A Secondary Data Analysis of Young Truants and the Interaction of Child Protection Intervention

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Dedication

This dissertation is dedicated to the memory of Bud and Mary Zuel

Abstract

Young children who experience chronic truancy are associated with a greater risk of school dropout, adolescent delinquency, and very high adult social and financial costs (Bell, Rosen, & Dynlacht, 1994; Caldas, 1993; Hawkins, Herrenkohl, Farrington, Brewer, Catalano, & Harachi, 1998; Huizinga & Jakob-Chien, 1998; Lamdin, 1996; Loeber & Farrington, 2000; Robins & Ratcliff, 1980). Current law requires schools to report to the child protection system any students who have seven or more unexcused absences. Using administrative data and a quasi-experimental design that used propensity score matching to create a comparison group, this study examines the outcomes of students who have missed at least 10% of the school year (at least 18 days) and their associated interactions with the child protection system. Furthermore, this study examines the effect of the child protection process on these students' attendance.

The analysis found no significance for treatment effect of a child protection intervention on the attendance of the sample of chronically truant students. The study revealed that only 5% of the truant cohort had been involved with child protection over the two years of the study. Further, none of the child protection involvement was as a result of missing school. The study suggests a disconnect between the policy of child protection involvement in truant young children and the practice as revealed by the administrative data. Future research into child protection intervention with young truants would need to be carried out at a more local level due to the multiple factors making statewide data sources untrustworthy.

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Chapter 1: Introduction

Schools and communities have struggled for decades to find effective interventions for truancy. Children who experience high absenteeism often fall behind in their school work and therefore struggle to keep up with their grade level or, in the worse situations, completely give up on school. Studies consistently show a relationship among truancy, dropout, and delinquency (Bell, Rosen, & Dynlacht, 1994; Caldas, 1993; Hawkins, Herrenkohl, Farrington, Brewer, Catalano, & Harachi, 1998; Huizinga & Jakob-Chien, 1998; Huizinga & Jakob-Chien, 1998; Lamdin, 1996; Loeber & Farrington, 2000; Robins & Ratcliff, 1980). For example, chronic truants are more likely to drop out of school. U.S. Department of Education statistics show that high school dropouts typically earn less, are at increased risk of unemployment, and are at increased risk of reliance on welfare and serving time in prison (Garry, 1996; White, Fyfe, Campbell, & Goldkamp, 2001). In addition, Browning, Thornberry, and Porter (1999) examined results of the 10-year Rochester Youth Development Study and found that weak school links and poor school performance were associated with increased dropout rates that, in turn, were related to involvement in juvenile delinquency. Furthermore, school success was associated with resilience in high-risk youth. Youth with better attachment to school and better performance had lower rates of delinquency (Browning et al., 1999).

This dissertation examines the impact of one form of truancy intervention: child protection for children in second grade who are deemed chronically truant. It explores the composition of second graders in the school year 2004-2005 who missed more than ten percent of the school year. Using data from the Minnesota Department of Education

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and the Minnesota Department of Human Services, this study examines the impact on attendance for these children the year following a child protection investigation, if the type of child protection investigation affects future attendance, whether the allegation type affects attendance outcomes, and the impact of ongoing child protection case management on attendance rates the year following the investigation.

National Truancy Movements in the Late 20th Century

Funding for research into truancy was supported through the juvenile justice field in the last decades of the 20th century. The impetus for this support was a result of national policy changes in response to juvenile truancy. New approaches to truancy interventions needed to be created, and there was a dearth of understanding as to the origins of adolescent non-engagement as well as the need to quantify the social costs of truancy. Furthermore, truancy has historically been the responsibility of the justice system, irrespective of the age of the student, since school non-attendance has consistently been strongly associated with adolescent crime (Garry, 1996; White, Fyfe, Campbell, & Goldkamp, 2001). Yet both the research and practice community understood that there were differing dynamics at play in adolescent and pre-adolescent truancy (Baker & Jansen, 2000; Baker, Sigman & Nugent, 2001; Barth, 1984; Epstein & Sheldon, 2002; Hawkins, Smith, Hill, Kosterman, Catalano, & Harachi, 1998).

Since the early 1970's truancy became a status offense, one of a number of behaviors attributed to adolescents that would not be considered a crime if they were adults. Research in that decade had begun to show that status offenders were more likely to be detained, be placed in secure confinement, and spend longer periods of time in correctional institutions than juveniles who had committed a serious crime (National

Council on Crime and Delinquency, 1975; Russel & Sediak, 1993; Sarri, 1974).

Furthermore, the Supreme Court ruled in *Gault v. Arizona* (1967) that juveniles should

be afforded due process, resulting in a complete examination of national juvenile court

procedures.

The 1970s also saw child welfare advocates, led by the recently-established

Children's Defense Fund, focus their energy on children and youth with truancy issues

who were being denied access to education due to institutional incarceration. Their

work culminated in Congress passing the Juvenile Justice and Protection Act in 1974,

which mandated that states no longer place status offenders in detention centers or

institutions and encouraged community-based truancy interventions. The following year

saw the passage of Title XX amendments to the Social Security Act as well as the

Passage of the Child Abuse Prevention and Treatment Act (CAPTA). The former

provided funding for child welfare interventions, and the later included definitions and

mandates for intervention. The policy stage was being set to make resources available to

families experiencing truancy issues; however, the child welfare system was reluctant to

take on responsibility for truancy interventions. The passage of CAPTA almost

immediately increased the number of child abuse interventions by the child protection

system because of the mandatory reporting requirements. Most child welfare agencies

did not proportionally increase their staff as caseloads climbed. Resources as well as

intervention models were not available for child welfare systems when it came to

truancy interventions.

Sarri (1985) notes that, traditionally, the child welfare system has not intervened

into children's lives when they become societal concerns as a result of their own

behavior. The standard for child protection intervention has historically been measured through the safety and risk of children within the context of their caregiver's behavior, which is measured by the ability to provide and protect. Truancy does not fit into a safety/risk model. Thus, even with adequate resources, the intervention model of child protection may not be appropriate to deal with segments of the truant population who are not considered at risk.

With the main tools of incarceration and institutionalization being taken away from the juvenile justice system by the Juvenile Justice and Protection Act of 1974, the interventions for truancy began to flounder (Russel & Sedlak, 1993). No community sector stepped forward to take responsibility for truancy, and juvenile corrections continued its ineffective non-interventionist approach. Truants were referred to social service agencies, divested from juvenile court jurisdiction, or punished within the juvenile justice system using non-secure alternatives (Korbin & Klein, 1983).

The traditional juvenile justice model focuses on the offender's pathology. It was this focus that led to high incarceration rates of youth in the 1970s. Meanwhile, research into the causes of truancy began to intimate that poor school engagement encompassed more than the individual. Several researchers began to conceptualize both truancy causation and intervention into emerging ecological framework theories, attempting to understand not only the individual, but also the relationships between and among the individual and the family, the community, and the school system (Barth, 1984; Levine, 1984; Nielsen & Gerber, 1979).

Barth (1984) was the first social work researcher to bring together the disparate research on juvenile delinquency and adolescent absenteeism, and to make a connection

to early school non-attendance and potential interventions. Barth's descriptive survey research article used ecological theory to provide a framework for both research understanding and intervention. This work stood in direct contrast to absenteeism being framed through the delinquency theory lens of social control.

Over the last 30 years, researchers have honed in on four broad causative factors of truancy in an attempt to aid intervention researchers: (a) individual factors, (b) family factors, (c) school factors, and (d) community factors (Barth, 1984; Levine, 1984). Discourse in the 1980s brought together these concepts, laying the foundation for the creation of new policies and intervention models and promoting social work research into truancy.

Minnesota and Young Truants

In 1988, the Minnesota State Legislature recodified its juvenile code (Mn. Gen. Laws ch. 673, §2275, 1988) to create the Child in Need of Protection Statute (CHIPS). Besides rewriting the child protection code, the CHIPS statute included non-criminal offenses previously covered under the juvenile delinquency codes (i.e., truancy, runaways). This fundamental change reflected the understanding of policymakers that these problems, in some cases, were family-related.

Despite these policy changes, truancy intervention in Minnesota languished. The juvenile justice model continued to use various forms of incarceration for intervention, even though the State policy change made clear that truants were to be handled outside the formal arena of juvenile justice. The child protection model focused on custodian neglect and abuse, an approach that covered some truancy scenarios, but not the majority (P. Moses, Personal communication, July 10, 2004). Policy and practice

changes were lagging, even though research was beginning to show that causation of truancy was broad-based and in many cases centered in children's interactions with their family, school, and community (Barth, 1984).

Minnesota revisited the juvenile code in 1993, creating the Maltreatment of Minors Act. It reflected a more concise understanding of truancy intervention and which part of the system was responsible. The State reflected the family/ecological understanding of truancy by covering children age 11 and under by child protection statutes (through the maltreatment category of Educational Neglect) whereas children age 12 and over would engage in a juvenile justice track (as Truants)[1]. The legal standard for educational neglect, 7 or more unexcused absences, is a required child protection report for mandated reporters. Thus Minnesota is one of 25 states to have truancy written into its child welfare code (Children's Bureau, 2008).

In Minnesota, the movement toward legal separation of older and younger truants reflected the research literature of the 1970s and 1980s. One of the first studies of young absenteeism was Berganza and Anders' (1978) examination of truancy patterns. They analyzed the attendance of the entire seventh grade in the Palo Alto School district in the 1974-1975 school year. The researchers then divided the students into quartiles based on their attendance for the school year. They examined two groups: the highest absenting quartile (mean days absent = 11.6) and the lowest absenting quartile (mean days absent = 2.3). For both groups, attendance was examined going back to first grade. The researchers determined that chronic absenteeism begins almost

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[1] The law presumed that children ages 11 and under were the custodian's responsibility; however, this did not preclude these children from being truant due to their own behavior as well as children age 12 and over as being neglected by custodians.

immediately upon starting school. After controlling for school mobility to study those students who stayed in the district from first through eighth grade, the high absent group started with a first grade mean of 12 days absent and progressed to 15 days absent by eighth grade. The low absent group had 6.8 days absent in first grade and declined to 2.6 days absent in eighth grade. The researchers inferred that high absenteeism in the early years resulted in higher absenteeism into a child's educational career.

Minnesota Child Welfare System

With the initial 1988 legislation in Minnesota establishing the CHIPS provisions and creating the concept of status offenses, the juvenile justice system began to pull back from truancy interventions. The state legislature implied through policy change that the child welfare system should become the intervention agent for truancy (Mn. Gen. Laws ch. 673, §2275, 1988). However, as aforementioned, there was not enough child welfare capacity available to attend to the immediate uptake in child protection reports pertaining to truancy. Furthermore, Minnesota still had in place a foundation model for child protection that centered on immediate safety and future risk of abuse for the child, and it was very difficult to fit a truancy report into the framework of immediate safety/harm and future abuse.

In the early 1990s, each Minnesota county had child protection screening methods that essentially rated cases accepted for investigation with risk ratings of low, moderate, high, and immediate response. Even though county child welfare systems had the same basic model of assessment, a 1997 Minnesota state evaluation report of child protection (Office of the Legislative Auditor, 1997) was highly critical of the variation in county child protection assessments:

During 1994-96, there were 14 reports of maltreatment investigated annually in

Minnesota per 1,000 children under age 18. The rates of individual counties

varied from 3 investigations per 1,000 children in Itasca County to 29 per 1,000

in neighboring Hubbard County. Variation in rates of investigation may partly

reflect underlying differences in the incidence of maltreatment, but it was

apparent from our interviews with county staff that variation also reflects

differences in county philosophies and criteria about the types of reports that

warrant investigations. (Office of the Legislative Auditor, 1997, p. 10)

The evaluation report goes on to explain this variation as a result of the funding

structure for child protection in Minnesota. For example, data from 31 states in 1990

showed that the average amount of child protection funding was composed of 46%

federal dollars, 42% state dollars, and 13% local dollars (American Public Welfare

Association, 1994). In contrast, in 1995, 57% of Minnesota's child protection funding

came from local property taxes (Minnesota Department of Human Services, 1996). This

heavy reliance on local funding allowed for county control of child welfare procedures

in lieu of state control. Thus the evaluation report recommended greater state oversight

in child protection in Minnesota.

The variation in county child protection assessment and investigations was

further exacerbated by the passage of the Minnesota Maltreatment of Minors Act

(1993), which declared truants age 11 and under as mandated educational neglect

reports to the child protection system. Counties began using different strategies to limit

the number and scope of these reports, including having schools prove an attempted

face-to-face contact with parents prior to reporting, arbitrarily setting the number of

days missed for report acceptance greater than the Minnesota statute of seven days, and in larger counties, assigning educational neglect reports a low-level status and queuing them for investigation when their seasonal cycle was slow, often the summer months. There were obvious issues with delaying investigation of educational neglect reports until after the end of the school year (Council of Crime and Justice, 2002).

As a result of the inconsistent county responses to child protection reports as well as the 1997 legislative audit's recommendations, the Minnesota Department of Human Services (DHS) took several steps aimed at ameliorating the issue. First, DHS implemented a standardized child safety assessment instrument for the entire state. This tool, called Structured Decision Making (SDM), was piloted in 2000 and was being used statewide by 2003. SDM separated immediate risk from ongoing safety issues in families through the use of two separate tools to assess families. Furthermore, SDM yielded standard risk ratings of low, medium, high, and immediate response, based on the risk tool's outcome. SDM has been widely evaluated and found to be highly reliable in evaluating child safety and the risk of child abuse (Baird, Wagner, Healy, & Johnson, 1999; Children's Research Center, 1999; Falco, 2001).

Evaluations of SDM have consistently shown that 15% of low- and medium-rated child protection cases recidivate regardless of whether services are offered to the family after investigations (Baird et al., 1999; Children's Research Center, 1999; Falco, 2001). Counties concluded that offering services to low- and medium-rated cases had little intervention effect. These cases were often closed following investigation (Minnesota Child Welfare Report, 2002) partly to save counties the expense of further intervention. Educational neglect cases reported to child protection under the SDM

assessment model were almost always coded as low-risk cases. Thus educational neglect cases rarely received services.

DHS became aware of counties not offering ongoing child welfare services to low- and medium-rated cases from conclusions of the first Federal Child and Family Services Review in 2001 (Minnesota Department of Human Services, 2003). As a result of this review, DHS sought to standardize county responses by instituting the differential response model. Differential response was initiated in Missouri in 1993 as a way to intervene on abuse and neglect reports through child protection but not have the result be a maltreatment finding. Further, differential response models allow families to voluntarily engage in services or disengage if they so choose (National Quality Improvement Center, 2009).

Minnesota began piloting a differential response model in 2001, calling it the Family Alternative (FA) approach. The FA model in Minnesota was a method for low-rated cases to receive services through an alternative child protection pathway. Educational neglect reports became the majority of FA cases by 2004 (Institute of Applied Research, 2004). Counties received state funding specifically for FA services, and consequently, services began being offered to families who otherwise would not have received child protection services.

DHS realized that individual counties were creating their own model for utilizing the FA services funding. This is not surprising since the 1997 audit report (Office of the Legislative Auditor) clearly laid out the lack of uniformity in child protection across counties and pinpointed the inconsistencies to reliance on local funding. It is possible that, similar to the federal government using medical assistance

waivers to states as "laboratory experiments," DHS used counties as laboratories to test

different applications of the same concept. The county implementation of FA services

was being influenced in a similar way as local child protection models due to the

funding requirements of a local match for FA services. The influence of local dollars in

the provision of services results in agency control of decision making and the

construction of a "local" model of child protection.

The two basic models of FA services that resulted were counties that hired in-

house social services staff to create family assessment caseloads and counties that

contracted out FA services to private agencies. Evidence from the DHS Family

Assessment evaluation (Minnesota Department of Human Services, 2004) suggests that

those counties that keep their FA services "in-house" do not always close the allegation

immediately and tend to flip the case from FA to traditional if the family chooses to not

engage voluntarily. This differs from the counties that send FA cases to a private

agency for services. These counties tend to close their child protection allegation at the

time of referral. It then requires another allegation to open a case. Based on this nuance,

this study examines the possible differences in a child's attendance based on their

county's use of FA services.

Ecological theory informs us that young children's actions are highly dependent

on their immediate family environment. The Minnesota Legislature institutionalized this

perspective in recognizing educational neglect as a parental responsibility through

mandatory child protection reporting for truants under age 12. In doing so, the

Legislature implicitly rejected long-held theoretical beliefs about young truants. How

these theoretical beliefs are actually executed in child welfare practice is the core of this study.

Exploratory Studies

Two recent exploratory studies undergird the current analysis. The first study (Zuel & Larson, 2005) examined a cohort of children ages 5-11 with an established maltreatment finding of educational neglect within the child protection system. The purpose of the first study was to explore whether child protection intervention in young truants (in the form of a maltreatment finding) resulted in improved attendance the following school year. The cohort was taken from the Minnesota state social services database. The timeframe was the 2000-2001 school year, selected because it predated the establishment of the FA model. In the FA model, there is not a maltreatment finding for cases that follow that track, which almost always are low-risk cases inclusive of educational neglect. The study found close to 700 children from 47 of 87 counties with confirmed maltreatment for educational neglect.

This cohort of children was then matched with the Minnesota Department of Education attendance database to find the attendance for the cohort in 2000-2001 as well as 2001-2002. Student attendance was analyzed for two years: the year the child protection maltreatment finding was made and the subsequent year. The analysis found that 70% of the cohort had improved attendance the year following the child protection intervention. The 6-7-year-olds had almost an 80% improvement in attendance, but older cohorts showed declining improvement in attendance following child protection contact. The oldest age group, 11-year-olds, showed about 60% improvement in attendance. The study used descriptive statistics to examine the cohort. The study

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lacked a comparison group to provide a quasi-experimental design, so conclusions should be made with caution. However, the results reflect ecological theory—namely, that family-based interventions are more effective with younger children who have an environmental sphere weighted toward family influence.

The second study (Larson & Zuel, 2010) was a follow-up to the original cohort of children from the school year 2000-2001. This study analyzed the children who had improved attendance the subsequent year and examined their attendance patterns for four additional years. Multivariate Analysis of Variance (MANOVA) for repeated measures was used as a measure of the significance of differences between groups over time (Howell, 2002). This study found that younger children's improvement in attendance held over more years compared to the older children. Again, the follow-up study implies that a family-based child protection intervention appears to have a more sustained effect over time with younger children.

Both of these studies are based on a cohort of children with a proven educational neglect event, defined as 7 or more unexcused absences. In 2002, the child protection practice model changed by incorporating the FA model, resulting in interventions that do not have maltreatment records associated with them. To further explore the relationship between young children's absenteeism and the child protection system, a different design for gathering and analyzing data is needed. To that end, the current study accesses all children in second grade, state wide, with an attendance rate of less than 90%. A 90% attendance threshold is consistent with the federal Adequate Yearly Progress (AYP) requirements of the No Child Left Behind Act and many publicly-articulated school system policies on mandatory minimum attendance (Chang &

Romero, 2008; Minnesota House of Representatives House Research Committee, 2003; Nevada Public Schools, 2008; New Mexico Public Schools, 2008; Tulsa Public Schools, 2004). This study chose second graders from the school year 2004-2005 as the analytical cohort to allow for a potential follow-up study of the cohort, because Minnesota began allowing access to achievement data for 3rd graders in the school year 2005-2006.

The cohort of second graders from 2004-2005 with less than 90% attendance was crossed with child protection data to create two groups: truant second graders with child protection assessments and truant second graders without child protection assessments. Although the passage of the Minnesota Maltreatment of Minors Act (1993) represented a significant policy shift in agency responsibility for monitoring and intervening in early truancy problems, there has been little research specifically on the effectiveness of utilizing child welfare to address school attendance problems in young children. This lack may be due in part to the traditional focus of child welfare services on safety-based risk factors and permanency, aspects of child well-being that may not necessarily encompass school attendance. Jonson-Reid et al. (2007) recommend that research on young truants with child protection involvement should involve cross-system data linkages, and Crozier and Barth (2005) specifically recommend regular use of such cross-system information sharing to improve case planning. Education outcomes continue to be a priority for all children involved in child welfare, but attempts to improve the educational outcomes of children involved in child welfare cannot ignore the importance of attending school, something about which child protection literature to date is largely silent.

The purpose of this study will be to examine the effects of child protection intervention on a cohort of second graders with less than 90% attendance during the 2004-2005 school year. Using statewide data in both the child protection database and the Department of Education database, this study will determine: 1) if traditional child protection investigations affect attendance of young truants, 2) if there is a difference in the differential response approach for young truants given the dual track of child protection, 3) if the type of reported abuse affects the attendance of young truants, and 4) if case management has an impact on attendance following a child protection investigation. The design involves using propensity score matching design to create a comparison group of individuals with equally poor attendance who did not receive the child protection intervention. Statistical significance testing will be used to determine the effect on attendance for those with a child protection investigation. The theory of intervention for this study is multifaceted, involving components of social control theory, ecological systems theory, and strategic intervention theory.

This introductory chapter provides an overview of the historical context of truancy interventions both nationally and within the state of Minnesota. Education in the United States has historically rested with states, yet national movements have affected the development of state systems. Chapter Two discusses the theoretical concepts behind truancy interventions and the research "lens" through which truancy causation has been examined over the last 25 years. Chapter Three provides an overview of the literature on truancy intervention, maintaining the themes of both the theory of truancy interventions and its conceptual research underpinnings. Chapter Four describes the methods of the current study, including both the rationale and the

definitions of the statistical components, and describes the sample used in the study.

Chapter Five reports the results of the analysis and results of the hypotheses. Finally,

Chapter Six discusses the results of the study in the context of theory and research and

shares implications for policy, practice, and future research.

Chapter 2: Theoretical Underpinnings of the Concepts of Truancy

Social Control Theory

Social Control Theory (SCT) is central to most truancy interventions. Travis Hirschi's 1969 book, *Causes of Delinquency* is most often associated with SCT. Hirschi combined several theories and discussions of social control from the 1950s and 1960s to propose the idea of social control influences on delinquency. These social controls include having empathy, a conscience that allows for not harming, and understanding of consequences or punishment for wrongdoing (Hirschi, 1969).

SCT was revolutionary in that it focused on the forces that prevented individuals from committing crime. Prior to the concepts of social control in the mid-20th century, criminology theories focused on the forces that influenced individuals to commit crimes, with the assumption that an innate human weakness made people unable to resist temptation. SCT took the opposite approach, asking why people did *not* commit crimes. It identified societal elements called "restraining factors" that prevent individuals from acting outside the norm (O'Connor, 2006). Criminology studies focused on four domains of restraining factors: attachment, commitment, involvement and belief (Felson, 1997; Wiatrowski, Griswold & Roberts, 1981). Today, these factors are infused throughout truancy intervention programming. Hirschi's discussions of the domains of (1) school, (2) family, and (3) peers have so impacted the truancy intervention structure that the U.S. Department of Justice uses them as examples of model grant applications (O'Connor, 2006).

Understanding SCT's impact on research allows for the connection to Barth's (1984) causative factors for truancy: individual factors, family factors, school factors,

and community factors. Individual and family factors include a student's attachment to school, commitment to attendance and achievement, involvement in the school community, and belief in education as a core value. School and community factors include attachment to students and families, commitment to educational access, involvement in the lives of the families in their schools, and support for the belief in and value of education.

The legacy of truancy as a criminal justice issue has been reflected in truancy research, with criminological theories underpinning both the design of interventions as well as their evaluation. For example, Thornberry et al. (2003) reflect this trend in their explication of their findings from the Rochester Youth Development Study (RYDS). This project, begun in 1986, is a longitudinal study of youth in Rochester, New York, which attempts to discern the causes and correlates of delinquency in adolescent youth. It is one of three longitudinal projects funded by the U.S. Department of Justice (Thornberry et al., 2003). Originally, RYDS aimed to examine causation of delinquency and drug use; however, over time the study shifted its focus to pro-social and anti-social life course development more broadly. In this context, Thornberry et al. (2003) found risk factors present in gang-involved delinquents that were predictive of truancy as well. These factors fell into the broad categories of individual, family, school and community. Viewing truancy through a delinquency lens of social control theory, Thornberry et al. (2003) began to make connections to early truancy and the likelihood of gang involvement in the adolescent years.

Ecological Systems Theory

Ecological systems theory was developed by Urie Bronfenbrenner to explain the context of individual development (Bronfenbrenner, 1979). Bronfenbrenner initially described four layers of biological and environmental systems that influence a child's development. The first layer is the *microsystem,* which includes the child's immediate relationships and surroundings. Bronfenbrenner emphasized the bi-directionality within this system: a child's behavior may affect the attitudes and beliefs of the parent and vice versa. This system is where the child has direct contact with other individuals or structures in his/her environment. The child's family, school, and immediate physical surroundings of home and neighborhood are within the *microsystem.*

The next layer is the *mesosystem,* which is viewed as the connection between the child's microsystem structures. Interaction between a child's parent and his/her teacher falls within the *mesosystem*, as does the relationship between a child's neighborhood and his/her religious community.

The third layer is the *exosystem,* comprised of the larger social structures that affect the child's microsystem by impacting those structures that interact with the child's intimate environment. Examples of the *exosystem* would be a parent's workplace policies or educational policies affecting a child's school system.

The fourth layer is the *macrosystem,* is considered the outer layer of the Ecological systems theory structure. The *macrosystem* is defined as cultural values, beliefs, customs, and laws that overlap the previous three layers. The *macrosystem* encompasses compulsory attendance laws.

Ecological systems theory helps to inform a family-based intervention for young truants. The young child's environment is usually centered on family functioning and to some extent the immediate neighborhood. Many young children miss school due to not having assistance and structure provided to them by a family system. Their inability to maintain school attendance is often a result of family rather than individual factors (Epstein & Sheldon, 2002; Lehr, Sinclair, & Christenson, 2004). Ecological systems theory guides interventions to the family or, in theory, to the individual child in a manner that substitutes for family processes. Playing this role can be very difficult for institutions, and this difficulty is reflected in the dearth of school-based interventions for young child truants (Bowan & Richmond, 2002).

Ecological systems theory has further been applied to the functioning of schools in the context of children's education. Arum (2000) postulated that schools are less a system's function of children's lives and more situated within their own ecosystem of local, state, and federal policy structures. Schools' ability to affect young children's family life is constrained by their own policies and codified procedures. Arum refers to this as neo-institutionalism and believes that it explains schools' ineffectiveness intervening in young children's if the issues are family-based because their own system prevents concreted involvement.

More specifically, Ortner, Cook, Rose, and Randolph (2002) used education and welfare databases to descriptively analyze the relationship between school achievement and poverty in elementary-school children. Their findings suggest that children on welfare perform worse in math and reading than children who have never received welfare services. They postulate that much of the deprivation welfare children

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experience that affects school achievement occurs from birth through third grade and involves family dynamics of increased financial stress, lack of parental education values, and inability of the parent to spend the face-to-face time necessary for increased achievement. Ortner et al. conclude that schools are unable to provide families with the basic knowledge needed for: parenting skills, a social vision for their children, and passing on an understanding of the child's place in society. They urge greater linkages and cooperation between community and government human service agencies and schools, since schools do not have access to a young child's microsystem (p. 118).

In summary, ecologically-based social services interventions may be able to address the relational aspects of a child within a family unit, often the most intimate aspect of a child's life. This practice modality allows for targeted interventions to strengthen a family's functioning to support the child's education (Epstein & Sheldon, 2002).

Social Development Strategy

Social Development Strategy (SDS) is a strength-based theory of social development and intervention which recognizes that certain conditions in childrens' ecological environment (community, school, family, and peer groups) and individual factors pose as common risk factors for deviant behaviors of drug abuse, delinquency, teenage pregnancy, and school failure (Hawkins et al., 2007). SDS further identifies protective factors and processes that assist in shielding children from participating in unhealthy behaviors. These protective factors buffer the effects an individual experiences when exposed to risky conditions. SDS theory emphasizes two key

protective factors: bonding to pro-social family, school, and peers; and clear norms for behavior.

Interventions using SDS theory (see figure 2-1) entail three processes to promote the two key protective factors: 1) creating opportunity for involvement in pro-social roles, 2) teaching the skills needed to be successful in these roles, and 3) providing clear and consistent systems for recognition and reinforcement for pro-social involvement (Catalano, Haggerty, Oesterle, Fleming, & Hawkins, 2004).

Figure 2-1

Social Development Strategy
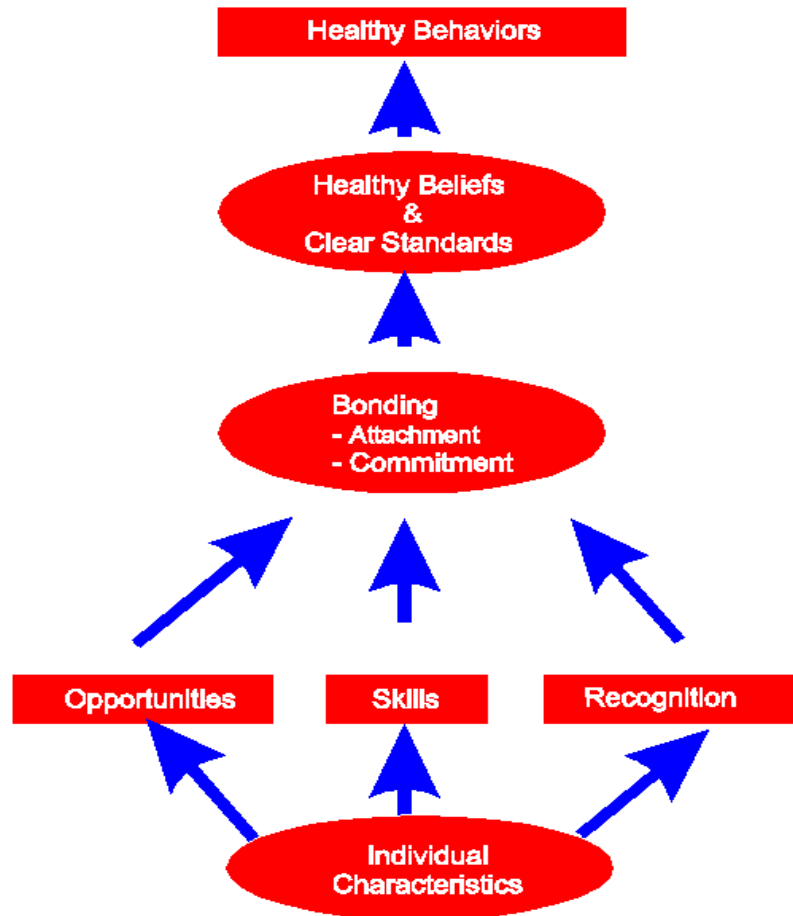
Adapted from: Howell, J.C. (Ed.). (1995). *Guide for implementing the comprehensive strategy for serious, violent, and chronic juvenile offenders*, p. 8. Washington, D.C.: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.

SDS theory combines the elements of a child's microsystem (family, school, peers) and macrosystem (norms) when referring to the key pro-social protective factors. Further, SDS incorporates elements of social control theory by referring to protective factors—social control theory identifies restraining factors while SDS identifies key protective factors. The unique fundamentals of SDS theory are the intervention

structures grounded in strength-based practice. SDS theory does not attempt to rehabilitate children with deviant behaviors; rather, it seeks to enhance and support the identified protective forces that mitigate the influence of negative factors in the ecological environment. This inherently constitutes a strength-based intervention.

SDS theory supports the practice intervention of strength-based child protection intervention for families. From an SDS perspective, a strength-based child protection intervention would include case plans for children and families with clear and concise expectations of school attendance. Further, the child protection process would partner with schools to create pro-social goals for children to change negative behaviors into positive ones.

Causation of Truancy

Truancy causation literature is grounded in theory. The academic literature on causation of truancy among young children is most often discussed within the context of Barth's (1984) domains: individual, family, school, and community. As discussed previously, social control theory, ecological systems theory, and social development Strategy all share similar domain structures (Figure 2-2) and parallel Barth's understanding of the areas of focus for truancy causation research. Truancy studies are often broad descriptive examinations using large data sets, longitudinal analysis, or borrowed concepts from both psychology and sociology.

Figure 2-2
Theoretical Domains

Barth's Domains	Ecological Systems Theory	Social Control Theory	Social Development Strategy
Individual	Microsystem		Individual
Family	Mesosystem	Family	Family
School	Exosystem	School	School
Community	Macrosystem	Peers	Peer/Community

The lack of connectedness produced by poor school attendance, particularly if paired with a lack of consequences (in either the family or the community), results in children receiving the message that rules about school attendance specifically and rules in society generally need not be obeyed. In particular, chronic truancy in elementary school is linked to serious delinquent behaviors for children ages 12 and under (Baker et al., 2001), and adolescent crime typically occurs during times of the day when teens are expected to be in school (Baker, Sigmon, & Nugent, 2001; Juvenile Justice Bulletin, 1999). While the psychological processes that foster a sense of deviance in children because adults allow them to miss school may be hidden, the connections between truancy and juvenile crime are clear, as are the more lasting effects, as we observe that very high proportions of incarcerated populations have low levels of education attainment (Garry, 1996; Petit & Western, 2004; Robins & Ratcliff, 1978).

Individual factors. Causation in truancy is extremely complex in nature and overlaps all four domains of individual, family, school, and community (Barth, 1984). Barth (1984) stated that school attendance in elementary school happens when it is more rewarding to attend school than not to attend. Though this explanation is simplistic, it addresses many of the issues students have that make school an adverse experience.

School refusal is a well-documented social anxiety disorder that affects children. School refusal may be brought on by many factors within the school environment; however, it tends to appear in young children prone to anxiety. The unique feature of school refusal is the child's lack of hiding the behavior. School refusal behavior is not students leaving school to hang with friends or other typical truant acts (Tricare, 2010). Conditions within families may contribute to school refusal behavior, making being home a more attractive alternative to attending school. The end result is often a phenomenon mental health practitioners refer to as school phobia or school refusal, although the Diagnostic and Statistical Manual (DSM) of mental disorders does not recognize it as a distinct mental health issue, but instead groups it into a generalized anxiety or oppositional defiant disorder category (Signell, 1972).

Lee and Miltenberger (1996) conducted a meta-analysis of school refusal behavior classifications. They found that most psychologists agree that truancy is a distinct classification of school refusal typified by "…a child spending time away from home and school…concealing absences from parents…[who] rarely exhibit[s] somatic complaints and tend[s] to have poor academic progress and antisocial behavior." Their analysis lays out the DSM criteria for school refusal and recommends different

interventions depending on the diagnosis. They discuss the need for better assessment tools for school phobia to distinguish between children with anxiety disorders from children with defiant disorders. A central finding was that truancy was not a criterion for anxiety-based school refusal.

As early as 1974, the Children's Defense Fund (CDF) studied California schoolchildren labeled as cognitively impaired and found that those with older siblings in the same school had better attendance than those without the support of siblings (Children's Defense Fund, 1974). These data infer a connection to a child's feeling of social safety in attending school.

In children with cognitive and behavioral issues, absenteeism follows a very predictable course. Allen-Meares, Washington, and Welsh (2000) discuss such students' lack of academic interests, which results in falling behind in studies and eventually, avoiding school altogether. They further found that interventions for older youth with cognitive and behavioral issues responded better with additional social control interventions (consequences).

Family factors. Poverty is common factor for families involved with the child welfare system as well as among children experiencing poor school attendance. The economic stress induced by the inability to provide for one's children can interfere with the parent-child relationship, resulting in depression which can then lead to child neglect (Brody et al., 1994; Conger et al., 1992; Conger et al., 1995; Duncan et al., 1998; Solantaus, 2004). Parents who neglect their child's needs related to housing, sleep, or food can similarly neglect education and school attendance. The need to seek out work, deal with housing problems, or otherwise respond to economic crises can

distract parents from the need to make sure their children attend school with regularity (Zhang, 2003). Additionally, homeless families face significant barriers to assuring that their children stay in school due to the lack of a fixed, permanent address (Christenson & Thurlow, 2004).

Christenson and Thurlow (2004) make a distinction between children's attributes that educators have no control over (so-called "status variables") and "alterable variables," issues that educators can have an effect on. In writing on interventions for school success, they deem structural attributes such as poverty as status variables. This is yet another example of schools' inability to ecologically affect children's lives.

Safety issues also arise when parents who cannot afford childcare leave young children alone while they work or look for work (Kerrebrock et al., 1999; Belsie, 2000). Teens may be asked to stay home from school to care for younger siblings or may take advantage of the lack of parental supervision and skip school. Importantly, a parent's inattention to school attendance sends a message to children about the relative importance of school that can be reinforced by the student's truanting behavior. This supports further research into correlations of truancy and parental education attainment.

Kleine (1994) evaluated an urban truancy initiative called Chronic Absenteeism Pilot (CAP) via a random case study review as well as interviews with community stakeholders. Ten truancy cases from an initial cohort of 210 were reviewed for qualitative features of case planning. Interviews included case management agency staff, school staff, and county social welfare staff. Kleine discovered profound conflict over these various professionals' roles and responsibilities for assisting truants. Schools

especially felt that they had a structurally defined response boundary. Kleine concluded that the program was only minimally effective due to the lack of accountability among participating stakeholders for dealing with the underlying causes of the truancy.

Kleine (1994) found family structure was one factor that affected truancy rates. Children from single parent homes had higher rates of truancy compared to children from two-parent homes. There was simply more time for adult supervision in a two-parent home, thus more attention was paid to children. Rohrman (1993) found that permissive parenting styles allowed children more autonomy in decision making and resulted in higher absenteeism. Weak parent-child relationships as well as low parent-school involvement also increase truancy risks.

Rohrman (1993) interviewed parents of truant adolescences and used a qualitative tool to assess the strength of the relationship with their child. Due to the small sample size, the study used a matched pairs design with t-scores to analyze the group means. There was significant correlation between truancy and poor relationships of parents with both the school and with their children. The study found other significant factors that impair the ability of families to make school a priority for children, including chemical dependency, domestic violence, and/or mental illness (Rohrman, 1993; see also Rumberger et al., 1990). Any of these crises can lower the prioritization of school in family life, which has lasting impacts for children.

School factors. School characteristics and environments can have a large impact on truancy. Research has shown that larger school communities have higher rates of absenteeism than smaller schools (Finn & Voelkl, 1993). In the late 1990s, a troubled high school in Baltimore reduced its absenteeism rate by creating very small

communities within the high school, decreasing student anonymity and increasing student-teacher communication (McPartland, Balfanz, Jordan, & Legters, 1998). Beyond school size, students' perceptions of classroom discipline, academic challenge, and school attendance policies and consequences all affect truancy (Epstein & Sheldon, 2002).

In his literature analysis, Barth (1984) discussed several characteristics of elementary absenteeism that encompass student/school engagement. Attendance rates were higher at schools that gave out homework more often, had high expectations for achievement, displayed student work on the walls, and had more instructional hours. Barth (1984) cites Mayer and Butterworth (1979) who instituted and evaluated a teacher training approach to student behavioral issues in inner-city Los Angeles. The study illustrated that providing behavioral skills instruction to teachers in high violence schools resulted in a substantial decrease in school violence when compared to a baseline control group. The same study showed that a teacher's attitude and dedication to the work were major components that affected truancy. One unexpected outcome of this study was increased attendance as teachers learned new instructional techniques that increased their involvement in the lives of students.

Inspired by these results, more studies from educational psychology began to examine the interpersonal relationships between teachers and students and the effect of those relationships on attendance. Epstein and Sheldon (2002) surveyed twelve elementary schools on their communication and relationships with both students and families over a three-year period from 1994 to 1997. The study then compared the attendance rates of the individual schools with the results of the survey questions related

to school/family relationships. Results suggested that schools that lack comprehensive approaches to fostering relationships with parents suffer higher chronic rates of absenteeism.

Recent studies have begun to show the ways school policies actually contribute to student disengagement. In a national survey of school truancy policies conducted by the Colorado Foundation for Families and Children, two school policy factors were affiliated with higher degrees of truancy and dropouts: overrepresentation of students placed in special education, and harsher school discipline rules (Baker, Sigmon, & Nugent, 2001). Furthermore, they found many schools unable to handle the diverse cultures within their environments, thus contributing to student alienation. Examples of this deficiency included policies being unavailable in non-English brochures for immigrant families as well as lack of sensitivity toward ethnic and cultural moress.

Community factors. Several communities have shown direct links between truant youth and crime. OJJDP's Study Group on Very Young Offenders found that chronic truancy in elementary school is linked to serious delinquent behavior at age 12 and under. (Baker et al., 2001). Specifically, police in Van Nuys, California report that shoplifting arrests decreased by 60% following a three-week truancy sweep program (Garry, 1996; Shuster, 1995). Police in St. Paul, Minnesota report similar crime decreases (50%) after instituting a truancy school attendance center in 1994 (Garry, 1996). In Tacoma, Washington, police reported that one-third of burglaries and one-fifth of aggravated assaults were committed between 8 a.m. and 1 p.m. on weekdays by juveniles who should have been in school (Baker, Sigmon, & Nugent, 2001). Berg, Hullin, and McGuire (1979) found in their experimental study of court truants that a

reduction in truancy correlated with a reduction in delinquency. Farrington (2003) notes

that early intervention is effective for preventing young truants developing into more

serious delinquents.

Both school dropouts and adolescent delinquency have social and financial costs

to families and communities. According to a 1993 U.S. Department of Education

bulletin (cited in Baker et al., 2001), individuals who drop out of school have fewer job

prospects, have lower salaries when working, and are unemployed longer and more

frequently than those who have high school diplomas. In 1999, six percent of high

school graduates were considered in poverty while 14% of those in poverty had not

completed high school (Bureau of Labor Statistics, 2001). Baker et al. (2001) claim that

the financial impact of truancy can be measured in concrete ways: communities have a

less educated work force, businesses experience loss through youth shoplifting, daytime

crimes rates may increase, and social services spending can escalate in response to

increased truancy.

Communities have responded to the escalating costs of truancy through multiple

approaches. States have passed stricter truancy statutes that, in turn, require the

involvement of local law officials, courts, and the child welfare and juvenile probation

systems. An applied example is the ever-evolving statute responsibility for young

truants. According to the Children's Welfare Information Gateway (2010), 25 states

have moved the responsibility for young truants from their juvenile corrections system

to their child welfare system. These structural changes result in community-based

interventions. Other responses include truancy centers set up for police to bring truants

to a central location and to notify parents. These are usually attempts to alleviate the

expense of both juvenile justice and child welfare systems responding to truancy (Council of Crime and Justice, 2002). Within the child protection system, the advent of the differential response system is a direct result of systems pressure to handle low-level risk cases (young truants) in a community agency model with less cost.

This dissertation examines the effect on attendance of chronically truant second graders who have had a child protection intervention. Research on truancy causation, based on theoretical concepts, describes truancy interventions that incorporate ecologically-based family interventions for young children—services aimed at developing pro-social skills and enhancing individual and family engagement in the school community. A strength-based child protection model accomplishes these goals. The end result of effective intervention should be an increase in attendance (the key research variable) the year following the child protection intervention.

The following chapter explores truancy intervention research in terms of the four domains used to organize this chapter: individual, family, school and community.

Chapter 3: Literature Review

Young Absenteeism Interventions

The first major academic study on young truants was done by Barrington and Hendricks in 1989. Using longitudinal data from two high schools and following 651 students from 1981 through 1985, the study retrospectively examined common attributes of dropouts and sought to determine whether future dropouts could be identified early in students' educational careers. Variables included in the study were: achievement scores from grades 3, 5, and 9; IQ scores from grades 2 and 9; attendance data from grades 1, 3, 5, and 7-12; grade point average for grades 9-12; number of courses failed in grades 7-12; special education status; parent(s') occupation(s); residence information; and gender. The study divided the cohort into four groups: graduates, dropouts, fourth-year seniors, and fifth-year seniors. Using one variable at a time, the authors conducted one-way ANOVAs contrasting the four groups. Their main conclusion was that high school dropouts can be predicted by third grade with 70% accuracy. The three most important predictor variables were attendance, achievement and relationships with teachers. This study laid the foundation for designing effective interventions through identifying characteristics of elementary students that were related to their early school leaving behavior.

Foundation and state studies. Over the past decade, private foundations and state agencies have conducted several meta-studies examining truancy interventions. The resulting reports tend to describe the issues rather than evaluate any particular intervention. These reports also tend to be broad-based in nature, examining all ages targeted in interventions, from pre-school to K-12 to juvenile delinquency prevention.

Even though they lack details, they have assisted researchers in targeting specific areas for evaluation research.

The University of Minnesota and the University of Wisconsin collaborated on a report to the Wisconsin Governor's Juvenile Justice Commission (Small, Reynolds, O'Connor, & Cooney, 2007). The report covers a wide range of possible interventions for children and families who become involved in the juvenile justice system, including interventions for early truancy. One early truancy intervention described is a Wisconsin program called Families and Schools Working Together (FAST), which was initially developed to intervene in high-risk families based on the assumption that parents should be the point of support and intervention. The program targeted 4-12-year-olds and had been found to positively affect academic performance. Children in the FAST program achieved higher education gains at post-test than children in a control group. Although this program has never been formally evaluated, the U.S. Office of Juvenile Justice and Delinquency Prevention Programs (OJJDP) labeled it an excellent evidence-based program in their 2004 Model Program Guide (OJJDP, 2004).

Idaho was also interested in truancy intervention. In its 2006 report, *Educational Neglect & Compulsory Schooling: A Status Report* (Center for School Improvement & Policy Studies, 2006), the Idaho Governor's Task Force on Children at Risk provided an overview of educational issues specific to Idaho, including the following facts: approximately 6.5%% of school-age children in Idaho are not enrolled in any educational institution. Two-thirds % of the state's school districts were unable to determine if every school-age child residing in their district was in school. Only 3% of districts had a written policy on tracking attendance. The report also noted the cost of

dropout to the state: the approximately 3,000 students who drop out of high school in Idaho every year create a net loss of two billion dollars to the Idaho economy over their work careers. The Idaho report is one of the few that discusses the financial impact of lack of school completion.

The Alliance for Excellent Education recently produced a report summarizing the estimated financial losses of school dropouts by state (Alliance for Excellent Education, 2007). The report claims a national loss of $320 billion for the lifetime of those high school dropouts (estimated for the 2007-2008 school year). Minnesota's share of this figure in 2007 was estimated at $3.8 billion with approximately 14,500 high school dropouts statewide. California leads the nation in approximately $40 billion lost.

Two national research centers have focused on truancy intervention evaluations. The National Dropout Prevention Center (NDPC) has published several overviews of truancy interventions, the best known of which is their technical report *Dropout Risk Factors and Exemplary Programs* (NDPC, 2007). This report examines over 50 separate programs across localities in the U.S. that assist high-risk families with specific issues. The report offers information about early childhood preschool mental health programs, divorced family programs, drug abuse intervention/prevention, and mental health intervention. The assumption behind this report is that truancy is not a stand-alone issue. Children who chronically miss school do so due to a multiplicity of problems. It is interesting to note that the NDPC program review is arranged by Barths (1984) causative factors of individual, family, school, and community.

The National Center for School Engagement has produced numerous reports over the past decade explaining promising strategies for truancy intervention. There has been little peer evaluation done with their reports; however, they have become a clearinghouse for practice strategies, producing three dozen reports specifically for school districts and law enforcement (Grandy & Schultz, 2007). Their initial report, *Youth Out of School: Linking Absences to Delinquency* (2002), delineates an argument that lack of education results in very high risk for juveniles to commit crime and end up in the justice system. The report also examines the reasons for truancy in Colorado schools, concluding that 47%% of truants come from "high stressed homes" (p. 7). These data support the conclusion that much of truancy relates to home environments.

Meta-Literature Reviews of Truancy Interventions

The Wilder Foundation reviewed promising truancy interventions for the Hennepin School Success Project (2003) in Hennepin County, Minnesota. The report is descriptive in nature and does not promote any specific evidence-based truancy programming. The report examines school-based absenteeism interventions dating back as far as 1991, but that particular program was not evaluated or peer-reviewed. Due to the paucity of truancy intervention research in the early 2000s, Wilder reexamined the topic in a follow-up report in 2007 (Grandy & Schultz, 2007). The follow-up report attempted to highlight interventions that worked based on rigorous evaluation. Only two intervention met these standards: cognitive-behavioral therapy for children with school refusal issues and the Multi-model Community Based Court Approach, a process to eliminate barriers to families attending court while using legal coercion to make families connect with community agencies for assistance. The report recommends

future research including control groups with experimental designs and long-term outcome research.

Stuphen, Ford and Flaherty's (2009) recent review of truancy interventions covers peer-reviewed evaluations and studies on truancy from 1990 through 2007. They found 222 articles in their initial search and discussed 16 that met their standard of rigor for design and statistical analysis. Of the 16, only 8 used some form of group comparison design, and of these 8 studies, 2 actually found a negative outcome of the program. Only one article of the 222 they initially located evaluated court-designed models, an extremely prevalent design used throughout the U.S. The authors acknowledge that there is no shortage of peer-reviewed articles on truancy that describe programs: "…It appears as if nearly every school district has its own truancy program" (Stuphen et al., , 2009, p. 20). Their recommendations include further research with replicable designs, group comparison designs with random assignment, and a much larger presence of social work research in truancy, since only 4 of the 16 articles discussed were published in social work journals.

Evaluation Studies of Early Truancy Interventions

Table 3-1 includes 8 studies that covered early truancy of the 16 studies deemed sufficiently rigorous by Stuphen, Ford and Flaherty (2009). Also included is Zuel & Larson (2005) because it is the foundation for the current research into the intersection of child protection and young truants. The studies are divided into two groups based on their intervention loci: student/family-based and community-based.

The table reflects several important attributes of these studies, the first of which are the population focus, the intervention modality, and the operational definition of

truancy. Each study's focus population was slightly different in nature, ranging from elementary schools within the same district to schools across several states to state-wide student populations. The modality for intervention refers to the type of practice model. Evaluation research in young truants tends to be conducted through community agencies and government agencies or psycho-social interventions aimed at the student or the family. There is no standard definition of truancy; therefore, each study generates its own definition of truant behavior. The academic literature is beginning to define truancy as being absent for 10% of the school year; however, several studies use the local or state statute as their truancy definition, while others use a set number of days absent. The table also summarizes the study design definitions, dependent variables, major findings, and limitations.

Both regional and foundation reports as well as three major meta-analyses have noted the scarcity of research in truancy intervention (Alliance for Excellent Education, 2007; Center for School Improvement & Policy Studies, 2006; Grandy & Schultz, 2007; National Center for School Engagement, 2002; NDPC, 2007; OJJDP, 2004; Small, Reynolds, O'Connor, & Cooney, 2007; Stuphen, Ford & Flaherty's, 2009; Wilder Foundation research, 2003; Zuel & Larson, 2005). Research has struggled with two factors: one is the nature of truancy definitions; the other is the collection of attendance data. The rules or structures surrounding truancy are often set locally, thus creating difficulty for researchers in generalizing outcomes and collecting reliable data across large systems. Some evaluations that have stood tests of rigor and reliability and can be described within the framework of Barth's (1984) truancy domains. These studies all focus on elementary school children using attendance as the dependent

variable. The designs are all pretest/posttest, with one just one study having a control

group (Lehr et al., 2004). One study was exploratory in nature due to the use of

secondary data; it did not utilize experimental design (Zuel & Larson, 2005).

Table 3-1

Literature Review

References	Focus/Definitions of Truancy Intervention	Design/Sample	Dependent Variables/ Measure	Findings	Limitations
Student- and Family-based Intervention					
Baker and Jansen (2000)	*Focus:* Elementary school students in IN *Truancy:* 10 unexcused absences *Intervention:* Goal-focused groups: group 1 grades 1-2; group 2 grades 3-5	Pretest/posttest one group; 8 in group 1; 6 in group 2. Measurement in beginning and after 4 months of weekly group N=14	# of all absences	Students in both groups showed improvement	Small N No follow-up post-intervention No control group
Ford and Stuphen (1996)	*Focus:* Elementary school students in KY *Truancy:* 20 absences in prior school year *Intervention:* Attendance program in school with focus on daily counseling and rewards; weekly maintenance interventions and family-based assessments	Pretest/posttest one group. Poor attendance students followed for one year	# of absences prior to intervention, during intervention, and during maintenance stage	Increase in attendance for focus group, regressed during maintenance. Improvement overall.	Small N No comparison group
Lehr, Sinclair, and Christenson (2004)	*Focus*: Elementary school students in 1 district (9 schools) *Truancy:* Absent/Tardy 12% of time since enrollment *Intervention*: Check & Connect model designed to promote school engagement through relationship building with intervention through individualized programming	Pretest/posttest one group. Comparison of students receiving intervention for 2 years N=147	# of absences/ tardies	Absences/tardies declined among participants	1 school district and no statistically matched comparison group

References	Focus/Definitions of Truancy Intervention	Design/Sample	Dependent Variables/ Measure	Findings	Limitations

Community Focused Intervention

References	Focus/Definitions of Truancy Intervention	Design/Sample	Dependent Variables/ Measure	Findings	Limitations
Elozondo, Feske, Edgell, and Wash (2003)	*Focus:* Citywide program in CA aimed at all grades *Truancy:* More absences than legally allowed *Intervention:* School Attendance Enhancement Program run by county probation as part of federal Safe Schools/Healthy Schools funding	Pretest/posttest one group. Small sample of students through program at 6 sites. No N noted	# of unexcused absences/ tardies	Most students reduced absences by 50%	No reported N Sampling based on anecdotal information for evaluation No comparison group
Epstein and Sheldon (2002)	*Focus:* Elementary schools in MD, CA, MN and PA which participate in National Network of Partnership Schools, Johns Hopkins University *Truancy:* More than 20 absences *Intervention:* Guidance from Network to implement research-based family and community activities	Pretest/posttest one group. Mid-year survey and end-of-year survey; 12 schools in Network program that serve over 5,000 students	School attendance rates and % of chronically absent students	School attendance rates increased and % chronic absent students decreased. Research showed most helpful: rewards for attendance, after-school programs, family communication, and court intervention	12 schools which returned survey all had varying levels of absenteeism

References	Focus/Definitions of Truancy Intervention	Design/Sample	Dependent Variables/ Measure	Findings	Limitations
McCluskey, Bynum, and Patchin (2004)	*Focus:* 3 MI schools; students with extreme attendance problems *Truancy:* 20% of the school year *Intervention:* Operation Weed & Seed funded; increasingly progressive intervention involving school personnel, social services, mental health, law enforcement	Pretest/posttest group comparison of 271 participants with chronic (20% missed) and 91 with non-chronic (20-29 days missed) truancy. N=362	# of days missed at pre-intervention, post-intervention, and each stage between	Improvement in attendance for chronic absenteeism. More improvement noted at beginning stages with letter and face-to-face visit.	Limited follow-up No comparison group
Mueller, Giacomazzi, and Stoddard (2006)	*Focus:* ID; 3 districts *Truancy:* 10% of the school year *Intervention:* Court intervention for students and parents; school-based truancy officers to improve attendance	Pretest/posttest one group. Compared to one district. Data collected 4 months prior to intervention and 4 months after intervention. N=28	# of absences and tardies	Significant decrease in # of absences and tardies	Small N No comparison group No distinction between excused and unexcused
Sheldon (2007)	*Focus:* Elementary schools in OH *Truancy:* 10% of the school year *Intervention:* School-wide programs based on National Network of Partnership Schools research-based family/community activities to improve attendance	Pretest/posttest group comparison. 76 schools within Network compared to 67 matched schools not in Network (achievement, attendance, enrollment)	School attendance rates	One year (2000-2001) attendance rates increased	Little information about programming

References	Focus/Definitions of Truancy Intervention	Design/Sample	Dependent Variables/ Measure	Findings	Limitations
Zuel and Larson (2005)	*Focus*: Elementary school students in MN *Truancy:* Child protection maltreatment finding for truancy *Intervention:* Child protection investigation made with maltreatment finding	Exploratory study compared year one prior to CP intervention with year two post CP intervention. N=670	Δ absences from year 1 to year 2	70% improvement as mean across 6-11-year-olds; Larger improvement with younger cohort, declining improvement with increasing age	No control group Pretest/ posttest design

Student- and family-based interventions. These interventions for young

children are all firmly grounded in both ecological systems theory as well as social

control theory. The interventions all incorporate children's immediate connections in

their microsystems from ecological systems theory and emphasize a need for

engagement with the school community through relationship building, using

Thornberry's bi-directionality concepts of environment.

Group-based interventions. Baker and Jansen (2000) reviewed a group support

model instituted in one elementary school. Participants were truant children who had

parental permission to participate. School social workers ran the groups. There were

two groups: one for grades 1 and 2, and another for grades 3-5. A total of 14 children

participated. The design method was simple pre-test/post-test measure of attendance

before and after the group intervention. Attendance was measured again after 4 months

of participation. Besides increasing attendance, the groups had goals of raising self-

esteem and fostering social connections to school. The intervention model was classic

group psycho/social activities focusing on support and problem solving around social

interaction. Further, the group method employed positive feedback for increased

attendance. Both groups showed improvement in attendance; however, there was no

follow-up in succeeding years and no control group for study.

Ford and Stuphen (1996) used support groups, individualized rewards and

programming, and family-based assessments for a cohort of students exhibiting chronic

absenteeism (defined as being absent more than 20 days a year). Their analysis involved

a pre-test/post-test design and measured attendance at three stages over a one-year

period. They found initial improvement during the group intervention process, however

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attendance declined the following year after the group intervention. They had no control group and only followed students for one year.

Individual relationship building interventions. Lehr et al. (2004) also focused on chronic absenteeism with their program Check & Connect, which focuses on creating a personal relationship between school personnel and the high-absenting student. The intervention utilizes individualized programming with a daily connection between Check & Connect mentors and students. Evaluation was done in only one district for two years. There was improvement in attendance for those students who participated for two years.

Community-based interventions. Several interventions involved using broad-based community programming to increase attendance among absenting children. Sheldon (2007) used research-based family and school activities to encourage and support attendance for a cohort of 76 schools in the evaluation. This was one of the few evaluations that included a control group—in this case, 67 schools not participating in the intervention. The study showed improved attendance rates for children in those schools participating in the family/school activities compared to the non-participating schools. The evaluation fails to describe the activities, thus the study is virtually impossible to replicate. However, Epstein and Sheldon (2002) published an earlier study describing family and community activities to increase school attendance. This study examined which specific activities—rewards for students, better family/school communication, after-school programming, and a court presence in difficult cases—had the strongest impact on truancy. The study had no control group; however, it laid the foundation for Sheldon's 2007 study.

Government interventions: Four interventions involved some form of

government in either alone or in partnership. Elonzondo et al. (2003) used county

probation officers to track and intervene with students with high absenteeism in a

similar manner as truancy officers might, except that the probation officers held smaller

caseloads and the court maintained some oversight. This program involved youth ages 6

to 16. Evaluation showed that absences decreased by 50%, however, the study does not

report the total number of students tracked and the sampling of the results was anecdotal

in the final evaluation.

Mueller, Giacomazzi, and Stoddard (2006) evaluated a court intervention

program in Idaho involving three school districts. The program served youth ages 6-16

and had no control group. The evaluation showed "significant" reduction in

absenteeism, but the researchers did not disaggregate the data by age, thus no

conclusions can be drawn on effectiveness by age or grade cohorts..

McCluskey, Bynum, and Patchin (2004) evaluated a Michigan program

involving three schools with cohorts of extreme absenteeism (20%). This intervention

involved all significant stakeholders: schools, public social services, mental health

agencies, and the law. The study compared two groups. Group One had extreme

absenteeism of more than 30 days (labeled chronic), and Group Two had between 20-29

days (labeled as non-chronic). The intervention used an increasingly progressive

process of engaging children and families, starting with a letter clearing stating the law

with the consequences described to the parent, and then offering services with eventual

court involvement if all else failed. The study showed that a letter was very effective for

the costs involved. The outcomes showed improvement in the chronic group at the

beginning of the intervention stages. The study did not have a control group and there was no follow-up.

Zuel and Larson (2005) examined child protection intervention in absenteeism. Using large data sets, this exploratory study followed students with maltreatment findings for education absences over a two-year period: first-year attendance prior to the child protection intervention and the year following the intervention. A pre-test/post-test design was used and compared attendance improvement the year following the intervention. Outcomes showed improved attendance in 70% of the cohort (n=670) the year following the child protection intervention. The study was limited by the lack of an experimental control group as well as the inability to further define the child protection intervention. The social services data base used only allowed for information pertaining to child protection involvement; there were no data on what the involvement entailed.

Literature Review Conclusion

There are several clear trends in the truancy evaluation literature. First is the scarcity of studies done on intervention for young truants. This is surprising because the delinquency literature has shown that dropping out of high school is a risk factor for criminality. Within the domains of intervention, it is also interesting to note the lack of a study of school-only interventions. Schools are encompassed in some of the community interventions; however, they are not a stand-alone intervention site in these studies. This reflects ecological theory when applied to young children—a school-only intervention would not necessarily be effective in attending to the child's microsystem. The second trend is the unmistakable connection between intervention foundations and the theories underlying delinquency. Starting with Barth's (1984) delineations, most of

the interventions reflect the social development strategy domains with a spotlight on relational engagement to enhance resilience in students to attend school. This appears to be one of the major strength based interventions for practice. Other studies tend to focus intervention on the child's direct environment of the microsystem (parents, family, and individual) in encouraging school attendance. A third attribute of several research intervention studies is their reliance on social control theory components using consequences for not following social norms (Elonzondo et al., 2003; McCluskey, Bynum, & Patchin, 2004; Mueller, Giacomazzi, & Stoddard, 2006). All of these interventions utilized law enforcement.

Due to the lack of consistent attendance policies in schools as well as the local control of all policies, it is very difficult to do experimental designs that can be replicated. The best that can be said about any proven effective truancy intervention is that it is effective for the environment (school, community) where the study was done. As truancy still rests well within a legal and delinquent framework in this country, only within the last 20 years have young truants begun to be seen outside this lens. Twenty-five states currently have truancy intervention as part of the child welfare code for mandatory reporting to child protection with Minnesota being the only state to limit the child protection report to ages 11 and under (Children's Welfare Information Gateway, 2010; Vera Institute of Justice, 2010). With this change in required intervention by the government, a new look at the outcomes of the "required" intervention is necessary. There appears to be no research affiliated with the outcomes of child protection intervention with young truants. Furthermore, an obvious question relates to the theory components of a required government intervention. Figure 3-1 conceptualizes the

theoretical components of a child protection intervention, explicating three domains each drawn from the above theory discussion: coordinating school communications for families from social control theory, enhancing parenting skills from ecological systems theory, and the use of positive recognition and enforcement structure from social development strategy. This study will examine the ability of child protection to affect attendance of young truants in Minnesota

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Figure 3-1

Conceptual Practice Model for Study

Social Control Theory (SCT) Restraining Factors	Ecological Systems Theory (EST) Micro/Meso System	Social Development Strategy (SDS)
Attachment to school	*Parenting skills*	*Involvement in pro-social activities*
Commitment to education	*Attendance monitoring*	*Skills teaching*
Involvement in school programming	*Relationships between parents and school*	*Recognition and enforcement*
Belief/trust in education		

CHILD PROTECTION TRUANCY INTERVENTION
Coordinate School Communication (SCT)
Enhance Parenting Skills (EST)
Recognition and Enforcement (SDS)

Students <90% Attendance

Students' attendance following CP

Chapter 4: Methods

Study Rationale

There is little research on interventions for young truants and still less that is methodologically rigorous. The difficulty lies in the inability to design experimental studies with a randomized control group. The multi-faceted influences upon young children that affect their attendance further complicate the picture (Stuphen et al., 2009).

Adding to the complexity of identifying effective interventions are the theoretical concepts underpinning both the causes of truancy as well as the interventions themselves. Ecological system theory suggests that young children's truancy is most likely a result of the immediate forces affecting their lives: those of the family and the personal environment. Truancy interventions have historically been embedded in social control theories with a focus on delinquency prevention. This approach fails to focus the intervention strategies on family functioning.

The Minnesota legislature passed statutes in the early 1990's that forced the child welfare system to intervene in the lives of young truants (Minnesota Maltreatment of Minors Act, 1993). This legislation clearly delineated age as the boundary between child protection intervention (ages 11 and under) and the criminal juvenile justice system (ages 12 and over). This legal change profoundly affected child protection intervention practice. Child protection in Minnesota is family-based (MN DHS, 2010). Thus, the law change directly impacted the intervention strategies being targeted to children and their families, but this structural change has not been thoroughly examined for any positive impact on children's attendance. Therefore, the purpose of this study is

to examine the impact of child protection assessments on children with high absenteeism in Minnesota. Utilizing data from the Social Services Information System (SSIS), children will be selected and grouped by the type of contact they had with the child welfare system, focusing upon types of assessment. Furthermore, this study will examine child protection's model of intervention on attendance by examining differences in practice involvement. Figure 4-1 illustrates the conceptual practice model of intervention for this study

Research Questions and Hypotheses

Several hypotheses were formulated for this study based on the prior exploratory study by Zuel and Larson (2005) as well as the current literature on young truancy intervention. The dependent variable for the research questions is the attendance change from year one to year two. Below is a description of the research questions followed by a detailed explanation of the measurement.

Question 1: For second graders with more than 10% absenteeism, does a child protection assessment positively affect attendance in the following school year? Hypothesis: A child protection assessment will positively affect the attendance of second graders who are experiencing high absenteeism. The exploratory study by Zuel & Larson (2005) concluded that children ages 6-11 who had confirmed child protection maltreatment of educational neglect had a mean attendance improvement of 70% the year following the child protection intervention. That study began with a population of children who had already been found to have high absenteeism by the child protection system. Based on the broad improvement in the 2005 study, along with theory stating that interventions targeting young children are more effective if they are family-based,

it is logical to hypothesize that child protection intervention will positively change young truants' behavior compared to a similar group of children who did not have child protection intervention.

Question 2: Is there a difference in attendance during the following school year between those families who had a traditional assessment vs. a family assessment? Hypothesis: Second graders who received a traditional child protection investigation will have greater attendance improvement than children who received a family assessment investigation. The question arises out of the theoretical discussion of ecological family intervention and social control. The advent of the differential response model allowed for low-level risk cases in child protection to be assessed through Minnesota's family assessment. This intervention is voluntary and displaces the social control elements of a traditional child protection assessment. The traditional assessment is implicitly designed for a coercive intervention to ameliorate perceived harm or neglect to the child. It is assumed that second graders rarely miss school of their own volition, but rather have no parental support and follow-through to facilitate attendance. Though the broader child protection intervention is family-based irrespective of traditional or family assessment, the voluntary nature of family assessment is hypothesized to make it a less significant intervention for children's absenteeism.

Question 3: Is there a difference in attendance for chronically truant second graders who have had a child protection assessment depending on their maltreatment allegation? Hypothesis: Second graders with chronic absenteeism and child protection involvement will experience greater attendance improvement if their allegation is neglect compared to students with allegations of physical abuse and sexual abuse. This

assumption is being made because, in allegations of neglect or educational neglect, the child protection system is more likely to assess a child's attendance and focus the education follow-through by child protection agencies. For physical and sexual abuse allegations, the child protection system tends not to focus on attendance; therefore, these allegations might result in less improvement in attendance. In a 2004 report on the federal Children and Family Services Review (CFSR), the National Center for State Courts implied that there was inadequate overview by child protection agencies on attendance unless the allegation is specifically about absenteeism.

Question 4: Does child protection case management of truant second graders affect their attendance the following year? Hypothesis: Students who have ongoing child protection case management will have a greater improvement of attendance than students who do not have ongoing child protection case management. This hypothesis assumes that ongoing case management for child protection will include a state-mandated case plan as well as attention to parenting. Furthermore, current modalities of child protection practice are ecologically based and case plans should reflect a comprehensive family intervention.

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Definitions

</div>

Dependent Variable

Attendance change ratio: In this study the dependent variable will be the attendance change ratio (ACR) for each student. It is calculated by taking the Average Daily Attendance (ADA), the number of days a student actually attends, divided by the Average Daily Membership (ADM): the number of days required to attend:

(Individual ADA/Individual ADM)*100 = Attendance Change Ratio for that individual

Perfect attendance would be represented by an ACR of 1.0. The cohort for this study will, by definition, have an ACR of less than .89. An attendance ratio will be calculated for each student prior to creation of treatment and non-treatment groups (treatment being defined as child protection intervention). Improvement in attendance is defined as an increase in ACR from the school year 2004-05 (year 1) to 2005-06 (year 2).

For the purposes of Hypothesis 1, propensity score matching was utilized. This method requires a dichotomous dependent variable. The ACR was recoded for each student using .02 as the factor for determining change. Recall that the complete cohort had an attendance of .89 or less in year 1, or approximately 18-20 days absent based on an average of 180-200 days of district-required attendance. Using .02 translated into approximately 3 additional days of either missing school or attending school. Thus .02 represents a 10% change in the ACR from year 1 to year 2. Using this measure, the dependent variable for hypothesis 1 was created into improved (ratios with equal to or greater than .02 positive change) and non-improved (ratios of less than .02 positive change).

Hypotheses 2 and 4 all have analytical tests that required a continuous dependent variable. For these tests the means of the ACR were compared and if found to be significant, further testing was done to show direction.

Independent Variables

The independent variable is the factor being tested to see if it has any effect on the outcome (the dependent variable). Below is an explanation for each independent variable used in this study, a description of the original measurement from the data

source, and a discussion of any further manipulation of the variable carried out in order to comply with the analysis.

Socioeconomic status (SES): The Minnesota Automated Reporting Student System (MARRS) data listed economic indicators for each student in terms of his/her eligibility for free or reduced-price school meals. These indicators were originally data elements reflecting three categories: ineligible for federal assistance for meals, eligible for reduced meal costs, and eligible for free meals. These three categories were recoded into two variables representing students at or below the federal poverty line and those above it. Free or reduced lunches are used as proxies for a student's poverty status. Group 1 was created by combining the two groups of reduced-price lunch eligibility and free lunch eligibility. Group 2 students represented those ineligible for federal assistance for meals. SES was thus coded as a dichotomous variable of 1 = at or below poverty guidelines and 0 = above poverty guidelines (see Table 4-2 for a summary of the coding of all independent variables).

Gender: This variable remained as a dichotomous variable coded as 1 = male and 0 = female.

Disability status: The MARRS database codes fifteen different disability categories for students, of which eleven were recoded for this study (see Table 4-1). The recoding resulted in 0 = no disability, 1 = physical or sensory disability, and 2 = cognitive disability.

Table 4-1

Disability Status Variable Recoded off MARRS

Original disability description	Original code	Recoding for current analysis 0 = no disability 1 = physical or sensory disability 2 = cognitive disability
Speech/language impairment	01	1
Developmental cognitive disability--mild/moderate	02	2
Developmental cognitive disability--moderate/severe	03	2
Physically impaired	04	1
Deaf	05	1
Visually impaired	06	1
Learning disability	07	2
Emotional/behavioral disorder	08	2
Deaf/blind	09	1
Health disability	10	1
Autism spectrum disorder	11	2

Geographic location: The MARRS data listed each student by his/her county of

residency. The U.S. Census Bureau (2010) used the Office of Budget and Management

(OMB) 2003 definitions of metropolitan and micropolitan statistical areas to redefine

what are considered metropolitan (urban) vs. micropolitan (rural). Based on these

definitions, student residence was recoded into a dichotomous variable of urban = 1 and

rural = 0. Counties included as urban were: Anoka, Benton, Carver, Clay, Dakota,

Hennepin, Olmsted, Ramsey, Scott, St. Louis, Stearns, and Washington. The remaining

counties were classified as rural.

Race/ethnicity: Race/ethnicity was coded in the MARRS data as: 1 = American

Indian or Alaska Native; 2 = Asian or Pacific Islander; 3 = Hispanic; 4 = Black, not of

Hispanic Origin; and 5 = White, not of Hispanic Origin. These five classifications were retained for this study.

Special education status: The MARRS data have eight elements pertaining to special education status. These elements were recoded for this study to reflect whether the student had received special education evaluation and services. A coding of 0 = no special education received and 1 = special education were received.

Child protection assessment type: The Social Services Information System (SSIS) data identified the two types of child protection assessments as Track Codes: Traditional (Trad) and Family Assessment (FA). These were coded as FA = 1 and Trad = 2.

Maltreatment allegation: There were four identified allegations for child protection reports in the SSIS data, which were retained for this study: 1 = neglect, 2 = physical abuse, 3 = sexual abuse, and 4 = medical neglect.

Any case management: Child protection cases opened for ongoing case management were identified from the SSIS data as having a case management work group opening. These students were coded as 1 = case management and 0 = no case management.

Out of home placement: The SSIS data for child-protection-exposed children listed entry and exit dates of children who went into out of home placement (OHP). In prior work with the SSIS data (Zuel & Larson, 2005), it was noted that many children enter placement for brief periods of time due to emergency situations and return home within a week with little or no adverse impact on their educational progress. For this

study, children were coded by length of time in OHP, where 0 = children with less than

7 days in OHP and 1 = children with at least 7 days in OHP.

Non-English speaker: The MARRS data identifies non-English speaking

students. The data were coded as English speaking = 0 and non-English speaking = 1.

Table 4-2

Independent Variables Listing

Variable	Type	Measurement	Data Source
Socioeconomic status	Discrete dichotomous	1 = Eligible for free or lunch 2 = Not eligible for free or reduced lunch	MARRS
Gender	Discrete dichotomous	1 = Male 0 = Female	MARRS
Disability status	Discrete ordinal	0 = No disability 1 = Physical or sensory disability 2 = Cognitive disability	MARRS
Geographic location	Discrete dichotomous	0 = Rural 1 = Urban	MARRS
Race/ethnicity	Discrete ordinal	1 = Native American or Alaska Native 2 = Asian/Pacific Islander 3 = Hispanic 4 = Black, not of Hispanic origin 5 = White, not of Hispanic origin	MARRS
Special education status	Discrete dichotomous	0= No special education services 1 = Special education services received	MARRS
Child protection assessment type	Discrete dichotomous	1 = Family assessment 2 = Traditional	SSIS
Maltreatment allegation	Discrete ordinal	1 =Neglect 2 = Physical abuse 3 = Sexual abuse 4 = Medical neglect	SSIS
Any case management	Discrete dichotomous	0 = No case management 1 = Case management open	SSIS
Out of home placement (OHP) greater than 7 days	Discrete dichotomous	0 = OHP less than 7 days 1 = OHP 7 days or more	SSIS
English/Non-English speaking	Discrete dichotomous	0 = English speaking 1 = Non-English speaking	MARRS

Research Design

This study uses a posttest correlational design, utilizing Propensity Score Matching (PSM) to create comparison groups to analyze. Further analysis was done using the experimental group to discern the treatment effect. The study uses the following steps (see Figure 4-6): (1) create statewide cohort of children with less than 90% attendance; (2) cross the children with the child protection database (SSIS); (3) create two groups of children with less than 90% attendance, where one had a child protection assessment and the other did not; (4) run the logistic regression on both groups to create propensity scores and use nearest-neighbor calculations (caliper of .01) to create equivalent comparison groups; (5) calculate the attendance ratio of change for each child for school years 2004-05 and 2005-06; and (6) run the analysis for each of the four hypotheses (see table 4-5).

Data Sources

The Minnesota Automated Reporting Student System (MARSS): This Minnesota Department of Education data system contains all attendance information for students enrolled in public Minnesota schools (excluding charter, private, parochial, and specialty schools). Calculations of attendance can be time-consuming due to the multiple updates common to a single student record over the course of a typical school year. Moreover, there are no standardized methods for keeping attendance records, resulting in individual schools in the same district having different data collection definitions and methods. Statewide MARSS data are longitudinal within the school year, meaning that it is possible to create a chronology of student attendance for a full

school year of experience. Attendance rates for each grade, school, or district are based on the portion of time a student is enrolled in that grade, school, or district.

Social Services Information System (SSIS): This database is the state of Minnesota's child welfare case management system. It contains all child protection information, including reports received and assessments conducted by the local county. Starting in 2000, Minnesota began using a differential response for child protection reports, referred to as Family Assessment (Minnesota Department of Human Services, 2004).

As allegations are reported to county child protection agencies, the child protection screeners will open an intake file in SSIS. Following that, a determination is made of whether the case rises to the level of requiring an assessment. If not, the allegation is considered a "rule out". For those cases that do go on to assessment, a further delineation is made based on risk and safety to either investigate the allegation as a traditional child protection response or to follow a family assessment track. Within the Family Assessment (FA) track, the agency does not report any outcome maltreatment information—the family is offered voluntary services and the child protection assessment is closed. The traditional track has a *yes* or *no* maltreatment outcome indicator and possible further involvement in child protection and the juvenile court. All allegations are open to a possible FA track except for sexual abuse. Not allowing sexual abuse allegations to follow the FA track is a state decision based on the history of the differential response model being applied to less risk related cases. Sexual abuse is almost always a high risk case.

Sample Description

The initial step was to create a cohort of second graders from the Minnesota Department of Education (MDE) MARSS database who attended class less than 90% of the school year 2004/05. Second graders were chosen for this study due to the results of a 2005 pilot study (Zuel & Larson, 2005) that second graders had approximately equal distribution of educational neglect maltreatment findings across the state. Furthermore, this cohort was in third grade in 2005/06, which is the first year achievement scores were available for Minnesota children and future studies will be able to link attendance and achievement using this sample.

The school year 2004/05 was chosen to allow for statewide use of the SSIS database. Minnesota began piloting SSIS in 2001 and it took approximately three years to have all counties use the system with reasonable reliability. The statewide cohort of second graders was crossed against the SSIS database to create a group that had child protection assessments between September 1, 2004 and August 31, 2005. The result was two groups: second graders with less than 90% attendance and child protection assessments and second graders with less than 90% attendance and no child protection assessments.

Initially, 4,007 students with less than 90% attendance in the school year 2004-05 (year 1) were identified. The initial cohort of 4,007 was then located in MARRS the following school year (2005-06; year 2); 565 students had dropped off the state education data. Thus the final student cohort for years 1 and 2 was 3,442 students. The child protection intervention group (treatment group) was 240 students; the non-child protection group (non-treatment group) was 3,203 students.

To put the sample description in context, this study has included some comparisons to the 2004 Minnesota Child Welfare Report (MN DHS, 2005) as well as census data from the preliminary 2010 U.S. Census reporting. The Minnesota Child Welfare Report is an annual publication from the Department of Human Services to the Legislature. It is focused on the child welfare process and does not contain much demographic information. It does track investigations, type of investigations, and outcomes (such as case management) by race. The graphs below depict several comparisons between the sample and the population based on available information.

Child protection sample: In the child protection sample (see Table 4-3), 92% of were children in poverty. The 2004 Minnesota Child Welfare Report (MN DHS, 2005) does not track the poverty level of children in child protection, making it impossible to compare the study sample to the general child protection population.

Table 4-3

Demographic Characteristics of Child Protection Students

Demographics	Count	Percent
Socioeconomic		
Not in Poverty	19	8%
In Poverty	221	92%
Gender		
Male	111	47%
Female	129	53%
Disability Status		
Physical or Sensory Disability	16	7%
Cognitive Disability	52	22%
No Disability	172	71%
Special Education Status		
Special Education	66	27%
No Special Education	174	73%
Race/Ethnicity		
Asian	6	2%
Hispanic	23	10%
Native American/Alaska Native	24	10%
African American, not Hispanic	62	26%
White, not Hispanic	125	52%
English speaking		
No	7	3%
Yes	233	97%
Child Protection Assessment Type		
Family Assessment	96	40%
Traditional Assessment	144	60%
Maltreatment Type		
Medical Neglect	7	3%
Sexual Abuse	15	6%
Physical Abuse	38	16%
Neglect	180	75%
CP Case Management		
No Case Management	108	45%
Case Management	132	55%
Out of Home Placement		
7 days or More	41	17%
Less than 7 Days (or None)	199	83%
Geographic Location		
Rural	119	49%
Urban	121	51%

Note. N = 240.

It is possible to compare elements of the race variables to the 2004 Minnesota

Child Welfare Report. Figure 4-2 shows that that the study sample and the state

population of children in child protection are very similar in distribution, as seen by

comparing the sample and population of African American, American Indian, and

White children.

Figure 4-2
*Child Protection Race Comparison, Current Sample vs. 2004 Child Protection
Population*
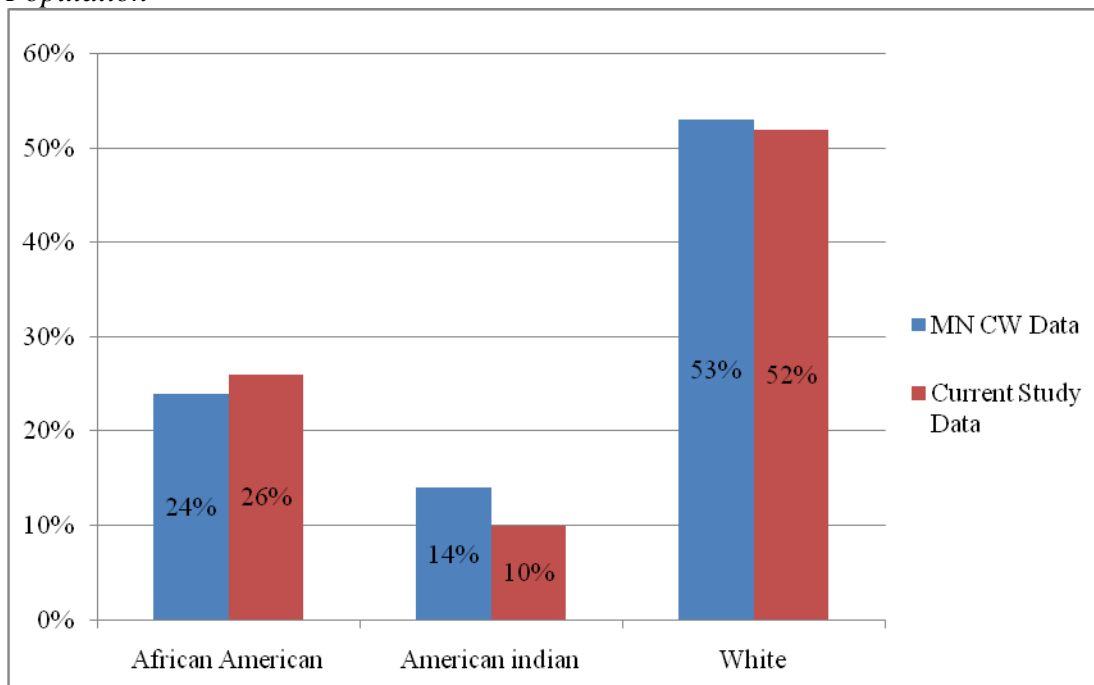
Source for MN CW Data: 2004 Minnesota Child Welfare Report (MN DHS, 2005)

Comparing the sample child protection students to the statewide child protection

population for 2004 by type of investigation again shows a remarkably consistent

pattern between the sample and the population. As Figure 4-3 shows, the distribution of

child protection investigation types across the state population was 40% family

assessment and 60% traditional assessment. The sample replicated this at 39% and 61%, respectively.

Figure 4-3
Child Protection Investigation Type Comparison, Current Sample vs. 2004 Child Protection Population
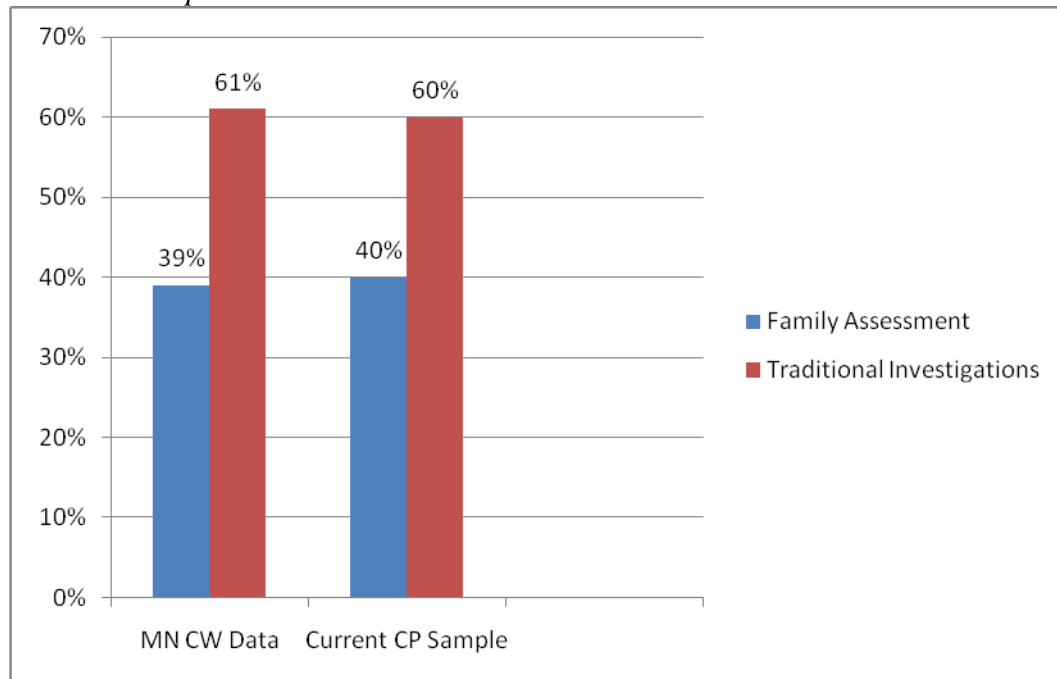
Source for MN CW Data: 2004 Minnesota Child Welfare Report (MN DHS, 2005)

It was also possible to compare the offering of case management services between the sample and the population. For this variable, the sample child protection cohort for the study reflected a higher percentage of case management services than the statewide population (see Figure 4-4). This could be due to the sample being comprised of only 7-8-year-olds, whereas the statewide population covers infants to 17-year-olds. Younger children tend to receive more intensive interventions; therefore, it would be expected that case management percentages for a younger cohort would be higher than percentages for the entire population (MN DHS, 2005).

Figure 4-4

*Child Protection Case Management Comparison, Current Sample vs. 2004 Child
Protection Population*
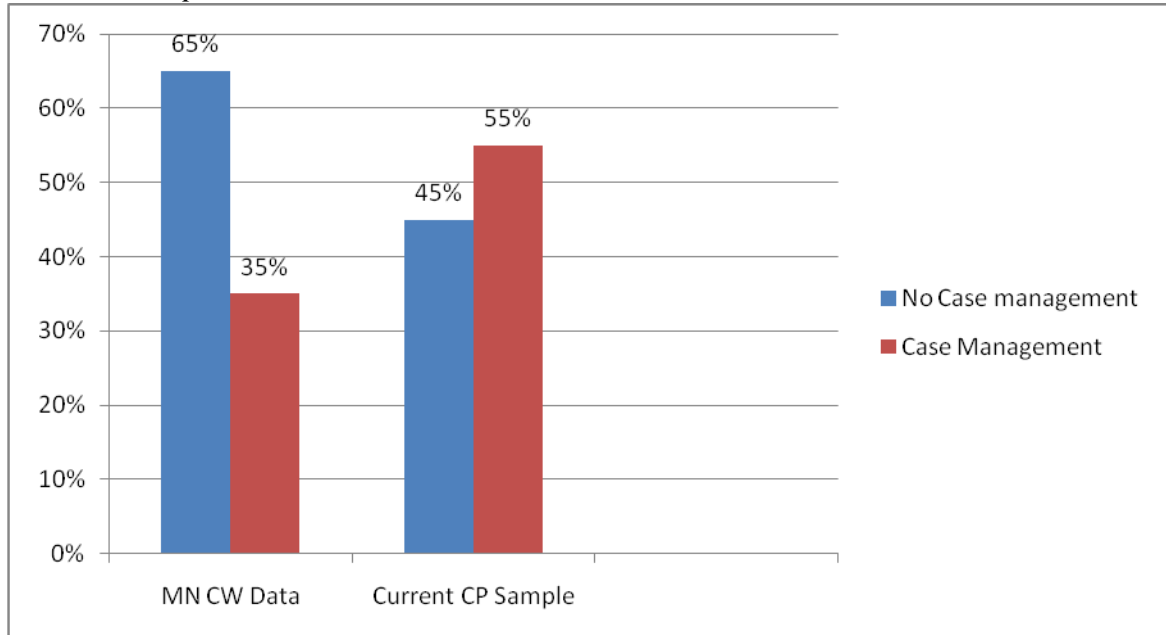
Source for MN CW Data: 2004 Minnesota Child Welfare Report (MN DHS, 2005)

The non-child protection sample: Table 4-4 describes the sample of non-child

protection students in the study. Again, the poverty percentage is notable: nearly two-

thirds (64%) of second graders who missed more than 10% of the school year in 2004-

05 were in poverty. Furthermore, three minority groups— African American, Native

American, and Hispanic—were overrepresented in the non-child protection sample as a

proportion of their distribution in the general population (see Figure 4-5).

Table 4-4

Demographic Characteristics of Non-Child Protection Students

Demographics	Count	Percent
Socioeconomic		
Not in Poverty	1155	36%
In Poverty	2048	64%
Gender		
Female	1515	47%
Male	1688	53%
Disability Status		
Physical or Sensory Disability	267	8%
Cognitive Disability	355	11%
No Disability	2581	81%
Special Education Status		
Special Education	588	18%
No Special Education	2615	82%
Race/Ethnicity		
Asian	160	5%
Native American/Alaska Native	276	9%
Hispanic	384	12%
African American not Hispanic	548	17%
White not Hispanic	1835	57%
English speaking		
No	379	12%
Yes	2824	88%

Note. N = 3203.

Figure 4-5

Race Comparison of Non-Child Protection Sample (2004 second graders with < 90% attendance) to 2004 Census Population
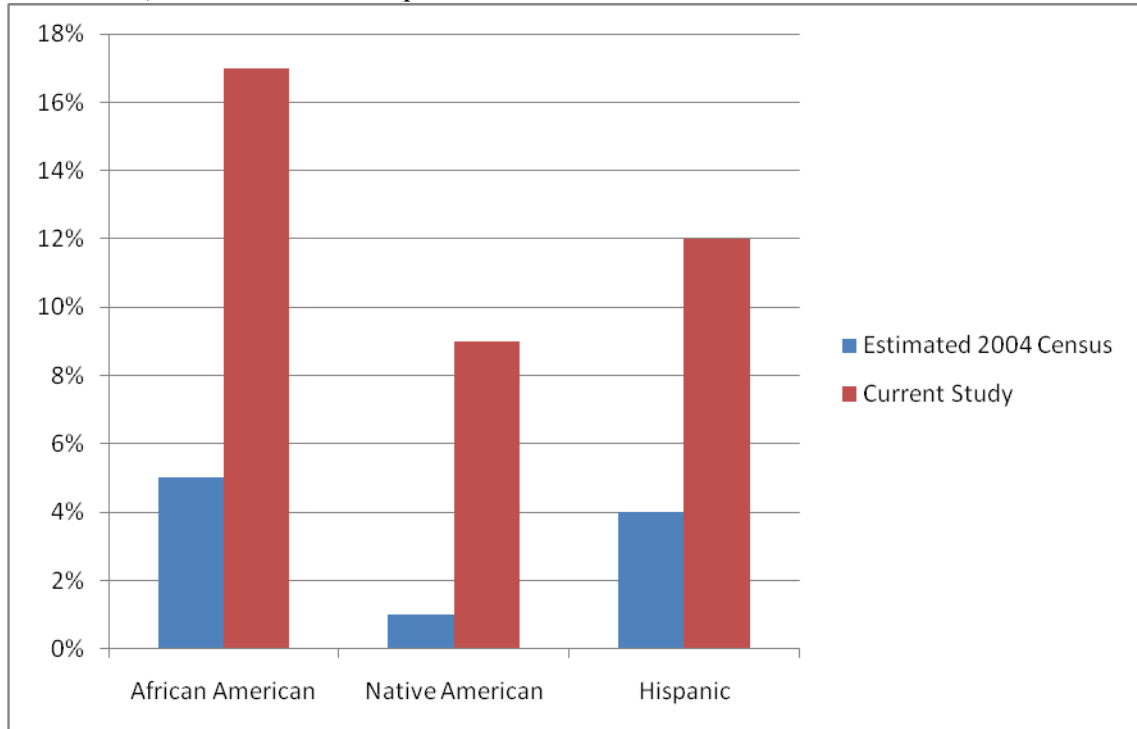
Source for 2004 census data: Minnesota State Demographic Office (2011)

The ideal in experimental design is randomized selection of the samples being studied. This study is a posttest design; therefore, I was unable to create comparison groups using random sampling. Instead, this study utilizes matching—grouping units with similar variables such that treatment and control groups each contain units with similar characteristics (Shadish, Cook, & Campbell, 2002)—to create two final groups for comparisons. .

Propensity Score Model

Propensity score matching (PSM) is a quasi-experimental method structured to eliminate, to the extent possible, bias in understanding the effects of interventions on populations, in the absence of randomized control designs. PSM has been broadly

applied for the last 25 years in fields as diverse as international economics (Francesconi & Heerink, 2011; Gottesman, Nam, Thornton, & Wynne, 2010; Shu, 2010), medicine and public health (Brown, Akinkunmi, & Fatunde, 2010; Cunningham, Shaw, Blakely, Atkinson, & Sarfati, 2010), psychology (Singh & Morley, 2011; Tompsett, Domoff, & Boxer, 2011), and the social sciences (Koh, 2011; Weigensberg, Barth, & Guo, 2009). Essentially, wherever there is access to large and the need for evaluation of interventions, PSM is an extremely useful method for estimating treatment effect.

Quasi-experimental designs: It is widely understood that randomized control studies are the best ways to achieve understanding of treatment effect in social research. In this study, as in most intervention research, it is difficult to measure the treatment effect of a highly-structured and well-defined intervention in absence of an experimental control group. In the absence of randomization, groups subject to the treatment may differ widely from groups not exposed to the treatment. Thus, in creating comparable cohorts there is a very real risk of selection bias.

A variety of statistical methods can be used to create comparison groups for analysis of treatment effects when random experimental design is not feasible (Cepeda, Boston, Farrar, & Strom, 2003; D'Agostino, 1998; Foster, 2003; Rosenbaum & Rubin, 1983; Rubin & Thomas, 1996; Weitzen, Lapane, Toledano, Hume, & Mor, 2004). These methods include ordinary regression, covariance analysis, statistical matching, and propensity score matching.

The simplest way to create a comparison group would be to randomly select a cohort from the existing research database. However, this approach cannot account for differences in the background variables associated with the treatment and non-treatment

groups (Rosenbaum & Rubin, 1985). Thus the participants in the comparison group could look very different from those in the treatment group.

Ordinary linear regression is a method used to adjust for these pre-existing variables between groups by using the background covariates as regressors (D'Agostino, 1998). However, this method assumes that there is a linear relationship between the covariates and the outcome, when often, such a relationship does not exist Covariance analysis also assumes linear relationships between independent and dependent variables. To get around this problem, some researchers use Analysis of Covariance (ANCOVA), a method which controls for baseline differences while statistically testing group differences. However, it becomes difficult to eliminate bias as the number of covariates increase (D'Agostino, 1998).

Matching models: Matching techniques do not assume a linear relationship between independent and dependent variables (Rosenbaum & Rubin, 1983). In statistical matching, the researchers divides treatment and non-treatment groups into strata based on chosen variables. Next, the researcher chooses a participant from the treatment group and matches him/her to a non-treatment group member based on one or more variables, trying to minimize the distance between matched cases (Foster, 2003; Rosenbaum & Rubin, 1983). Rosenbaum and Rubin (1983) discussed the complexity of this approach with a large number of independent variables. They also point to the potential for bias when impossible matches arise, because usually such group members are excluded from the final analysis.

Propensity score matching (PSM): Rosenbaum and Rubin (1983) wrote a seminal paper advocating PSM as an advanced approach to a matched-pairs design. In

PSM, covariates from each member in the sample are combined using a logistic regression to yield a distinct propensity score for every individual. The propensity score is the predicted probability of the individual being in the treatment group.

The core concept of PSM is the idea of the counterfactual. The concept stems from the study of philosophy, especially the writings of David Hume (1748/1959). Hume thought the understanding of the world as a regular factual account was inadequate and explored the concept of the counterfactual, finding it less problematic and more illuminating. David Lewis (1986) based his writings on Hume's and proposed completely abandoning the factual process of interpreting "A has caused B", instead using "B would not have occurred if not for A" (Heinrich, Maffioli, & Vazquesz, 2010).

Statisticians credit the counterfactual framework to Neyman (1923) and Rubin (1974) and therefore, generally refer to it as the *Neyman-Rubin counterfactual framework for causality* (Guo & Fraser, 2010). The framework stresses that individuals selected into treatment and non-treatment groups both have the potential (probability) to experience treatment: that is, the one in which they are observed and the one in which they are not (Guo & Fraser, 2010). The propensity score represents the probability of any member being exposed to the treatment vs. not being exposed. In true random experimentation, all sample members would have 0.5 as a propensity score (50% probability of being exposed to the treatment). The propensity score is calculated by creating a logistic regression score for each participant represented by:

$$P(D=1) \mid X$$

This score is a predicted probability of being treated.

Assumptions of PSM: Rosenbaum and Ruben (1983) explicated two basic assumptions that resulted in what they term "strongly ignorable" treatment assignment. Assumption 1 is the conditional independence assumption (CIA): there is a set of X covariates, observable to the researcher, such that after controlling for these covariates, the potential outcomes are independent of the treatment status.

$$(Y_1, Y_0) \perp D \mid X$$

is the mathematical notation for the previous explanation; after controlling for X, the treatment assignment is as good as random (Heinrich et al., 2010). This assumption is critical because it implies that even though treated and untreated members differ, their difference can be accounted for in order to reduce bias. Further, this allows for the untreated members to be used for the counterfactual.

Assumption 2 is the common support condition (CSC), which states that for each value of X, there is a positive probability of being both treated and untreated, or:

$$0 < P(D=1) \mid (X) < 1$$

The interpretation of this formula is: the proportion of treated and untreated members must be greater than zero for every possible value of X. Rosenbaum and Ruben (1983) referred to this as the overlap condition—that is, ensuring that there is sufficient overlap in the characteristics of the treated and untreated members to find adequate matches.

Matching algorithm: In using the propensity score for direct matching in this study, there are several direct matching algorithms available, each with its benefits and pitfalls. There are four recognized algorithms generally used by statisticians when using propensity score matching: stratification into quintiles, kernel matching, caliper matching, and nearest single neighbor matching.

Quintile stratification requires dividing the group sample into five categories based on propensity score. Within each quintile, the researcher calculates a mean outcome for treated and untreated using the propensity score. After creating the group means, calculations can be run between groups to establish the variance. This process involves complex statistical modeling as well as bias issues, since at least one of the five groups is created in an attempt to be inclusive of the entire sample of propensity scores. Thus either the first group or the last group usually has a biased mean due to outliers. Dropping out the outliers is an option, but this creates yet more bias in exclusion of the sample (Oaks & Johnson, 2006).

Kernel matching is a method for taking the outcome of the treated member and comparing it to a weighted average of all the untreated members, with the highest weight being placed on those scores closest to the treated individual. The advantage to this algorithm is a lower variance due to more information being used. The disadvantage is the possibility of poor matches, thus violating the above assumption of CSC: for each value of X there is a positive probability of being both treated and untreated.

This study incorporated the final two algorithms into one process, following work by Oakes and Johnson (2006) showing that the nearest-neighbor approach utilizing caliper measures (as defined in the proceeding paragraph) is the most straightforward process as well as the most transparent. Rosenbaum and Rubin (1985) also speak to using the direct matching process with clear and simple methods and using parsimony as a guiding principle. This study took each exposed student and matched him/her to an unexposed student within a predetermined range or caliper. Oakes and

Johnson (2006) state that there is no rule of thumb in determining the caliper width; this study used ±0.01.

Caliper width is extremely important to understanding the implications of the outcome in PSM studies: the average effect of the treatment on the treated (ATT). Oakes (2004) uses an excellent example of the impact of caliper width when using direct matching and propensity scores: knowing that a propensity score is a probability score between 0.0 and 1.0, assume the researcher is trying to match a treated member with a propensity score of 0.794. Using ± 0.05, the range of matched scores would be 0.744 to 0.844. Thus the unexposed member with a propensity score in that range would be assumed to be well-matched to the treated member in a similar range and any differences would be attributed to the treatment affect. This obvious bias issue must be balanced with the need to actually make matches. If the caliper width is too small and the propensity scores for the treated and untreated groups have different ranges and standard deviations, then researchers suffer a lack of matches, thus excluding much of the sample and violating the first assumption of CIA. This study used a smaller caliper range knowing that if poor matching occurred the caliber range could be revisited.

Calculating treatment effect: This study used an applied PSM approach, thus actually substituting each student's matched but unexposed outcomes with the unobservable counterfactual. Oakes and Johnson (2006) prescribe a mathematical computation for the average effect of the treatment on the treated (ATT); the difference in the ATT equals the difference in the matched pairs outcomes. Following the calculation of the ATT, it is necessary to compute the standard error (SE) of the propensity matched effect estimates. Bootstrap resampling is used to create the SE for

this study. Essentially, the computer algorithm draws a random sample of the data scores and creates a mean. This process is repeated at minimum of 1,000 times, creating a sample distribution of the means (basically, the ATT) from which to calculate the SE (Oakes & Johnson, 2006).

Limitations of PSM: The literature on the PSM model contains two widely discussed limitations of this approach (Heinrich et al., 2010; Oakes & Johnson, 2006). The first issue is the use of observable covariates, or the inability to use the unobservable covariates. To review the counterfactual discussion, the essence of PSM is to alleviate bias in measuring treatment effect, knowing that there are unobservable covariates. The influence of unobservable covariates on members of the untreated group might be so great as to make them dissimilar to the matched treated group member, unbeknownst to the researcher. In the current study, a limitation exists with unobservable covariates due to the use of secondary data. Identified variables used in the PSM model for this study come from the MARSS and SSIS databases. There are influential variables on young children's attendance (e.g., parent involvement in education, a child's relationship with his/her teacher) that are unobservable in this study.

The second critique of PSM involves the prior discussion of the use of algorithms. Heinrich et al. (2010) state that in selecting the algorithm, there will be an inevitable bias/efficiency tradeoff. Nearest neighbor coupled with caliper widths tends to match the entire pool of members to; however, the tradeoff of the caliper width might bias the results by enabling poor matches. As stated above, this study will utilize 0.01

for the caliper width and will readjust depending on the resulting match proportion and range of propensity scores of the sample.

In a 2009 study, Maffioli et al. reported results from a PSM report on the effect of an agriculture program on farmers using five dependent variable outcomes. Having both a treated and untreated group, the authors used all four algorithms discussed above to check their robustness in finding significant effects of the intervention. The results had a 4x5 matrix or 20 results of treatment effects, but there was a difference in only one matrix domain, with significance measured to 0.001 (Heinrichet al., 2010). They concluded that the robustness of results is dependent upon the algorithm used in context to your propensity score distribution and matching results (Oakes & Johnson, 2006).

PSM (Joffe & Rosenbaum, 1999; Rosenbaum & Rubin, 1985; Rubin, 1997) is an advanced approach to a matched-pairs design. Matched-pairs design is a way to alleviate much of the selection bias (error) in creating two comparable groups in absence of randomization. In PSM, covariates are combined from each individual using a logistic regression to yield a single propensity score. The propensity score is the predicted probability of the individual being in the treatment group. Individuals in the treatment group are matched to individuals in the control group based on their propensity score using nearest neighbor matching with caliper approach. This method allows for matching based on the closest propensity score within a pre-specified tolerance or caliper. Using this method, the researcher weights the variables by their relative importance and matches subjects based on an optimal composite, rather than by equally weighted individual variables (Rudner & Payton, 2006). Further, by matching on many variables, individuals receiving the treatment and individuals not receiving the

treatment will be similar. Rubin (1997) has shown that when one matches on the composite propensity score, the group means and standard deviations on the covariates will also be equivalent.

In summary, this study formed comparable groups in absence of randomization using PSM using the following steps. (1) The group of second graders created through MARRS and SSIS matching with less than .89 attendance were divided them into two groups; those without child protection intervention (non-treatment) and those with child protection intervention (treatment). (2) Logistical regression analysis was used to create the probability of predicting treatment for all group members using a range of covariates and this number became the propensity score. (3) A new matched pairs control group was created for each person in the actual treatment group using the propensity score of the nearest neighbor in the comparable group, i.e., the person with the closest propensity score using a defined caliper value (0.01). (4) The resulting outcome is the ATT: difference in the means on the outcome variables (attendance ratio between years 1 & 2) for the two groups.

Data Analysis

Analysis of Variance (ANOVA) and t-Test: Analysis of variance is a statistical procedure used to determine the differences in the means of two or more groups of subjects that are treated differently. The assumption is that the difference between the scores of the groups—the difference in group means—reflects a combination of treatment effect and a random error effect. It is further assumed that the differences within each group will be due to individual differences (random error). ANOVA is parametric, meaning the assumption is that the means are normally

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distributed (Newton & Rudestam, 1999). ANOVA will be used in Hypothesis 3, due to race being divided into five separate independent variables. I will use t-Tests for Hypotheses 2 and 4 to examine the significance of the means differences for ACR. The significance level of 0.05 will be set, meaning that no more than 5% difference is due to sampling error (Table 4-5).

Table 4-6 lists a complete analytical operationalization of the variables for this study. Figure 4-6 shows the shows the operational framework for the study.

Limitations of Methods

The methodology of this study has several limitations. The first involves the nature of secondary data. The covariates involved in the matching process for PSM were observable and taken from information available in MARSS. Unobservable factors that affect attendance do not appear in the data set and therefore were not included in the matching. One significant unobservable variable is parental involvement in the child's schooling, both at home and within the school environment (McNeal, 1999). The lack of unobservable variables in PSM is a well-known limitation of this model (Oakes & Johnson, 2006; Rosenbaum & Rubin, 1983).

Another design limitation was the inability to randomize a comparison group. This resulted in the need to use complex statistical processes to limit the bias error in creating a comparison group. A third limitation is this study's reliance on reported data, both in the MARSS database and in the SSIS database. Historically, these data sets have been inconsistent and at times incomplete (more so with SSIS than MARSS). One final limitation of this study is that the MARSS data does not distinguish between excused and unexcused absences.
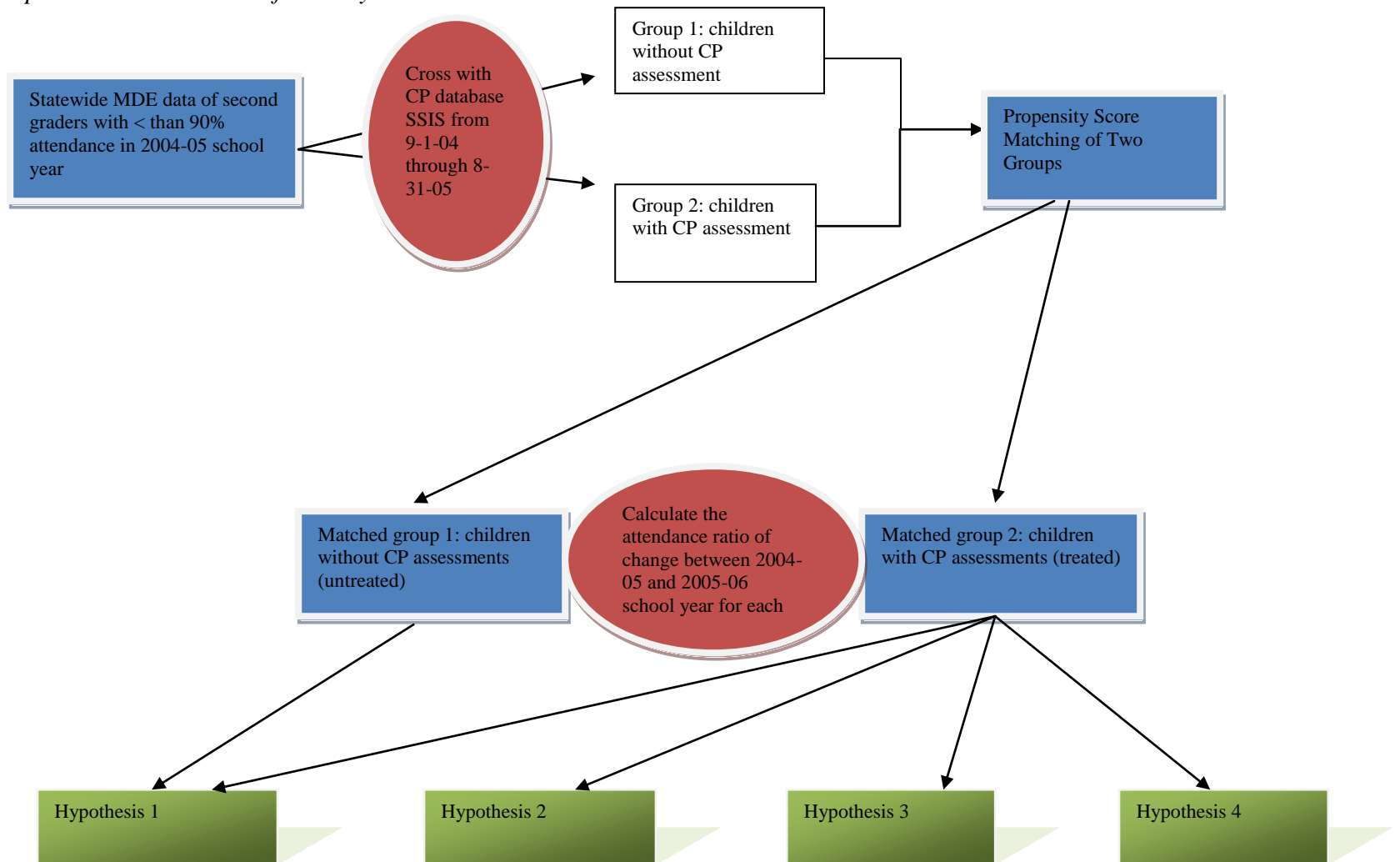
Table 4-5

Analytic Table

Question	Hypothesis	Dependent Variable	Independent Variable(s)	Analysis
For second graders with more than 10% absenteeism, does a child protection assessment positively affect attendance in the following school year?	(1) A child protection assessment will positively affect the attendance of second graders who are experiencing high absenteeism.	Attendance change ratio, year 1 to year 2.	Child protection assessment	Propensity Score Matching
Is there a difference in attendance in the following school year between those families that had a traditional assessment vs. a family assessment?	(2) Traditional child protection assessments will have a greater positive effect on second graders' attendance than any other form of child protection assessment.	Attendance change ratio, year 1 to year 2.	• Traditional child protection assessments • Family child protection assessments	T-Test
Is there a difference in attendance based on maltreatment allegation for second graders who have had a child protection assessment?	(3) Second graders who have allegations of neglect or educational neglect will experience an increase in attendance over second graders with an allegation of physical abuse or sexual abuse.	Attendance change ratio, year 1 to year 2.	CP allegations: • Sexual abuse • Physical abuse • Neglect • Medical neglect	ANOVA
Does child protection case management affect attendance in young children?	(4) Children with ongoing child protection case management will experience a greater improvement in attendance compared to children who do not have an ongoing child protection case management case open.	Attendance change ratio, year 1 to year 2.	Case management opened; Y/N	T-Test

Table 4-6

Analytic Variable Operationalization

Variable	Operational Definition	Source
Attendance Change Ratio from year 1 to year 2 (ACR)	ACR =ADA/ADM year 1 - ADA/ADM year 2 Year 1 2004-05 school year Year 2 2005-06 school year Scale to +/- .02 for improvement/decline: approximately 3 days	MARSS
Child Protection Assessment	Any CP assessment case open from 9/1/04 – 8/31/05	SSIS
Traditional Child Protection Assessment	Any CP traditional assessment case open from 9/1/04 – 8/31/05	SSIS
Family Assessment	Any CP family assessment case open from 9/1/04 – 8/31/05	SSIS
Child Protection Assessment Allegation	Taken off CP assessment	SSIS
Socioeconomic Status (SES)	School lunch program access Y/N	MARSS
Gender	0/1 Male/Female	MARSS
Disability Status	Y/N	MARSS
Geographic Location: Urban/Rural	Urban/Rural: Eleven-county metropolitan area, Rochester, St. Cloud, Duluth school districts	MARSS
Race	Census-defined	MARSS
Out of Home Placement	Any time during school year	SSIS
English Speaking	Per MARRS data, identified as ability	MARSS

Figure 4-6
Operational Framework for Study

Statewide MDE data of second graders with < than 90% attendance in 2004-05 school year

Cross with CP database SSIS from 9-1-04 through 8-31-05

Group 1: children without CP assessment

Group 2: children with CP assessment

Propensity Score Matching of Two Groups

Matched group 1: children without CP assessments (untreated)

Calculate the attendance ratio of change between 2004-05 and 2005-06 school year for each

Matched group 2: children with CP assessments (treated)

Hypothesis 1

Hypothesis 2

Hypothesis 3

Hypothesis 4

Chapter 5: Results

Child Protection Intervention on Young Truants

This study focused on the central question of what effect child protection intervention has on young truants. The study design began with locating all children who were in second grade in the Minnesota during the school year 2004-05 who had attendance less than 90% of the school year. Those students were then matched to state social services data to identify those students who had received a child protection investigation from 9/1/2004 through 8/31 2006. Attendance data were pulled for the entire cohort the following school year, 2005-06, to analyze if there was a difference in the improvement of attendance between those children who had received a child protection assessment vs. those children who had not. Propensity score matching was used as the main analytic technique to determine the treatment effect of child protection assessments on student attendance. This study further explored the effect of child protection assessments on student attendance based on the type of the child protection intervention.

Results

Hypothesis 1: A child protection assessment will positively affect the attendance of second graders who are experiencing high absenteeism. The research question corresponding to Hypothesis 1 is: For second graders with more than 10% absenteeism, does a child protection assessment positively affect attendance in the following school year? To answer this research question, propensity score matching was used in absence of a randomized experimental model. The study used Stata, v. 9.1,

PSMATCH2 algorithm to calculate the effect of the treatment on the treated (Lueven & Sianesi, 2003).

Propensity score matching. The first step in propensity score matching is to run a logistic regression for each student using the defined set of covariates to create a logit score (propensity score) which, in this case, is the probability of the student being exposed to a child protection assessment. The covariates used for this study were: poverty; special education status; disability status; race; gender; geographic location; and primary English-speaking. Figures 5-5 and 5-6 display the distribution of the assigned propensity scores among the two groups: child protection assessment students (treated) and non-child protection assessment students (untreated).
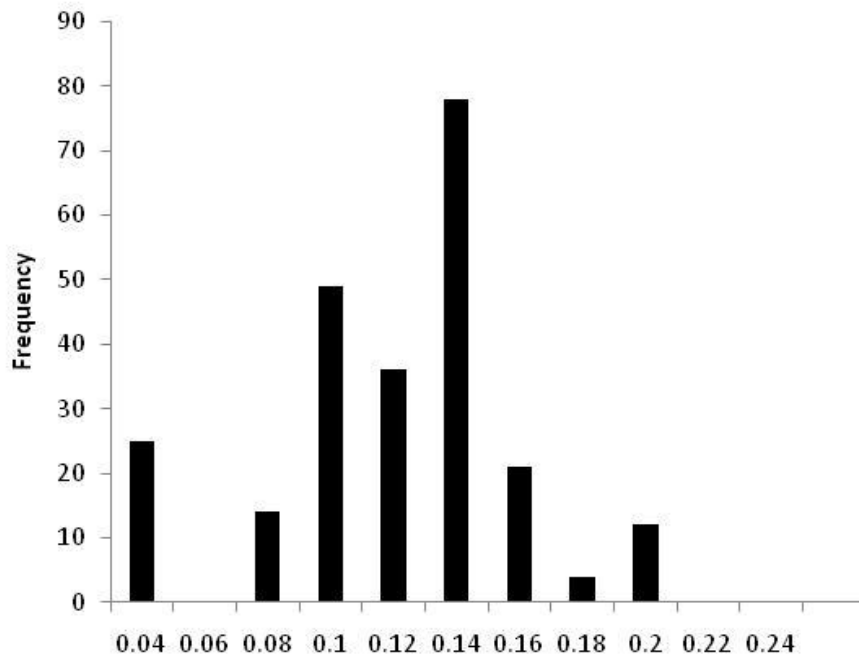
Figure 5-1. Propensity score distribution of the treated group (N=240)
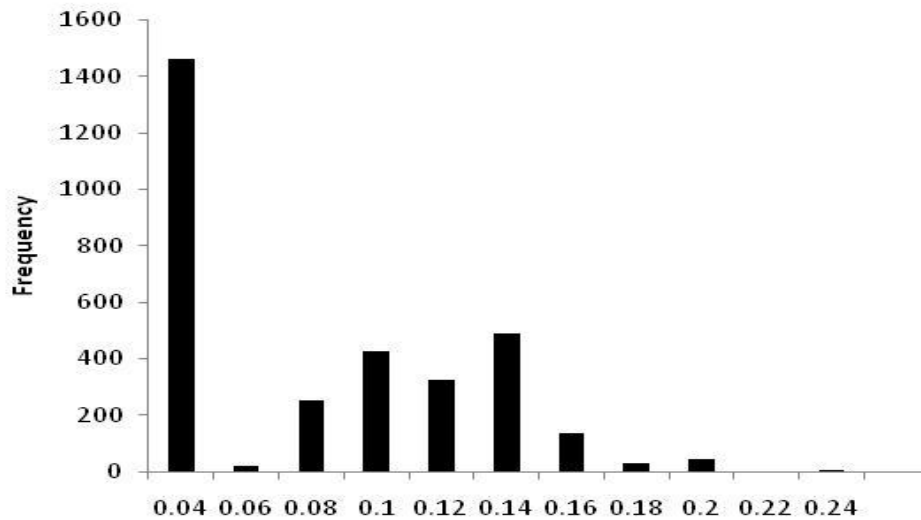
Figure 5-2. Propensity score distribution of the untreated group (N=3203)

The distributions of the propensity scores reflect two facts about the study results. First the range of the distribution of the propensity scores between two groups is similar. This suggests that there will be a very good match. As stated above, the second assumption for propensity score matching is the common support condition. This assumption states that having sufficient overlap of the propensity scores in the aggregate sample ameliorates bias in the study. The second fact reflected in the distribution graphs is the small range of student propensity scores, from approximately 0.04 to 0.20. The propensity scores are the probability that the student would be exposed to a child protection assessment. The probability scores are low throughout the sample due to the scores being based on demographic variables. Thus a classic condition of using quasi-experimental design appears; a trade-off of excellent matching

from a pool of students who have low probability of being exposed to the intervention overall (Oakes & Johnson, 2004).

The algorithm of matching used was nearest neighbor approach with caliper matching at 0.01. Once propensity scores were obtained and matched, I examined overlap graphically in a histogram (see Figure 5-7) which clearly shows the exceptional matchs for this study.

Figure 5-3. Histogram of treated (N=240) and untreated (N=3203) matching
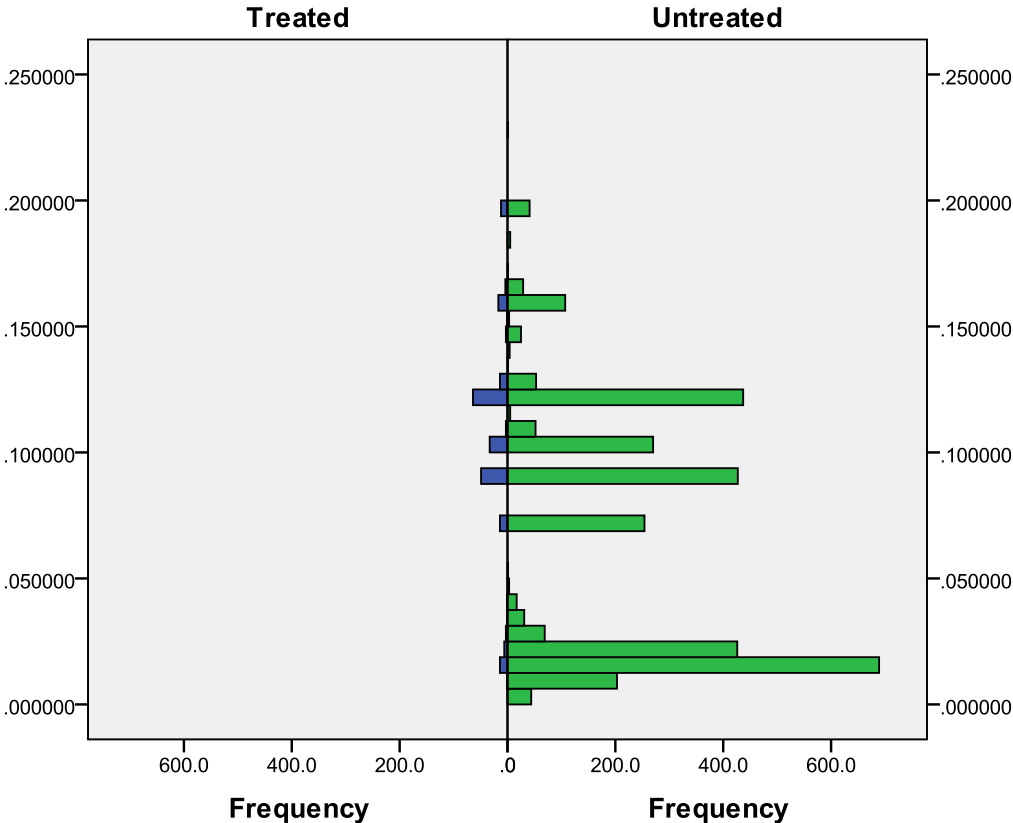
The resulting sample dynamics have the treated group being less than 10% of the size of the untreated group; therefore, finding matches for the treated was not an issue. Further, the range of propensity scores was so close in each group that very few untreated students were not matched. This state of affairs allowed for the fulfillment of the first assumption for propensity score matching: the probability of each value of X being able to be exposed to treatment. Of the 3,443 students in the sample with propensity scores, 3,438 students were matched.

Estimating average causal effects and standard error. Following matching, the final step is calculating the average treatment effect on the treated (ATT). This calculation provides the answer to the central research question. Basically, the ATT is the comparison of the proportion of the attendance improvement of students who received a child protection assessment with what would have been the proportion of students not receiving child protection assessments if in fact they had received them. This is the casual effect. The results are the difference in the ACR between students who had child protection assessments and those exchangeable students who did not. Bootstrapping methods were used to calculate the standard error. Bootstrapping repeatedly takes samples from the sample (1,000 times) that was used to calculate the effect estimate and the rate differences (Long & Freese, 2006). The standard error is then calculated from the standard deviation of the estimated sampling distribution.

Table 5-1 displays the results of the propensity score matching equation in discovering the answer to the first research question. The interpretation is based on the following null hypothesis: "Second graders with greater than 10% absenteeism who

experience a child protection intervention will not have improvement in attendance

compared to a similar group of second graders who did not have a child protection

intervention."

Table 5-1
Propensity Score Matching Equation Results

				Normal-based 95% Confidence Interval	
Observed Coefficient	Bootstrap Std. Error	Z	Sig	Lower bound	Upper Bound
.042	.113	.37	.713	-.180	.263
P<.05					

The results above show no significance in treatment effect of child protection

assessments compared to those children who did not receive child protection

assessments. Therefore, I am unable to reject the null hypothesis.

Hypothesis 2: Second graders who have a traditional child protection

investigation will have greater attendance improvement than children who

received a family assessment investigation. The question corresponding to Hypothesis

2 is: Is there a difference in attendance the following school year between those families

that had a traditional assessment vs. those that had a family assessment? This result was

arrived at by comparing the means of the attendance improvement ratio (ACR) between

the group of students with a traditional child protection assessment vs. those students in

child protection who had a family assessment investigation. A *t*-test was employed to

examine significance of the dependent variable, the ACR. Table 5-2 displays the results.

Table 5-2

Mean Comparison of ACR For Family Assessment and Traditional Assessment Groups

Family Assessment	Traditional Assessment	t	df	sig
.039	.057	-1.80	237	.073
(.074)	(.077)			

Note. Standard deviations appear in parentheses below the means.
Family assessment (n) = 95 and Traditional assessment (n) = 144.

Of the 240 children who experienced child protection intervention, 95 had a family assessment and 144 had a traditional assessment. A two-way t-test revealed no significance in the attendance means of the two groups, $t(237)=-1.80$, p=.073. As a result, I rejected the null hypothesis: for this sample, there is no difference in the ACR for students receiving these two types of child protection assessment.

Hypothesis 3: Second graders with chronic absenteeism and child protection involvement will experience greater attendance improvement if their allegation is neglect compared to students with allegations of physical abuse and sexual abuse. The question corresponding to Hypothesis 3 is: Is there a difference in attendance for second graders who have had a child protection assessment based on their maltreatment allegation? The complete sample of students with child protection intervention and coded maltreatment allegations was 233 students; there were 7 students without maltreatment allegations in the sample.

The SSIS data reflected four types of maltreatment allegations: neglect, physical abuse, sexual abuse, and medical neglect. The sample for this study did not have any maltreatment allegations coded as sexual abuse. Tables 5-3 – 5-5 show the results of a

one-way analysis of variance done for this hypothesis with the dependent variable being

the ACR.

Table 5-3
Descriptive Statistics for Neglect Type

Type	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	180	0.049	0.074	0.006	0.038	0.060	-.18	.42
2	38	0.046	0.061	0.010	0.026	0.067	-.15	.13
4	15	0.090	0.115	0.030	0.026	0.154	.00	.44
Total	233	0.051	0.076	0.005	0.041	0.061	-.18	.44

1=Neglect; 2=Physical abuse; 4=Medical neglect
* No sexual abuse allegations coded in this sample

Table 5-4
Test of Homogeneity of Variances for Neglect Type

Levene Statistic	df1	df2	Sig.
1.864	2	230	.157

Table 5-5
Analysis of Variance for Neglect Type

Source	Df	F	p
Neglect Type	2	2.126	.122
Error (within groups)	230	(.006)	

Note. Values enclosed in parentheses represent mean square errors.

A one-way between-groups analysis of variance was conducted to explore the

impact of child protection allegations as measured by the attendance change ratio

(ACR). Subjects were divided into three groups based on their allegation (Group 1:

Neglect; Group 2: Physical Abuse; Group 4: Medical Neglect). There was not a

statistically significant difference at the p<.05 level in the mean ACR scores for the

three groups, $F(2,230)=2.13$, p=.122. As a result of the above analysis, the null

hypothesis cannot be rejected. For this sample of students with child protection

intervention, the type of maltreatment allegation had no effect on their attendance

change ratio.

Hypothesis 4: Students with ongoing child protection case management will

have more improved attendance compared to students who do not have ongoing

child protection case management. The question corresponding to Hypothesis 4 is:

Does case management of truant second graders affect their attendance the following

year? This hypothesis was measured with a *t*-test for significance between two groups

of students with child protection investigations: those with case management open and

those without case management. The dependent variable is the ACR.

Table 5-6
Mean Comparison of the CM and NCM Groups on Their ACR

Case Management	No Case Management	*t*	df	sig
.043	.057	-1.44	235	.151
(.068)	(.081)			

An independent-samples *t*-test was conducted to compare the mean attendance

change ratio (ACR) of children who had received child protection case management

(CM) at any time vs. those who had received no case management (NCM). There was

no significant difference in scores for case management (M=.043, SD=.068) and no

case management (M=.057, SD=.082), $t(235)=-1.44$, p=.151 (two-tailed). As a result of

the above analysis, the null hypothesis cannot be rejected. For this sample of students with child protection intervention, receiving case management had no effect on their attendance change ratio.

Chapter 6: Discussion and Conclusions

The purpose of this study was to discern whether there were school attendance differences between young truants who had child protection assessments and those that did not. Propensity score matching (PSM) was used (covariates included poverty, special education status, disability status, race, gender, geographic location, and primary English speaking) to create a comparison group of non-child protection exposed truants in absence of randomization design. The average effect of treatment on the treated (ATT) was compared to the untreated group and tested for significance. Further, this study examined the effects of child protection assessments on student attendance focusing on several attributes inherent to the child protection process: type of assessment, maltreatment allegation, and case management services.

Consistently missing school is a sign of disengagement that is a risk factor for further deterioration in school performance (Epstein & McPartland, 1976). Truancy has also been reliably linked to dropping out (Alexander, Entwisle, & Horsey, 1997; Kaplan, Peck, & Kaplan, 1995) and the consequences of dropping out (e.g., greater unemployment rates, criminality, etc.) (Hibbett, Fogelman, & Manor, 1990; Robins & Ratcliff, 1980; Rouse, 2007; Washington State Public Policy Institute, 2009). Educational failure has profound public as well as personal costs. This study begins to explore the implications of the statutory policy of truancy intervention.

Summary of Findings

Effects of child protection on attendance. This study found no significant effect on the attendance change ratio of students irrespective of if they had been

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involved in a child protection assessment. For this sample, child protection intervention had no influence on school attendance. The PSM model revealed that using the observable covariates available in the secondary database resulted in both the treated and the untreated groups being very similar. Further, the small range of the propensity scores (approximately 0.04-0.20) allowed for excellent overlap between the two groups but also suggests the possibility that unobservable variables would be a better predictor of the students' probability of being exposed to child protection (Oakes & Johnson, 2006). That is to say, the students exposed to child protection assessments (i.e., the treated cohort) in this study did not have unique observable covariates that assisted in predicting their exposure to child protection.

Results in relation to the preliminary study. The results of this analysis should be understood and interpreted with caution. For example, the result of no significance in treatment effect of a child protection assessment directly contradicts the findings of the preliminary study done by Zuel and Larson (2005). In that study, it was found that 70% of the students experienced attendance improvement (positive increase in the attendance change ratio) following a child protection assessment.

One potential explanation for these discrepant findings is that the preliminary study sample differed remarkably from the current study sample. The preliminary study sample was drawn from the social services database and consisted of all child protection maltreatment confirmations of educational neglect. The sample year was the 2000-01 school year. Much changed in the child protection process from 2001 to 2004.

In the preliminary study there were approximately 700 confirmed maltreatment allegations of educational neglect. In the current sample of 4,007 second graders who missed more than 10% of the school year, there were not any recorded allegations of educational neglect, even though SSIS has a dedicated code for the allegation. This obvious disconnect is probably the result of county systems implementing the family assessment process in child protection investigations in 2002. Family assessment was designed to divert low-risk cases for voluntary intervention without the family having to submit to a formal child protection assessment. In Minnesota, individual counties were allowed to design the process flow to meet their own understandings of the model. Many counties opted to redirect low-risk cases directly to an internal or external child welfare social worker from the intake area of child protection, therefore never opening an official assessment case on the state system. These cases diverted from intake would not have been recorded as child protection assessments. In the preliminary sample of the school year 2000-01, these children were served by child protection and therefore appeared in the data system.

Further evidence of the samples for the preliminary study and the current study being profoundly different is the fact that in the current study of 4,007 second graders who missed more than 10% (approximately 18 days) of school, the number of child protection assessments found was a paltry 260, or 6.5% of the total sample. This is an abysmal rate, especially considering that state statutes require schools to report children to child protection if they accrue seven or more unexcused absences. While it is possible that 3,840 second graders in the school year 2004-05 who missed at least 18

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days of school had mostly excused absences, the fact that this study could not find 543 of these students (14% of the original cohort) in the MARSS database the following year infers that something is amiss in the child protection process, which is, in part, intended to ensure that young children with high absenteeism rates attend school. It is also notable that the preliminary study of 2000-01 only had a 5% student loss from year one to year two.

Two tentative conclusions may be drawn from the above discussion. It is possible that, in 2004-05, schools were not reporting young truants simply for missing school, knowing that these cases would be diverted to a voluntary intervention model and not the more traditional child protection process that apparently had some success prior to the 2002 school year (Zuel & Larson, 2005). The other possible scenario is that schools did report to their local child protection agency all children having more than seven unexcused absences, but the county agency diverted a large majority of those reports to a family assessment model that did not require an opening in the state social services database. In either scenario, it appears that child protection possibly had an impact in the lives of families with young truants in the school year 2000-01 but had no such impact in the school year 2004-05.

The complete system of reporting and intervening on young truants changed from the year 2000 to 2004. The sample for the current study reflects that change of the entire process. Reporting of truants was essentially non-existent in the school year 2004-05 since the sample contained no educational neglect allegations, the number of students having a child protection intervention was paltry compared to the number of

students chronically missing school, and child protection intervention had no effect on attendance, possibly because truancy was not the presenting problem for any of the cases.

Findings of the child protection sample. The current study also examined the outcomes for students with a child protection assessment based on the variations of the child protection process. Three variables were assessed for possible effect on attendance: the opening of case management, the type of maltreatment allegation, and the outcome of traditional or family assessment. None of these three attributes showed significance in relation to improved attendance. This result supports the previous discussion about the makeup of the child protection sample. It was hypothesized that students who received case management, who had a low-risk allegation, or who received a traditional assessment would all see attendance gains compared to students who did not have these characteristics. This was not the case. A possible explanation for this finding is that all of the cases in the sample open for child protection assessments were open for other reasons than attendance. As discussed above, the presenting problem was not attendance; therefore, the intervention did not focus on truancy.

The overall study hypotheses, as well as the sub-questions pertaining to child protection influence on attendance, were based on the theory of an ecological systems intervention (e.g., child protection) in which a more holistic, family-centered approach for young truants would be effective, connecting the child and family to their mesosystem and macrosystem resources. Barth (1984) explicated the four domains of truancy intervention—individual, family, school community—of which child protection

intervention alone covers only one. However, taking child protection intervention as a part of a greater truancy intervention model begins to incorporate all four domains. Each of the four domains needs to be a fundamental part of an effective truancy intervention. Child protection intervention has the capacity to oversee all four domains, yet in this study, the sample reflects little integration of the domain components: child protection agencies did not record truancy reports. There is no ability to track if the school even reported truancy. No child protection interventions were based on truancy. The probable conclusion is that the sample was affected by changes in the child protection model in relation to young truants.

Overall, the sample reflected that second graders in the school year 2004-05 who experience absenteeism of more than 10% were more likely to be poor and children of color. The disproportionality was similar to findings for all children in child protection in Minnesota for the year 2004.

Limitations of the study

Both the child welfare system and the education system are highly decentralized and therefore interventions emanating from these systems are dependent upon local policies and practices. This has implications for drawing conclusions from statewide studies. For example, Arum (2002) discusses at great length the ecological systems that all school systems encompass that are not related to their geographic location or their student population. School policies and procedures are much more dependent on local school boards, state and federal funding constraints, and education policy mandates by legislative bodies than from community forces. As a result, each school may approach

truancy policy very differently, dependent on its administrative system. Schools with more resources may conduct their own intervention, whereas schools with fewer resources may either turn to other agencies within their community for truancy support or limit their intervention to chronic truants. This latter explanation may reflect the absence in the administrative data of 15% (564 students) of the original sample who disappeared from the first year to the second year of the study without any record of them in either the education data or the child welfare data anywhere in the state.

The decentralization of the child welfare system has been criticized in several state publications over the last 15 years. The first mention of child protection model disparities appeared in the 1997 Office of the Minnesota Legislative Auditor's report on child protection systems in Minnesota counties, which was critical of the inconsistent county models for child protection intervention. The report documented extreme variation in definitions of abuse and neglect, with some counties investigating fewer than 20% of all allegations reported and others investigating more than 90% of allegations. The explanation for the disparity rested in the funding of child protection. Local property tax dollars supported the majority of county child protection intervention, and state guidelines were very broad in defining abuse and neglect, leaving much of the decision on intervention to the local authority.

A decade later, in 2007, the Office of the Minnesota Legislative Auditor released a broader report on human services administration statewide. In the area of child protection service, not much had changed—the inconsistency still remained between counties because the state only supplied 7% of the funding for child welfare

services. Minnesota ranked 49th out of 50 states in state funding of child protection (p. 28). Thus, the funding of child protection remains in the hands of local county boards and their ability to fund child welfare services through property taxes. This situation profoundly limits our ability to draw conclusions about child protection using statewide child welfare data.

Working with large administrative data sets results in several other limitations of this study. The first of these is the probability of measurement error on the part of the individual(s) who enter the data. In the MARRS database, there is not a standard way to enter attendance. Each district may have its own policies and processes for recording attendance in the state system. It is even possible that different schools within a district have different processes for recording attendance. Furthermore, every time student data is entered in MARRS, the complete student record is updated. This results in scenarios such as a student having a disability code at one date and not having one at a later date, and then having one again at a third date. The record updates may have nothing to do with the disability of the student—MARRS requires all student data to be reentered every time one variable changes. This provides many of chances for error.

Likewise, in the SSIS database there are likely error points. The most significant for this study is in the allegation coding. Of the children with a child protection intervention, the majority had an allegation of neglect. This broad category is ill-defined from county to county, allowing for the possibility of, for example, a school to report educational neglect and the local child protection agency to code it into SSIS as neglect report.

A second constraint of working with the administrative data was the clustering of the variables for coding for analysis. Race and ethnicity data were coded differently in the MARRS data than in the SSIS data, and neither database had race coding consistent with the U.S. Census Bureau's categories. This resulted in an undercount of Hispanic students in describing the sample because in the databases, Hispanics were lumped together with other races. Geographic location of students was also difficult to recode. MARRS listed students by their school district, but school districts in Minnesota do not follow county lines, therefore some estimating had to be done to recode a student's location as rural or urban.

Finally, administrative data does not always contain the variables a researcher needs to accurately answer questions. This was apparent in this study because the only variables available for doing the propensity score matching were demographic variables. As discussed in Chapter 4, non-demographic variables (unobserved variables) may have a major influence on attendance and child protection intervention; however, this study was unable to explore the effects of these variables.

Implications

Researchers continue to explore and identify the linkages between early absenteeism and resulting issues with achievement, delinquency, and dropouts. This analysis begins to examine the statutory response to high absenteeism among elementary-age children. Policy directs social work practice through legislation, mandates, and funding streams. Practice informs policy via the collection of process information and documentation of outcomes. Research supports both policy and

practice through data analysis and theory development. The results of this study infer that the relationship between policy, practice, and research is essentially broken for young truancy intervention. The child welfare system and the schools do not cooperate in the truancy reporting process. Practitioners in schools and child protection staff are not engaging in intervention with young truants or are not recording their actions. Finally, research is sparse due to complex and untrustworthy data.

Practice. Social work practice is guided by policy through the use of legislation, rule making mandates, and funding streams. Truancy practice for young children is comprised of several components, directed by both law and administrative structure, resulting in intervention in young truants' lives. Practice implications from this study are broad and relevant to social workers working in multiple environments.

First, early childhood programs as well as preschool assessments need to start focusing on indentified risk factors for very young children that may result in possible school failure as children begin elementary school (Holbert, Wu, & Stark ,2002). This practice approach would allow for targeting prevention resources to aid in resilience for children. This follows the social development strategy theory of strength based interventions to bolsters the family and child's ability to succeed. The identification of high risk young students needs to continue after starting school. Risk tools should be used in the K-3 population, focusing on the Barrington and Hendricks (1989) research showing the three attributes of attendance, achievement, and quality of relationship with teachers. These three components could be scaled to allow for some predictive attempts

using strength based interventions of social development strategy to provide resilience for these high risk students.

Second, schools need to record attendance in a uniform way. Currently, school systems document attendance haphazardly and inconsistently (Richtman, 2007). Further, school systems should be required to document when they make an educational neglect report to the local child welfare agency. This would assist in understanding those truancy cases not opened in child protection investigations. School personnel need to understand that they are the first step in any truancy intervention model and child protection social workers need to understand they are part of the truancy intervention continuum. Both school social workers and child protection workers would further benefit from clear, concise guidelines for truancy intervention that are coordinated.

Third, both school-based and child welfare social workers need to address early absenteeism in a family ecological context. Ford and Stuben (1996) evaluated an incentive program for elementary school children and found family issues, transportation, and school connectedness to be the three major issues affecting attendance. Baker and Jansen (2000) evaluated a school-based support group for chronic absenteeism and had similar findings surrounding school engagement. Though few studies exist, researchers on early truants continually identify family constructs, lack of capital resources, and poor relationships with school staff as leading factors that associated with truancy.

Fourth, child protection staff need to look beyond presenting allegations when working with families, an approach not supported by the current practice model of

truancy intervention in the child protection system. As stated above, the current model of truancy intervention is linear, beginning with the school and ending with child protection investigations. Child protection agencies only accept reports on educational neglect from schools but many children who experience allegations of abuse have school attendance issues. The problem is that current child protection practice is focused on allegations only and often does not attend to accompanying absenteeism. Child protection social workers should incorporate in their investigation attendance and achievement information for all children who are a part of any child protection assessment. Absenteeism should be like all other abuse/neglect allegations—reportable by all professionals. The child protection agency could contact the school and partner with them in the allegation investigation, yielding a multisystem intervention model that is more conducive to information sharing.

Fifth, greater knowledge and resources should be available to child protection systems about school communities and the truancy rates in those communities. There should be clear data with possible geo-tracking of truancy rates, especially in large urban areas. This would allow child protection to focus education issues in higher risks areas based on data. Furthermore, if children need to go into alternative living arrangements for safety issues, the child welfare agency should make every attempt to keep these children within their school communities. This would require having available foster homes organized by school communities. Thus the child protection system, as well as the foster care system, needs to be much more integrated with the school community. One model may be to use parent organizations through the school to

recruit foster parents for those children within that school who may end up in out of home placement.

Sixth, communities need to develop comprehensive strategies for truancy intervention. The model of community interventions for domestic violence would be an excellent template for truancy. Most women in the United States visiting their primary medical clinic are asked about threats of violence in their lives. This is a concerted effort on the part of domestic violence advocates "messaging" the importance of safety for women in intimate relationships. Parents and children should be asked about their school attendance when encountering other professionals in their lives. An aspect of the community strategy should be the ability for these professionals to report issues about attendance to the proper authority.

Seventh, social work graduate education needs to expand the definitions in teaching child welfare. Currently the child welfare specialty track of study is defined narrowly as work in public child welfare, supported in many cases through federal IV-E grants. These grants have stipulations of interning and working in only public child welfare for the graduate student. Not only the definition of child welfare should be broadened, but the access to IV-E grants should include all social work graduate students working with children, inclusive of school social work. This graduate school division sets up divisions that follow these students into their professional life. First is the creation of an implicit hierarchy within a graduate school class. Many of the public child welfare students are receiving grant money for their tuition. They have to take required child welfare classes, separate from students who are not in the child welfare

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track, even though those non-child welfare students may eventually work with children in schools. Many IV-E public child welfare workers leave graduate school debt free due to the grant, while social work students in school social work may have a very large school debt load. This tends to create a foundation of separation between social work graduate students that follow them into their professional careers. Professionally, child welfare and school social workers view their work as distinct. This study implies a lack of communication between schools and public child welfare agencies, some of which could be attributed to the respective social workers definitions of their distinct roles.

In conclusion, practice models should begin to target at-risk children very early in their education. Social development strategy undergirds strengths-based intervention practice models aimed at known risk factors for early truancy. Such interventions should be inclusive of schools, communities, and the child welfare system if need be. The Colorado Foundation for Families and Children (2002) evaluated community programs over a period of three years and found greater success in ameliorating early truancy if a comprehensive community plan involving parents and schools and other professionals was carried out. Child protection models need to be broader based in defining truancy in small children as a risk factor with greater weight. Further, child protection systems need to track truancy by geographic locations within large urban areas and focus intervention appropriately. Children needing out of home placement should be able to remain within their school community. And finally social work graduate education needs to be more inclusive of training students collaboratively who

will eventually work in the communities collaboratively. If divisions start while in

school, than predicatively they will carry through into the respective areas of practice.

      Policy. This study has policy implications for both professional staff working

with truants as well as larger state systems. First, schools are not adhering to the statute

of mandated reporting of truancy to their local child protection agencies. There is a

disconnect between policy and practice, such that practice is unable to inform policy

and policy is not directing practice. This study sample clearly showed that of 4,007

students that had missed at least 18 days of school, only 240 had a child protection

investigation, and none of those were for missing school. This situation results in very

poor data collection for truancy intervention, rendering the data untrustworthy. In order

to rectify this discordance there must be better data collection by schools when

recording absenteeism. There should also be better collection by child welfare agencies

on what was reported, what happen to the report, and accurate allegation coding. These

efforts would result in a better knowledge of where the truancy intervention system is

failing.

      Understanding the failure of the truancy model begins with understanding the

unreliability of the data, which leads to the second policy implication of this study. The

Minnesota Department of Education and the Minnesota Department of Human Services

should release a joint annual report on children's attendance and achievement data

focusing on children who have had contact with the child welfare system. Currently,

acquiring this data is cumbersome for researchers and almost impossible for policy

planners. Further there is little attempt at examining the trustworthiness of the data both

in education and in child welfare. This examination needs to be done at the state level between the two primary agencies responsible for collecting the information.

Third, the state legislature should require data sharing between schools and public child welfare agencies. The Legal Center for Foster Care and Education (LCFCE) in 2008 explicated the federal laws defining information both from child welfare agencies to schools and vice versa in an American Bar Association report. Child welfare information is covered under Child Abuse Prevention and Treatment Act (CAPTA). This federal act mandates each state to pass statutes protecting child protection information. Several states have amended their data statutes for child protection to allow for school data sharing (LCFCE, 2008). School information is covered under Family Educational Rights and Privacy Act (FERPA) which allows for specific information release only with the parent or guardian approval. When children are in the child welfare system under temporary guardian of the court, then the information can be shared with a specific court order. Los Angeles County made signing a release for attendance information a standard form in any child protection investigation (LECFC, 2008). This simple change in practice allowed for access to education records in most child protection cases. The state should have clear practice guidelines in child welfare that includes having attendance information in every child's investigation file, irrespective of the allegation being investigated.

Fourth, the state should legislate requirements that schools must employ social work staff based on pupil population. Currently only special education school social workers are required and receive funding for their services. With education budget cuts,

social work staff have been cut or eliminated in many districts. This has contributed to loss of consistent attendance recording, identification of high risk students, and essentially putting much of children's social struggles on the class room teacher. Along with school requirements, the state should license school social workers specifically for education work. Currently Minnesota requires a school psychologist to have a master's degree or higher, complete an internship, complete a one year practicum, and take a standardized exam for licensure. A school counselor in Minnesota has to have a master's degree or higher, a 400 hour internship, and complete a standardized exam for licensure. School social workers only require a bachelor's degree with no internship requirements, no practicum, and no exam or licensure (Altshuler & Webb, 2009).

Fifth, both federal and state child welfare audits should focus more attention on young children's attendance and achievement. The current federal audit, the Children and Family Services Review (CFSR), only covers education content in the local child protection file under one wellbeing outcome indicator (#2, item 21). Minnesota did not meet substantial conformity in the CFSR in 2001 or 2007 in the area of education documentation (Mn DHS, 2008). On a national level, little attention is paid to children's educational needs who are receiving case management services and not in placement (National Center for State Courts, 2004). The annual state audit, The Minnesota Child Welfare Report, covers all statistics in child protection statewide. This annual report, which has been published for over a decade, has never discussed educational neglect among young children. This probably reflects the complete lack of data available for this population. Further, it reflects the Department of Human Services' lack of oversight

in educational issues for the child welfare population; even though the CFSR reports consistently state Minnesota is not achieving minimum compliance.

Sixth, the Department of Human Services should release guidelines for truancy intervention for child welfare workers, judges, juvenile probation officers, and school personnel. Essentially, all parts of the system need to be coordinated for effective intervention. Currently, local attempts at coordination appear to have some success in localities where school districts and county jurisdiction boundaries coincide (Richman, 2007). In counties with multiple school systems, coordinating intervention methods and sharing data becomes much more complex. In these cases, efficiency dictates that the coordination would come from the state, resulting in data collection that is consistent, accurate, and helpful (e.g., data that distinguishes excused vs. unexcused absences). There should be practice guidelines for collecting attendance information for all children involved in child welfare as well as juvenile justice. These guidelines should cross professions from social workers to probations officers to judges.

Finally, absenteeism needs to be viewed by child welfare systems as a measure of child well-being, as it is so clearly done on the national CFSR. This would encourage the local child protection agencies to weight absenteeism as neglect with severe consequence. Education outcomes for young children should be included as substantial wellbeing markers in the Minnesota annual Child Welfare Report and local county child welfare systems should be audited for their attention to educational outcomes for children who enter their system. Juvenile judges should include in the record of every child who appears in their court attendance and achievement information. In child

welfare cases the parent or guardian should have the primary responsibility to gather the

information, if unable than the child welfare worker should produce it. In delinquency

actions, the adolescent should be responsible to produce to the court their education

information.

More research needs to be done to establish early truancy as precursor to further

negative childhood outcomes. Unfortunately, this research in Minnesota is greatly

hampered by the difficulty of accessing data on young truants as well as the

untrustworthiness of the information.

Future research. Further research into child welfare interventions with young

truants will need to focus on obtaining more accurate data. This would probably involve

a mixed-methods approach, because existing administrative data does not include

important variables that affect attendance.

Due to the very poor quality of the data, future research should focus on

interventions being carried out in specific county/school system groupings. Multiple

cohorts of county/school groupings would help researchers compare intervention

processes to see if there is a difference in intervention effect. This would also allow

researchers to drill down to the student level. Furthermore a randomized design should

be utilized, thereby ensuring that students being compared are from the same

county/school cohort. This would eliminate possible sample bias from local

environmental variables.

To enhance the understanding of intervention process for truants, future

qualitative research could focus on specific cases of young absenteeism. These studies

could be somewhat ethnographic in nature with the research taking a set number of truant children's cases in the child welfare system and interviewing the parent, the school staff (teacher, social worker), and the child welfare social worker. One major question to explore would be each participant's understanding as to why this child is missing school. It is possible that the current multisystemic model for truancy intervention is not working well due to the divergent understandings of causation of absenteeism by the major participants in the intervention model.

Finally, future social work research in truancy intervention should be much more focused specially within the field of social work research. Currently, truancy research in America is scattered across the professional fields of criminology, law, psychology, public health, and family sciences. Social work research is sparse in truancy. Yet due to the multisystemic nature of successful interventions and the multiple systems involved, it would appear to be the logical place for social work research to be: between systems. The social work profession needs to own truancy. This will only happen with coordinated education of graduate students and bringing attention to school attendance as a major well being factor for children irrespective of the practice area graduate students eventually work in. Much like the early days of the recognition of domestic violence as a major social issue, there was research being produced out of medicine, law, psychology, and criminology. Social work research became deeply involved in the etiology and intervention of domestic violence so much that today the research is being lead by the social work field. This can happen with truancy but much

like successful interventions, it will take a coordinated plan by the social work academic

community.

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