mean effect was found for studies whose participants had a very high mean rate of absenteeism (41% or above) prior to the intervention. In the SGPP studies, the opposite trend was observed. The mean effect size decreased as the mean baseline attendance rates increased. In the SGPP, the largest mean effect was found in studies whose participants had the lowest mean rate of absenteeism (9%-20%). The studies remained heterogeneous with the exception of the RCT/QED studies in which the mean baseline attendance rates of the participants was 41% or greater. It appears that the interventions examined in the RCT/QED studies were more effective with participants who had very high rates of absenteeism prior to the intervention.

The differences in the trends observed between the RCT/QED studies and the SGPP studies was unexpected and interesting, thus required further inquiry to examine the studies for differences in the types of interventions or other variables that might

explain the differences. When comparing the types of interventions in each category between the RCT/QED studies and the SGPP studies, there did not appear to be any significant differences in the types of interventions that could explain the opposite trends related to relationships of level of absenteeism at baseline and effectiveness of interventions. The interventions in each of the categories were diverse for both the RCT/QED studies as well as the SGPP studies. In looking at the types of interventions in studies with the highest rates of pre-test absences (41% or greater), both RCT/QED and SGPP studies contained behavioral interventions and an alternative education program. The SGPP studies also included a court based program whereas the RCT/QED studies, surprisingly, did not. There did not appear to be any particular patterns in the types of interventions that were associated with greater effectiveness with these highly-absent youth.

One difference between the RCT/QED and SGPP studies in this analysis that could help explain the difference in trends is the number of studies in the highest and lowest categories. There were only two RCT/QED studies in which the mean attendance rate was in the lowest range, thus the number of studies in that category could have been too small. For the SGPP studies, there is a similar issue with having only three studies in the category with the highest rates of mean absenteeism. The differences found between the three groups for each of the study designs could be partially explained by the lack of studies in each of those categories and therefore, insufficient statistical power.

Race

The race of participants was another characteristic in which a relationship to magnitude of effect was observed, but only in the SGPP studies. Interventions in which

Caucasian students were the predominant racial group were significantly less effective than interventions in which the predominant race of participants were African American or Hispanic. This result should be interpreted with caution, however, as only five (38%) of the SGPP studies provided enough information to code for race. One category, Hispanic, included only one effect size and the other two categories, Caucasian and African American, included only two effect sizes in each. Although no relationship was found between race and magnitude of effect in the RCT/QED studies, nine studies did not include data related to the race of the participants in their study, thus the moderator analysis included only 12 effect sizes and may not have had adequate power to detect smaller differences between studies.

The significant finding in this analysis related to the variable of race is not in the outcome of the moderator analysis, but in the observation that *race was not included in a large percentage of the studies included in this synthesis*. In addition, the studies that did provide data on the racial composition of the samples revealed that the majority of the studies (53%) were comprised predominantly of Caucasian students. *Ethnic minority students were underrepresented in the studies included in this analysis*, thus there appears to be a racial disparity in the studies of outcome research on attendance interventions.

Race is a variable that has been linked to attendance, with African American and other ethnic minorities experiencing attendance problems more so than their Caucasian counterparts (Department for Education and Skills, 2005; Lyon & Cotler, 2007; Reid, 1982; Teasley, 2004). Authors' not reporting race or ethnic information about the samples or considering race or ethnicity when conducting analysis is striking. This study highlights a pervasive failure to consider and address race and ethnicity in school

attendance intervention research. The possible reasons for and meanings behind this finding will be discussed in more depth later in the chapter.

Socio-economic Status (SES)

Another surprising finding in this study is the overall lack of reporting of participants' socio-economic status. SES has been consistently linked to problematic absenteeism (Lyon & Cotler, 2007; Reid, 1982; Teasley, 2004); however, the vast majority of studies did not provide adequate descriptions of the participants' socio-economic status to be coded for analysis. Similar to the lack of reporting on racial data of the samples, *the exclusion of data on SES of participants is troubling and reveals a pervasive failure to consider SES in the treatment and outcomes of attendance interventions*. Not only can one not generalize findings or make informed decisions about the relevance and use of the findings without knowing the SES make-up of the sample, but the lack of reporting and consideration of SES speaks to a more fundamental issue related to ethical and social justice concerns. The absence of SES reporting and authors' apparent lack of considering SES as an important variable to be included in attendance intervention outcome research will be further discussed in subsequent pages.

Grade Level

The grade level of students was not related to the magnitude of treatment effects in either the RCT/QED studies or the SGPP studies. It should be noted, however, that several categories only included one or two studies, thus there was not a sufficient number of effect sizes to detect differences between studies. The majority of studies was conducted with participants across various grade levels and often did not provide subgroup analyses by grade level. Providing outcome data by grade level could be

helpful in determining if the intervention is more, less, or as effective with elementary students as it is with middle school or high school students. Prior studies on truancy/absenteeism indicate differences in the nature and causes of absenteeism in elementary school versus high school, thus it would be important to assess differential effectiveness of interventions by grade level.

Variables Related to Intervention Characteristics

In addition to study and participant characteristics, magnitude of effects related to intervention characteristics were also observed. Variables related to intervention characteristics tested included program type, treatment duration, collaboration, multiple modalities, parental participation, and presence of a behavioral component. Variables for which significant differences were found in the RCT/QED studies included having a behavioral component of the intervention and in the SGPP studies included type of program, collaboration, multiple modalities and presence of a behavioral component.

Program Type

No relationship was found between magnitude of effect and the program type in the RCT/QED studies. Whether the program was school-based, court-based or clinic-based, the intervention produced statistically similar mean effect sizes in the RCT/QED studies. The effects of the court-based programs were homogeneous and the clinic-based programs approached homogeneity ($p = .05$), thus demonstrating that these studies were measuring a common population mean and greater confidence can be placed in the findings of these studies. This can also be encouraging in that it shows the potential for programs being implemented in a variety of settings and by a variety of different entities to be effective in impacting attendance outcomes.

A significant difference in mean effect by type of program was found in the SGPP studies, however. The mean effect size of the court-based programs were one third to one half the size of the school-based and clinic-based programs. Although more confidence can be placed in the findings of the RCT/QED studies due to stronger study design, the significant difference in mean effects of court-based programs found in the SGPP studies does require further examination. All of the court-based programs evaluated in the SGPP studies experienced significant attrition and all but one was a collaborative program. On the other hand, only one of the studies of the school and clinic-based interventions experienced significant attrition and the majority were non-collaborative interventions. Therefore, it appears that the effects of the court-based programs may be confounded with the variables of attrition and collaboration. Significant attrition and collaboration have both demonstrated a relationship with smaller effects in the SGPP studies, thus the significant presence of these variables in the court-based interventions could explain the significant differences in effects between the court-based programs and that of the school and clinic-based programs.

Duration of Treatment

Treatment duration was another variable tested where no statistical differences between studies was found. The highest mean effect size of interventions evaluated in the RCT/QED studies was found in those that were four weeks or less in duration. The difference in mean effect size, however, was not statistically significantly different from the other three treatment duration categories. The shortest duration treatments (1-4 weeks) and the longest duration treatments (19+ weeks) had no statistical difference in mean effect size. The results of this analysis give evidence for the effectiveness of both

short and long term indicated interventions in impacting attendance, at least at post-test.

It should be noted that there was an insufficient number of studies in the single-group pre-post test to perform an analysis as several studies did not provide adequate information to code for duration of treatment.

Also, only five RCT/QED studies provided follow-up data, so it is not possible to assess the comparative effectiveness of shorter duration versus longer duration interventions on long-term outcomes. It would be interesting to know if short term and long term interventions can sustain effects over time equally effectively.

Intervention Components/Modality

A number of different modalities were utilized in the interventions examined by the studies included in this synthesis. The modalities included a range of behavioral interventions, including contingency contracts, rewards/consequences, cognitive-behavioral therapy, and parent training; family therapy; individual and group therapy; mentoring/tutoring; alternative education programs; court hearings; prosecution/sanctions; informational group meetings; case management; and pharmacotherapy. Although there were not a sufficient number of studies examining each of these modalities to examine in a moderator analysis, there were some that did have a sufficient number of studies. In addition, the evidence of some modalities for which there were not sufficient number of studies to conduct moderator analyses will be discussed in terms of the evidence found within the studies themselves.

Behavioral Interventions

Of the intervention components tested, behavioral components were the only components tested that demonstrated a relationship to magnitude of effect size across

both RCT/QED studies and SGPP studies. Overall, interventions that utilized a behavioral component in the intervention were more effective across studies than interventions that did not have a behavioral component. In none of the studies, however, was a behavioral component the only component of the intervention. All of the interventions involved other components in addition to behavioral interventions, such as parent training, therapy, group meetings, and/or psychotropic medication. In some cases, the behavioral intervention was simply supplementary to the primary intervention, such as providing reinforcement as part of a group meeting. In others, the behavioral component, such as contingency contracting, was a major component to the intervention.

The use of contingency contracts, parent training, CBT and Positive Behavior Supports demonstrated positive and large effects. The smallest, and non-significant, effect size observed in interventions utilizing a behavioral component was an intervention that monitored attendance weekly and utilized verbal praise and stickers as reinforcement, but did not appear to utilize a formal contract or other behavioral strategies. Those that did utilize a formal contract with contingencies in combination with parent training or CBT were more effective in improving attendance.

Cognitive behavioral interventions were found to be effective as well, with a positive, significant large mean effect of .98 for the four RCT/QED studies and an effect size of 1.07 for the one SGPP study that utilized CBT interventions. Three of the four studies examined the effectiveness of CBT with school refusers, thus confirming previous findings that CBT is an effective intervention with students who have school refusal (cite). The three studies that utilized CBT also utilized other modalities as well, including parent/teacher training and pharmacotherapy (Imipramine). The fourth study

evaluated the effectiveness of CBT with truant students who also had mild handicaps. Significant and positive results were found in this study in which CBT was provided in a group setting and was accompanied by contingency contracting. Although CBT has been a recognized and preferred intervention with school refusers, there is some evidence that CBT may also be an effective intervention with truant students as well.

Studies of behavioral interventions which also included a parental component demonstrated larger mean effects than studies that did not also include a parental component. Five of the eight RCT/QED studies evaluating interventions utilizing a behavioral component also involved the parents. Parental involvement included participating in parent training (n=3), participating in part of the student's therapy session (n=1), and engaging the parent in positive interactions with school (n=1).

Because behavioral interventions also included other modalities/components, it is not possible to attribute the impact of these interventions to specifically the behavioral component. However, these results do suggest that having a behavioral component can contribute to positive outcomes on attendance.

Parent/Family Interventions

Parent/family interventions did not consistently demonstrate a relationship to magnitude of effect. Parents were involved in some way in 12 of the RCT/QED studies and in 10 of the SGPP studies. There was significant diversity among the studies in how parents were involved in the treatment. Some interventions involved parents as equal participants to the students while other programs involved parents in less intense, and sometimes tangential, ways. Overall, however, parental participation in treatment was not related to magnitude of effect. The exception to this, as discussed previously, is the

interventions involving both a behavioral and parental component. Behavioral interventions combined with a parental component demonstrated larger effects than behavioral interventions without a parental component.

The overall lack of relationship between effect size and parental involvement was surprising. This is an unexpected finding given that the literature reflects the need for parental involvement, especially in the elementary grades where student absenteeism is viewed, more so than at the other grade levels, as being more of an issue with the parent than that of the student. It is interesting to note that the majority of the interventions involving parents were conducted with students from mixed grade levels, with only two SGPP studies being implemented with only elementary age children. The two interventions with elementary students that involved the parents demonstrated positive and large effects on attendance outcomes, although they were not statistically significantly different than the effects of interventions with elementary students not involving the parent. Future studies could look at differential effects of parental involvement, the extent to which parents are involved and the types of interventions that either target the parent for change or involve the parent in a supportive role.

As stated above, the interventions involving parents were quite diverse. They included charging parents with a misdemeanor and sentencing them to probation and possibly jail; participating in court proceedings with their child; receiving parent training, family therapy and/or referrals to other services; case management; home based interventions, participating in meetings/conferences; and attending educational group sessions. When evaluating the effectiveness of these various interventions individually, some parental interventions appeared to be more effective than others.

Family therapy interventions were evaluated in two studies. Both of the family therapy interventions included in this synthesis demonstrated non-significant effects on attendance outcomes. The family therapy in Seaman's (1996) study utilized structural family therapy techniques in the treatment of truant youth. The study by Baden (1990) utilized systemic family therapy in the treatment of students exhibiting school phobia. Although two studies do not provide adequate evidence to recommend against utilizing family therapy interventions, the studies included in this synthesis do not support their effectiveness as an indicated intervention to improve attendance.

Another parental intervention found in five studies was the use of parent training, usually in combination with other interventions targeting the student, such as contingency contracting or CBT. Interventions utilizing parent training as one component of the intervention demonstrated large and positive effects, indicating that parent training may be an effective approach to improving attendance. However, since parent training was utilized in combination with behavioral interventions, it is not known if parent training alone would demonstrate similar effects.

It should also be noted that the 12 RCT/QED studies of interventions involving parents were homogenous. Having a group of 12 studies saying essentially the same thing, with a positive and moderate magnitude of effect, provides some evidence that parental involvement is important. Additional research is needed in this area to provide more data regarding the effects of parental participation on indicated interventions.

Mentoring

Mentoring was evaluated in three RCT/QED studies included in this synthesis. Mentoring was provided by school staff in two of the studies and non-truant peers in the

third study. The three mentoring interventions demonstrated a small, but non-significant mean effect ($g = .283$, $p > .05$) on attendance outcomes as an indicated intervention for students who had identified problems with attendance. Although mentoring programs may demonstrate benefits to absentee/truant students in ways other than positively affecting their school attendance, the studies included in this synthesis do not support their effectiveness as an indicated program for truant/absentee students to improve attendance.

Alternative Educational Programs

Three studies assessing the effectiveness of alternative intervention programs in four independent samples was included in this synthesis; 3 were RCT/QED studies and one was a SGPP study. Matzner et al. (1998) evaluated an adolescent day treatment program using a single group pre-post test design. The participants in this program met criteria of having a chronic DSM Axis I diagnosis as well as a GAF of 30 or less. The effect size was large (2.13 , $p = .000$); however, the mean rate of absences at post-test was 25%. The three interventions evaluated alternative school programs with participants from the general school population with significant absences. The mean effect size was moderate and significant ($g = .46$; $p = .000$); however, post-test mean days absent remained high at 28%, 39% and 68%.

Simple versus Complex Interventions: Multi-modal and Collaborative

The literature suggests, and several reviews and other papers recommend, that interventions which are collaborative and complex, involving multiple components, are best practice and what should be replicated. In this analysis, whether an intervention was a collaborative, complex program or a simple intervention being implemented by an

individual practitioner, magnitude of effect sizes was not related to collaboration or utilizing multiple modalities in the RCT/QED studies. In the RCT/QED studies, there was no significant difference in mean effect size between interventions that were collaborative and those that were not as well as those that were comprised of multiple modalities and those that utilized only one modality. A relationship between magnitude of effect and collaboration as well as multiple modality was found in the SGPP studies; however, the findings are contrary to what would have been hypothesized based on the literature. In the SGPP studies, collaborative interventions were found to be significantly *less* effective than interventions that were not collaborative, with mean effects of collaborative interventions being less than half of the mean effect of non-collaborative interventions. In addition, multiple modality programs were found to be significantly *less* effective than single modality programs. Thus, available evidence does *not* support the hypothesis that collaborative or multi-modal interventions are more effective than simple programs delivered by one individual/entity.

The findings of this meta-analysis provide some evidence that simple programs implemented by one or a few people can make a difference on attendance outcomes. This is encouraging and empowering for those who want to help absentee students, but don't have the resources, time or support to initiate collaborative relationships between various entities in order to implement a complex program. These findings were surprising, however, given the emphasis in the literature on comprehensive and collaborative programs as being the preferred means of intervening with truant/absentee youth. Given the complex nature of truancy/absenteeism and the multiple causes and correlates that have been identified in the extant literature, it seems to make intuitive

sense that complex, collaborative programs *should* be more effective because they target multiple risk factors at various levels within the ecology of the student. However, interventions that are intrinsically valuable may be more difficult to implement as well as study. The inherent complexities of the problem as well as the multiple contexts/systems in which absenteeism exists and is perpetuated create a number of challenges when intervening with absentee students. Complex programs designed to theoretically combat multiple risk factors within and/or between multiple systems requiring several people and systems to work together who may or may not conceive of the problem in the same way leads to multiple challenges in delivering and evaluating complex and collaborative interventions. These additional challenges imposed by implementing a complex program in multiple systems could likely result in the intervention being less effective.

Duration of Effect: Long-term Follow Ups

Only five RCT/QED studies and four SGPP studies measured attendance at time points following post-test. The time between the end of treatment and the follow-up measure ranged between 6 and 27 weeks, depending on the study. Of the five RCT/QED studies, three of them showed statistically insignificant differences in attendance at follow-up. Two of those three had demonstrated significantly better rates of attendance at post-test than the control group; however, at follow-up, these gains had dissipated. In looking at the rates of attendance at follow-up compared to post-test, three of the studies showed a decline in attendance between post-test and follow-up, one showed no change and one showed an improvement in attendance at follow up compared to post-test. Given the findings from these five studies, indicated interventions are not producing changes in participants' attendance that are sustained over the longer-term.

In addition to the overall lack of sustained outcomes found in this synthesis, a significant finding in this study was the lack of extended follow-ups to measure and assess intervention effects on attendance outcomes at meaningful time points beyond the end of the intervention. This is critical in that attendance interventions are often predicated on the importance of school attendance throughout the duration of students' school careers as well as reducing dropout and improving student achievement, which tend to be longer term goals. Given the nature of school attendance and the goals the interventions purport to be trying to achieve, to not assess attendance outcomes, as well as other related outcomes, at extended time points beyond the end of the intervention is surprising.

Clinical Significance

Although the effect size data is encouraging, a discussion of clinical significance is necessary. Although several of the individual studies reported large and significant effects on attendance outcomes, and the overall mean effect was positive, moderate and significant, the number of days students were absent at post-test continued to remain at unacceptable levels in many studies. In seven of the 14 (50%) interventions evaluated in the SGPP studies and 17 (81%) of the 21 interventions evaluated in the RCT/QED studies, mean absences remained above 10%, with some greater than 25% and as high as 68% (see Tables 33 and 49). *If the goal of attendance interventions is to improve student attendance, then the interventions have been successful overall, as reflected in the positive, moderate mean effect size. However, if the goal of attendance interventions is for students to be attending school on a regular basis, at least at the 90% level or better, then the majority of the interventions are failing.*

Implications for Practice and Policy

There is a tremendous and overwhelming amount of literature on truancy, absenteeism and school refusal. Numerous reviews and other published papers discuss strategies, interventions and programs for improving the attendance of students. Many of these suggest “best practices”, discuss “effective” strategies and/or make recommendations for policies and practice. Unfortunately, there is little to no empirical evidence based on rigorous research to support the vast majority of the interventions or “best practices” being recommended. It appears that the majority of the literature recommending particular types, components or best practices is conceptual or theoretical in nature, are based on anecdotal evidence and/or, at best, based on poorly designed annual program evaluations. In any case, it is clear by the lack of rigorous outcome research found for this synthesis that the literature is short on hard evidence of “what works” for students with attendance problems.

The lack of published or readily available studies investigating the effectiveness of attendance interventions is particularly concerning when there are so many claims of effectiveness, or “success” of certain programs or types of interventions. For example, in Reimer and Dimock’s (2005) “Best Practices and Model Truancy Programs”, six critical components were identified that linked to positive outcomes for children and families: 1) collaboration; 2) family involvement; 3) comprehensive approach; 4) operate in a supportive context; and 5) rigorous evaluation and assessment. The National Center for School Engagement (2007) stated that “Programs that show improvements in school attendance tend to involve intensive case management, be family focused, and incorporate both sanctions for continued truancy, and rewards for improved attendance.”

(p. 16). Others have described comprehensive, multi-modal, multi-faceted, multi-level and/or collaborative approaches as being more effective, or potentially more effective, interventions (Bell, Rosen, and Dynlacht 1994; Kearney, 2008a; Kim and Streeter, 2006; Teasley, 2004). The “Manual to Combat Truancy” (U.S. Department of Education, 1996) listed five primary elements of a comprehensive strategy to combat truancy: involve parents, include firm sanctions, create meaningful incentives for parental responsibility, establish ongoing truancy prevention programs in school and involve local law enforcement.

Although there is a lack of evidence for most of the interventions being recommended in the extant literature, this meta-analysis can provide some evidence and guidance, as well as some caution, for those who are concerned about and trying to take action and develop policy to improve attendance of truant/absentee students.

What Works....and What Doesn't

Overall, the interventions included in this analysis demonstrated a moderate effect on attendance. This is encouraging in that interventions resulted in improved attendance rates when compared to a comparison group or to pre-test absence rates. Also, the direction of effect was positive in all of the studies, meaning that the treated group did better than the comparison group, or in the case of the SGPP studies, the treated group did better after the intervention than before. Not all studies, however, demonstrated significant differences. Although intervening did not always result in significant improvements in attendance outcomes, intervening did not result in worse outcomes either.

The presence of a behavioral component was the only intervention characteristic that demonstrated a significant relationship to magnitude of effect size across both RCT/QED studies and SGPP studies. Interventions with a behavioral component appear to have the strongest evidence of effectiveness for impacting attendance rates for truant/absentee students. When parental components were combined with behavioral components, the interventions demonstrated a significantly larger mean effect than behavioral interventions without parental involvement. The parental component in three out of five of the studies that combined behavioral and parental components involved parent training while the other two involved some parental participation in what was primarily an intervention targeting the student. These results suggest that involving the parent in a behavioral treatment could be an effective approach.

For the subgroup of school refusal students, several prior reviews cited studies supporting the effectiveness of CBT for school refusal (Fremont, 2003; King and Bernstein, 2001; King et al., 1998). Five studies included in this review targeted students with school refusal. Of those five studies, three of them utilized CBT in the treatment of school refusal. The mean effect size for CBT interventions with school refusal was large (.941) and significant and the studies were homogeneous, providing evidence of effectiveness of CBT for students with school refusal. Thus these conclusions are consistent with prior reviews which suggest that CBT for school refusal is an effective approach.

Although collaboration and a comprehensive/multi-modal approach are recognized as best practice and recommended by several authors, the findings of this meta-analysis do *not* support the popular belief that they are more effective. In this meta-

analysis of indicated intervention programs, interventions that were collaborative or were comprised of multiple modalities were not found to be more effective than non-collaborative programs or single-modality interventions. In SGPP studies, collaborative and multi-modal interventions were actually found to be significantly *less* effective than interventions that were not collaborative or were comprised of a single modality.

Another fairly common recommendation is for the use of firm sanctions. Only one of the interventions included in this review involved the use of firm sanctions (Becerra, 2001). Although that intervention demonstrated positive results with a large effect size, the intervention was evaluated using a single group pre-post design, thus not providing causal evidence of the effectiveness of the intervention. Several other interventions included the threat of sanction. From the descriptions of the interventions, however, the use of a firm sanction was the last step of the process and only after all other components had been tried. It was unclear in studies of interventions that did have a potential firm sanction how often those sanctions were actually used and what impact the sanction had when it was used. There was a lack of evidence in this review to recommend the use of firm sanctions.

Individual studies showed that mentoring interventions as well as family therapy interventions did not appear to be effective with truant/absentee students. Both of the family therapy interventions and the three mentoring programs included in this synthesis demonstrated non-significant effects on attendance outcomes. Although two or three studies do not provide adequate evidence to recommend against utilizing mentoring or family therapy interventions as an approach to improve attendance, the studies included

in this synthesis do not support their effectiveness as an indicated program for truant/absentee students.

Summary

This meta-analysis has produced evidence that indicated interventions do, on the whole, produce moderate effects on attendance. In addition, some intervention components have demonstrated a greater magnitude of effect than others. Unfortunately, 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.

The unexplained variance that remained within the studies and the relatively small number of studies included in this analysis preclude being able to make definitive recommendations for or against specific interventions to improve school attendance for truant/absentee students. Those involved in implementing and utilizing interventions and developing policy will likely need to rely on a combination of the current best available research, clinical expertise and expert opinion until further evidence builds. In the meantime, findings from this meta-analysis can provide a resource for the current best evidence from which to make decisions to intervene with students who are demonstrating problematic absenteeism.

Recommendations for Practice

In this era of evidence-based practice, one is often confronted with the uneasy situation when one must act when one doesn't have enough evidence to make an "evidence-based" decision. The philosophy of evidence-based practice, however, encompasses much more than "evidence". It is a philosophy of practice, a guide for

making decisions which takes evidence into consideration, but also values practice knowledge, ethical considerations as well as the unique circumstances and needs/preferences of the client. When one is confronted with limited and less than an optimal amount and quality of evidence for a problem with which one needs to intervene, there are at least 5 things that one can take into consideration in order to make a decision:

- 1) The current best available evidence— which is summarized in this synthesis
- 2) Theory— of human development as well as other theories of behavior and change, causes of the problem (in this case absenteeism), etc.
- 3) Practice wisdom— what one has learned from our clients and through experience
- 4) Cultural competence
- 5) Relationship with the student, family— knowing the individual circumstances and characteristics of the student and being able to discuss/determine what they want/need and get their input into the intervention

All of the above factors can be taken into account to make the best decision about how to intervene. So what does the current best evidence tell us, in practical terms, that social workers, teachers and other helping professionals can do for students who are exhibiting problematic absenteeism?

- 1) Do something!— what the evidence tells us is that doing something is better than doing nothing at all. Even in the cases in which absence rates were still higher than what we would like after the intervention, students who received the intervention still did better than those that didn't receive the intervention.

- 2) Keep doing something!— what the evidence tells us is that interventions effects didn't last after the intervention ended, so it is important to continue to work with the student. The evidence does not tell us how long is long enough, so monitoring the attendance of the student if/when the intervention ends is extremely important.
- 3) Evaluate what you are doing— monitor the student's attendance and other behaviors that may be important indicators to how that student is doing, depending on that student's circumstances. If the attendance does not improve or begins to worsen, re-evaluate, search for new evidence, talk with the student and develop a new strategy.
- 4) Utilize a behavioral strategy— the evidence indicates that behavioral strategies may be more effective than others evaluated in this study. Contingency contracting is a fairly simple strategy that can be implemented by teachers, social workers, school guidance counselors, and others. Cognitive behavioral strategies have demonstrated effectiveness with students who meet the criteria for school refusal and there is some evidence that it could be effective for truant/absentee students as well.
- 5) Utilize parent training— the evidence tells us that parent training, especially when combined with other behavioral interventions with the youth, can be an effective strategy.
- 6) Form an attendance group— the evidence tells us that groups may be an effective strategy, especially when accompanied by attendance monitoring and contracting

and/or rewards. If there are several students who are having problems attending school, attendance groups may be an efficient way of intervening.

In addition to the practical strategies recommended above, teachers, social workers and others confronting the problem of absenteeism can take other steps as well. Given the state of the evidence related to absenteeism and indicated attendance interventions, much needs to be done to improve. It is imperative that practitioners and policy makers become good consumers of current and future research as well as become contributors to the evidence base.

Practitioners and Policy Makers as Consumers of Evidence

There are a number of interventions that claim effectiveness, but have no rigorous empirical support for those claims. Many practitioners and policy makers are unaware of this and rely on anecdotal reports of success, expert opinions and government reports to make decisions about program adoption and implementation without knowing on what basis claims are being made. Increasingly, social workers, educators and others in the helping professions are being urged to implement interventions or strategies that have some evidentiary basis. The No Child Left Behind Act, Social Work Code of Ethics, the Council on Social Work Education, the Department of Education and other Federal agencies and many State governments are promoting the use of evidence-based practices to try to improve outcomes for those that are served by various professions/entities. For practitioners and policy makers who want to implement effective interventions/strategies to increase attendance/reduce absenteeism, it is important to be good consumers of evidence. One strategy is to adopt an evidence-based practice philosophy.

Evidence-based practice, as described by Gambrill (2006), is

A guide for thinking about how decisions should be made...A systematic approach to integrating ethical, evidentiary, and application concerns that emphasize transparency regarding the uncertainties involved in helping clients....It describes a philosophy and process designed to forward effective use of professional judgment in integrating information regarding each clients' unique characteristics, circumstances, preferences and actions and external research findings. (p. 339)

Decisions in social work, education and other helping professionals are often fraught with complexities, both in terms of the problems clients/students are confronting as well as the organizational and political systems in which the clients/students live and in which one works (Webb, 2002; Witkin, 1996). Often, professionals are faced with making decisions, such as in the case of how best to intervene with a student who is truant/absent, when there is little, none or contradictory evidence. Even if one cannot find good quality, or any, evidence of interventions that address a specific problem or population, one can still utilize an EBP framework to guide decisions. External research findings are only one ingredient of the EBP process.

The steps of EBP have been described in multiple books and journal articles. The steps involve: 1) defining the problem/formulating the question; 2) searching for the best evidence; 3) appraising the evidence; 4) selecting an intervention based on the evidence and integrating it with practitioner expertise, client values, preferences and circumstances, and 5) monitoring client progress/evaluating the intervention (Gambrill, 2006; Rubin, 2008).

Adopting an evidence-based practice (EBP) philosophy and becoming skilled in the steps of EBP can help practitioners and policy makers to become better consumers of evidence as one learns to search for and critique the available evidence. Adopting an EBP approach also “promotes a high degree of practitioner reflection and mindfulness”

(Gilgun, 2005, p. 59). It encourages transparent and open communication with clients and reflection by the practitioner on their own knowledge, experience and values. Much has been written about the steps, process, benefits, limitations and barriers of evidence-based practice that practitioners and policy makers can read and refer to for more information (see Gambrill, 1999, 2003, 2006; Gibbs & Gambrill, 2002; Gilgun, 2005; Gray & McDonald, 2006; Hayes, 2005; Rosen, 2003; Rubin, 2008).

Practitioners and Policy Makers as Contributors of Evidence

In addition to becoming good consumers of evidence, practitioners and policy makers can contribute evidence to the field. Given the current state of evidence in the field, it is critical that those implementing attendance interventions and making policy evaluate interventions and policies using rigorous methodologies. It is also important that those findings are disseminated as widely as possible, even if those findings are not statistically significant. Those on the front lines doing the work of intervening with absentee youth can take a lead in contributing to and building the evidence base so that effective interventions can be discovered and disseminated.

Conducting research requires commitment, time and money, which are often not readily available to those working in the field, as well as the support from the school/agency in which one works. In addition, it requires the knowledge and expertise to design and conduct research as well as analyze the data. Although conducting research may not seem feasible for practitioners or agencies to carry out, there are ways practitioners, schools, courts, other organizations and stakeholders can produce rigorous outcome research to inform the field.

One approach is to initiate relationships with professors/researchers who have an interest in attendance/truancy and develop partnerships with local universities to conduct outcome research. By collaborating with a university to conduct research (recall that my findings with regard to collaboration were about collaborative interventions, not collaborative research), the faculty/researcher will gain access to a population that they may have not been able to reach and the practitioner/organization will gain access to the expertise and resources of the university. There would be a mutual benefit for both parties to collaborate to conduct research.

Practitioners or organizations can also develop internal capacity for research/evaluation. This could be done by the practitioner or someone in the organization obtaining education/training, either formally through university courses or more informally by reading or attending workshops, on research methodology and statistical analysis. Another way of developing internal capacity is to build funding for evaluation into the budget of an organization and hire external evaluators to conduct research.

There are a number of obstacles to conducting intervention research in schools and agencies; however, it can be done. There are a number of strategies that others have utilized to conduct practice-based research and make contributions of evidence to the field to directly inform practice. In the following section, recommendations will be made for future research, barriers to conducting absenteeism intervention research will be discussed and suggested strategies to overcome those barriers will be provided.

Implications for Research

There has been increased pressure in education, psychology and social work, as well as other professions, to make practice and policy decisions based on evidence. In addition, the issue of school absenteeism continues to be a problem of significant importance throughout the United States as well as other countries. Despite the increased pressure for evidence-based practice and policy and the serious and widespread problem of absenteeism, there continues to be a paucity of research in the area of interventions of indicated programs to improve school attendance.

The lack of outcome research of indicated interventions for attendance is quite surprising, especially given the national efforts throughout the United States as well as the United Kingdom to reduce truancy/increase attendance. Given the relatively small number of studies retrieved that met criteria for inclusion in this review and the wide variety of interventions included in this review, it is obvious that there is a need for additional research in this area. In addition to calling for additional research on indicated interventions to increase attendance, a discussion of specific methodological shortcomings of the studies included in this review as well as gaps in the literature identified in this review will be discussed. Barriers to conducting evaluative research of indicated attendance interventions will be considered and recommendations for future research will be made.

Methodological Shortcomings of Included Studies

Of the extant research, the limited number of studies found that met criteria for this synthesis were plagued with methodological shortcomings related to issues with

study design, attrition, sample size and descriptions, program descriptions, and lack of long-term follow-up.

Study Design

Of the 33 studies included in this review, 9 were randomized control trials, 11 were quasi-experimental designs and 13 were single group pre-post test designs. Study design was related to the magnitude of effects observed, with the single group pre-post test studies yielding a statistically significant larger mean effect than the RCT/QED studies. There are a number of limitations in using a single group pre-post test design to evaluate outcomes of interventions, including being more prone to internal validity threats. Confounds, such as history, maturation and regression to the mean, could offer alternative explanations for changes in attendance found in a study utilizing a single group design. Without the use of a comparison group, one cannot attribute improved attendance to the intervention under study (Anastas, 1999). Studies included in this synthesis utilizing a pre-post test design made claims of cause and effect between the intervention under study and improvement in attendance. In addition, authors often did not adequately discuss the limitations of the design in their discussion of the results.

Practitioners and policy makers who want/are trying to use research to guide their decisions may not be aware of the inherent limitations and lack of internal validity presented by pre-post test designs. The overstatement by authors attributing change in attendance to the intervention under study, especially without discussing the serious limitations of pre-post test studies, is misleading at best. Authors utilizing a single group pre-post design should not overstate their findings or make causal inferences.

Recommendation: Because of the inherent limitations to single group pre-post test designed studies, it is recommended that future research evaluating outcomes of interventions utilize a comparison group design, preferably with random assignment to limit other potential confounds. If a single group pre-post test design is utilized and the intervention looks promising based on the results, researchers should then replicate their intervention and evaluate the outcomes utilizing a comparison group design. Comparison group designs may not be as ethically problematic in school contexts, where practitioners cannot possibly treat all the children in need. There are potentially natural comparison groups that can be drawn upon if one establishes a relationship with large public school systems.

Missing Demographic Data and Lack of Testing Initial Equivalence of Groups

A second limitation found in the included studies is the overall inadequate, and sometimes missing, descriptions of the participants included in the studies. Some studies did not report on what would be considered as fairly basic demographic data that should be included. Demographics such as race, socio-economic status and/or grade level of participants were missing from several studies. Some authors included data on the entire sample, but neglected to provide the data by group, thus limiting the reader's assessment of potential differences between the treatment and comparison groups. The lack of inclusion of adequate sample descriptions limits a study's generalizability and replicability. In addition, it limits the ability for sample variables to be further explored as potential moderators and the analysis of differential effects between different groups within the sample, both in the original study itself as well as in meta-analyses.

In addition to inadequate or non-reporting of sample characteristics, 10 (48%) of the samples included in the studies utilizing a comparison group design were not tested for initial equivalence between groups on important variables. Because equivalence of groups was not tested and/or reported, it is not possible to conclude from the results if improved attendance was related to the intervention or to any differences that may have existed prior to the intervention being introduced.

Recommendation: In order to improve the evidence base of indicated interventions to improve attendance, to maximize the validity, generalizability and replicability of studies and to adequately assess moderating variables and differential effects, it is recommended that future research studies adequately describe the treatment and comparison samples and make statistical comparisons between the groups on those characteristics. Minimally, the following are recommended to be included in the sample description and comparisons: age, grade, race, socio-economic status, gender, special education status and attendance/absence rates at baseline in terms of percentage of days attended or absent. In addition, it is recommended that outcomes be reported by subgroups when possible. For example, if a study includes participants from various grade levels, reporting and analyzing outcomes by grade level would be helpful as interventions may be more or less effective with elementary students versus middle school students. See Table 48 for a summary of recommendations.

Table 48: Recommended Data to be Reported: Participant Characteristics

Race/ethnicity	Age
Gender	Grade
Special education status	Absence rates (%) at baseline
SES	Statistical comparisons of experimental and control groups on demographic variables

Lack of Adequate Descriptions of Interventions

In addition to the lack of descriptions of participant characteristics, there was an overall lack of adequate description of the interventions. In order for studies to inform others and add to the evidence-base, authors must describe the intervention in enough detail so that the intervention can be replicated. Many studies included in this review did not provide enough detail for replication, thus precluding others to utilize the intervention in their own setting or to evaluate the intervention in different settings or with different populations.

Recommendation: It is recommended that future research include descriptions of the interventions in a very detailed way that would allow for replication of the intervention. Descriptions should include details of each of the components of the intervention; the duration of each of the components and, if applicable, the order of the components; who implemented each of the components, including the providers education and credentials; the setting/location of each of the components; and the cost and funding of the intervention. In addition, it is also recommended that the author clearly state if they were directly or indirectly involved in the implementation of the intervention or the control condition.

Because many of the interventions were comprised of multiple components, it is not only important for authors to adequately describe each of the components, but for authors to evaluate the effects of various components that comprise the intervention. Although some studies did utilize a third treatment group that received only part of the intervention (e.g. Heyne et al., 2002), the majority of the studies did not attempt to evaluate specific components of the intervention. It is recommended that authors

evaluate each of the components of the intervention, or at least those components that are hypothesized to be the most important. See Table 49 for a summary of recommendations.

Table 49: Recommended Data to be Reported: Intervention Characteristics

Detailed description of all intervention components	Duration of treatment (weeks)
Description of who provided the intervention- including education, credentials and where employed	# of sessions and/or hours (as applicable)
Cost	Setting (of each component)
Funding of intervention	Funding of study

Attrition

Another limitation to validity and generalizability found in the included studies is due to attrition. Twelve (34%) of the included studies either had attrition rates greater than 20% (n=11) or did not report attrition (n=1). Studies that experienced attrition greater than 20% reported smaller effects than those that experienced little or no attrition. As described in the previous chapter, authors reported that attrition was due to one or more of three issues: 1) missing data/school records; 2) mobility of students (moving, withdrawing from school, etc.); and 3) participant drop out related to treatment or control condition (dropped out of treatment/declined further participation, did not comply with treatment). Six of the studies cited missing data on some participants at one or more time points (Becerra, 2001; Halsey et al., 2004; Mueller et al., 2006; NCSE (2006b), NCSE (2005), Johnson & Syropoulos, 1996). Missing data resulted from researchers unable to obtain complete data or school records from the school system. Participants moving or withdrawing from school was cited in five of the studies (Becerra, 2001; Ford & Sutphen, 1996; Mueller et al., 2006; Hubin (2000); Bernstein et al., 2000). Two studies cited

issues related to the treatment/control condition. Bernstein et al. reported that some participants were dropped due to missing too many doses or therapy sessions or had declined further participation in the study. Richardson (1992) acknowledged a problem with the therapeutic intervention provided to the control participants that resulted in several dropping out of the study and made adjustments to the intervention as a result.

For those studies that did experience attrition, there was an overall lack of comparison between participants that remained in the study and those that were lost. This was especially true in studies where attrition rates were high due to missing data/records rather than participants dropping out. When studies experience significant attrition and do not make statistical comparisons between those who remained in the studies and those who were lost, it is impossible to know if there were significant differences that could confound the results.

In addition to the lack of conducting statistical comparisons of those completing and those not completing, there was also an overall lack of authors noting and discussing the significant attrition in their studies. Several authors did not provide adequate discussion of the fact that a large percentage of the students who received the intervention were not included in the study nor did those authors take that into account when making conclusions regarding the effectiveness of the intervention under study. For example, in the NCSE (2006b) study, the authors reported that 248 students attended the 56 workshops held by the King County truancy reduction program; however, data on unexcused absences was only provided for 57 (23%) of those 248 students (32 in the Seattle School District and 25 in the Kent School District). Despite the fact that data for only 23% of the students in the program was used to conduct the analysis, the authors

concluded that “These data support the effectiveness of the King County truancy reduction program” and go on to state that the program is “an effective program design that deserves replication in other communities” (p. 4). The authors did not provide any statistical comparisons of those students that were included in their analysis and those that were missing nor did they discuss the issue of attrition and the threats to the validity and generalizability of the results.

Recommendation: To improve the generalizability and validity of studies, keeping attrition to a minimum is important. For future research, it is recommended that authors take attrition into account when designing the study and develop plans to mitigate potential threats to participant dropout. For researchers who will be dependent upon receiving data from external entities, such as schools, it is important to ensure adequate procedures are in place to maximize the completeness of the data that is obtained from the external organization. It is also recommended that authors clearly report the number of participants that started the study and the number of participants that completed the intervention as well as the reasons for dropout/missing data. If there are participants that did not complete, a comparison between completers and non-completers should be provided and any statistically significant differences should be explained and taken into account.

Sample Size

Small sample size was another issue that plagued the studies included in this synthesis. Eleven (52%) of the RCT/QED studies had total sample sizes of less than 50. Nine (43%) of the RCT/QED studies and 4 (29%) of the SGPP studies included less than 20 participants in the treatment group. Only 4 (19%) of the treatment group samples in

the RCT/QED studies and 3 (21%) in the SGPP studies included treatment groups of 50 or more.

Several studies reported challenges with obtaining larger samples even though they had originally planned for more participants. For example, DeSocio et al. (2007) described significant challenges in locating and connecting with students and parents to enroll them in the study due to the high mobility of the families and difficulties obtaining current residency and contact information from the school system. In addition, they cited disengagement and lack of trust in the school system as contributing to families' reluctance to be contacted or give consent for participation in the study. Mueller et al. (2006) also experienced a significant decrease in their sample size due to challenges in obtaining complete attendance records and student leaving the school system. Mueller et al. emphasized the need to have access to complete student records to avoid losing cases. DeSocio et al. recommended for future research that sampling plans be developed that anticipate a greater proportion of students that will not be able to be enrolled. In addition, they recommended a larger sample to account for attrition due to mobility and dropout as the school year progresses.

The small sample sizes found in the studies included in this synthesis could also be due to the studies evaluating interventions being utilized with a small number of students. In some instances, the interventions being evaluated were being conducted by a social worker in one school, thus the number of potential participants was small given the limited setting and limited number of persons to intervene. One cannot have a large sample for a study if the number of participants in the program is small to begin with. In cases such as this, it is more important to conduct the research with the sample size that

one has than to not conduct the study because the sample size may seem small.

Evidence provided by a small sample is better than no evidence at all. To compensate for a small sample size, replicating the intervention and conducting another study with new participants would provide additional evidence. Also, if the potential sample size is small, one could consider obtaining a comparison group from a comparable school to keep the sample sizes higher.

Recommendation: Larger sample sizes are needed in future studies. When planning the study and determining sample size, researchers need to take into account potential challenges in gaining access and consent of parents and students as well as anticipate mobility and dropout as the school year progresses. Researchers also need to take steps to ensure access to more complete student records. Relying on school or court systems, which are often overburdened as it is, to provide data may be asking a lot of those systems. Providing support or giving schools/courts additional resources in order to adequately provide the data in a way that will not be burdensome to the school/court will be important. When evaluating a small program where it would not be possible or feasible to have a larger sample, replicating the intervention and study would provide additional evidence that could be used. Also, conducting a quasi-experimental design in which the control group would be recruited from a different, but similar, school could also help to provide a larger sample.

Measuring/Reporting Attendance

The way in which attendance was measured/reported in studies was also problematic. Although studies included in this analysis obtained attendance/absence data from an official record or verified it against an official record, as opposed to relying on

self or parent report, the authors varied in the way they operationalized attendance/absence and the formats used to present the data. In terms of authors' operationalization of absence/truancy, some authors utilized only unexcused absences, some utilized both unexcused and excused absences, some factored in tardies or partial days absent while others utilized only full days absent. Some authors were not clear in what they were including in their reported absence/attendance rates. In terms of the format authors used to measure/report absences, some authors reported attendance rather than absences and did so in terms of number of days absent/present or percentages of days absent/present. When comparing results across studies, the variations in how authors are defining, operationalizing, measuring and reporting absence/attendance data can be confusing. When conducting meta-analysis, this variation is somewhat less critical because the outcomes are calculated into standardized effect sizes; however, reporting absence/attendance data in a consistent manner across studies is important for future research to allow for easier and more precise comparison across studies.

When authors provide their attendance outcome data in terms of days absent/present, it is difficult to determine exactly how serious the problem is/continues to be. For example, reporting that the mean number of days absent as 12 days does not really tell the reader much, especially when it is unclear the length of time the author used to measure absences/attendance. If the mean number of days absent is 12 days over the entire previous school year, the student would have only been absent 6% of the school days (assuming a 180 day school year), which by most standards falls into acceptable levels. However, if the mean number of days absent was 12 days over the previous marking period (assuming 45 days in the marking period), the mean percentage of days

absent would be 27% of possible days, falling into unacceptable levels. Most authors did not provide the exact percentage of days absent/present. For those authors that did not provide a percentage, most of them did not provide the exact number of school days that were possible in the time frame they used to measure attendance/absence, making calculating the percentage challenging. Often, assumptions about the possible number of days the student could have attended need to be made in order to calculate a percentage the student was present/absent for this synthesis.

In addition, the length of time authors measured absence/attendance rates also varied considerably and were often unclear. The length of time attendance was measured at pre-test ranged from 2 weeks to the entire previous school year (36 weeks) and for post-test ranged from 2 weeks to 2 years. Obtaining a baseline attendance rate for only two weeks prior to the intervention or a post-test attendance rate for a period of only two weeks following the intervention does not seem like it would provide a meaningful representation or comparison of change in a student's attendance/absences. More importantly, comparing outcomes of a study that measured attendance for a period of only two weeks post intervention to a study measuring attendance over a school year post intervention may not provide a good comparison of outcome effects. A more meaningful time frame for which to measure attendance/absence rates would be at least a semester and preferably a school year.

Not reporting outcomes in a clear manner that can be easily read and interpreted precludes the reader from determining if the outcomes were meaningful to them, or were clinically significant. For example, many studies reported statistically significant findings; however, the statistical significance of the findings did not necessarily translate

into outcomes that would be clinically significant or meaningful for those who are looking for a program to improve attendance in their community/school. In one study, the findings were statistically significant; however, the post-test rates of absences for students who received the intervention were 46%. For someone reading the study, it would appear from the tests of statistical significance that the intervention was successful, but the actual rates of absences, presented in a percentage, give the reader a more complete picture with which to make a decision. At a practical level, and for practitioners and policy makers utilizing research to make decisions about program adoption and implementation, being transparent about the clinical significance of the findings is important.

Recommendation: For future research, attendance needs to be measured and reported in a consistent and clear way to allow for easier comparison across studies as well as to allow for better transparency. It is recommended that future research report either attendance or absences in terms of a percentage of days absent or present. It is also recommended that the author clearly specify the number of school days for which attendance was possible and the time frame in which they measured. Also, it is recommended that authors measure both excused and unexcused absences as well as partial days absent and report these separately in the study so that meaningful comparisons can be made across studies. In addition, it is recommended that authors present their findings in terms of clinical significance in addition to statistical significance.

Lack of Long-term Follow-ups

Another methodological shortcoming with the included studies is the lack of extended follow-ups. Only five RCT/QED studies and four SGPP studies measured attendance at a follow-up time point. Of those that did measure attendance at follow-up, the length of time at follow-up ranged from 6 to 27 weeks.

Recommendation: It is recommended that studies include a meaningful follow-up of at least a semester, and preferably a school year, in order to examine whether, and to what degree, magnitude of effects are sustained over time. Longer follow-ups over several years are also recommended to provide some evidence of whether or not attendance interventions can sustain attendance effects for longer durations. Also, longer term follow ups are essential to provide evidence of whether attendance interventions are an effective strategy for reducing rates of drop-out and improving academic performance.

Lack of Reporting Data to Calculate Effect Size

A final methodological shortcoming of studies on outcomes of indicated attendance interventions was identified during the selection and screening process. Several studies did not meet eligibility criteria for inclusion in this review because they did not provide adequate data to calculate effect sizes.

Recommendation: It is recommended that authors provide the sample size, mean and standard deviations for all outcomes measured, regardless of whether the results of other statistical tests were given or if the results were not statistically significant.

Summary of Methodological Shortcomings and Recommendations

Table 50: 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 follow-up	Measure and report attendance at time points following the 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

Identified Gaps in the Literature

In addition to the general need for more studies overall and the need to address the methodological shortcomings found in the included studies discussed above, additional gaps in the literature identified through this synthesis were identified.

Studies of Interventions Targeting Elementary Grades

RCT/QED studies examining interventions with elementary students were lacking. Although only 12 studies examined interventions with a specific grade level, interventions targeting elementary students were underrepresented. Also, 43% of the studies included students from a mixture of grade levels and could have included elementary students, but they did not provide data by subgroups based on grade level. There is some evidence that support different treatment needs of elementary, middle and high school students; however, differential response to interventions has not been examined. Additional studies of interventions with elementary school students, and/or studies that provide subgroup data by grade level, are needed to fill this gap in the literature.

Ethnic Minority Participants

There was an overrepresentation of Caucasian students found in the studies included in this analysis. Of the 12 RCT/QED studies that reported the racial composition of the samples, Caucasian students were the predominant race in seven of those studies, African-American students were the predominant race in three of those studies and Hispanic students were the predominant race in two of the studies. Additional studies are needed with students from various racial and ethnic backgrounds to examine the applicability of interventions to different populations of students.

Court and Community/Agency Based Interventions

School-based programs were found to be overrepresented by the studies included in this analysis. Sixty-two percent of the RCT/QED studies were school-based interventions compared with 14% being court-based and 19% being agency-based.

Additional studies examining court and clinic/community based programs are needed to examine the effectiveness of different types of programs in existence.

Cost-Benefit Analysis and Implementation

Two additional gaps identified are related to program costs and implementation. Information related to program costs was missing in all but one study included in this analysis. Data or discussions related to program implementation was also very sparse, and missing in most studies included in this review. Conducting analysis related to the cost/benefit of a program as well as program implementation issues is important for both practice and policy. If one looks to evidence to make a decision regarding which intervention to implement, data on attendance outcomes are necessary, but not sufficient. Cost and ease of implementation are also important factors for practitioners and policy makers to consider and weigh when making adoption decisions. Unfortunately, the extant research provides no outcome data, or even much qualitative description, of cost and implementation issues to guide decision making. Providing effective services in an efficient manner is of utmost importance, especially in this poor economic climate. It is recommended for future research on outcomes of indicated intervention programs for attendance to include and analyze data related to program costs and implementation.

School Refusal

Another gap evident in the literature review as well as in this synthesis is the need for further research on whether or not it is helpful or clinically necessary to distinguish “school refusers” as a distinct group of absentee students. Are some interventions more effective with students who meet criteria for school refusal than students with similar rates of absenteeism but do not meet criteria for school refusal? What is the prevalence

of school refusal in participants who have excessive absences and are drawn from the general school population, rather than from a clinic setting? If there are significant differences in intervention effectiveness for absentee students who meet criteria for school refusal versus those that do not, it would be important for schools and courts to assess for school refusal and intervene accordingly. If there is no differential effectiveness between those that do and do not meet school refusal criteria, making a distinction between these two groups would be less helpful or necessary. Those conducting outcome research on interventions for truant/absentee students could assess students for whether they meet criteria for school refusal at pre-test. They could then examine and compare outcomes of students who meet school refusal criteria and those that do not to determine if the two groups of students respond differently to the intervention. Researchers could also replicate the interventions with truant/absentee students that were found to be effective with school refusal students.

Measuring Longer-term Outcomes of Attendance and Other Key Variables

An additional gap in the literature relates to long-term outcomes of students who receive interventions to increase attendance, not only in terms of attendance, but in terms of other outcomes as well. As discussed previously, very few studies reported on long-term outcomes of attendance interventions on attendance outcomes. Studies evaluating the long term outcomes on attendance are needed to determine if interventions can sustain the effects over time.

In addition to the need for long-term follow-ups on attendance outcomes, other outcomes are important to measure as well. Much of the truancy/absenteeism literature discusses the correlation of absenteeism with dropout and poor academic outcomes;

however, very few studies on attendance interventions measured dropout or academic outcomes at post-test or follow-up. Because students who dropout are more likely to have had attendance problems, the assumption is made that if students were to improve their attendance, they would be less likely to dropout. It is also assumed that if students are attending school regularly, they will do better in school. Although many attendance interventions are predicated on these assumptions, studies did not assess whether or not increasing attendance resulted in decrease in dropout rates or improved academic performance. It would be important for studies assessing the impact of interventions on attendance, especially when the underlying assumption is that improved attendance will lead to decrease in dropouts and/or improved academic performance, that long-term follow-ups be done to assess the effectiveness of attendance interventions on dropout and academic performance.

Summary of Identified Gaps and Recommendations

Table 51: 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

Why So Little Evidence?

There are hundreds of programs in operation, many of which have been described as positively impacting the students and communities they are serving. Unfortunately, rigorous research to support these programs is either not being conducted or is not being disseminated in a way that can inform others. Either way, evidence is not being built in a way that can add to the evidence base of indicated attendance intervention programs. In this era of evidence-based practice, No Child Left Behind and numerous other initiatives at the local, State and Federal levels in which substantial amounts of money and/or efforts have been invested, it is surprising that the quantity and quality of outcome research of interventions to increase attendance with students who are exhibiting problematic absenteeism/truancy is in such a paltry state.

To move the field forward, it is important to consider possible factors that may be inhibiting the progress of research in this area. Until the issues and barriers have been considered, discussed and questioned, a more substantial and relevant evidence base from which one can use to make practice and policy decisions will not be able to built. Some of the practical barriers were raised and discussed in the previous section, and will thus not be repeated here. Although not intended to be a complete or exhaustive discussion of barriers, some additional issues and factors will be considered in an attempt to begin the dialogue and expose some potential barriers to conducting attendance intervention research.

The Politics of Research

The act of research is a social and political one. The who, what, when, where, why and how of the research process is determined within a social and political context (Graue & Grant, 2002; Martin, 1998). The social and political context influences various aspects of the research: who does the research, who funds it and who the subjects are; what questions are asked, what methodology is used, what perspectives shape the research; when the study gets completed and published or disseminated; where the research is conducted and published; why it matters, why it is being done, why it isn't done a different way or by/with different people; and how it gets done, how the study is funded, and how the results will be used.

The social and political context impacting a study or body of research in an area, although always present and influential, is often not discussed (Anastas, 1999). Ignoring the political context does not make it any less real or any less influential. By not being aware of, transparent and reflective about the social and political forces influencing research, we will not be able to generate knowledge that will lead us to more socially just and effective practices. By not questioning how those forces are impacting the knowledge being generated, we will continue to engage in research that will only provide, at best, an incomplete picture of school absenteeism.

Although an analysis of the social and political factors influencing the school absenteeism research was not conducted for this study, it is important to discuss some of the possible factors that may be limiting the outcome research in this area. It is also hoped that raising awareness of social and political factors in school absenteeism research

will lead to a more thorough and critical look at the processes at work in this area that may be impeding progress.

Race, Ethnicity and SES: Marginalized and Oppressed Populations

Race/ethnicity and socioeconomic status are consistently cited in the literature as being linked to school absenteeism; however, over half of the studies included in this synthesis did not provide data on the race/ethnicity of the samples. In addition, 86% of the studies did not report on the socio-economic status of the participants. Given that absenteeism is a significant problem in poor, urban city school districts and poor and ethnic minority students have higher absence rates than their Caucasian counterparts, researchers not including race/ethnicity and SES in the descriptions of their samples is surprising.

The question, then, is Why? Why is there an overall absence of basic demographic data on variables that are obviously important to know and consider? Why is there an overall underrepresentation of ethnic minority students participating in the studies included in this review? What are the social and political factors that are contributing to this overall absence of minority students and reporting and considering race/ethnicity and SES in the outcome research of indicated interventions for school attendance? Is this absence of race/ethnicity and SES a pervasive problem across the truancy /absenteeism/school refusal literature?

The point of these questions is to raise awareness and begin to question and provide some thoughts about the absent presence of poor, minority students in the extant indicated intervention research, and truancy/absenteeism research as a whole. Perhaps there is an overall institutionalized belief that race and class issues are not a factor, a

systematic blindness to the effects of racism and poverty. Or perhaps it is because interventions with student who are poor, ethnic minority, with multiple and complex risk factors and life situations who are attending a racially segregated school with multiple problems may not result in as positive outcomes as interventions being implemented with lower risk, Caucasian, middle class students. Perhaps the students who are experiencing the most challenges with attending school are not seen by society as valuable or worthy or perhaps just too challenging, thus are neglected in the research. There are a number of potential explanations as to why poor, minority students are absent from the extant literature. The absence of research with marginalized and oppressed populations is problematic and concerning; an absence that needs to be addressed by future research.

External Program Evaluations as a Potentially Risky Political Move

Although evidence-based practice and data driven decision making has garnered support by academics as well as administrators and practitioners, being able to practice EBP and make decisions based on data requires programs to be evaluated and the results disseminated. For many, subjecting one's program to the rigors of evaluation can be a politically risky undertaking. Protecting a program that is liked and entrenched into the organization or community may be much more important than contributing knowledge to the field, especially if that program is not producing outcomes that would demonstrate significant effects.

Mueller et al. (2006) conducted an external evaluation of a program and discussed the political risks that administrators and organizations must take when subjecting their program to external review. They commented that "Field studies such as this... are often construed as a potential threat. That is, unanalyzed programs are safe and undisturbed"

(Mueller et al., 2006, p. 216). Administrators or practitioners, who often are very bought into and enamored with their own programs, may be more concerned about losing credibility and funding, or motivated to avoid political embarrassment, than to contribute evidence to the field.

Unless funding sources specifically require a rigorous evaluation, there is not an economic or political incentive for administrators to subject their programs to external evaluation and disseminate the findings, especially if the findings are negative. In fact, there is often a disincentive to conduct rigorous evaluation research. It costs money to conduct high quality research and, if the results are less than stellar, improving, dismantling and/or implementing new programs can be costly as well.

In addition, exposing racial, ethnic or economic disparities in one's organization (i.e. schools), especially if those disparities show a relationship to the problem under investigation or discrepancy in outcomes, may also be a political risk that schools, courts or other organizations may not be willing to take in the name of science. Findings of racial or ethnic disparities or connections between race and/or income and absenteeism in a school system could expose schools to discrimination lawsuits. Similar concerns could be raised in court systems as well, which have come under tremendous scrutiny and criticism for issues related to disproportionate minority contact. If schools, courts and other organizations are concerned about potential legal or political fallout from research results, researchers will likely not have access to certain sites or populations. In many cases, the organizations for which these legal and political issues are a concern are those whose students are the most vulnerable (i.e. poor and minority) and are likely experiencing the most problems with absenteeism.

The Problem of Complexity and the Perplexity of Causes

Absenteeism is a complex problem involving multiple layers of systems, potentially multiple causal processes at work and the research is spread across multiple disciplines. This complexity can be a challenge to researchers attempting to study the problem of absenteeism as well as outcomes of attendance interventions. The complexity in and of itself may explain, in part, the lack of research in this area.

In addition, the choices made by researchers and the tools they have at their disposal limits the research that is done in this area. Different systems and causal processes may be examined. These are determined by the perspectives of the researchers, the profession in which they have been trained, the theoretical viewpoints and definition of the problem, the philosophical underpinnings and aims of their research and multiple other factors that come into play when determining the who, what, when, why, where and how of conducting research. The limits placed on the research by the researchers, who are influenced by political and social forces at play, limits what can be known.

The choices researchers make about the research they do is also an economic one. Researchers, who are interested in earning tenure and promotion, may be influenced by what can be funded and published, which reflects the broader social and political system. Research agendas can be influenced by funding sources. Researchers at many universities are required to bring in funding to the University; therefore, in order to increase the likelihood of obtaining funding, researchers are going to have to align their research agendas with that of the funding sources. In addition, the types of research that is conducted can be influenced by the types of research that is likely to be accepted and published in the peer-reviewed journals in which the author aspires to publish (Karger,

1999). Research is more likely to be conducted if it has a good likelihood of being published. Studies are more likely to be published if the results are significant and the findings are within the established ideology (Karger, 1999). As a result of these influences, studies of interventions with populations that have significant problems with absenteeism, who have multiple stressors and risk factors, may be excluded from the research.

Summary

There are a number of potential barriers limiting the research of indicated attendance interventions and the development of evidence. This discussion of potential barriers was not intended to be exhaustive and it is far from complete. It is, however, an attempt to raise awareness and begin a dialogue about potential barriers that may be limiting the quantity and quality of research in this area as a first step in addressing those barriers. In order to move the field forward, the various disciplines engaged in absenteeism research need to take a critical look at the barriers affecting the research. The social, political and practical issues and barriers will need to be acknowledged, examined and addressed if we hope to positively impact the attendance problem plaguing this country and others around the world.

In addition, there is also a clear need for a central repository of outcome research of intervention effectiveness on attendance outcomes. The current research is disparate and much is unpublished. There are likely numerous program evaluations that could contribute to the evidence base but were not able to be accessed for this meta-analysis. Although the National Center for School Engagement provides a database of truancy programs, these interventions do not need to demonstrate any level of evidence of

effectiveness to be listed in their database. The National Dropout Prevention Center (NDPC) also lists model programs that they have rated based on level of evidence. Although they endorse some truancy intervention programs, the programs in the NDPC database are primarily targeting dropout prevention. To begin to further develop and give access to an evidence-base of interventions to reduce absenteeism/truancy, a central repository of effective, and just as importantly ineffective, interventions and the outcome research that supports them is needed. Having an entity that maintains a central repository and independently rates interventions according to transparent and rigorous standards similar to Blueprints for Violence Prevention would be helpful in both building the evidence-base as well as providing access to those who want to utilize evidence for practice and policy.

Strengths and Limitations

Although a number of literature reviews on absenteeism, truancy, and school refusal had been done in the past, this study improved upon prior reviews in several ways. First, this review applied a systematic and transparent process for searching, retrieving and coding studies to be included in the review. Utilizing a systematic method to conduct the review of outcome research limits bias and reduces chance effects, leading to more reliable results (Higgins & Green, 2006). Utilizing an explicit and transparent description of the review process allows for the review to be replicated. It also allows for the expansion of the review, either by other reviewers who want to expand upon the criteria established by the original reviewer or by adding additional studies in the future to the original review as more data becomes available (Higgins & Green, 2006).

Second, prior reviews have been limited to a narrative approach, presenting a description of programs or using a vote-counting method to categorize outcomes of programs as significantly positive, significantly negative or no significance. Conclusions regarding effective interventions are then made based on the number of studies that were found to demonstrate significant positive results. The vote-counting method, however, disregards sample size, thus leading to erroneous conclusions (Glass et al., 1981). Also, the vote-counting method relies on statistical significance and does not take into account measures of the strength of the study findings, thus also leading to misleading conclusions (Glass et al., 1981). Meta-analysis, on the other hand, represents key findings in terms of effect size rather than statistical significance. Thus, this meta-analysis provides information about the strength and importance of a relationship, the magnitude of the effects of the interventions and the characteristics of effective interventions (Lipsey & Wilson, 2001).

Third, a comprehensive search method was utilized to locate and retrieve studies which allowed for a large percentage of unpublished studies to be included in this review, many of which had been missed or not included in prior reviews. Reviews that include only published studies risk having findings that are upwardly biased (Glass et al., 1981; Wilson et al., 2001). Unpublished studies, including dissertations, theses and other reports, accounted for 62% of the RCT/QED studies and 64% of the SGPP studies that were included in this synthesis. Publication bias was also assessed through the use of a scatterplot. The scatter of effect sizes took the shape of a funnel and was basically symmetrical, indicating that publication bias was not present in this meta-analysis.

Fourth, this review included evaluations of interventions targeting student attendance, rather than being bound by specific conceptualizations of truancy or school refusal behavior which have defined prior reviews. Researchers in this field have often made a distinction between “truancy” and “school refusal”, thus reviews have often been specific to either truancy or school refusal. Several authors in various fields studying the problems of student non-attendance have concluded that the problem of non-attendance is heterogeneous and lies along a continuum, thus maintaining a distinction between truancy and school refusal is unnecessary and can be counterproductive (Kearney, 2008a; Lauchlan, 2003; Lyon & Cotler, 2007). They have called for a more inclusive and integrated conceptualization of absenteeism and a need to include all students exhibiting problems with absenteeism in research, assessment and treatment. Thus, this review included studies of interventions targeting student attendance, regardless of the authors’ conceptualization or definition of the problem.

Fifth, this review evaluated whether the research base is an adequate representation of programs currently in operation. Although it was not possible to systematically assess all programs in operation, the studies included in this review were compared against interventions reported in prior reviews and government reports as well as those listed on the National Center for Dropout Prevention and the National Center for School Engagement.

Limitations

Given the relatively small number of studies to the potentially vast number of interventions currently in operation throughout the four countries eligible to be included in this review, the included studies in this synthesis do not likely represent the full body

of programs in operation and cannot be generalized to the universe of programs in existence. Although all of the studies included in this analysis met criteria as indicated interventions with the aim of increasing attendance, the characteristics of the samples and the interventions varied considerably. In addition, evidence from the homogeneity test indicated that there was significant variation across effect sizes, thus the interventions included in this synthesis may be too diverse to be pooled. Moderator analyses did not identify moderating variables that could explain all of the variance. The heterogeneity suggests that it may be more appropriate to pool studies that are more similar to each other, such as was performed for the interventions having a behavioral component. Unfortunately, there were not enough studies of similar types of interventions to be able to pool studies together in a meaningful or productive way.

As in all research, the research questions asked and the way in which the problem under study is defined limits the study to the bounds determined by the question and problem definition. In research synthesis and meta-analysis, the study is both limited by the questions, problem definition and inclusion/exclusion determined by the meta-analyst as well as the questions, problem definition and inclusion/exclusion criteria determined by the researchers of the included studies. This meta-analysis was limited to indicated interventions; only interventions with a stated primary goal of increasing student attendance of students who had an identified problem with attendance was included. This allowed for the study to focus on a particular population of students, those with the most problematic attendance, but it also limited the study as well. Primary interventions targeting students who were “at risk”, but in which not all of the students had an attendance problem, were excluded as well as were universal programs. There may be

many more attendance intervention programs that are effective, but were not included in this study because they were not targeted to students with a pre-identified problem.

The way in which the authors of the included studies defined absence/attendance problems also limits the study. Authors utilized various definitions of what constituted problematic attendance in their sample selection criteria. Although this meta-analysis attempted to be inclusive of truancy, school refusal and school absenteeism, specific criteria of what constituted problematic absenteeism/truancy/school refusal was imposed by the authors of the included study. Because there is no agreed upon definition or criteria for what constitutes problematic absenteeism/truancy/school refusal, each author of the included studies defined it for the purposes of their study. In some cases, the criteria for what constituted problematic absenteeism was adopted from the local laws or policies of the schools in which the author was conducting the study. In other cases, the cut-off for the number of days absent that constituted a problem was arbitrarily determined based on conventional wisdom or some other source.

The issue of how to define the problem of absenteeism is problematic at best. Authors differed in terms of whether or not they measured excused or unexcused absences, some included partial days absent, some measured attendance by hours rather than days, and some authors did not specify what/how they were measuring attendance/absence. Multiple authors have called for the field to come together and agree on a standard definition of truancy, problematic absenteeism and school refusal; however, efforts to come to a standard definition have proven futile. Authors attempting to study absenteeism/truancy/school refusal will undoubtedly struggle with this issue into the

future until consensus or more research is done to provide some answers about how many absences are too many and at what point does absence from school become problematic.

Another limitation may be that not all of the potential studies of indicated interventions on attendance were included in this synthesis. Several studies that were identified in the search process were excluded due to not meeting eligibility criteria. Many were excluded because they did not provide adequate data to calculate effect sizes. Although a thorough search was conducted, and all attempts to identify and retrieve published and unpublished reports were made, some studies may have been missed in the search process.

The methodological shortcomings of the studies pose another limitation. Many of the included studies had methodological deficiencies, including sample attrition, unknown equivalence of treatment and comparison groups, inadequate reporting of sample and intervention characteristics and lack of rigorous research designs. Variations in methodological, sample and intervention characteristics could account for magnitude of effect and variance in effect sizes between the studies. Although several methodological, sample and intervention characteristics were tested in moderator analyses, several of the studies were missing data and could thus not be included in the analyses.

CHAPTER SIX

CONCLUSIONS

Student absenteeism has been a recognized problem since compulsory education laws were put into place in the 19th century. The causes and correlates as well as the costs of absenteeism have been studied and extensively discussed in the literature. In addition, numerous interventions have been described and recommendations for best practices have been made by numerous authors. Despite all that is known about school absenteeism and the plethora of interventions that have been described, absenteeism remains a significant problem.

The literature on truancy, absenteeism and school refusal, is disparate. The literature is spread across multiple disciplines and much of the literature has focused on causes and outcomes rather than on effectiveness of interventions. This makes it challenging to know what, if anything, works to impact the problem of student absenteeism. It also precludes practitioners and policy makers from using evidence to make evidence-based decisions. To address this issue and better understand what works in order to more effectively guide practice and policy, the body of research examining the outcomes of indicated interventions to increase attendance was reviewed utilizing a systematic review methodology and assessed using meta-analysis.

A comprehensive search for studies to include in this review yielded only 9 RCT studies, 11 QED studies and 13 SGPP studies that met inclusion criteria. Given that there

is an abundance of literature documenting the causes, correlates and negative impacts of truancy/absenteeism and the general consensus that absenteeism/truancy is a serious issue, uncovering only 20 studies of outcomes of indicated interventions which utilized experimental or quasi-experimental methodologies is concerning. A number of interventions and programs have been recommended by experts, identified as an effective or model program or listed in databases of national centers which lend an air of credibility to these interventions. Despite this, the relatively small number of studies that were found and met inclusionary criteria indicates that there is still scant evidence on the effectiveness of current programs in existence.

Overall, interventions included in this review were found to demonstrate a moderate, positive effect on attendance outcomes. While the mean effects of the interventions were moderate and significant, it is important to note that these programs do not likely represent the interventions in existence. The heterogeneity in effect sizes was significant, indicating that different studies point to somewhat different conclusions and may be too diverse to be pooled. Because of the relatively small number of studies and the significant heterogeneity, caution must be used when interpreting and applying these findings.

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 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 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, or absence of 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.

Although the evidence did not support the hypothesis that collaborative and/or multi-modal interventions are more effective, it is also not appropriate to conclude that collaborative and/or multi-modal interventions are less effective either. Single modality interventions may be easier to implement and, therefore, may be more likely to be

successful. Complex programs may have more intrinsic value and may be able to target several risk factors, which could potentially increase their likelihood of success, but implementation issues may reduce the potential effects. More studies are needed to examine the effects of various interventions, including differential effects of different types of interventions in different settings that may account for why some collaborative interventions are successful while others are not.

Another important finding of absence is the lack of overall clinical significance related to the outcomes of interventions examined in the included studies. Although the effects of indicated attendance interventions was positive and moderate, the clinical significance of the interventions was not found to be as positive. When examining the clinical significance of the interventions on attendance outcomes, 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 (e.g. 90% or above). Therefore, even though students who receive the intervention do significantly better, as a whole, in their attendance than their control group peers, they still are not achieving acceptable levels of attendance following the intervention. In addition, the effects do not sustain following the intervention.

Another significant finding of absence in these studies was the overall 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. In addition, the authors did not utilize

race/ethnic or SES variables to compare control and comparison groups for equivalence nor look at possible differential effects of outcomes related to race or SES, both of which I would argue are imperative in research on outcomes of attendance interventions.

Where are we...and where do we go from here?

Searching for what we know often leads to discovering more about what we don't know and questioning what we thought we knew. This systematic review and meta-analysis has provided an inventory of the current evidence of outcomes of indicated attendance interventions and a starting point to understanding the effects these interventions are having on attendance. More importantly, this review and meta-analysis provided a means to more systematically uncover deficiencies and gaps in the current body of evidence. The findings from this study can be used to initiate a dialogue and bring us to new conversations that will be necessary in order to more effectively understand and address the problem of absenteeism.

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. The gaps identified in this study and the surprising absence of a number of critical variables and data/information will need to be addressed in future research. Simply doing more of the same will not suffice.

The question, then, becomes how do we add to the evidence base in a way that can inform practice and policy in this area? In addition, at the center of the social work

profession is the pursuit of social justice and social change (Fraser, 2009; NASW, 1999); therefore, social workers must begin to incorporate these aims into their research.

Up to this point, social and political forces impacting research in the area of absenteeism have gone, for the most part, unexamined and unchallenged. Some authors have critiqued and challenged the dominant views and discourses found in the absenteeism literature and attempted to view and define the problem through those affected (Bennett, 2001; Davies & Lee, 2006; Southwell, 2006; Yoneyama, 2000). Others have called attention to the lack of racial, ethnic and economic diversity in the school refusal research samples (Lyon & Cotler, 2007). There are also numerous authors in other areas of research who have brought attention to economic and racial disparities in research. Several have called for attending to the political structures in research as well as questioning whether the current methodologies utilized to understand complex problems, especially in research with vulnerable and oppressed populations, is the most appropriate (Graue & Grant, 2002; Sue, 2001; Wells, Merritt & Briggs, 2009).

Questioning the current research as well as being reflective about important issues that may be interfering with research in this area is greatly needed. How has the research to this point limited what we can know and who can contribute to that knowledge? We need to take a critical look at the questions, methods, assumptions, theories and perspectives that have guided, and limited, the research on absenteeism.

The development of absenteeism interventions have been guided by the research on the causes and correlates of absenteeism, with interventions designed to target variables that have been identified through that body of research. Research on the causes of absenteeism has been largely influenced and guided by a positivist philosophy. Much

of the research has been oriented to seeking a quantitative correlation or relationship between absenteeism and other variables (Smith, 2000). Restricting research to a positivist philosophy and methodology may be inhibiting what and how we can know about a problem as complex as absenteeism. Questioning the prevailing ideologies may open up new possibilities of knowing and lead to new information and understanding that could, in turn, guide the development of new interventions.

In addition, the voices of students, particularly of minority and economically disadvantaged students, is missing from the literature. Those most affected by the problem need to have a voice in the research and development of interventions to address problematic absenteeism. Perhaps a more pragmatic, reflective and emancipatory research agenda could provide the means through which student voices could be heard and different aims of research could be realized.

With so much attention being placed on the problem of absenteeism in this country and with so many groups and disciplines interested in truancy, absenteeism and school refusal, we should be much further in understanding absenteeism and building an evidence base of effective interventions. Perhaps it is because there are too many different disciplines, defining the problem in too many different ways, utilizing multiple conceptual frameworks, who have little to gain from listening to one another. Given the complexity of absenteeism and the systems in which students are embedded, thinking more inclusively about how we can know and whose voices can contribute is necessary.

In an attempt to discover what we know about what works, more questions than answers were found. In addition to finding relatively few studies of indicated attendance interventions, methodological deficiencies and gaps in the research were uncovered. The

absent presence of ethnic minority students in the studies as well as the overall lack of data on race and SES was surprising. There is clearly much more we need to know, but continuing to do the same will not contribute to new knowledge. Only by opening up the dialogue can we begin to have new conversations, ask different questions, and take a critical look at what has been and is currently being done. Challenging the current social and political context as well as the dominant positivist research philosophy is needed to move forward in creating a better understanding of absenteeism, the students who are impacted by the problem and the interventions that will have the greatest impact.

APPENDIX A:
REVIEWS EXPLORING THE EFFECTS OF
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APPENDIX B:
KEY FEATURES OF PRIOR REVIEWS

Author(s) and Pub. Year	Synthesis Method	Targeted Problem	Specify Search Strategy	Study Selection			Methods Included			# of Studies	Summary of Conclusions
				Inclusion of Gray Literature	Specific Intervention	How were decisions of relevance & validity made?	Experiment Only	Experiments and Quasi-Experiments	All		
Bell, Rosen, & Dynlacht 1994	Narrative-trad. lit review	Truancy	No	No	Individual, family & school strategies	Not specified			X	15 studied cited	Utilizing a multimodal approach combining all three targeted areas (individual, family & school) is substantiated by current research.
Campbell & Wright 2005	Narrative-review of outcome studies	School attendance	No	No	Welfare-School Attendance Policies	Not Specified	X			7	Welfare school-attendance programs will not succeed in improving attendance unless supportive case management services are an integral part of the implemented program.
Elliot 1999	Narrative-trad. lit review	School refusal	No	No	Behavioral, CBT, Family Th & Psychopharm	Not specified			x	8 cited	"What works" has been built up largely on the basis of clinical experience-substantial, scientifically sound, controlled studies of tx efficacy continue to be absent from the lit. Concluded that each treatment modality did not have enough evidence of effectiveness.
Fremont 2003	Narrative-trad. lit review	school refusal	No	No	Behavioral, ed.-supportive, parent-teacher, pscypharm	Not specified			X	4 studies cited	A range of emperically supported exposure-based treatment options are available; trad. Educational and supportive therapy has been show to be effective; medication has been mixed.
Goldstein et al. 2003	Narrative-trad. lit review	Absenteeism and truancy	No	No	Variety	Not specified			X	7	Summarized seven interventions that were effective. Noted two (not summarized, but cited) that have not been found to be efficacious: adoption of uniforms and involvement of court systems.

Author(s) and Pub. Year	Synthesis Method	Targeted Problem	Specify Search Strategy	Study Selection			Methods Included			# of Studies	Summary of Conclusions
				Inclusion of Gray Literature	Specific Intervention	How were decisions of relevance & validity made?	Experiment Only	Experiments and Quasi-Experiments	All		
Heyne et al. 2001	Narrative-trad. lit review	school refusal	No	No	CBT and pharmacologic	Not specified			X	NS	The first line of treatment for school refusers should be CBT. There is little sound evidence from clinical studies of pharma tx for the effectiveness of the drugs commonly used, but recommended use of meds for school refusers displaying severe anxiety and depressive disorders.
Kearney 2001	Narrative	School refusal	No	No	Variety- based on functional assessment	Not specified			X	NS	Recommended treatment based on the four functional classifications of SRB.
Kearney 2008	Narrative-trad. lit review	school absenteeism and school refusal	No	No	Variety	Not specified			x	NS	Medical, clinical and systematic interventions have demonstrated effectiveness. Greater coordination and synthesis of research needed.
Kearney & Bensaheb 2006	Narrative-trad. lit review	Absenteeism and school refusal	No	No	School-based health programs	Not specified			X	NS	School health professionals are often an essential component of successful treatment. Authors recommend strategies based on three categories of school refusers.
Kim & Streeter 2006	Narrative-trad. lit review	School attendance and absenteeism	No	No	Individual, family & school strategies	Not specified			x	NS	Little research has been done to examine ways to improve school attendance. An effective response must involve the school, family and community.
King et al. 1998	Narrative-trad. lit review	School refusal	No	No	Behavioral	Not specified			x	5 cited	Limited but encouraging support for the efficacy, clinical utility and acceptability of behavioral treatments for school refusal.

Author(s) and Pub. Year	Synthesis Method	Targeted Problem	Specify Search Strategy	Study Selection			Methods Included			# of Studies	Summary of Conclusions
				Inclusion of Gray Literature	Specific Intervention	How were decisions of relevance & validity made?	Experiment Only	Experiments and Quasi-Experiments	All		
King et al. 2000	Narrative-review of outcome studies	School refusal	No	No	CBT and Behavioral	Not Specified			X	Cited 8	"At first glance, our review of research suggests empirical support for CB therapy in the tx of SR. " When they applied stringent criteria regarding evidentiary support for psychosocial interventions (outlined by the Task Force on Promotion and Dissemination of Psychological Procedures), "empirical support for the well-established status of CBT is found wanting" .
King & Bernstein, G.A. 2001	Narrative-trad. lit review	school refusal	No	No	CBT, psychopharm	Not specified			X	17	CBT findings were mixed- one showing clinically significant improvement in school attendance compared to wait-list control and one showing improvement, but no differences between CBT and educational support therapy. Pharmacotherapy showed conflicting results when treating anxiety-based school refusers.
King et al. 2005	Narrative-review of outcome studies	Anxiety and phobic disorders- subgroup of school refusal included separately	peer-reviewed journals did not specify	No	CBT and Behavioral	Not specified			X	Cited 7	"Overall, school refusal has responded to CBT programs as demonstrated by a number of controlled studies, with general maintenance of gains."
Lauchlin, 2003	Narrative-trad. lit review	Non-attendance (truancy and school refusal)	No	No	Systemic, individual, group	Not specified			X	4 studies cited	"In present climate, appears that the most appropriate and effective method in dealing with chronic non-attendance is to design an individualized program according to the pupil's particular needs, but involving a multi-systems approach."

Author(s) and Pub. Year	Synthesis Method	Targeted Problem	Specify Search Strategy	Study Selection			Methods Included			# of Studies	Summary of Conclusions
				Inclusion of Gray Literature	Specific Intervention	How were decisions of relevance & validity made?	Experiment Only	Experiments and Quasi-Experiments	All		
Lee & Miltenberg 1996	Narrative-trad. lit review	school refusal	No	No	Prescriptive Tx based on functional assess.	Not specified			X	8 studies cited	Functional assessment and treatment have been successfully used for school refusal behavior.
National Center for School Engagement 2007	Narrative-trad. lit review	truancy	No	No	Variety	Not specified			X	4*	Although rigorous evaluations are few, many such programs show great promise. Programs that show improvements in school attendance tend to involve intensive case management, be family focused, and incorporate both sanctions for continued truancy and rewards for improved attendance. One time interventions that involve punishments but no support are not sufficient.
Ollendick & King 1999	Narrative-trad. lit review	School refusal	No	No	CBT	Not Specified			X	Cited 6	CBT has been effective, but not for all. CBT may be more effective if used prescriptively and tailored to the individual child.
Pelligrini 2007	Narrative-trad. lit review	School non-attendance	No	No	Variety	Not specified			X	3*	Interventions are often based on anecdotal evidence and evaluations that are not empirically sound. Calls for researchers and practitioners to work toward a shared definition of the behavior and engagement in well-designed empirical research.
Railsback 2004	Narrative	School attendance	the last decade of research	Yes	Variety	Not specified.			X	19*	The reviewer concluded that "we found no research that definitively answers the question: Do some strategies [to encourage attendance] work better than others?"

Author(s) and Pub. Year	Synthesis Method	Targeted Problem	Specify Search Strategy	Study Selection			Methods Included			# of Studies	Summary of Conclusions
				Inclusion of Gray Literature	Specific Intervention	How were decisions of relevance & validity made?	Experiment Only	Experiments and Quasi-Experiments	All		
Reimer & Dimock 2005	Narrative	Truancy	No	Yes	Variety	Author familiarity: demonstrated success; practicality of implementation			X	23 program	Listed model, promising and emerging programs in the following areas of truancy programs: Collaboration, family involvement, comprehensive approach, incentives and sanctions, supportive context, truancy in South Carolina.
Sutphen, Ford & Flaherty, 2010	Narrative	Truancy	Yes	No	Variety	Studies that used a discernable research design and used some level of statistical analysis			X	16	Concluded that there is a paucity of evidence-based truancy interventions. "The lack of evaluation studies of truancy interventions, particularly those with experimental or quasi-experimental research designs, does not offer much guidance to recommend effective truancy interventions" p. 168
Teasley, M. 2004	Narrative-trad. lit review	Absenteeism and truancy	No	No	Variety	Not specified			X	Cited 7	Discussed several "best practice" interventions. Recommends a comprehensive approach to truancy intervention.

* It was unclear if cited "studies" were original research, reviews or expert opinions, etc.

NS- not specified

APPENDIX C:
SCREENING FORM

Systematic Review Study Screening Form

- A1. Study ID#: ___ ___ [STID]
 A2. If this is a supplemental report of a study that has already been identified, [RID]
 indicate report ID # (begin with #2) _____
 A2. Date of Screening: ___ - ___ - _____ [SCDATE]
 A3. Coder Initials _____ [CODER]
 A4. Bibliographic info (APA format): [BIB]

- A5. Does this study measure school attendance as an outcome? Yes No IF NO THEN STOP
- A6. Was this study conducted in the US, UK, Canada or Australia
 1. Yes: Location _____
 2. No: Location _____ IF NO THEN STOP
 99. Cannot tell
- A7. Is the intervention involving solely a pharmacotherapy treatment or conducted in a residential setting?
 1. Yes- Pharmacotherapy only IF YES THEN STOP
 2. Yes- Residential setting IF YES THEN STOP
 3. No
 99. Cannot tell
- A8. Is this paper about an intervention intended to increase student attendance of primary or secondary school students (can also be worded in the negative of decreasing absenteeism, truancy, non-attendance, etc.).
 1. Yes- Stated as a primary goal
 2. Yes- Attendance is a primary construct used to operationalize/measure the stated primary goal (i.e. increasing student achievement).
 3. Yes- As a secondary outcome
 4. No- If NO THEN STOP
 99. Cannot tell- IF CHECKED, CONTINUE TO NEXT QUESTION
- A9. What kind of paper is this?
 1. Outcome/program/intervention evaluation IF CHECKED CONTINUE TO NEXT QUESTION
 2. Review of attendance intervention outcome studies **
 3. Theoretical or position paper, editorial or book review **
 4. Practice guidelines or treatment manual **
 5. Listing or description of attendance interventions or program **
 6. Other: _____ **
 99. Cannot tell- IF CHECKED GO TO LEVEL 2 SCREEN
 ** IF CHECKED KEEP FOR REFERENCE LIST/POSSIBLE FOLLOW UP

- A10. Is this study a:
- 1. RCT
 - 2. QED
 - 3. Single group pre-post test design
 - 4. Case study
 - 5. Qualitative Study- IF CHECKED THEN STOP
 - 5. Other: _____
 - 99. Cannot tell
- A11. Describe the participants in the study:
- 1. Students identified as having an attendance problem: _____
 - 2. "At-risk" students: _____
 - 3. Whole school/general pop.: _____
 - 4. Other specified population (e.g., medical condition) _____
 - 5. Students who have dropped out prior to intervention- IF CHECKED THEN STOP
 - 99. Cannot tell
- A12. Describe level of prevention/intervention:
- 1. Universal
 - 2. Selective (at risk or other specified population- but not all having an identified att. problem)
 - 3. Indicated (students with pre-identified attendance problems)
- A13. Is this study eligible for the review?
- 1. Yes
 - 2. No: Reason _____
 - 3. Need more information to make decision
- A14. Comments:
- Stated goal of program:
- Stated goal of researcher (if different from program goals):

APPENDIX D:
STUDY CODING FORM

**INTERVENTIONS TO INCREASE SCHOOL ATTENDANCE
RESEARCH SYNTHESIS DATA CODING INSTRUMENT
SECTION B: SOURCE DESCRIPTORS AND STUDY CONTEXT**

Use one source descriptors/study context level coding sheet for each study. Note that a single study may be reported in multiple documents. In such cases, the study identifier is the document number for the primary publication.

- B1. Study ID#: _ _ _ _ _ [STID]
 For second coders- Author name and date of study: _____
- B2. Date of Coding: _ _ - _ _ - _ _ _ _ _ [CODEDATE]
- B3. Coder Initials _ _ _ _ _ [CODER]
- B4. If multiple reports/documents were used to code this study, indicate the supplemental report ID numbers.
1. Supplemental report # _ _ [SR1]
- B5. Type of report (SELECT ONE) [PUBTP]
- | | |
|---|--|
| <input type="checkbox"/> 1. Journal article | <input type="checkbox"/> 5. Conference proceedings |
| <input type="checkbox"/> 2. Book/book chapter | <input type="checkbox"/> 6. Thesis or Dissertation |
| <input type="checkbox"/> 3. Gov't report, Federal | <input type="checkbox"/> 7. Unpublished report |
| <input type="checkbox"/> 4. Gov't report, State/Local | <input type="checkbox"/> 8. Other: specify _____ |
- B6. How was the study found? (2nd coders- no need to answer) [STDYFND]
- | |
|---|
| <input type="checkbox"/> 1. Electronic database: specify: _____ |
| <input type="checkbox"/> 2. Electronic book search |
| <input type="checkbox"/> 3. Web search: URL: _____ Dissertation Abstracts _____ |
| <input type="checkbox"/> 4. Reference in a book/study: specify _____ |
| <input type="checkbox"/> 5. Peer/expert: _____ |
| <input type="checkbox"/> 6. Other: specify _____ |
- B7. Senior author's discipline [AUTHDISC]
- | | |
|--|---|
| <input type="checkbox"/> 1. Psychology | <input type="checkbox"/> 5. Sociology |
| <input type="checkbox"/> 2. Social work | <input type="checkbox"/> 6. Psychiatry/medicine |
| <input type="checkbox"/> 3. Education | <input type="checkbox"/> 7. Nursing |
| <input type="checkbox"/> 4. Criminal justice | <input type="checkbox"/> 8. Other : _____ |
| <input type="checkbox"/> 99. Cannot tell | |
- B8. Country of Publication [PUBCNTRY]
- | | |
|---------------------------------|--|
| <input type="checkbox"/> 1. USA | <input type="checkbox"/> 3. Canada |
| <input type="checkbox"/> 2. UK | <input type="checkbox"/> 4. Australia |
| | <input type="checkbox"/> 99. Cannot tell |
- B9. Country in which study was conducted [CNTRY]
- | | |
|---------------------------------|--|
| <input type="checkbox"/> 1. USA | <input type="checkbox"/> 3. Canada |
| <input type="checkbox"/> 2. UK | <input type="checkbox"/> 4. Australia |
| | <input type="checkbox"/> 99. Cannot tell |
- B10. Study sponsorship or funding [FUND]
- | | |
|--|--|
| <input type="checkbox"/> 1. Nothing listed | <input type="checkbox"/> 4. Private foundation |
| <input type="checkbox"/> 2. Federal | <input type="checkbox"/> 5. University grant |
| <input type="checkbox"/> 3. State | <input type="checkbox"/> 6. Combination of above |
- B11. What terminology was used to identify attendance problem? [TERM]
- | |
|--|
| <input type="checkbox"/> 1. Truancy |
| <input type="checkbox"/> 2. School refusal |
| <input type="checkbox"/> 3. School phobia |

4. Absenteeism
 5. Non-attendance
 6. Other: _____
 99. Cannot tell
- B12. How was problem defined (quote author)? [PROBDEF]
- B13. What are the stated goals of the program? [GOALS]
 Report the stated goals of the program (not the research) (i.e. to reduce truancy).
- B14. Year of publication _____ [PUBYR]
- B17. Were there any conflicts of interest? (researcher, data collector or funding source would benefit if results favored the primary intervention). [CONF]
1. Clear conflict of interest (explain)
 2. Possible conflict of interest (explain)
 3. Conflict of interest unlikely (explain)
 4. Unclear
- B18. Is there any indication that the researchers believed that the primary intervention was better/worse than the alternative before the study began? [EXP]
1. Yes (explain) 2. No (explain) 3. Cannot tell
- B19. Were any of the authors or their graduate students treatment providers? [AUTHTXP]
 (check all that apply)
1. Yes- Author(s) provided primary intervention Conducted contracting sessions, assumed role of program coordinator and sat in on the parent training sessions.
 2. Yes- Author(s) provided alternative intervention
 3. Graduate student(s) supervised by the author(s) provided primary intervention
 4. Graduate student(s) supervised by the author(s) provided alternative intervention
 5. No
 6. Cannot tell/unsure

SECTION C:

SAMPLE DESCRIPTORS

Use one sample descriptors level coding sheet for each study. Note that a single study may be reported in multiple documents. In such cases, the study identifier is the document number for the primary publication. If there is more than one treatment condition or more than one comparison condition, use additional coding sheet(s).

- C1. Study ID#: _____ [STID]
- C5. Total *N* at beginning of study _____ [TN-BEG]
- C6. Total *N* at end of study _____ [TN-END]
- Treatment Group**
- C7. Tx Group ID # _____ [TXGPID]
- C8. *n* in treatment group at beginning of study _____ [TXN-BEG]
- C9. *n* at end of study _____ [TXN-END]
- C10. Source of subjects [TSUB-SRC]
1. Self-referral
2. Parents
3. Teachers
4. School or other school personnel
5. Police
6. Court
7. Treatment professional
8. Solicited by researcher
9. Other: _____
99. Not enough information to determine
- C11. Mean age of participants _____ [T-AGE]
- C12. Grade level of participants [T-GRD]
1. Elementary School (K-5)
2. Middle school (6-8)
3. High school (9-12)
4. Mixture of grade levels
99. Not enough information to determine
- C13. Race/ethnicity- check predominant race/ethnicity [T-RACE]
1. Caucasian: % _____
2. African-American % _____
3. Hispanic % _____
4. Other racial minority: _____ % _____
99. Not able to determine
- C14. Total # of Caucasian students _____ [T-CAUC]
- C15. Total # of non-Caucasian students _____ [T-NCAUC]
- C16. Sex [T-SEX]
- % Males _____ (use 999 if not enough information to determine)
- C17. Socio-economic status- free or reduced lunch [T-SES1]
- % receiving free or reduced school lunch _____
- Not able to determine- code as 999

- C18. Socio-economic status- other measure used [T-SES2]
 C19. Socio-economic status- description [T-SES3]
- 1. Profound poverty _____ %
 - 2. Low SES (at or below poverty line) _100_____ %
 - 3. Working class or lower middle class _____ %
 - 4. Middle or upper class _____ %
 - 5. Mixed _____ %
 - 99. Unable to determine
- C20. Chronicity of absenteeism at baseline (% of days absent at baseline) [T-CHRON]
- 1. Less than 5% day
 - 2. 5%-10% days
 - 3. 11%-15% days
 - 4. 15%-20% days
 - 5. 21%-30% days
 - 6. 31%-40% days
 - 7. 41%-50% days
 - 8. More than 50% days
 - 9. Other
 - 99. Not enough information to determine
- C20a. Time period author used to measure baseline (weeks): _____ [BASEMEAS]
 C22. Were the participants from a specified/special population [T-POP]
- 1. No- participants were from general population
 - 2. Students in an alternative education program
 - 3. Students in a special education program
 - 4. Pregnant/parenting teens
 - 5. Clinic population
 - 6. Juvenile justice population/delinquent
 - 7. "At-risk" population: Define _____
 - 8. Other: _____
 - 99. Not enough information
- C22a More specific description from C22: [TG-DES]
 C22b Selection criteria for treatment sample: [SC]

Comparison Group

- C23. Comparison Group ID # _____ [CGPID]
 C24. Was a comparison group used in this study? [CGRP]
- 1. Yes (continue to code the comparison group section)
 - 2. No (skip to next section)
- C25. *n* in comparison group at beginning of study _____ [CN-BEG]
 C26. *n* at end of study _____ [CN-END]
 C27. Source of subjects [CSUB-SRC]
- 1. Self-referral
 - 2. Parents
 - 3. Teachers
 - 4. School or other school personnel
 - 5. Police
 - 6. Court
 - 7. Treatment professional
 - 8. Solicited by researcher
 - 9. Other: _____
 - 99. Not enough information to determine

- C28. Mean age of participants: _____ [C-AGE]
- C29. Grade level of participants [C-GRD]
1. Elementary School (K-5)
2. Middle school (6-8)
3. High school (9-12)
4. Mixture of grade levels
99. Not enough information to determine
- C30. Race/ethnicity- predominant (60% or more) racial makeup [C-RACE]
1. Caucasian: % _____
2. African-American % _____
3. Hispanic % _____
4. Other racial minority: _____ % _____
5. Mixed- none more than 60%
6. Mixed- cannot estimate proportion
99. Not enough information to determine this
- C31. Total # of Caucasian students _____ [C-CAUC]
- C32. Total # of non-Caucasian students _____ [C-NCAUC]
- C33. Sex [C-SEX]
- % Males _____ (use 999 if not enough information to determine)
- C34. Socio-economic status- free/reduced lunch [C-SES]
- % receiving free or reduced school lunch _____
- Not able to determine- code as 999
- C35. Socio-economic status- other measure used [C-SES2]
- C36. Socio-economic status- description [C-SES3]
1. Profound poverty _____ %
2. Low SES (at or below poverty line) _____ %
3. Working class or lower middle class _____ %
4. Middle or upper class _____ %
5. Mixed _____ %
99. Unable to determine
- C37. Chronicity of absenteeism at baseline (% of days absent) [C-CHRON]
1. Less than 5% days
2. 5%-10% days
3. 11%-15% days
4. 15%-20% days
5. 21%-30% days
6. 31%-40% days
7. 41%-50% days
8. More than 50% days
9. Other: Specify: _____
99. Not enough information to determine
- C37a. Time period author used to measure baseline (weeks): _____ [CBASEMEAS]
- C39. Were the participants from a specified population? [C-POP]
1. No- participants were from general population
2. Students in an alternative education program
3. Students in a special education program
4. Pregnant/parenting teens

5. Clinic population
 6. Juvenile justice population/delinquent
 7. "At risk" population. Define: _____
 8. Other: _____
 99. Not enough information
- C39a. More specific description from C39: [C-DES]
 C39b. Selection criteria for comparison sample: [C-SC]
1. Same as treatment group
 2. Different from treatment group. Specify selection criteria: _____

SECTION D TREATMENT/INTERVENTION DESCRIPTORS

Use one treatment/intervention level coding sheet for each study. Note that a single study may be reported in multiple documents. In such cases, the study identifier is the document number for the primary publication. If there is more than one treatment condition or more than one comparison condition, use additional treatment/intervention level coding sheets.

- D1. Study ID#: _ _ _ _ _ [STID]
- Treatment Group**
- D5. Tx Group ID # _____ [TXGPID]
- D6. What is the name of the intervention received by treatment group? [TXNAME]
- _____
- D7. Describe what happened to the treatment group: [TXDESC]
- D8. Primary location of program [TXLOC]
1. Urban area- Specify: _____
 2. Suburban area- Specify: _____
 3. Rural area- Specify: _____
 4. A mixture of areas: Specify: _____
 99. Not enough information to determine
- D9. What was the primary setting of the program? [TXSET]
1. Public School
 2. Private School
 3. Specialized/alternative school
 4. Community-based organization
 5. Clinic
 6. Court
 7. Police station/holding center
 8. Student's home
 9. Other (specify) _____
 99. Not enough information to determine
- D10. What are the sources of funding of the intervention [INTFUND]
- (Note: this is not the evaluation's funding sources)? (SELECT ALL THAT APPLY)
1. Federal
 2. State/Province

3. Local/school district
4. University
5. Non-profit/foundation
6. Faith-based funding
7. Other : _____
99. Not enough information to determine
- D11. What organization had the primary responsibility for implementing and maintaining this intervention? (SELECT ONE) [ORG]
1. School/school district
2. Social services organization
3. Community-based organization/non-profit
4. Faith-based organization
5. Court
6. Police department
7. University
8. Researcher/PI
9. Other (Specify: _____)
99. Not enough information to determine
- D12. Was this a service collaboration/integration effort? [COLL]
1. Yes 2. No
99. Not enough information to determine this/unsure
- D13. If collaborative effort, what other entities were involved? [COLLPAR]
1. School/school district
2. Social services organization
3. Community-based organization/non-profit
4. Faith-based organization
5. Court
6. Police department
7. University
8. Other (Specify: _____)
9. N/A
99. Not enough information to determine
- D14. Who provided the services? (SELECT ALL THAT APPLY) [SVPRO]
1. Social Worker
2. Psychologist
3. Counselor (non-school)
4. School counselor
5. Teacher
6. Other school personnel
7. Court staff
8. Police officers
9. Peers
10. University Professor/Researcher (other than PI)
11. University Graduate Student (other than PI)
12. Principal Investigator
13. Other
14. Therapist- unspecified
99. Not enough information to determine

- D15. Did the provider receive training on the intervention? [PR-TRN]
 1. Yes 2. No
 99. Not enough information to determine
- D16. What are the components of this program? (SELECT ALL THAT APPLY) [COMP]
 1. Counseling/therapy- CBT- Individual student
 2. Counseling/therapy- CBT- Group
 3. Counseling/therapy- non-CBT- Individual student
Specify type: _____
 4. Counseling/therapy- non-CBT- Group
Specify type: _____
 5. Counseling/therapy- Family or Parental
 6. Parenting skills- Group format
 7. Parenting skills- Individual family/parent format
 8. Sanction- student
 9. Sanction- parent
 10. Reward- student
 11. Reward- parent
 12. Contact- letters or phone calls to parents
 13. School policy
 14. Police sweep and/or intake center
 15. Truancy court
 16. Mentoring
 17. Parental involvement (other than just contact by letter/phone)
 18. Case management
 19. School social work interventions
 20. School-wide systemic (climate, curriculum, etc.)
 21. Teacher training/capacity building
 22. Other: _____
 23. Contracts
 99. Not enough information to determine
- D16a. Which component, if any, was considered primary? _____ [COMP-PR]
(use same number above or N/A if there was only one component or no one component was seen as primary)
- D17. Duration of treatment [TX-DUR]
 1. One event
 2. Ongoing-
 2a. Specify mean # of hours total contact between primary targeted program participant and provider/treatment activity _____
 2b. Specify mean # of total weeks of intervention _____
 99. Not enough information to determine
- D18. Did researchers present evidence that suggests that the program was reasonably well implemented? [IMP]
 1. Yes, the program was reasonably well-implemented
 2. Probably, based on intervention description
 3. No, the program was not well implemented
 99. Not enough information to determine this
- D19. How much did this program cost per student? [COST]
 1. \$ _____ 99. Not enough information to determine

Comparison Group Condition Description

- D20. Was there a control/comparison group? [INT-COMP]
 Yes- continue with following questions No- Skip to next section
- D21. Comparison group ID # _____ [CGPID]
- D22. What did the control/comparison group receive? [COMPTX]
 1. Nothing (stop here)
 2. Wait List Control (stop here)
 3. "Treatment as usual": Specify _____
 4. Attention
 5. A specified treatment: Specify _____
 6. Other: _____
- D23. Describe what happens to the control/comparison group [COMPDESC]
- D24. Primary location of program [CLOC]
 1. Urban area- Specify: _____
 2. Suburban area- Specify: _____
 3. Rural area- Specify: _____
 4. A mixture of areas- Specify: _____
 99. Not enough information to determine
- D25. What was the primary setting of the program? [CSET]
 1. Public School
 2. Private School
 3. Specialized school
 4. Community-based organization
 5. Clinic
 6. Court
 7. Police station/holding center
 8. Student's home
 9. Other (specify) _____
 99. Not enough information to determine
- D26. What are the sources of funding of the intervention [CINTFUND]
 (Note: this is not the evaluation's funding sources)? (SELECT ALL THAT APPLY)
 1. Federal
 2. State/Province
 3. Local/school district
 4. University
 5. Non-profit/foundation
 6. Faith-based funding
 7. Other : _____
 99. Not enough information to determine
- D27. What organization had the primary responsibility for operating and maintaining this intervention? [CORG]
 (SELECT ONE)
 1. School/school district
 2. Social services organization

3. Community-based organization/non-profit
4. Faith-based organization
5. Court
6. Police department
7. University
8. Researcher/PI
9. Other (Specify: _____)
99. Not enough information to determine
- D28. Was this a service collaboration/integration effort? [CCOLL]
1. Yes 2. No
99. Not enough information to determine this
- D29. If collaborative effort, what other entities were involved? [CCOLPAR]
1. School/school district
2. Social services organization
3. Community-based organization/non-profit
4. Faith-based organization
5. Court
6. Police department
7. Other (Specify: _____)
8. N/A
99. Not enough information to determine
- D30. Who provided the services? (SELECT ALL THAT APPLY) [CSVPRO]
1. Social Worker
2. Psychologist
3. Counselor (non-school)
4. School counselor
5. Teacher
6. Other school personnel
7. Court staff
8. Police officers
9. Peers
10. University Professor/Researcher (other than PI)
11. University Graduate Student (other than PI)
12. Principal Investigator
13. Other
14. Therapist- unspecified
99. Not enough information to determine
- D31. Did the provider receive training on the intervention? [PR-C]
1. Yes 2. No
3. N/A- services as usual or wait list control
99. Not enough information to determine
- D32. What are the components of this program? (SELECT ALL THAT APPLY) [CCOMP]
1. Counseling/therapy- CBT- Individual student
2. Counseling/therapy- CBT- Group
3. Counseling/therapy- non-CBT- Individual student
 Specify type: _____
4. Counseling/therapy- non-CBT- Group

Specify type: _____

5. Counseling/therapy- Family or Parental
 6. Parenting skills- Group format
 7. Parenting skills- Individual family/parent format
 8. Sanction- student
 9. Sanction- parent
 10. Reward- student
 11. Reward- parent
 12. Contact- letters or phone calls to parents
 13. School policy
 14. Police sweep and/or intake center
 15. Truancy court
 16. Mentoring
 17. Parental involvement (other than just contact by letter/phone)
 18. Case management
 19. School social work interventions
 20. School-wide systemic (climate, curriculum, etc.)
 21. Teacher training/capacity building
 22. Other: _____
 23. Contracts
 99. Not enough information to determine

D32a. Which component, if any, was considered primary? _____ [COMP-PR]
 (use same number above or N/A if there was only one component or no one component was seen as primary)

D33. Duration of treatment [C-DUR]
 1. One event
 2. Ongoing-
 2a. Specify mean # of hours total contact between primary targeted program participant and provider/treatment activit(ies). _____
 2b. Specify mean # of total weeks of intervention _____
 99. Not enough information to determine

D34. Did researchers present evidence that suggests that the program was reasonably well- implemented? [CIMP]
 1. Yes, the program was reasonably well-implemented
 2. Probably, based on intervention description
 3. No, the program was not well implemented
 4. N/A- wait list control or otherwise no specific program implemented
 9. Not enough information to determine this

D35. How much did this program cost per student? [CCOST]
 1. \$ _____ 99. Not enough information to determine

SECTION E RESEARCH METHODS AND QUALITY

Use one study level coding sheet for each study. Note that a single study may be reported in multiple documents. Use the study identifier for the primary publication.

- E1. Study ID#: _____ [STID]
- E5. Research design type [DES]
 1. Randomized controlled trial
 2. Quasi-experimental design
 5. Other: _____
 99. Not enough information to determine
- E6. Unit of assignment to treatment condition [TXASSGN]
 1. Individual student
 2. Group: specify _____
 3. Classroom
 4. School
 5. Region, community, school district, etc.
 6. Other: _____
 99. Not enough information to determine
- E7. Unit of assignment to control/comparison condition [CASSGN]
 1. Individual student
 2. Group
 3. School
 4. Region, community, school district, etc.
 5. Other: _____
 6. N/A- no control/comparison group used
 99. Not enough information to determine
- E8. Method of assignment to condition(s) [TXMETH]
 1. Random after matching, stratification, blocking, etc.
 2. Random, simple
 3. Nonrandom, post hoc matching
 4. Nonrandom, other _____
 5. Other: _____
 6. No control/comparison group
 99. Not enough information to determine
- E9. Was the data collector blind to the group assignment? [BLND]
 1. Yes 2. No 99. Unsure
- E10. If matching was used prior to assignment of condition, how were groups matched? [MATCH]
 1. Matched on pretest measure
 2. Matched on personal characteristics
 3. Matched on demographics
 4. Matched on two of the above
 5. Matched on three of the above
 6. Equated groupwise (e.g. picking school of similar characteristics)
 7. N/A- no control/comparison group or no matching done
 99. Not enough information to determine
- E10a. On what variables were the groups matched? [VMATCH]
-
- E11. Was the equivalence of groups tested at pretest? [GPEQ]
 1. Yes 2. No
 3. Other _____
- E12. Results of statistical comparisons of pretest differences [STCOMP]

1. No comparisons made
2. No statistically significant differences
3. Significant differences judged unimportant by coder
4. Significant differences judged of uncertain importance by coder
5. Significant differences judged important by coder
6. N/A
- E13. If significant differences were found between groups, which group would be expected to do better based on those differences? [EXPDIF]
1. Comparison group: Explain _____
2. Treatment group: Explain _____
3. N/A- no comparison or no significant differences found
- E14. Was there more than 20% attrition in either/both groups? [ATT]
1. No
2. Yes- in treatment group only- % attrition: _____
3. Yes- in comparison group only- % attrition: _____
4. Yes- in both groups- % attrition tx: _____ comp: _____
5. Cannot tell- not enough information

SECTION F
EFFECT SIZE LEVEL CODING SHEET

Use one effect size level coding sheet for each outcome. Note that a single study may be reported in multiple documents. In such cases, the study identifier is the document number for the primary publication and supplementary ID numbers should be used if other documents were utilized to code effect size data.

- F1. Study ID#: _____ [STID]
- F5. Effect Size ID # _____ [ES#]
- F6. Effect size type [ESTYPE]
1. Pretest Comparison
2. Posttest Comparison
3. Follow-up Comparison
- Dependent Measures Descriptors**
- F7. Outcome name/label [LABEL]
1. Attendance
2. Academic achievement
3. Other: _____
- F8. Authors measured attendance/absences using: [CONST]
1. Unexcused absences only
2. Excused absences only
3. Both excused and unexcused
4. Uncertain- author did not specify
- F8a. How was attendance measured [ATTMEAS]
1. % of days attended
2. % of days absent
3. # of days attended
4. # of days absent
5. Other: _____

- F8b. Length of time attendance was measured (weeks): _____ [MEASTIME]
 (if checked post-test comparison in F6, indicate time at post-test; if checked follow-up, indicate time at f/u)
- F9. Source of outcome data [DSOURCE]
 1. Self report
 2. Parent report
 3. Teacher report
 4. Other person report: specify _____
 5. Official record (school, police, etc.)
 6. Other: _____
 99. Not enough information to determine
- F10. Type of measure [MEASTP]
 1. Archival report (official school grades and attendance data)
 2. Rating scale, checklist, questionnaire: Name: _____
 3. Achievement test, homework: Name: _____
 4. Behavioral observation
 5. Other
 99. Not enough information to determine
- F11. Has the instrument that measured this construct demonstrated reliability and validity in this sample or similar samples OR use of public agency administrative data, behavioral or biological measures?
 1. Yes 2. No [MEASREL]
 99. Not enough information to determine
- F12. Were follow-up data collected on this measure? [FWUP]
 1. Yes
 2. No
- F13. Length of Follow-Up (time between end of treatment and T2) (weeks): _____ [T2LENG]

Effect Size Data

- F14. Treatment group sample size for this effect size: _____ [TXN]
 F15. Comparison group sample size for this effect size: _____ [CN]
- Effect Size Data- Continuous Outcomes*
- F16. Treatment group mean: _____ [TXM]
 F17. Comparison group mean: _____ [CM]
 F18. Are the above means adjusted? [ADJ]
 1. Yes (explain) _____
 2. No
- F19. Treatment group standard deviation _____ [TXSD]
 F20. Comparison group standard deviation _____ [CSD]
 F21. Treatment group standard error _____ [TXSE]
 F22. Comparison group standard error _____ [CSE]
 F23. t -value from an independent t -test or square root of F -value from a one-way analysis of variance (df 1) _____ [TVAL]
 F24. Correlation coefficient _____ [CC]
- Effect Size*
- F35. Hand calculated effect size _____ [ES]

F36. Hand calculated standard error of the effect size _____

[ESSE]

F37. Effect size calculated by authors of study (if applicable) _____

[ESAUTH]

Decision Rule/Notes

G1. Should this study be retained for the meta-analysis?

[DEC]

1. Retain for review 2. Do NOT retain for review

3. Unsure- more information needed

REASON(S) not to include in review OR had “some questions raised”:

APPENDIX E:
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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- DeSocio, J., VanCura, M., Nelson, L. A., Hewitt, G., Kitzman, H., & Cole, R. (2007). Engaging truant adolescents: Results from a multifaceted pilot intervention. *Preventing School Failure*, *51*, 3-11.
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- King, N. J., Tonge, B. J., Heyne, D., Pritchard, M., Rollings, S., Young, D., Myerson, N., & Ollendick, T. H. (1998). Cognitive-behavioral treatment of school-refusing children: A controlled evaluation. *Journal of the American Academy of Child and Adolescent Psychiatry*, *37*, 395-403.
- Richardson, G. (1992). School refusal: Two counselling interventions (Masters thesis, Simon Fraser University, 1992). *Masters Abstracts International*, *32*, 775.
- Tichenor, R. M. S. (1991). Making it in middle school: An evaluation of the effects of a guidance program on the school attendance patterns of at-risk sixth-graders. *Dissertation Abstracts International*, *52*, 3831A. (UMI No. 9211808)

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.
- Flanagan, M. (2006). The effects of a positive behavior support program on the attendance behaviors of students with and without disabilities in a large inner-city public high school. *Dissertation Abstracts International*, *67* (07). (UMI No. 3225140)
- Glover, O. M. (1990). Effectiveness of group intervention and peer support on truancy. *Masters Abstracts International*, *29*, 50. (UMI No. 1340763)

- Herrick, L. (1992). Effects of an attendance incentive program for chronically absent elementary school students. *Dissertation Abstracts International*, 54, 2010A. (UMI No. 933147).
- Hubin, M. L. (2000). *Stop Truancy Project (SToP): A program evaluation*. Unpublished M.S.W. clinical research paper, College of St. Catherine and University of St. Thomas, St. Paul, MN.
- Johncox, J. F. (1994). *Intervention effects for treating student nonattenders and their families*. Unpublished MSW clinical research paper, College of St. Catherine & University of St. Thomas, St. Paul, MN.
- Johnson, C., Syropoulos, M. (1996). *Evaluation report: High school intervention centers program 1995-1996*. Detroit, MI: Detroit Public Schools Office of Research, Evaluation, and Testing. (ERIC Document Reproduction Services No. ED 407474).
- Lawson, C. L. (1990). Peer tutoring as a factor in reducing school truancy and increasing performance among African-American elementary school students in Chicago. *Dissertation Abstracts International*, 52, 1710A. (UMI No. 9129846)
- Seamans, C. L. (1996). Brief family systems intervention with inner-city truant youths. *Masters Abstracts International*, 35, 349. (UMI No. 1381227)
- Sherriff, I. H. (1990). A multi-disciplinary approach to the management of non-school attendance (Doctoral dissertation, University of Leicester, 1990). *Dissertation Abstracts International*, 52, 2415A.
- Single Group Pre-Post Test Studies*
- Baker, DeAnn (2000). Using groups to reduce elementary school absenteeism. *Social Work in Education*, 22(1), 46-53.
- Becerra, J. (2001). A comparison of mean absences pre and post Buchanan County Prosecuting Attorney's office intervention regarding compulsory attendance. Unpublished Master's research paper, Northwest Missouri State University, Maryville, MO.
- Ford, J. , & Sutphen, R. D. (1996). Early intervention to improve attendance in elementary school for at-risk children: A pilot program. *Social Work in Education*, 18 (2), 95-102.
- Halsey, K., Bedford, N., Atkinson, M., White, R., & Kinder, K. (2004). Evaluation of Fast Track to Prosecution for school non-attendance (RR567). Berkshire, UK: National Foundation for Educational Research.
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- Mueller, D., Giacomazzi, A., & Stoddard, C. (2006). Dealing with chronic absenteeism and its related consequences: The process of short-term effects of a diversionary juvenile court intervention. *Journal of Education for Students Placed at Risk*, 11(2), 199-219.
- National Center for School Engagement (2006, September). Jacksonville, Florida: Evidence of effectiveness in the early years of the Truancy Arbitration Program. Denver, CO: Author
- National Center for School Engagement (2005, August). Jacksonville, Florida Case Study: Evidence of effectiveness in reducing truancy. Denver, CO: Author
- National Center for School Engagement (2006, October). Office of Juvenile Justice and Delinquency Prevention's Evaluation of the Truancy Reduction Demonstration Program: King County, Washington successfully reduces unexcused absences. Denver, CO: Author
- Plavcan, E. E. (2004). Using student engagement to improve school attendance. Dissertation Abstracts International, 65 (03), 831A. (UMI No. 3127591)
- Raimondo, C. L. (2005). Will a focused intervention for attendance issues at the middle school level increase the number of days that students are on time and in school? Unpublished Master's research paper, Salem State College, Salem, MA.
- Rogers, L. J. (2000). An attendance intervention for elementary students. Unpublished master's thesis, James Madison University.

APPENDIX F:
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 calculate 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

Excluded SGPP Studies	Reason for Exclusion
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

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- Baden, N. K. (1990). The effectiveness of systemic family therapy in the treatment of school phobia: A comparative study. *Masters Abstracts International, 29* (01), 145. (UMI No. 1340791)
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- Bernstein, G. A., Hektner, J. M., Borchardt, C. M., & McMillan, M. H. (2001). Treatment of school refusal: One-year follow-up. *The Journal of the American Academy of Child and Adolescent Psychiatry*, 40 (2), 206-213.
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VITA

Brandy R. Maynard received her Bachelor of Science degree in sociology/social work and family studies from Central Michigan University in 1994 and earned her Master of Social Work degree from the University of Michigan in 1995. Following her Master's degree and prior to pursuing her doctoral education at Loyola University Chicago, Brandy worked in the field of social work for 12 years in the areas of child welfare, mental health and juvenile justice, providing direct service as well as having held supervision and management roles. Brandy has also spent the past eight years practicing and implementing evidence based practices within the juvenile justice and mental health systems and promoting the use of evidence-based practice within the field of social work.

While at Loyola, Brandy contributed to the School of Social Work's journal, *Praxis: Where Reflection & Practice Meet*, as both an author and as a member of the editorial board. Brandy was also awarded a Schmitt Dissertation Fellowship through the Schmitt Foundation for support of her dissertation research.