Abstract

Title of Document: THE EFFECTIVENESS OF SCHOOL
BASED INTENSIVE PROBATION FOR
REDUCING RECIDIVISM: AN EVALUATION
OF MARYLAND'S SPOTLIGHT ON SCHOOLS
PROGRAM

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        School Based Probation programs provide intensive supervision for juvenile probationers by placing probation officers in high schools. However, they have yet to undergo rigorous evaluation. Previous evaluations suffered from methodological flaws and have presented inconsistent findings.

        The state of Maryland began its SBP program, called Spotlight on Schools (SOS), in the 1990's. It is now used in many schools throughout the state. SOS has never been formally assessed. This dissertation presents results from a quasi-experimental non-equivalent group study examining the recidivism rates of students in schools with and without this probation program.

        I address the flaws of previous evaluations by using two statistical methods. First, I use multi-level modeling to predict school level recidivism while controlling for statistically relevant individual level and school level characteristics. Second, I use survival analysis to determine if juveniles on SBP experience a longer time in the community before recidivism. These analyses are supplemented with interviews of school principals and probation officers.

Results from the multi-level modeling and survival analysis indicate that school participation in the SOS program is not significantly related to likelihood of recidivism or the seriousness of recidivism. Seven of the eight outcome variables assessed in this evaluation are not significantly related to participation in the SOS program. This study joins a long list of intensive supervision evaluations that suggest that these programs have no significant impact on juvenile recidivism.

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By

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Dedication

I want to dedicate this dissertation to my uncle Joannes Deltus, whose untimely death was a shock to our family. I wish you were here to see that I made it. I finished my Ph.D. In your memory, I will hold onto the words of wisdom and sage advice that you bestowed upon me. May you rest in eternal peace.

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First and foremost, I want to thank my heavenly Father. Becoming a devoted Christ follower has been the most rewarding and adventurous journey of my life. Jeremiah 29:11 – "For I know the plans I have for you" declares the Lord, "plans to prosper you and not to harm you, plans to give you hope and a future. Then you will call upon me and come and pray to me, and I will listen to you. You will seek me and find me when you seek me with all your heart. I will be found by you."

I would also like to thank my mummy and pappy, Mr. and Mrs. Joe P. Frederique. You both left your home country, Haiti, and came to the United States in search of better opportunities for yourselves and your children. I have greatly benefited from this sacrifice. Thanks for always whispering in my ear that I would go to college, that I would work hard and that I would succeed in this life of mine. Sorry that I didn't keep my promise from when I was four years old. I am not a lawyer, but I hope this Ph.D in Criminology and Criminal Justice makes up for that. Paul and Stanley, thanks for your love, encouragement, support and prayers. You were there for every milestone and you helped me laugh my way through the hardest times.

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Chapter 1

Introduction

Chapter 1: Introduction

Juvenile delinquency is a subject that captivates the public's thoughts. Fears of angry teenage offenders committing violent crimes are sensationalized in media accounts. For example, in September 2009, a 17-year old boy was charged in the murder of his 13-year old girlfriend's mother. After an argument with the mother, he attacked her in the home she shared with her daughter. After he killed her, he placed her body in a plastic bin in her own backyard. This boy is allegedly in a gang and this was not his first act of violence (Morse, 2009). Court reports indicate he was serving a probation sentence at the time of the homicide. While sensationalized acts of violence such as these are rare occurrences, these types of media reports cause people to ask if the juvenile justice system is failing at treating juvenile delinquents.

Criminologists have spent the last 100 years attempting to answer the question, why do juveniles become involved in crime? They have proposed various theories including: social disorganization (Shaw & McKay, 1942); labeling (Becker, 1997); strain (Cloward & Ohlin, 1960); and the subculture of violence (Wolfgang & Ferracuti, 1967). Perhaps just as important as the question of what causes juveniles to commit crime is the question: once a juvenile is involved in delinquency, how can future offending be prevented?

According to Chaiken and Johnson (1988), juveniles most likely to continue crime into adulthood begin committing delinquent acts early in life. Thus, the juvenile justice system has an incentive to undertake effective interventions. Successful interventions may lower the costs of delinquent behavior today as well as adult criminal activity tomorrow. Researchers and practitioners need to identify those interventions that reduce juvenile recidivism.

Of the interventions at the disposal of courts, probation is the most frequently used. In 1999, juvenile courts handled 1.7 million delinquency cases and of those, 40% were assigned to probation as the most severe sanction (Puzzanchera, 2003). For this reason, targeting juveniles on probation with effective interventions can potentially have an impact on their recidivism.

Intensive supervision programs emerged in the 1980's as ways to enhance the effectiveness of probation. These new intensive interventions were popular because they were tougher than probation alone. They emerged in part as a response to overcrowding in juvenile facilities as well as the system's inability to reduce recidivism rates among chronic offenders. Intensive supervision programs were also in step with a broader movement to toughen community based interventions (Armstrong, 1991). If community sanctions were strengthened, then they could be a viable alternative to traditional probation and juvenile detention.

School Based Probation is a version of intensive supervision that has gained popularity in recent years. These types of programs place a probation officer in a school rather than in a central office. Increasing contact between probation officers and youth may lead to more immediate and effective response to problems (Juvenile Sanction

Center, 2003). SBP is also popular because it allows probation officers greater access to the juveniles both socially and academically.

Several jurisdictions now have SBP programs with other jurisdictions planning similar programs. Based on the scant literature available at the time, the Juvenile Sanction Center stated "At minimum, we would encourage every juvenile court and probation department that does not have a SBP [SBP] program to carefully consider its applicability at the local level," (Juvenile Sanction Center, 2003). This call for wide spread dissemination of SBP may be premature. According to Flay et al. (2005), before widespread dissemination of a prevention program is justified, it needs to demonstrate effectiveness. To date, SBP programs have not been proven effective. Before this program can be recommended for widespread dissemination and implementation across multiple jurisdictions, it needs to be subject to careful evaluation (Greenwood, 1996).

This dissertation proposes to carry out a careful evaluation of one SBP program and its ability to reduce juvenile recidivism. Chapter two will review the history of probation in the United States, summarize the literature on evaluations of probation effectiveness with a special focus on other SBP programs, elucidate gaps in the literature, and propose hypothesis that will be evaluated as a part of this project. Chapter three will discuss the proposed measures, sampling strategy and modeling procedures. Chapter four will present findings, and chapter five will integrate the findings with existing literature and discuss implications for future research and practice.

Chapter 2

Juvenile Probation and School Based Probation:

Status of the Research

Chapter 2: Juvenile Probation and School Based Probation: Status of the Research

A staggering number of young people wind up involved in the juvenile justice system. Over 2 million juveniles were arrested in 2008. Of those arrested, 1.7 million were referred to juvenile court. Over 400,000 youths cycled through detention facilities and nearly 100,000 were confined in secure detention on any given day in 2008 (Annie E. Casey Foundation, 2008).

The effects of contact with the system are particularly apparent in urban areas. Between 30% and 40% of all boys in urban areas will be arrested before their 18th birthday (Greenwood 1996). Most of these boys will not be arrested again. However, for those who are rearrested, each successive arrest will place them at higher risk for recidivism. After the fifth or sixth time, they will have a 90% risk of being rearrested (Greenwood 1996).

The research on life outcomes for court involved youth is not very promising. Court involved juveniles have dire odds for long term success. They achieve less academically. They work for less money. They fail at building strong families. They experience more chronic health problems. As noted above, they are more likely to be imprisoned during adulthood (Annie E. Casey Foundation, 2008). Bernburg & Krohn (2003) found support for a revitalized labeling theory of recidivism centered on structural disadvantage. Using National Longitudinal Survey of Youth, they asked whether official intervention in adolescence has an effect on crime in early adulthood. Their hypothesis was supported. Early intervention increases the odds of crime into adulthood. But this effect was mediated by educational achievement and employment.

Sweeten (2006) examined the relationship between court involvement and the drop out rate. He concluded that arrest and court appearances during high school increase the odds of dropping out, independent of offending activity. Sweeten also observed that the effect of court appearance is especially detrimental to less delinquent juveniles. These two studies suggest that youth who come to the attention of the juvenile justice system are more likely to continue offending into early adulthood unless their life course is altered by education and employment.

Given that many juveniles experience contact with the justice system and official intervention may produce detrimental effects, it is critical that practitioners know which correctional approaches are best suited to young delinquents. Juveniles, once adjudicated delinquent, can receive a range of sanctions from probation to detention in a secure facility. However, by far the most common sentence for juveniles is probation.

In order to understand the effectiveness of probation for juveniles, careful evaluation is necessary. "The effectiveness of any one particular program is unknown unless it is evaluated. At a minimum, follow-up recidivism data (rearrest or self reports) for an adequate sample of participants must be compared with those for an appropriate control group," (Greenwood 1996, pg. 76). This dissertation proposes to conduct an evaluation of Maryland's SBP program using recidivism data and a matched control group.

Before, turning to the methods of the evaluation in Chapter 3, I will review the literature on juvenile probation programs. The following section will first provide a brief history of the development of juvenile justice in the United States and in Maryland. Second, I will discuss the research on traditional probation and intensive probation

programs for juveniles. Third, I will review the research on SBP programs in particular and identify the weaknesses of past evaluations. Finally, I will discuss the need for a careful evaluation and offer hypotheses for the study.

Literature Review

History of Probation

Probation as punishment in the United States began in 1841 when John Augustus, a Boston bookmaker, posted bail for a man charged with drunkenness. Augustus was convinced that the purpose of the law was to reform criminals and to prevent crime, not solely to punish offenders. Over the next several years Augustus posted bail for over 1,000 offenders. They were released to his supervision in the community and encouraged to change their ways. This marked the beginning of probation for adult offenders. In 1869 the state of Massachusetts began to experiment with probation for juveniles. About a decade later, Massachusetts became the first state to formally adopt a probation law for juvenile delinquents (Petersilia, 1997). Other states quickly followed suit. States implemented probation for juveniles throughout the United States autonomously from one another. These programs developed in a haphazard and uncoordinated manner.

Maryland's use of probation also developed in an erratic fashion. State intervention in the lives of juveniles began in the early eighteen hundreds. In 1811, as the state finished building its first penitentiary, reformers turned their attention to solving the dilemma of criminal children. At that time it was common for children to be jailed with adult offenders. In 1830, the Maryland State Legislature passed an act establishing the first House of Refuge for Juvenile Delinquents. After the Civil War, reformatories for

youth were established as private institutions segregated by race and gender. These institutions were viewed as the solution to the juvenile delinquency problem.

After the formation of the first juvenile court in Chicago in 1899, The Charity Organization Society in Baltimore lobbied for a magistrate for Juvenile Causes to be appointed. He would hear cases of minors under the age of sixteen. The Magistrate was authorized to commit children waiting trial to a reformatory instead of a local jail.

The magistrate also appointed a probation officer. The officer was to "investigate the circumstances of each child brought to trial, represent the interests of the child, and have control and custody of the child before and after the trial (Maryland Manual, 2010)." With this act, it was possible for a child to be placed on conditional probation before he or she went to trial (Chapter 6111, Acts of 1902). These acts marked the beginning of probationary services for juveniles in the State of Maryland. Today, the responsibilities of probation officers are varied. They may include: 1) screenings to determine if informal or formal processing is warranted, 2) making detention decisions (approx 20% of juveniles are detained pending adjudication), 3) preparing pre-sentence investigations, 4) supervising caseloads and 5) providing aftercare services for juveniles released from secure institutions (Kurlychek, 1998).

Traditional Probation

The use of probation is appealing to scholars, practitioners and policy makers alike. Probation is a popular sentence for adjudicated juveniles because 1) it is limitless – most probation departments cannot limit their intake, and 2) it is inexpensive (Snyder, 1988). The same correctional trends of the 1980's that saw massive increases in the use of detention also affected probation sentences. Mass incarceration and detention of

juveniles resulted in concomitant skyrocketing costs of managing detention populations.

There was a need for less expensive community alternatives to secure institutions. If used

properly, probation was a viable alternative to detention. Probation is more cost effective

than detention. It can provide more opportunities for rehabilitation. Probation sentences

also reduce the risk of offenders associating with one another and honing their criminal

skills (Petersilia, 1997).

Although probation is the most frequent sentence for juvenile offenders, the

effectiveness of probation for reducing the recidivism of juvenile offenders is unclear

(Armstrong, 1991; Palmer, 1991; Torbet, 1997; Tonry & Lynch, 1996). Throughout the

history of juvenile justice reform, there has been much controversy and debate over the

efficacy of a separate system of justice for children (Shoemaker, 1988). While on the one

hand, reformers want to "save" juveniles who misbehave and turn them into law abiding

grownups, on the other hand there is the need to make sure those juveniles who commit

serious crimes get the punishment they deserve (Shoemaker 1988). These competing

tensions are also reflected in the history of research regarding juvenile probation.

A number of reports issued in the 1970s focused national attention on the

administration and organization of probation services. The National Advisory

Commission for Criminal Justice Standards and Goals (1972) stated that probation was

the brightest hope for corrections but it was failing to provide adequate access to services

and adequate supervision of offenders. Shortly after, Robert Martinson (1974) released

his report ushering in the "nothing works" doctrine and pointed out the ineffectiveness of

probation. Also the U.S. Comptroller General (1976) published a report stating that

probation as practiced in the U.S. was a failure and probation systems were in a state of

crisis. They observed that the bulk of offenders were sentenced to probation, however agencies administering probation were woefully under funded and lacked access to adequate resources. The priority designated to probation services would need to be reexamined in order to change the situation. However, before the use of probation could be strengthened, scholars and policy makers needed to better understand the effectiveness of this sanction in reducing recidivism and reducing the costs of the administration of justice. These reports called for practitioners to restructure probation, harness the potential positive effects, neutralize the potential harmful effects and then it might become a bright hope for the future of juvenile justice reform.

About a decade later, Gottfredson and Gottfredson (1988) published a review of decision making in the criminal justice system, one of several that will be reviewed in this section. They drew several conclusions regarding the state of research on probation. First, they concluded that the necessary research to determine whether probation is more effective than imprisonment as a rehabilitative treatment had not yet been conducted. Second, the majority of evidence that had been gathered suggests that offender's personal characteristics were a better predictor of recidivism than the form of treatment. Third, it appears that intensive supervision may result in more technical violations than new offense convictions so the size of the caseload may have an effect on recidivism. Finally, they concluded that there is limited evidence to definitively say which forms of treatment provide the most effective results when applied to probationers (Gottfredson & Gottfredson 1988).

One of the most thorough meta-analyses for juvenile justice treatment was conducted by Mark Lipsey (1992). Rather than examining only treatment programs

offered institutionally (Gottschalk, Davidson, Gensheimer, & Mayer, J., 1987) or only

studies that appeared in research journals (Whitehead & Lab, 1989), Lipsey (1992)

examined 443 published and unpublished evaluations of juvenile programs. Eligible

treatment studies were selected because 1) the treatment under study aimed to reduce,

prevent, treat, or remediate delinquency and antisocial behavior; 2) all juveniles included

were no older than 21 years of age; 3) they included treatment and control groups and

measured the outcomes quantitatively; 4) they included either random assignment or pre-

and post measures on the outcome variables' 5) they were written in English and done in

the US; and 6) studies were reported or published after 1950. Lipsey's study scrutinized

the characteristics of the interventions, the context in which the interventions were

administered, the population that received them, and the study's evaluation methodology.

Lipsey also collected very detailed information on the nature of the subjects in the study.

Where available, information about the demographic characteristics of the juvenile, prior

delinquency and other variables were coded. He recorded the direction of effect and the

effect size. He assembled variables on measures, demographics, criminal histories, study

design, sample attrition, nature of the treatment – setting, sponsorship, duration and

intensity.

Lipsey's (1992) meta-analysis presented interesting results. While examining the

effect sizes of various studies, Lipsey observed that in about 64.3% of the studies, the

effect size and direction favored the treatment groups over control groups and this finding

was statistically significant. He observed that there were several factors related to larger

effect sizes. Effective programs concentrated on treatment delivery. There were large

amounts of meaningful contact and treatment was delivered by researchers or researchers

had a great deal of influence. Also, effective treatments focused on behavior modification and were targeted to high risk youth. Smaller effect sizes were associated with treatment delivered by public facilities within the criminal justice system or within custodial care. Smaller effect sizes were also observed in programs that focused on deterrence rather than treatment, especially treatment programs in the community. Negative affect sizes were associated with specific programs like shock incarceration and Scared Straight Programs.

Regarding traditional probation, Lipsey is in agreement with earlier critics like Martinson (1974) and the National Advisory Commission on Criminal Justice Standards and Goals (1972). Lipsey (1992) concluded that traditional probation was not an appropriate treatment for specific groups of offenders. For youth with multiple risk factors including several prior arrests, arrests at an early age, drug or gang involvement, parental problems, regular probation was not effective. Probation as usual was the only traditional juvenile justice intervention that did *not* reduce the magnitude of the difference in effects between experimental and control groups. In essence regular probation was as effective as no treatment at all. However, Lipseys' analysis does suggest that augmented forms of probation can be effective in reducing recidivism. Probation combined with intensive supervision, restitution, intensive behavioral therapy and skills oriented interventions were more effective than routine probation with high risk delinquents (Lipsey 1992).

In addition to the focus on deterrence, there are several reasons why probation has not proven to be an effective sanction for juveniles. Probation is administered by more than 2,000 agencies throughout the United States (Petersilia 1997). As a result there are

vast differences in terms of who administers probation, how the services are funded and whether probation is a local or state function (Petersilia 1997). The question of who funds probation services has ramifications for the adequacy of services provided to individuals on probation. Though probation is recommended more frequently than incarceration, the administration of probation continues to be under-funded. As the numbers of probationers increased, the resources dedicated to supervising them did not increase at a parallel rate (Petersilia 1997).

The burgeoning probation officer caseloads resulted in a decrease in the quality of service. Peter Greenwood (1996) observed that "an overworked probation officer who sees a client only once a month has little ability either to monitor the client's behavior or to exert much of an influence over his life." Patricia Torbet (1997) refers to probation as the "workhouse of the juvenile justice system." Probation officers could have a caseload ranging from 2 – 200 juveniles. For these clients, they are responsible for intake screenings, pre-sentence investigations, court ordered supervision, after care and connecting them to services.

According to practitioners and policy makers, Lipsey's (1992) findings form the baseline from which all observations about treatment for juveniles are made (Greenwood 1996). However, despite Lipsey's bleak remarks, the majority of youth in the juvenile justice system remain in the community, on regular probation, where few resources have been dedicated to their treatment (Kurlychek, 1998).

Lipsey's (1992) findings joined the chorus of discontent from evaluators. During the late 1980's and 1990's, states became more dedicated to developing intensive programs aimed at addressing the deficiencies of regular probation. As intensive

probation programs developed so did the body of research evaluating whether these types of programs were effective in reducing recidivism. It is to this body of research that I now turn.

Juvenile Intensive Supervision Programs

Juvenile Intensive Supervision Programs (JIPS) operate under a philosophical basis of punishing youthful misbehavior in addition to increasing public safety (Clear & Hardyman, 1990). What JIPS does uniquely is enhance the risk control potential of community supervision by providing more intensive incapacitative and treatment interventions. In addition to more frequent contacts with a probation officer, a typical JIPS program may also include counseling, behavioral therapy, or mandatory educational enhancement programs. It is this intensity of surveillance that makes JIPS attractive as an alternative to institutionalization for juveniles (Clear & Hardyman 1990). However promising JIPS may seem philosophically, there is conflicting empirical evidence about the effectiveness of these programs.

There were two eras of research on JIPS. The first era began in the 1970's and focused on evaluating whether reducing caseload size would be effective in controlling crime (Armstrong 1991). One of these early studies was the California Youth Authority's Parole Research Project (Palmer & Petrosino, 2003). This study compared the recidivism outcomes of juveniles assigned to probation officers with caseloads of 36 juveniles versus probation officers with caseloads of 72 juveniles. Palmer and Petrosino (2003) found there was no significant difference in recidivism rates for the two groups. General conclusions from this study and others suggest 1) much of what was touted as new and innovative during the mid 1980's, had already been considered and put into

practice decades ago, 2) most of the programs considered innovative combined elements of social control / surveillance with treatment, and 3) programs that were aimed at reducing caseload size fell into disfavor with policy makers (Armstrong 1991) due to consistent null findings.

Around 1981, the second era of JIPS programming began to emerge. This second wave developed for similar reasons as adult intensive supervision programs – full juvenile facilities, increasing costs of institutionalization, and a desire to increase public safety by controlling the behavior of the increasing numbers of serious juvenile offenders (Palmer, 1991). As these new JIPS took shape, the role of rehabilitation as a goal of the programs was exchanged for the goal of controlling juveniles' behavior. It was hypothesized that an expansion of both control features and service delivery features in juvenile correctional programs would lead to recidivism reductions (Palmer & Petrosino, 2003).

Intensive Probation Supervision programs were a prominent facet of the second era of JIPS programs. These programs feature a community based strategy with frequent contacts and smaller caseload sizes. They are usually administered by the probation department and emphasized external controls and surveillance over juveniles. Rather than programs featuring skills development such as individual counseling, anger management, vocational training, second era JIPS programs were more likely to include spot checks, curfew monitoring, house arrest and electronic monitoring.

Barry Krisberg & his colleagues (Krisberg, et al., 1989) of the National Council of Children and Delinquency (NCCD) conducted a national survey of 41 operating intensive probation programs. Krisberg found that JIPS programs suffer from relatively

few formal outcome evaluations. From the few evaluations that have been conducted (Barton & Butts, 1990; Wooldredge, 1988), a picture of what we know about intensive interventions begins to emerge.

John Wooldredge (1988) attempted to address conflicting research on the treatment of juvenile delinquents. Using a sample of 2,038 juvenile offenders in four Illinois jurisdictions, Wooldredge compared the effectiveness of 12 juvenile court dispositions and their impact on recidivism. Dispositions included traditional probation, restitution, community service, detention etc. His results supported a focus on community treatment rather than detention. Wooldredge argued that based on his results, juvenile institutionalization should be limited to short periods of time to reduce probabilities of recidivism. However, if juveniles were treated in the community, Wooldredge (1988) argued for longer supervision and with a treatment component was the best disposition to reduce recidivism.

Several studies conducted in the 1990's published null findings when comparing JIPS programs with traditional juvenile dispositions. Austin et. al. (1990) compared youths in a no contact routine probation program versus youths in an intensive supervision program. They found no significant differences in the incidence, frequency, nature or timing of re-arrest between the control and comparison groups.

Barton & Butts (1991) offer an alternative perspective to understanding the JIPS programs. They studied a JIPS in Detroit, Michigan and conducted a randomized experiment which evaluated three intensive supervision programs compared to state commitment for juvenile offenders. These three programs were not significantly different than confinement in reducing recidivism. Both the JIPS and commitment had similar

effects on recidivism as measured by self reported delinquent behavior and other critical outcomes (Barton & Butts 1991). However, the evaluation did show these programs to be more cost effective than commitment. The state of Michigan saved about 2/3 the cost of commitment by using the intensive supervision.

Despite the call to link program development to theory and evaluation, JIPS programs continue to be developed absent of these components. According to Armstrong (1991) in his survey of 60 JIPS programs, only 31 had an evaluation component. Of those only 19 provided recidivism rates for JIPS participants and standard probation participants.

Recently several JIPS evaluations were conducted. Ted Palmer (2002) published the book *Individualized Interventions with Young Multiple Offenders*. Palmer was a researcher with the California Youth Authority and for over 25 years was involved with the Community Treatment Program (CTP). The CTP used a differential treatment approach which matched youth with different types of case managers. In this approach treatment was able to be tailored based on the type of offender. According to Palmer's evaluation, CTP performed better over time in multiple indicators most notably smaller caseloads, more contacts with the juvenile and individualized tailored treatment.

The idea of community treatment and increased service provision inspired another extensive JIPS evaluation. Lane et al. (2005) implemented and evaluated a program called the South Oxnard Challenge Project (SOCP). This evaluation was a part of a community treatment program designed to centralize the services available to juveniles on probation. In addition to applying restorative justice, community policing and

community corrections while managing offender risks, SOCP also included families in the sanctioning process (Lane, et al 2005).

The SOCP team consisted of probation officers, social workers, alcohol and drug treatment specialists, non-probation service coordinators, mental healthcare specialists, recreation staff, mentors, police, community workers and restorative justice advocates. The evaluation was a randomized experiment with assessments at 6, 12, and 18 months post intervention. The study sample consisted of 226 experimental group and 236 control group participants who were mostly male and Hispanic. The youth were referred to probation for relatively minor offenses and then randomly assigned to either SOCP or traditional probation. Data was obtained through weekly contact records with program staff as well as official sources of recidivism data.

According to the weekly contact records, SOCP youth received significantly more contacts per month than the control group. SOCP youth received 14 contacts per month versus one contact per month for traditional probation youth. Where SOCP had an average of six hours of contact time per month, traditional probation youth had an average of 6.2 minutes. SOCP youth were also more likely to be referred to additional services such as drug and alcohol treatment.

Despite this difference in the amount of contact received by the SOCP group, there was no significant difference between groups in measures of recidivism. The SOCP group did not differ from the control group in the nature of new arrests, nor did they differ in the number of new arrests (Lane et al. 2005). The majority of both groups were referred to probation for technical violations or rearrested during the study period. A minority of both groups were rearrested for new violent offenses.

Lane et al.'s (2005) evaluation highlights implementation issues that many evaluators struggle to address. In asking why there were no significant differences, the authors suggest that regular probation officers may not have kept accurate records. Perhaps they failed to record additional services that juveniles received. Without accurate records of additional services received, it was possible that traditional probation officers were also referring their clients to the same resources that SOCP youth were receiving. Also, the samples consisted of relatively low risk youth. The SOCP was intended to focus on more serious offenders, however, the sampling strategy did not capture the desired group of clients and this may have impacted results. Finally, the evaluation focused solely on recidivism as an outcome measure; however some official records of recidivism may not capture other outcomes such as a better attitude and behavior, stronger family ties and greater community interest and support of juvenile correctional programming.

The utilization of JIPS as a control method remains popular in the face of reviews of intensive programs (especially those cited above) that produce the same general conclusions – intensive programs are generally no better than those of regular probation and the few programs that have positive results are designed to be specifically targeted to specialized groups of offenders (Clear, 1991). However, JIPS may prove to be more cost effective than institutionalization and with states actively attempting to reduce the sizes of their incarcerated youth populations. For these goals, JIPS may prove to be a lasting solution.

No evidence of reductions in recidivism was found in even the premier JIPS programs (Palmer 1991). Palmer offers several suggestions for future innovations in intensive interventions. He suggests that there are two possible goals of JIPS: 1) JIPS

should aim to reduce over-crowding in juvenile institutions via control / surveillance functions and with scant attention paid to service delivery and skill development. Alternatively 2) JIPS can take the opposite path and focus on rehabilitation and habituation of juvenile offenders. The goal on this path should be to help offenders overcome problem behaviors and effect internal change as individuals. JIPS could be paired with intensive life counseling and social skills development to support these changes (Palmer 1991). School based probation programs (SBP) have been developed as a middle ground between Palmer's two path options offering surveillance as well as counseling and services to effect internal personal change in juvenile delinquents.

School Based Probation

SBP programs are a different kind of JIPS program. SBP is a supervision model in which juvenile probation officers work directly in a school rather than in the traditional office setting. This model allows the probation officer to have more frequent, direct and substantive contact with clients. The probation officer can observe client interactions with their peers, teachers, and school administrators and also enforce conditions of probation, especially those relating to school attendance (Kurlychek, 1998). SBP's are emerging in various jurisdictions across the country as a popular JIPS program – Illinois (Ashley, 2006), Pennsylvania (Ahalt, 1999; Metzger & Tobin-Fiore, 1997; Torbet et al., 2001), and Maryland (Curtin-Brosnan & Longmead, 1999) In order to understand how SBP's have developed, each of these states' SBP programs will be discussed in turn. Before turning to a discussion of SBP's, a model for evaluating program efficacy will be established.

Standards of Evidence for Program Evaluation

To examine the efficacy of SBP programs it is helpful to have recognized criteria for determining program effectiveness. In the spring of 2005, the Society for Prevention Research commissioned a working group and tasked them with developing standards of evidence to assist practitioners, policy makers and administrators determine which interventions are efficacious, which programs are effective and which programs are ready for dissemination (Flay et al., 2005). The literature on SBP programs will be assessed through this lens. According to the committee, before a program is ready for wide dissemination and implementation, it has to be proven effective. Before it can be shown to be effective, the program must demonstrate efficacy (Flay et al. 2005).

In order to first establish efficacy, a treatment must be evaluated in at least two rigorous trials that meet the following standards. First, there must be a clear and concise statement of efficacy. It is important that the conclusions from research be clear and explicit. Second, evaluators must use psychometrically sound measures and data collection procedures. Preferably measures with established quality would be utilized. There should be detailed description of the populations, settings, interventions and outcomes for which efficacy are claimed. Descriptions should be in such detail that replication is possible. Outcome and predictor measures should be sound, reliable and valid with analysis to demonstrate that these conditions have been met (Flay et al 2005).

Third, data should be analyzed with rigorous statistical approaches. The intervention design must allow for the strongest causal statements and also take into account any potential threats to inference or alternative explanations. Evaluations must

have at least one comparable control group that does not receive the treatment. Random assignment is the gold standard for evaluation research, but where random assignment is not possible, evaluators should also consider repeated time series designs, regression discontinuity designs, or matched control group designs. Fourth, statistical analysis should demonstrate consistent positive effects and also take into account potential negative effects of the treatment. Results should be reported for every measured outcome, regardless of its significance. Every effort must be taken to examine unexpected outcomes (Flay et al 2005).

Finally, efficacious treatment should demonstrate practical value and that the treatment effect does not decay. Rigorous evaluations will demonstrate practical significance in terms of impact on the public. Also, treatment outcomes may erode thus to be deemed efficacious, evaluators must report at least one significantly long term follow up evaluation. Consistent findings are required from at least two high quality studies that meet all the above criteria and have adequate statistical power in order to deem a program to be efficacious (Flay et. al 2005).

The above criteria are essential to determine the efficacy of an intervention program. In addition to being efficacious, a program must also be proven to be effective. According to Flay et al. (2005), an effective program will meet the above criteria, and in addition will have 1) manuals, appropriate training and technical support; 2) been evaluated under real world conditions; 3) demonstrated practical importance of intervention outcomes and 4) clearly stated the population to which the intervention is effective.

These standards were designed to advance the field of evaluation research. If successful, they will aid prevention scientists' research and be able to bring to the field new programs and policies (Flay et al 2005). SBP's will be examined against the criteria established by Flay et al (2005) to determine the level of knowledge available for these types of interventions.

Illinois' School Based Probation Program

In early 2000, Jackson County, IL was awarded an anti-drug grant for a study to develop a SBP program for juvenile probationers (Ashley 2006). The Jackson County program's initial goals were: to make juveniles more aware of their monitoring; to improve communication between probation and schools and also probation department and parents; to provide immediate response to probation violations; to decrease juvenile offenses by 20%; and to improve the quality of education for probationers (Ashley 2006). The county employed two full time SBP officers who shared supervision responsibility with two juvenile line officers who were responsible for the caseload of juvenile probationers.

The Center for the Study of Crime, Delinquency, and Corrections of Southern Illinois University at Carbondale evaluated the implementation of the Jackson County SBP program from summer 2000 through fall 2003. During the evaluation period, the SBP and line probation officers were jointly responsible for serving 18 schools in Jackson County and a total of about 77 juvenile probationers.

Evaluators obtained information on the SBP program through interviews, observations, school survey data, probation department data and ride-alongs. SBP officers generally had brief contacts with their clients, lasting only between 10-15

minutes per contact. These officers had infrequent contact with school administrators and teachers and relatively no contact with the parents of their clients.

Probation data was obtained from 66 of the 77 juveniles who were enrolled in the SBP program; however this data was not suitable for any impact analysis at the time of the evaluation. Evaluators examined travel log sheets, school records and juvenile case files. Most of these data sources were incomplete. Juvenile's school records were missing and probation files were incomplete and unorganized (Ashley 2006).

The Jackson County SBP program was developed as a way to increase juvenile accountability, reduce school violence, reduce recidivism of juvenile probationers, and foster better communication between probation and the school system (Ashley 2006). These goals could not be adequately evaluated because of poor record keeping and program implementation limitations. During the 3 years of the program, there was a high rate of staff turnover. SBP officers stayed an average of 8.6 months. The shared caseload between multiple probation officers was a program flaw. Delineation of responsibilities was unclear and this resulted in unequal distribution of responsibilities. Because of these limitations evaluators of the Jackson County program could not even offer a quantitative assessment of recidivism rates for program participants.

The Illinois story of SBP is an example of a program which was well intentioned. However, several factors prevented a quantitative evaluation of the Illinois SBP program. Implementation challenges prevented sufficient data collection for an outcome evaluation. The SBP was in one county and only for a 3 year period.   In the future, better program implementation and a sound data collection strategy might lead to a

stronger evaluation of the Illinois SBP. Unlike the Jackson County Illinois SBP program, Pennsylvania's experience with SBP has a longer and more thoroughly assessed history.

Pennsylvania's School Based Probation Program

Pennsylvania has a very extensive SBP. In 1990 the state passed ACT 211 which created the Student Assistance Program. This program was designed to open up schools to collaborate more closely with social service agencies. As a result, the SBP program began in 1990 in Lehigh County with funding from Juvenile Court Judges Commission (JCJC) (Ahalt 1999). SBP expanded rapidly and by the end of 1995 was in over 40 counties across the state (Metzger & Tobin-Fiore, 1997). The goals of Pennsylvania's SBP are: 1) reduce disciplinary referrals in school; 2) reduce length and frequency of detentions; 3) improve academic performance and attendance; 4) decrease the drop out rate; 5) reduce recidivism and; 6) reduce out of home placements for subsequent delinquent activity. The program has been evaluated several times.

The first evaluation (Metzger & Tobin-Fiore, 1997) was a process and outcome evaluation conducted in three phases. It was a series of descriptive studies designed to build a foundation against which future evaluations could be compared. Phase I involved establishing a demographic database of juveniles assigned to SBP programs between 1993 and 1995. SBP officers completed reporting forms for juveniles including demographic information and school performance characteristics. Unfortunately the performance data regarding behavior, school attendance and academic performance was unusable at the aggregate level because of significant missing data.

The usable data from reporting forms was linked with data from JCJC statistical database which allowed researchers access to arrest data. The SBP youth were then matched with a sample of juveniles who were assigned to traditional probation. Matching was accomplished for 451 cases using data reported on statistical cards which contain information on a juveniles' history of involvement with the court system (Metzger & Tobin-Fiore, 1997).

Phase II of the evaluation consisted of in-depth interviews and site visits to 29 (out of 40) counties that had SBP programs for at least one year. The goal of the site visits was to understand the breadth of SBP programs and to understand specific program features that may have an impact on the youth they serve. Evaluators interviewed probation officers, school administrators and also juveniles assigned to SBP. Probation officers were asked questions regarding how they spent their time and their case management style. School administrators were chosen based on which staff worked most closely with the SBP officers. They were asked their perceptions in relation to the involvement of the officers, the performance of the program and the effectiveness of the program. In addition 111 juveniles assigned to SBP were randomly chosen to be interviewed.

Approximately 51 probation officers were interviewed in Phase II. Officers spent an average of 70% of their time in schools, while the rest of their time was spent between contact with other case participants, in court, traveling, training and intake. While in school, officers reported that they spent their time in direct client contact, meeting with parents of juveniles involved in SBP, participating in disciplinary decisions for their

clients, attending nonacademic school activities, giving presentations in classes, and serving on school committees and programs (Metzger & Tobin-Fiore, 1997).

In Phase II, 52 school administrators were also interviewed. These interviews were consistent with probation officer interviews. Ratings in the areas of performance were extremely positive and school administrators believed that school attendance was the area that had been affected the most by the program. Of the 111 SBP juveniles interviewed, most reported that they had frequent contact with their probation officers. In contrast to school administrators and probation officers, they reported that the greatest impact of the program was on their behavior in and out of school.

In Phase III of the evaluation, Metzger conducted a comparison study of 75 randomly chose SPB juveniles and compared them to a matched group of 75 "traditional probation" juveniles from Erie, Lehigh and Somerset Counties. These groups were matched on demographic as well as official criteria: age, race, gender, crime and county of supervision. Both groups of juveniles were followed for 18 months from the date of assignment to probation. The two groups were compared on rates of subsequent arrest, out of home placements, and additional cost of placement. The analysis consisted of examining whether mean differences between the groups on the outcome variables were statistically significant.

Results from Phase III show that about 48 juveniles had new charges filed. Approximately an equal number of SBP juveniles and traditional probation juveniles' were referred to court on new charges (Metzger & Tobin-Fiore, 1997). There were no differences in the number of new charges filed between the two groups, but there were differences in the severity of new charges filed and time until new charges were filed.

SBP juveniles had relatively less serious new offenses and also longer time until new charges were filed. In terms of out of home placements, while both groups had approximately the same number of juveniles placed, SBP had a significantly longer time until placement than the control group (118 days control and 300 days SBP) (Metzger & Tobin-Fiore, 1997).

To summarize the findings of these three descriptive studies, Metzger and Tobin-Fiore (1997) suggest that the Pennsylvania SBP may be effective in improving juveniles' in school and out of school behavior, increasing their attendance, increasing their academic performance, decreasing the likelihood of juveniles being charged with further serious crimes and increasing the length of time these juveniles had in the community before new charges were filed. In addition, while SBP juveniles were placed out of the home at approximately the same rate as the control group, they had longer periods in the community before placement.

Using a case control approach, Metzger's (1997) studies showed differences between the randomly selected SBP cases and their matched control group. But there are limitations to interpreting his conclusions. Metzger's study was an individual level analysis in which juveniles were matched on individual characteristics post intervention. It is possible that due to selection bias, there were pre-existing differences between these groups that were uncontrolled in their study. Because of the design of the study, and the analytic technique, no causal inferences about the relationship between participation in the SBP program and recidivism outcomes can be articulated with certainty. Also, the data were derived from three counties in the state of Pennsylvania and cannot be

generalized to other counties throughout the state. While encouraging, the results from this series of descriptive studies are inconclusive.

In 1999, the Pennsylvania program was evaluated again by Nancy Ahalt. This evaluation differed from Metzger's and Tobin-Fiore's (1997) in that it was not a study of recidivism. Instead Ahalt conducted an evaluation of the SBP program to examine the impact of SBP on students, school based probation officers, and school administrators in selected school districts in Pennsylvania using the Context, Input, Process, Product model (CIPP) developed by Daniel Stufflebean and others at Western Michigan University (Ahalt 1999). Also, rather than a matched sample of juveniles, Ahalt's evaluation examined students in SBP's from three schools all in the same county of Pennsylvania. Metzger and Tobin-Fore's (1997) evaluation focused on recidivism, however Ahalt asked more process and implementation questions. Ahalt (1999) questioned the design of the SBP program in that county; its strengths and weaknesses; how its objectives were in line with the goals of the juvenile court; how was SBP implemented in that county; and whether it met the needs for which it was designed.

As her data sources, Ahalt (1999) used semi structured interviews and surveys of three probation officers, three school administrators and 14 juveniles involved in the program. In addition she reviewed of juveniles' school records. She was able to obtain attendance reports, disciplinary infractions including detentions, suspensions, expulsions and grades. Because Ahalt worked for one of the school districts and had contacts with probation officers and school officials she was able to obtain the school performance data that was unusable in Metzger's and Tobin-Fiore's evaluation.

Ahalt (1999) articulated many of the strengths of SBP programs that have already been mentioned above – opportunity for immediate interventions, collaboration between schools and probation, increased accountability of juveniles and the positive impacts of the closer relationship between juveniles and probation officers. Ahalt observed based on her interviews that the program is perceived to be successful from probation officers and school administrators. In contrast to (Metzger & Tobin-Fiore, 1997), Ahalt did not analyze reductions in recidivism or out of home placements in the evaluation. However, she was able to analyze other school related outcomes. Contrary to program expectations, Ahalt found that disciplinary referrals and absences for the SBP juveniles remained the same after assignment to SBP as they were before assignment to SBP. In addition evidence of improved academic performance was inconsistent. Though these findings would appear to contradict previous research, there were several limitations that might have led to these findings. There were only two SBP officers serving three high schools in this county. These two officers divided their time between the high schools, the needs of the district, court appearances, home visits, training and other duties. The frequent absences of the officers from the school building may have watered down the effect of SBP.

When Ahalt (1999) is held up to the Flay et al standards of evidence standard, several other limitations emerge. First, the sample size is small: Only 14 SBP participants were utilized in the analysis. There is no comparable control group with which Ahalt compares outcomes for the SBP youth. Ahalt (1999) appears to conduct a pre-intervention, post intervention comparison of outcome measures as her statistical analysis. This method does not allow for generalizability of findings to other populations

nor does it take into account the numerous other factors that may have contributed to her findings, school characteristics and community characteristics for example.

These two assessments of SBP programs in Pennsylvania examined a variety of possible outcomes both criminal and education, whether or not they increase student attendance, increase academic achievement, and improve juveniles' behavior in and out of school (Clouser 1995, Griffin 1999; Metzger & Tobin-Fiore 1997; Torbet et al. 2001). However these evaluations vary in rigor and results. Neither of the study's designs were rigorous enough to allow for statistical inferences on the causal link between the SBP and the outcome variables of interest. To determine whether SBP programs should be widely disseminated, the field needs research that can articulate clearly the efficacy of SBP programs in reducing recidivism.

In the assessments that included a control group, the control group was not randomly assigned, rather it was a matched sample based on individual level characteristics. Though at times suggestive, the studies also present inconsistent findings. SBP programs were correlated with decreased likelihood of serious re-offending, decreased out-of-home placements and decreased detentions in the (Metzger & Tobin-Fiore, 1997) study, while the Ahalt (1999) study reported no significant differences in school disciplinary referrals and inconsistent evidence for improved academic performance. This suggests that the efficacy of SBP programs in reducing the recidivism of juvenile probationers remains in question (Henderson et al., 2008).

To date, Pennsylvania is one of the very few states to assess its SBP program in a scientific manner. Due to data limitations and implementation issues, the Jackson County,

IL SBP program was not empirically analyzed for its effectiveness. The next state with a large scale SBP program is Maryland.

Maryland's Spotlight on Schools Program

The SBP program known as Spotlight on Schools (SOS) originally began as a pilot program in 1995 called Justice in Cluster Education (JUICE) in the Oxon Hill High School "cluster"[1]. JUICE was a partnership between Prince George's County Schools' Min Leong and Dr. Patricia P. Green and Department of Juvenile Justice's Donna Davis. The program was funded jointly by a grant from the Juvenile Justice Advisory Council of the Governor's Office of Crime Control and Prevention and funds from the U.S. Department of Justice's Office of Juvenile Justice and Delinquency Prevention (OJJDP).

SOS places probation officers in schools rather than in their regional offices. In schools, probation officers have more contact with the juveniles on their caseload, better monitoring, better communication with schools and they are able to advocate for the children in circumstances where their status might be a hindrance.

In the pilot year, the program's popularity continued to increase. In addition the program received positive feedback from schools, policy makers and the community. As a result the decision was made to expand the program and by August of 1998, 35 schools had the SOS program.

Under the leadership of Lt. Governor Kathleen Kennedy Townsend, SOS expanded to over 80 schools across the state of Maryland. By 2004, under the direction of then Governor Robert Ehrlich Jr., there were over 100 probation officers serving over

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[1] "Cluster" refers to Oxon Hill High School and the middle schools that feed into Oxon Hill High School.

100 schools. As of 2008, the SOS program was in 103 schools throughout the state with plans to add another eight schools (Irvine 2009 Personal Communication). The number of schools and number of probation officers has fluctuated throughout the life of the SOS program expanding and contracting at various time periods. Probation officers began to be assigned to multiple schools and staff turnover reduced the number of probation staff available to fill vacancies.

The SOS program places trained juvenile probation officers inside local high schools and middle schools. The SBP officers serve as case managers and supervise juveniles assigned to probation. Maryland probation officers have three classifications and they all require at least an associate degree or a bachelor's degree with varying levels of experience (National Center for Juvenile Justice, 2006). Probation officers must be certified and licensed with the state. To obtain certification, they must complete a training program and a minimum of 160 hours of training in the following areas: juvenile justice in the criminal justice system; human growth and development; laws and regulations; assessment; integrated case management; counseling; documentation; safety and security and first aid. SBP officers go through the same training requirements.

Probation officers in the SOS program have five major responsibilities:

1.　　To supervise all youth who are under DJJ supervision in the schools to which they are assigned and ensure they are held accountable for all misconduct;

2.　　To provide intervention services to students who are referred by school administrators or on an emergency basis for students who are in crisis;

3.　　To respond so that a timely decision can be made and immediate sanctions provided in situations in which the schools seek police assistance;

4.   To participate as a member of the Safe Schools Committee in each of the selected schools to plan, develop and assist in the implementation of prevention and early intervention programming for all students; and

5.   To do whatever it takes, in coordination with school administrators, to provide a safe and healthy school atmosphere that is conducive to learning and appropriate socialization.

According to a pamphlet describing the SOS program for parents published in 1995, the program was to be evaluated for effectiveness based on the following eight outcomes:

1. Reduction of the absentee rate of youth on supervised probation;

2. Reduction of the DJJ referral rate for disruptive and violent behavior of youth on supervised probation;

3. Reduction of the suspension rate of youth on supervised probation;

4. Reduction of the drop-out rate of youth on supervised probation;

5. Reduction of the rate of expulsions of youth on supervised probation;

6. Reduction in the re-offending rate of youth on supervised probation;

7. Enhancement in the academic and social performance of youth on supervised probation; and

8. Reduction of overall disruptive and delinquent behavior in participating schools.

Though these statements were explicitly articulated as outcome variables, the SOS program has not undergone a rigorous evaluation to date.

The Maryland SOS program has been formally evaluated once. After the first year of the program, it was evaluated for the state legislature by Jean Curtin-Brosnan and Harry Longmead (1999). At the time of the data collection for this evaluation in 1999, 86 SBP officers were serving more than 120 schools across the state. In the spring of 1998,

DJS research staff interviewed probation officers, school administrators and students in high schools in Maryland who participated in the SOS program. They also collected data on two groups of students; the first group were students under SOS supervision, and the second group was a control group of students on probation, but not under SOS supervision.

While the results of the interviews were not reported in the evaluation, the researchers did attempt to conduct some statistical analysis. To evaluate SOS, Curtin-Brosnan and Longmead (1999) compare attendance records, grade point average, disciplinary referrals, suspensions, and re-adjudications between the students from the schools with the SOS program (N= 99) and the control group of students from schools without the SOS program (N = 71). Because some students switched schools or data was missing, only those students with completed records for school years were included in the analysis.

However, upon examination of the legislative report, several questions arise. Though the evaluators state they conducted a pre-test post-test research design, it is unclear from the legislative report how the pre-test data was utilized in the analysis of variance. There is insufficient detail in the methods and results sections to determine whether or not statistical controls were used in the ANOVA results presented. The findings reported below must be viewed in light of these uncertainties.

Curtin-Brosnan and Longmead's (1999) findings from the first year evaluation of SOS indicate some support for the program. School attendance and grade point averages were higher for the treatment group in than the control group. Regarding the behavioral indicators, disciplinary referrals, out-of-school suspension, the researchers' findings were

inconclusive because data were presented only for the treatment group at the end of the

treatment period. Data were not reported for the comparison group.

Unfortunately, while this evaluation is suggestive, it also failed to meet the Flay et

al (2005) evaluation standards. While the authors did employ a treatment and control

group design, they gave no details describing the matching procedure used to select the

control group. There was no description of the two groups nor did the authors provide

data comparing the SOS group to the control group on all the variables. The authors

stated that they used ANOVA to compare the two groups, however they provide no

details regarding control variables included is analysis nor how the pre-test data was

utilized. The analysis presented does not suggest causality nor does it rule out other

explanations for the findings. Curtin-Brosnan & Longmeade (1999) fail to report findings

on all study outcomes for each group. A more rigorous evaluation is needed in order to

accurately assess the effectiveness of the SOS program which is the aim of the current

evaluation

Why Is This Research Important?

More and more jurisdictions are using SBP without solid empirical evidence

regarding whether or not the programs achieve the objectives set out for them. In 2004,

New York states Department of Correctional Services found that 29% of its counties had

a probation officer in at least one school (Fasoldt, 2004). Various jurisdictions in New

Jersey have also implemented SBP programs (DiGaetano, 1999) as have several school

districts in California (Antonovich, 2006). Lane Lasater has recently evaluated a

Cognitive Behavioral Intervention Program which partnered with SBP officers in Billings

Montana (Lasater, Willis, Sherman, Schaaf, & Petak, 2009)

SBP programs are attractive because they have the potential to increase contact time and provide access to additional treatment resources. These programs feature a community based strategy with frequent contacts and smaller caseload sizes. They are usually administered by the probation department and emphasize external controls and surveillance over juveniles. SBP's were developed from the same philosophy that guided other intensive supervision JIPS programs. In terms of juvenile delinquency reduction, it was assumed that an expansion of both control features and service delivery features in juvenile correctional programs would lead to decreases in recidivism (Palmer & Petrosino 1990; Wooldredge 1988).

The scant number of evaluations done to date on SBP programs does not support these assumptions. Previous evaluations suffer from limitations that preclude any firm conclusions about the efficacy of SBP's. First, none of the studies provided a clear and concise statement of efficacy. It is important that the conclusions from research be clearly articulated. However, the SBP studies were not designed in such a way as to incorporate rigorous statistical analysis or inferences on the causal link between the SBP and the outcome variables of interest and thus no statements of efficacy were provided. Ashley (2006) and Ahalt (1999) did not even attempt to assess recidivism outcomes of youth assigned to SBP programs. The Metzger and Tobin-Fiore (1997) descriptive study at least attempted to address subsequent recidivism outcomes; however the matched comparison design was not suited to causal inference.

Second, according to Flay et al. (2005) evaluators must use psychometrically sound measures and data collection procedures. Preferably measures with established quality should be used, and there should be detailed description of the populations,

settings, interventions and outcomes for which efficacy are claimed. None of the previous evaluations was able to meet this criterion for evaluation effectiveness.

Third, data should be analyzed with sound statistical approaches (Flay 2005). The intervention design must allow for the strongest causal statements and also take into account any potential threats to inference or alternative explanations. Evaluations must have at least one comparable control group that does not receive the treatment. The only evaluation to meet this criterion was the (Metzger & Tobin-Fiore, 1997) study, which utilized a matched control group design. However Metzger's study did not use rigorous statistical methods, did not account for alternative explanations for the findings, and the control group selected may not have been an appropriate control group.

Fourth, statistical analysis should demonstrate consistent positive effects and also take into account potential negative effects of the treatment, and every effort must be taken to examine unexpected outcomes (Flay et al 2005). Once again, the evaluations reviewed above failed to meet this criterion of efficacious evaluations. There were no consistent positive statistical effects across the (Metzger & Tobin-Fiore, 1997) and Ahalt (1999) studies because each study utilized different outcome measures. And once again, the design and data collection techniques did not allow for causal inferences on positive effects.

Though on the surface the results appear encouraging, the studies above arrived at inconsistent findings. The (Metzger & Tobin-Fiore, 1997) study suggests that SBP was correlated with decreased likelihood of serious re-offending, decreased out of home placement and decreased detentions. The Ahalt (1999) study reported no significant

differences in school disciplinary referrals (including detentions) and inconsistent evidence for improved academic performance.

One significant statistical flaw was the inattention paid to the nature of the data utilized in these evaluations. Neither Metzger & Tobin-Fiore (1997) nor Ahalt (1999) conducted statistical analysis taking into consideration the clustered nature of data collected in schools. Both analyses were conducted at the individual level, ignoring the impact that community level variables and school level variables may have had on recidivism. Because juveniles were clustered in three or more different schools, the observations are not independent of one another. When observations are not independent one of the assumptions of ordinary least squares (OLS) estimation is violated and important sources of variation may be ignored. Violating OLS estimation assumptions can lead to biased estimators, incorrect standard errors and inaccurate confidence intervals, which can lead researchers to draw incorrect conclusions about the hypothesis. Therefore, it is important to use the appropriate statistical model to account for the nature of school based data. According to (Byrk & Raudenbush 1986) the appropriate modeling method to analyze hierarchically structured data is hierarchical linear modeling (HLM). This technique will be discussed in more detail in the next chapter.

The current study proposes to address the flaws of previous SBP evaluations by conducting a quasi-experimental non-equivalent control group experiment using a multi-level modeling technique to assess the impact of the SOS program on recidivism of juveniles while controlling for statistically relevant individual level and school level characteristics. This study will be a school based analysis and match SOS schools with non-SOS schools to provide an appropriate comparison. This study will include relevant

individual level and school level control variables in an attempt to account for alternative explanations.

Research Hypotheses

Previous research on SBP, while flawed, does provide directions for future evaluations. The current study proposes to test several hypotheses that were suggested from the Metzger & Tobin-Fiore (1997) and Ahalt (1999) studies.

The first hypothesis is:

1. Students in SOS will be less likely to recidivate than students on traditional probation.

Although statements of the goals of SBP programs suggest that the programs should reduce recidivism, no previous study has found evidence of such an effect. The nature of Maryland's SOS program is to place probation officers in schools where they are better able to monitor the juveniles on their caseload. I hypothesize that this increased monitoring would result in significantly lower recidivism rates when compared to traditional probation students. This hypothesis will be explicitly tested in this evaluation.

2. Students in SOS have less serious forms of recidivism compared to students on traditional probation.

This hypothesis stems from several observations. Because SOS participants are more intensely monitored compared to their traditional probation peers, their probation violations may be detected more easily. This is hypothesized based on the suggestive findings of Metzger and Tobin Fiore (1997). He found that juveniles on traditional

probation were just as likely to recidivate as juveniles in the SBP program he evaluated. However, their recidivism took different forms.

One of Metzger's additional observations was that youth on SBP were more likely to have technical violations subsequent to their participation in the SBP program, whereas traditional probation youth were more likely to recidivate due to a new arrest. This suggests that the level of seriousness of new offenses was reduced for students assigned to SOS. I will test this hypothesis using information about the nature of new recidivism offenses. In the analysis below, felonies, violent offenses, and drug related offenses all represent more serious recidivism, while school related offenses represent less serious recidivism. These hypotheses will serve as a formal statistical test of Metzger's suggestive findings.

> 3. Juveniles on tradition probation will be more likely to have an out-of-home placement than juveniles in SOS.

I hypothesize that in addition to being involved in more serious forms of delinquency, as a result of that involvement, traditional probation clients will be more likely to have an out-of-home placement then their SOS probation peers. Metzger and Tobin-Fiore's (1997) study suggests that SOS participants were less likely to have out-of-home placements compared to their traditional probation peers.

> 4. Students in SOS will have more time in the community until recidivism than those in traditional probation

Results from Metzger and Tobin-Fiore's (1997) Phase III analysis suggested that juveniles in the Pennsylvania SBP program had more days in the community before they had a subsequent contact with the system. This hypothesis will statistically assess this

assessment by determining if the individuals in SOS schools have more months in the community prior to a subsequent contact with the system.

The next chapter will elucidate more explicitly the data collection methods, study design, variables utilized and analytic strategy of the present evaluation.

Chapter 3

Measures, Data Selection and Analytic Method

Chapter 3: Data, Measures, and Analytic Strategy

This study uses non-equivalent comparison group design to examine the impact of SOS on juveniles' recidivism. I will compare schools with and without SOS utilizing a multilevel modeling strategy. The most appropriate design for this study is one that compares probationers in SOS schools to probationers in non-SOS schools serving similar communities.

Schools are selected as the unit of analysis because, according to a Department of Juvenile Service official (Personal Communication, 2008), all eligible probationers who attend a school with SOS are assigned to the SOS program. Although according to this policy, all the students who are assigned to probation and attend a high school with the SOS program will be assigned to SOS, in practice this was not always the case. Juveniles who were assigned to probation may have also been enrolled in other DJS programs such as C-SAFE or the Violence Prevention Initiative (VPI). Such students, although enrolled in SOS schools, do not receive the SOS program as intended. Also, students may have transferred schools from year to year and DJS may not become aware of these changes for some time (Personal Communication 2010). As will be described below, only those juveniles assigned to SOS and traditional probation and not simultaneously involved in any other programs were included in this study sample.

Data from Maryland Department of Juvenile Services (DJS), the Maryland State Department of Education, and the Census Bureau will be used to evaluate the SOS program and its effects on recidivism. The quantitative analysis will be also assessed through the lens of school officials and probation officers' evaluation of the SOS

program. This section will provide an overview of the data sources, measures, sample selection and analytic approach.

Data Sources

This study gathered data from several sources of data: 1) Maryland's Department of Juvenile Services (DJS) – demographic and criminal history data; 2) the Census Bureau – community level data; 3) Maryland State Department of Education – school level data; and 4) questionnaire responses from probation officers and school principals. Measures were collected from the first three sources and combined for statistical analysis. Since community level data was obtained by zip codes for areas surrounding the schools, for the remainder of this analysis, community level variables will be referred to as school level variables. The responses from the questionnaires were used to add context to the quantitative results.

Maryland Department of Juvenile Services Data

DJS provided offense and probation data for youth assigned to traditional probation and youth assigned to SOS between May 2002 and May 2007. The May 2007 cut off date was selected because juveniles assigned to probation in May 2007 would be able to serve a one year[2] sentence, through May 2008, and allow for an additional year follow up period (through May 2009). Juveniles' subsequent contact with DJS will be monitored for two years following the start of the initial probation sentence.

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[2] According to DJS officials (Personal Communication 2009), the average length of sentence for juveniles assigned to SOS and assigned to traditional probation is one year.

DJS provided data on juvenile probationers who attended SOS schools and therefore participated in SOS, as well as juveniles who attended the control schools and therefore were assigned to traditional probation. The files included data on the offense leading to the probation sentence of interest, the juvenile's contact with DJS prior to the probation sentence, and any subsequent contacts after the probation. The selection of treatment and control schools is described in more detail below.

The files from DJS included many of the individual variables of interest for the juveniles. For each contact with DJS, files included a "Fake ID" number[3], date of birth, age, gender, race, start date and end date of probation sentence, school name, county, caseworker name, and age at time of offense. The records also contain data about the offense leading to the probation sentence including the complaint date; the source of the complaint (law enforcement or citizen complaint); the offense date; the offense type (felony or misdemeanor); the adjudication date; the adjudicated offense; and the adjudication decision. Information regarding out-of-home placements was also provided. The control variables and outcome variables on the individual level were created from these data files.

In addition to individual criminal offense data on juveniles attending SOS and non-SOS schools, DJS also provided data to help calculate juvenile crime rates as well as implementation of the SOS probation program. To calculate juvenile crime, DJS provided raw counts of the numbers of youth admitted though intake for felonies and misdemeanors from 2002 – 2007 per zip code for the zip code areas surrounding each school. This was used to create *juvenile intake rate* variable described below. To assess

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[3] In accordance with the MOU from DJS, and to protect the confidentiality of the juveniles, DJS personnel created fake identification numbers for the juveniles in this study.

implementation, DJS also provided caseload information for caseworkers included in the study. For both SOS and non-SOS probation officers, DJS was able to provide a raw count of the number of cases that probation officer had from 2002-2007. Finally, DJS was able to provide an approximate cost estimate of one probation officer. This data was used to conduct a cost benefit comparison of SOS to non-SOS program.

2000 Census Data

The second source of data comes from the U.S. Census Bureau. The census conducts the official population census of the United States called the decennial census. Data is collected from every household in the U.S. every ten years, most recently in the year 2000 ("Censuses and Surveys - American FactFinder," 2008) I collected data from the American Fact Finder tool on the Census Bureau's website (http://factfinder.census.gov/home/saff/main.html?_lang=en) based on the zip code of the schools selected in the study.

Zip code of the youth in the programs would have been a more precise measure of the communities that the juveniles originate from. The zip codes of the schools were selected in lieu of the zip code of the juveniles for two reasons. First DJS declined to provide the zip codes of the sample of students provided for this evaluation. According to DJS, zip codes in addition to demographic information (race, sex, date of birth), and schools attended by the juveniles would have violated the memoranda of understanding preventing evaluators from potentially obtaining identifying information. Second, this evaluation is a school level evaluation. Review of the catchment areas of schools in several counties included in this analysis revealed that, while not exactly the same, school catchment areas closely mirrored postal zip code boundaries. This is not to state that all

juveniles who attend a high school live in that zip code. Juveniles may be bussed to a different school than their local school to enroll in a special high school program such as a magnet program. Families may lie about their residence in order to enroll their children in better schools. However, because DJS would not provide the zip code for the individual juveniles, and school catchment areas closely mirror zip codes, the school's zip code are used as a proxy for the neighborhood characteristics of the juveniles included in the study.

The variables I collected for each zip code include: the percentage of female headed households; median income; percentage of residents with a high school diploma or higher; the population density; the percentage of renter occupied dwellings; the percentage of families that switched residences in the past year and the percentage of residents living below the poverty line. These variables were selected because past research has demonstrated that these variables are associated with community crime rates.

Maryland State Report Card Data

The third source of data was the Maryland State Department of Education. Several reports from the Maryland State Department of Education (MDSE) were used as sources of data. First, the data from the Maryland State Report Card was collected. This is data compiled on an annual basis by MDSE. The goals of the report card are to provide information on school performance, specifically how Maryland's 24 school districts are progressing in meeting federal No Child Left Behind requirements ("2009 Maryland Report Card," 2009). In addition to standardized test scores, the Maryland State Report

Card also gathers data on the demographic characteristics of individual schools throughout the state. The school characteristic I collected for this study include: school enrollment, school attendance, percent of students who are African Americans, the percentage of students who receive free or reduced lunch, and school dropout rate. Each variable was collected for three years, 2005-2007.

One variable, school suspension rate, was not available on the Maryland State Report Card (2009) but was available on the Maryland State Department of Education website (http://www.marylandpublicschools.org/msde/). The Department of Education compiles yearly reports called "Suspensions, Expulsions, and Health Related Exclusions Maryland Public Schools". The reports contain statistics on In and Out of school suspension for each school each year. From these documents, I collected the number of suspension incidents per school from 2005-2007 and, using the school enrollment data for the same years, calculated the average rate of suspensions for each school.

Interview Data

In addition to the above data sources, I collected supplementary qualitative data for this evaluation. I conducted in-person interviews with SOS probation officers and school principals in the spring of 2009. The purpose of the interviews was to gain accounts and detailed information from individuals who are intimately involved in the implementation of the program. I selected interview participants based on their geographic location, principals and officers in Prince Georges County. Prince George's County was also the first county to implement the program and has the longest history of collaboration with local high schools. A total of 18 interviews were completed, with

seven principals and 11 probation officers. I digitally recorded the interviews and

transcribed them. Principals' and Probation officers' responses will be used to clarify,

understand, and present possible explanations for the quantitative findings.

Measures

The variables in this analysis can be divided into three categories - outcome

variables, individual level predictor variables, and school level variables. Each of these

categories will be discussed in detail below. Appendix A presents a summary of the

coding decision for each variable and Appendices B and C provide Pearson correlations

detaining the bivariate relationships among variables at the individual and school levels.

Outcome Variables

I propose to examine the impact of the SOS probation program in reducing

recidivism when compared to traditional probation. In order to assess this relationship, I

will examine seven outcome variables.

The original study design included an analysis of the seriousness of recidivism by

comparing new arrests to technical violations of probation. However several factors led

to a change in this plan. First, DJS did not begin tracking violations of probation until FY

2003 (Maryland Department of Juvenile Services Annual Statistical Report 2003), one

year after the beginning of data collection for the present study. Also, in 2004 the data

management system for DJS was updated and this caused significant missing intake data

for about 4,000 intake cases that year (Maryland Department of Juvenile Services Annual

Statistical Report 2004). Additionally, there was no consistency across jurisdictions

regarding how to enter data on technical violations (Personal Communication 2010).

Some jurisdictions indicate a violation of probation by selecting the adjudicated offense as "Violation of Probation", other jurisdictions insert an "N/A" in the adjudicated offense field to signify a violation of probation, and still other jurisdictions included the text "VIOP" at the end of the complaint identification number. These different methods for identifying violations were used at different points in the study period and by different jurisdictions. However, it was unclear which jurisdictions were using this method and impossible to isolate time periods. For all of these reasons, disentangling which records indicated a violation of probation proved to be very difficult. Since the intent of including technical violations was to address the seriousness of a juvenile's recidivism, the technical violation variable was replaced by other variables measuring the seriousness of recidivism. These other variables are discussed below.

Recidivism – Previous recidivism studies have examined recidivism in various ways: rearrest, reconviction, technical violations, length of time until rearrest etc. In this study, recidivism will be measured multiple ways, first, as any subsequent *arrest* during the first year after probation placement, *One Year Recidivism*. One year was reported as the average length of sentence (Personal Communication 2009). Thus for this study, *One Year Recidivism* will approximate a recidivism offense while the juvenile is under the probation sentence. Second, recidivism will be measured as any arrest within two years of probation placement, *Two Year Recidivism*. Since the average length of sentence is one year, *two year recidivism* will allow observation for one year after the probation sentence. Recidivism events will be coded similarly for these two variables where 1 = new arrest during the specified time period or 0 = no new arrest.

Seriousness of Recidivism Offense– Previous research has indicated that juveniles under SBP sentences may tend to recidivate with less serious offenses then their traditional probation counterparts. To assess this outcome, I examined four additional variables that describe the type of offense that lead to a subsequent contact with DJS. These variables are 1) *Recidivism Felony*, where 1 = the first offense after probation was a felony offense or 0 if first offense was a misdemeanor 2) *Recidivism Violence*, where 1 = first offense after probation sentence included violence and 0 = first offense after probation did not include violence 3) *Recidivism Drug*, where 1 = first offense after probation included controlled substances and 0 = recidivism offense did not involve controlled substances, 4) *Recidivism School*, where 1 = recidivism offense was "Disturbing School Activities" and 0 = all other offenses. It was observed that some of the recidivism records included the offense "Disturbing School Activities". One indicator of whether or not juveniles in SOS were involved in less serious forms of recidivism would be if they were charged with offenses related to disturbing school activities. These four contrasts as a whole are meant to measure seriousness of recidivism. These variables are measured so that only those recidivism offenses that are felonies, involve violence, drugs or school activities are coded as = 1. Juveniles who did not recidivate were coded as a 0.

Time to recidivism – *days to new arrest* will also be an outcome variable. These variables will be measured in days and observed for the probation sentence period (0-365 days) and the full two year follow up period (0-730 days). Previous evaluations (Metzger & Tobin-Fiore, 1997; Wooldredge, 1988) have found that juveniles involved in intensive supervision programs spent more time in the community until a subsequent contact with

the criminal justice system. Estimating the SOS program's impact on days to recidivism will empirically test this hypothesis.

Placement – One additional indication of the seriousness of recidivism is an out-of-home placement. Youth who have been adjudicated, placed on probation or committed to DJS custody by a judge may be eligible for an out-of-home placement. DJS determines placement of juveniles based on a security risk assessment and a treatment needs assessment. The results of the risk and needs assessments determine whether the youth can remain at home or whether residential placement is necessary. DJS has a five-level classification system for placements. These range from lower risk Level I, an in-home placement, to the highest risk, Level V, placement in a secure treatment facility. DJS has three types of treatment facilities: 1) non-secure – facilities for youth with low to medium risk security profiles; 2) residential treatment center – these facilities can be secure or non-secure and they offer intensive psychiatric care and service youth with a range of security profiles; and finally 3) secure treatment facilities – facilities for youth with a broad range of emotional, behavioral and other needs whose profiles suggest a high risk of re-offending, flight, or harm to themselves or others (DJS 2009).

For the purposes of the current analysis, out-of-home placement was defined as a DJS disposition labeled "Committed to DJS/DJJ – Placement" occurring after the initial probation sentence that triggered the youth's inclusion in the study within the 24 month follow up period[4]. If a juvenile has an out-of-home placement within the 24 month follow up period as a result of recidivism, the variable will be coded 1 = out-of-home placement, or 0 = no out-of-home placement. Metzger and Tobin-Fiore's (1997)

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[4] Missing data identifying which institutions these youth were placed into prevented a more specific assessment of potential differences between non-secure and secure placements.

evaluation indicated that juveniles placed on SBP were less likely to have an out-of-home placement subsequent to recidivism.

In the data provided by DJS, 20% of youth in this sample had an out-of-home placement within the follow up period. It is important to note that the majority of these juveniles received a placement decision as the result of a subsequent offense while already under probation supervision. Therefore, placement in a secure facility could not have influenced the dependent variables used in this study because only the first offense following entry into the study is used to measure re-offending.

Individual Level Predictor Variables

Demographic Variables – Variables describing the individual juveniles' demographic characteristics were obtained from DJS records. These variables include the juveniles' *gender* (Female = 0; Male = 1), *race* (Binary variables for each race 1= White, Black, Hispanic / Latino and Other, 0 for all else), *age at current offense* (calculated from the date of birth).

Criminal History – DJS provided a full history of contacts for each juvenile. This record included details of previous contacts, arrests and dispositions. Of particular interest were *age of onset* – calculated by subtracting date of first contact with DJS from date of birth. *Number of previous offenses* coded as number of previous contacts with DJS. *Felony criminal history* coded as a binary variable coded 1 = the individual had a prior felony offense and 0 = all else. For the juveniles in the sample who did not have any previous offenses before the current offense, the felony criminal history variable was coded = 0.

Current Offense – Type of offense leading to probation was used to control for differences in the analysis of recidivism. Type of offense was measured three ways. First as a dichotomous indicator *felony* where 1 = current offense was a felony offense and 0 = all other offenses. Second, as a dichotomous indicator *violence* where 1 = the current offense involved violence and 0 = all other offenses. Third, as a dichotomous indicator of *drug* use where 1 = current offense involved drugs and 0 = all other. In instances where a juvenile was charged with multiple offenses in the same complaint, the most serious offense was counted. For example, if a juvenile was charged with one felony and two misdemeanor offenses, that juvenile would be coded 1 for felony. The same logic was applied to the violence and drug variables.

School Level Variables

SOS Participation – Treatment and control schools differ in their participation in the SOS program. SOS will be a binary variable where 1 = a school has an active SOS program and 0 = no SOS program in the school.

Community Juvenile Crime – *Juvenile intake rates* were also included as a control variable. While community crime rates are highly correlated to overall offending, juvenile intake rate as measured in this analysis is a more precise and sensitive measure of juvenile offending patterns in these zip codes. Official DJS intake data is more likely to closely resemble juvenile offending patterns than the overall community crime rate. Community level crime would include adult offending in addition to juvenile offending patterns.

DJS provided raw counts of the number of juveniles admitted to DJS for felonies and misdemeanors broken down by zip code for the study years. This data was received

as an aggregate count of the number of juveniles that went through DJS intake from 2002-2007. To obtain the *juvenile intake rate*; the number of juvenile intakes was summed across offense type, felonies & misdemeanors. This total was then divided by five, the number of years the data spanned[5]. The result was then also divided by the population counts for people under the age of 18 from the Census. This rate was then multiplied by 1,000. The resultant variable represents an average annual *juvenile intake rate* per zip code calculated for the years 2002-2007 per 1,000 juveniles.

Community Organization Factor – The community organization factor was comprised of several variables including community level variables, school level variables and the *juvenile intake rate* described above. The zip code of each school was used to obtain Census 2000 data on community characteristics. *Z-Scores* were calculated for median household income, population mobility, population density, education, percent of female headed households, percent of renter occupied housing units, and percent of the population below poverty. Population mobility was measured as the percent of households that moved within the last year. Education was measured as the percentage of the population who received a high school diploma. The average of these standard scores (after reversing the direction of certain indicators) was used as one method of matching schools (see discussion below for more detail on how scores were calculated and utilized in this analysis).

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[5] Juvenile intake data was provided by DJS as raw counts of youth processed through intake in each of the zip code areas included in the study. In calculating the juvenile intake rate variable, it was possible for a juvenile to be arrested for multiple offenses or multiple times in the same year. To address these possibilities, the following decision rules were applied to the counting 1) If a juvenile had one complaint with multiple charges including felonies and misdemeanors, that juvenile was only counted once under the felony category. 2) If a juvenile went through intake several times in a year, but each time for a different complaint, than each of those complaints against the juvenile was counted separately in calculating the juvenile intake rate.

Several school level characteristics were also collected. These include *total enrollment* – average number of students enrolled per year from 2005-2007; *attendance* – average proportion of students attending daily from 2005-2007; *percentage of African Americans* – average proportion of the student body that was African American; percentage of students receiving *free and reduced lunch* – average proportion of students receiving free or reduced lunch averaged from 2005-2007; percentage of students that *drop out*[6] – proportion of students that dropped out of the school during that academic year averaged from 2005 - 2007, and the *suspension rate* in each school – the rate of students suspended during the school year proportional to the enrollment for that year averaged from 2005-2007. Each of these variables was collected from the Maryland State Report Card (2009), except for school *suspension rate*. School suspension data was collected from the Maryland Department of Education website. This rate was calculated using total number of suspensions and the total enrollment for the school for each year between 2005 and 2007.

Many of the school level variables are highly correlated (See Appendix C). These relationships may present issues of multicollinearity in subsequent data analysis. The percentage of *female headed households*, *median income*, percentage of the population with high school diplomas, *population density*, *poverty*, *average school enrollment*, percentage of the school receiving free or reduced lunch, average percent of students who are African American, *average school attendance*, *juvenile intake rate* and *average school dropout* are all significantly correlated with each other. Many of the correlations

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[6] Drop out represents the percentage of students dropping out of school in grades 9 through 12 in a single year. The number and percentages of students who leave school for any reason, except death, before graduation or completion of a Maryland approved educational program and who are not known to enroll in another school or state-approved program during the current school year. The rate is representative of the four year graduation rate of students who started high school the previous year.

range from .6 to .8. Including too many variables in the analysis might have a detrimental effect on the model estimation and because so many of the school variables and community variables were correlated to each other, I conducted a factor analysis in an attempt to reduce the number of these variables. All of the school level variables, community level variables and juvenile intake rate were included in the calculation of the factor score. Factor analysis with a Varimax rotation demonstrated that most of the variables loaded on one component. Factor loadings for this component are presented in Appendix D. The variables listed above seem to represent a *community level social organization* variable. The larger the factor score, the more socially organized the community surrounding the school. The only school level variable that did not load on this factor was the *suspension rate*. The subsequent analyses were estimated with the *community organization factor score* from the factor analysis and average *suspension rate* in the level two models.

Table 1 shows descriptive data for all study variables for the sample to be described shortly. Appendix B shows correlations among the individual level variables and Appendix C shows correlations among the school level variables.

Qualitative Data

DJS supplied the names and contact information of current SOS program probation officers in Prince George's County, Anne Arundel County, St. Mary's County, Charles County, Calvert County and Baltimore City. Probation officer participation was solicited through a letter written by research staff. The letter was distributed to probation officers through their DJS regional supervisors. These letters were followed up with phone calls from the research staff to solicit participation. Attempts to solicit

participation from probation officers ceased after the third attempt or after the participant declined to be interviewed.

Contact information for 35 school principals and administrators was obtained from the individual schools' websites. A letter was mailed to each principal and followed up with phone calls from the author. Attempts to interview administrators also ceased after the third failed attempt. This provided a sample of 11 probation officers[7] and seven principals who participated in the interviews.

These probation officers and principals were administered an in-person, semi-structured interview, with both open ended and closed ended questions. The survey developed for this evaluation was adapted from Torbet et al's (2001) questionnaire for Pennsylvania's SBP program. **Appendix F and G** present the interview instruments used for probation officers and principals respectively. A total of 18 probation officers and principles were interviewed between January 2009 and April 2009. These interviews were digitally recorded and transcribed. Probation officer and principal responses will serve as the basis for assessing implementation of the SOS program.

All participants were interviewed by the author in order to ensure consistency and reliability. All closed ended responses were recorded by the author and all interviews were digitally recorded. During transcription of interviews written responses were verified for accuracy.

Items included in the survey were questions not addressed from other data sources. Probation officers were asked about their caseload, their perceived role as a SBP officer compared to how others' might view them, their duties and responsibilities, their

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[7] Two of the probation officers who participated were supervisors and no longer maintained a current caseload of juveniles. Their interviews mirrored interviews of the remaining nine probation officers except they were not asked about the composition of their caseloads.

satisfaction with the position, how effective they perceived the program to be in affecting positive change in the lives of probationer, and how they felt their presence affected the overall school climate. In addition they were asked their opinions on the strengths and weaknesses of the SOS program.

Principals were asked similar questions. They were queried on their knowledge of the SOS program, their working relationship with the probation officer, their perception of the probation officers roles and responsibilities, their satisfaction with the program in achieving positive changes with the juveniles they supervised and their opinion on the strengths and weaknesses of the program.

This qualitative data are used to supplement the quantitative analysis and assess the implementation of the SOS program. I was not able to obtain direct measures of SOS implementation. Because principals and probation officers work directly to execute the program, their insights may illuminate other factors impacting the program's effectiveness that are not readily apparent with the data on hand.

Selection of Schools

I obtained a list of all schools in the state with the SOS program[8] from DJS. There are 103 high schools and middle schools designated as SOS schools. For this evaluation, the treatment sample was limited to high schools because the number of middle schools with the program was comparatively small[9].

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[8] This list was current from DJS as of March 2008.
[9] Of the 103 schools with the SOS program, 86 were high schools, 11 were middle schools and six were combination high schools and middle schools.

The treatment group of high schools with the SOS program was selected based on their geographic location. Prior to 2007, DJS divided the state into five geographic regions[10], Areas I-V. Area V contained Prince George's County, Calvert County, Charles County, Anne Arundel County and St. Mary's County.   Area V had the largest concentration of schools with SOS since the program originated in Prince George's County. Schools with SOS in Area V counties were selected for inclusion into the current research as the treatment schools. However, since the majority of schools in Area V had the SOS program there was a dearth of high schools without the program that would make suitable control schools. As a result, it was a necessary to select control schools from Area V as well as from counties other than those included in Area V.

To obtain a control sample, the communities surrounding Area V SOS schools were compared to communities surrounding high schools that did not have SOS. Schools in areas surrounding SOS schools in Area V were considered as were schools in Baltimore City because the schools in Baltimore City had demographic characteristics the most similar to those from the Area V schools.

There were 109 total high schools from Area V and Baltimore City. Of those schools, 24 were special education schools or alternative high schools. Thirteen schools were combination high school and middle schools. Three schools were newer schools that opened after May 1, 2002. Two schools closed in 2005. All of these were excluded from the analysis, resulting in a total of 67 schools to choose from for comparison

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[10] Legislation passed in 2007 SB 359 required DJS to deliver services on a regional basis while incorporating residential and community functions into the regions. Regionalization and Decentralization allows each region to independently manage its services and resources customized by the need of the region. This regionalization resulted in 6 newly configured regions – Baltimore Region (Baltimore City); Central Region (Baltimore, Carroll, Harford and Howard Counties); Metro Region (Montgomery and Prince George's Counties); Southern Region (Anne Arundel, Calvert, Charles and St. Mary's Counties); Western Region (Allegany, Frederick, Garrett, and Washington Counties); and Eastern Region (Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, and Worcester Counties).

purposes. Thirty-six of these were schools with the SOS program in Area V and 31 were schools without the program.

To further narrow down the schools, DJS provided a list of juveniles who participated in SOS between May 2002 and May 2007. The file contained identification numbers, the name of the school the juvenile attended, the name of the probation officer and the dates they began and ended SOS. This list was analyzed to determine the number of subjects per school who participated in the treatment program. In order to avoid estimation errors resulting from a small number of cases within each school (Morris, 1995), we wished to avoid schools in which the number of juveniles on probation was lower than 20. Based on this examination, four of the 36 treatment schools were dropped due to insufficient numbers of juveniles assigned to SOS in that school.

A similar process was used to confirm that a sufficient number of control juveniles would be available for analysis. DJS provided a list of juveniles who were assigned to traditional probation and attended the schools located in Area V and Baltimore City that did not have SOS. This list was quite large for several reasons. In Maryland, there are other programs that juveniles in traditional probation may be assigned to in lieu of SOS. These alternatives include the Violence Prevention Initiative (VPI), Female Intervention Team (FIT), C-SAFE, intensive aftercare services, waiver to adult court, and mental health treatment. Such juveniles were excluded from inclusion in both treatment and control samples. According to DJS youths in these programs would not be eligible to participate in SOS at the same time, even if they attended a SOS school. Also, the treatment effects of these other programs may mask effects of SOS.

The remaining list of juveniles was then analyzed to determine the number of probation cases per school. Non-SOS schools with fewer than 20 cases were excluded from the analysis. Of the 31 non-SOS schools, 11 had fewer than the 20 required cases during the study period. This resulted in 20 possible control schools for matching purposes. Because the design called for comparing SOS schools with control schools, all of the eligible control schools were selected for inclusion in the study. In the end, there were 52 schools eligible for inclusion in this study, 32 treatment schools and 20 control schools. All but one of the 32 treatment schools was located in Area V. Six of the 20 control schools were located in Area V and the remaining 14 were located in Baltimore City.

Identifying Comparable Schools

The next step was to identify SOS schools that were closely comparable to the available control schools. Using the zip code of the school and the previously collected Census 2000 variables, I created a data table including the community level Census variables for the eligible 52 schools in Area V and Baltimore City.

The values of these variables were on different scales (e.g. some in percentages and others in dollars), and were in different directions. This made direct comparison difficult. In order to compare variables to one another, I standardized each Census variable. First, to deal with the fact that different variables were coded in different directions, I reversed the direction of population *mobility*, *renter occupied housing*, *population density*, *percentage of female headed household*, *juvenile intake rate* and percentage of families below the *poverty* line by multiplying each by "-1".

Then by subtracting the variable mean from individual raw scores on each variable and dividing by the standard deviation, I obtained normal or *Z Scores* for each variable.   The *Z Scores* were then averaged across the variables to create an *Average Z Score* for each school. Schools with the SOS program were then initially matched with control schools based primarily on their *Average Z scores*. (**See Appendix D** for a list of eligible schools and their *Average Z Scores*).

However, it became clear that the *Average Z scores*, while incorporating Census 2000 variables describing the community, did not account for characteristics of the schools that might be related to study outcomes. In order to refine the matches and choose among control schools with very similar *Average Z scores*, other variables were collected for each school. The following additional variables were obtained from the Maryland State Department of Education's State Report Card[11] for three years (2005-2007): total enrollment, attendance rate, drop out rate, percentage of African American Students, and percentage of students receiving free and reduced lunch. Suspension rates were also collected from Maryland State Department of Education for three years 2005-2007. Each of these variables was averaged across the three years to produce an average enrollment, average attendance, average drop out rate, average percent African American students, average percent of students receiving reduced and free lunch, and average suspension rate.

The original matches were made using only the *Average Z scores*. Then, using the school level variables, those matches were refined, especially in cases when several potential treatment schools had similar *Average Z scores* as a control school. From the

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[11] The additional school data was collected from this website: http://www.mdreportcard.org/   in July 2008.

list of 52 eligible schools, 32 treatment and 20 control, the matching process and

refinement of matches resulted in a list of 20 pairs of treatment and control schools.

Validity of the Matches

To assess the quality of the matching procedure described above a paired sample

t-tests comparing the treatment and control groups was performed. This analysis was

compared on both *Average Z Scores* and school variables. School means for the

individual-level variables used in the analysis by condition are presented in Table 2 and

results of the mean comparison are shown in Table 3 and discussed below[12].

Table 3 shows that the *Average Z scores* for the SOS schools and control schools

were not significantly different. However, several differences in the characteristics that

made up the *Average Z-score* merit discussion. The control group consisted of schools

that came from more densely populated communities than the treatment schools and with

a significantly higher transient populations and a higher percentage of families living

below poverty. Since 14 of the 20 control schools are in Baltimore City, the significantly

different population densities, population mobility and percentage families below poverty

level can be explained as a result of the geographic sampling strategy used for obtaining

control schools. I will explicitly control for these community level characteristics in the

models presented below.

The treatment and control groups also differed on *juvenile crime rate* variable.

Recall this variable was added in an attempt to capture community level juvenile

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[12] Propensity score matching would have been useful for matching treatment and control schools if a large number of variables were available on a large number of schools. I could have calculated a propensity score and selected treatment and control schools with similar propensity scores. The small number of schools and limited information available on the schools made this approach less useful. I did calculate propensity scores, but there was little overlap in propensity scores for treatment and control schools probably because several of the control variables were very different for treatment and control schools. The propensity scores were therefore not useful for identifying comparable treatment and control schools.

offending behavior. The control schools have a significantly higher average juvenile

crime rate. Once again, this may be a reflection of the selection of control schools. It is

possible that police policies and juvenile offending behavior differ significantly between

Prince George's County and Baltimore City resulting in the difference in juvenile intake

rates.

Three school variables also demonstrated significant differences between

treatment and control schools. First, comparison schools had a significantly smaller

average enrollment size than the treatment schools. This difference in enrollment size

might be attributable to the Baltimore City Public Schools System's recent Reform

Initiative (Smerdon & Cohen, 2007). This initiative broke up all nine large

comprehensive schools into smaller neighborhood schools sharing the same campus.

Each neighborhood school had its own faculty, staff, school colors etc. However, the

smaller schools would continue to share the same campus as their comprehensive school

predecessors. The aim of creating neighborhood schools was to provide a smaller

learning environment. By 2006 BCPS went from nine comprehensive schools down to

five and increased the number of smaller neighborhood schools from four to 13 (Smerdon

& Cohen, 2007).

School size is a factor that is often hypothesized to have an impact on school

climate, organizational structure, school discipline, student victimization, and academic

performance. However, the relationship between school size and crime remains unclear.

A recent report by Cook et al. (2009), reviewed 15 studies that examined school size and

problem behavior. Of the 15 reports, only one found a positive association between

school size and misbehavior. They then go on to reanalyze data from the School Survey

on Crime and Safety to assess how school size relates to crime. When controlling for school location and school level, they demonstrate that school size is not significantly related to school crime (Cook, Denise C. Gottfredson, & Na, 2009). While the school enrollment variable differs across treatment and control groups, there is little evidence to indicate that school enrollment will have an impact on recidivism. Nevertheless, I will control for school enrollment during the data analysis.

The second school variable that demonstrated a significant difference between the treatment and control group was the average suspension rate variable. Treatment schools had an average suspension rate of .44 compared to .25 for control schools. This may be occurring for a couple of reasons. Perhaps SOS is being placed in schools that are more punitive and have a zero tolerance policy for misbehavior. More punitive principals may request the SOS program in their schools as an added threat of punishment to students. Or perhaps the students in treatment schools are more likely to misbehave. I will control for school suspension during the data analysis.

Finally, the treatment and control schools differed significantly in the attendance rates. The SOS sample schools had average attendance of 89% compared to 85% of the control sample. Once again, this may be an artifact of the selection process for control schools. Since several of the matched control schools were in Baltimore City, they may have more difficulty in getting students to attend school regularly.

At the end of this selection and verification process, this study sample contained a total of 1,757 juveniles. All students who were assigned to SOS and attended the 40 selected treatment and control schools between May 2002 and May 2007 were included in the analysis. This sample consisted of N = 625 SOS youth and 1,135 control youth.

Data Analysis Strategy

As noted above, this evaluation is a non-equivalent control quasi-experiment comparing juveniles in SOS with a sample of juveniles on traditional probation. These data are nested. The juveniles are the lowest level of analysis. Because they were selected based on the high schools they attended, the juveniles attending the same schools share similar characteristics. These individual youths are nested within their schools. Statistical analysis of nested data can be misinterpreted if the hierarchical structure of the data is neglected. Simple linear regression and multiple regression modeling techniques are inadequate to account for hierarchical data without losing important information (See discussion below and Raudenbush & Bryk, 2001).

One traditional way to make statistical inferences is linear regression. For this evaluation, simple linear regression was inappropriate because the data violates the underlying assumptions of linear regression. One assumption of ordinary least squares (OLS) models is the independence of observations. When individuals are drawn from any institution such as a business or a school, the individuals will be more homogeneous than if they were randomly drawn from the population at large. For example, individuals in schools will share characteristics such as school climate, extra curricular resources, teachers, principals, guidance counselors etc. Observations based on these individuals are not independent of one another thus violating the independence of observations assumption of OLS (Guo & Zhoa, 2000; S. W. Raudenbush & Bryk, 2002).

Also, there is the difficulty of dealing with cross-level data. In OLS, when researchers want to investigate how environmental variables affect individual outcomes,

researchers often bring the higher level variables down to the individual level by assigning environmental observations to each individual. This again violates the independence of observations assumption because the values for cases within each school are the same (Osborne 2000; Guo & Zhoa 2000). When observations are clustered, and this structure of the data is ignored the traditional linear regression models underestimate the standard errors (Guo& Zhao 2000). In this context multilevel modeling provides corrected standard errors, confidence intervals and significance tests.

Finally, the dependent variables in this analysis are binary dependent variables and thus not normally distributed. Hierarchical logistic regression models will be used in this study to account for the clustering of cases within schools and the binary dependent measure. Hierarchical models use separate regression equations to model the different levels of the analysis, level-1 (students) and level-2 (schools). The variance associated with the school and the variance associated with the student can be separated for the intercept and slope parameters (Raudenbush & Bryk, 2002). By estimating the two equations separately, variances and standard errors will be more precise. With more precise standard errors and more accurate confidence intervals, the chance of incorrectly rejecting the null hypotheses was reduced.

Survival analysis was utilized to analyze the timing of the arrests. The question of interest was whether juveniles in schools with the SOS program had a longer period before re-offending when compared to their counterparts on traditional probation. This time variable may have significant right censoring given that some juveniles will never re-offend and some will re-offend after the two year observation period. Survival analysis techniques can model the hazard, or the likelihood of recidivism, at a point in time, given

that recidivism has not occurred before. Cox regression proportional hazard modeling predicts the odds of the hazard based on covariates. It is the least restrictive hazard regression model because it makes no assumptions about the underlying survival distribution. Cox regression was used to analyze the timing of recidivism. Cox regression procedures do not provide a straightforward method to handle nested data. To control for the hierarchical nature of school level data, I included a cluster command using STATA to adjust the standard errors for intragroup correlation at the school level. As a check on the adequacy of the cluster command for handling the nested data in the survival analysis, I ran the logistic regression models using the level-2 covariates (individuals within schools) with the cluster command with STATA. I will compare the results from this analysis to those obtained using the hierarchical linear modeling described above.

The present study conducts these statistical analyses in several steps. First, I estimate a multilevel model to predict treatment effects for *one year recidivism, two year recidivism, recidivism felony, recidivism violence, recidivism drug, recidivism school* and *placement* (hypotheses 1, 2 and 3). Finally, survival analysis was conducted to test for a treatment effect on the timing of recidivism using Cox regression and a cluster command in STATA. To assess the effectiveness of the clustered Cox regression in handling the nested nature of school level data, I estimated a clustered logistic regression and compare those results to the hierarchical model (hypothesis 4). Each hypothesis and the models associated with that hypothesis will be discussed below.

Hypothesis 1 through 3

Recall the hypotheses:

1. Students in SOS will be less likely to recidivate than students on traditional probation.

2. Students in SOS have less serious forms of recidivism compared
    to students on traditional probation.

3. Juveniles on tradition probation will be more likely to have an
    out-of-home placement than juveniles in SOS.

These hypotheses were analyzed using the *one year recidivism, two year recidivism,*

recidivism felony, recidivism violence, recidivism drug, recidivism school and *placement*

outcome variables. Students in SOS are expected to have lower rates of new arrest, lower

rates of out-of-home placement and lower rates of recidivism offenses including felonies,

violence, drugs but higher rates of school infractions than students on traditional

probation.

Table 4 shows the equations to be estimated. For each dependent variable,

Equation 3.1 represents the sampling model and calculates the probability of each

outcome for student i in school j. Because all the outcomes were binomial variables, the

logit link function was needed in Equation 3.2 to produce the log odds of a new *one year*

recidivism, two year recidivism, recidivism felony, recidivism violence, recidivism drug,

recidivism school and *placement*. Equation 3.3 represents the individual level of analysis

examining the log odds of each outcome given juvenile i in school j controlling for

relevant level-1 variables. In each of the models presented in the results section, Level-1

variables that will be controlled for include: *race*, *gender*, *age at current offense*, *age of*

onset, *number of previous offenses*, *felony criminal history*, *current offense felony*,

current offense violence, and *current offense drugs*.

For ease of interpretation, one additional step will be taken. In Equation 3.3 $(X_{Kij} - \overline{X_K})$ was selected as the location for X variables. The meaning of the intercept in the level-1 model depends on the location of the level-1 predictor variables (Raudenbush & Byrk 2002). In the simple model of HLM, the meaning of the intercept is the expected outcome for a student who has a value set to 0 on X_{ij}. There are instances where a value of 0 on X_{ij} cannot be meaningfully interpreted. It is often more meaningful to center the variable X on the grand mean. When grand mean centering is employed the interpretation of the intercept β_{0j} is the expected outcome for juvenile i in school j whose value on variable X is equal to the average of X (Raudenbush & Byrk 2002). This centering will ease with interpreting the model such that the intercept represents the school average for each outcome after adjusting for the predictor variables. The slopes for these control variables will be fixed to be the same across schools. This means, for example, that the effect of the juvenile's race will be the same in one school as it is in another school.

The level-2 model uses the intercept, β_{0j}, which represents the expected school average outcome after adjusting for the level-1 predictor variables. In HLM, the level-2 analysis is where school level explanatory variables are included in the model. In this analysis, school level explanatory variables included *SOS participation*, *community social organization* and *average suspension rate*. This level-2 analysis is represented by Equation 3.5. Note that the independent variable of interest in this study is a level-2 variable, *SOS participation*.

In summary, the three hypotheses regarding SOS juveniles likelihood of recidivism when compared to students on traditional probation will be evaluated based on

seven dependent variables, *one year recidivism, two year recidivism, out of-home placement, recidivism felony, recidivism violence, recidivism drug and recidivism school*. Using the HLM model I will estimate these outcome variables controlling for relevant individual level and school level variables.

Hypothesis 4

The fourth hypothesis requires a different analytical strategy.

> 4. Students in SOS will have more time in the community until recidivism than those in traditional probation

Days to recidivism will be used to assess this hypothesis. This variable will be measured in days from the date of the beginning of probation through the date of a new arrest for those that recidivate, or through the end of the 24 month follow up period. Previous research (DeJong, 1997; Hepburn & Albonetti, 1994; Schmidt & Witte, 1989) has utilized survival analysis for modeling time until recidivism. Cox regression is one of the most popular methods of estimating the effects of covariates for timing of recidivism.

The dependent variable in Cox regression is the hazard or instantaneous likelihood of an event occurring on day *t*. Since *days to recidivism* will be measured in days, this analysis utilized a continuous survival analysis strategy. The proportional hazard models experience the same independence of observations violations that OLS suffers from when analyzing nested data. The outcome variables in hypothesis 4 have a multilevel structure and are dynamic. Survival models alone do not control for group level contextual characteristics (Barber et al., 2000). For this reason, I predicted the odds

of recidivism using a Cox proportional hazard model with a STATA cluster command using the equations in Table 5**.**

In survival analysis, I can control for observable factors correlated with the outcome of interest. But it is problematic to control for unobserved variation that is also correlated with recidivism. Failure to account for unobserved variance in the error term will lead to biased estimates of standard errors and can also lead to erroneous inferences (Fischer, 2005). Using the cluster command, I can set the number of clusters to be equal to the number of schools. This clustering procedure can estimate the correlation of errors for individuals within a school and produce a biased, but consistent estimate of the standard errors. Variances between individuals in different clusters remain uncorrelated (Fischer, 2005).

In this analysis, *gender, race, age of onset, number of previous offenses, seriousness of previous offense, and type of current offense* are treated as individual control variables. *SOS, school enrollment, attendance rate, percentage of African American students, percentage of students receiving free or reduced lunch, school dropout rate, community level juvenile crime* and *Average Z-score* are school level variables assigned to each individual in the school.

Using the clustered Cox regression hazard model represented by Equations 3.7, I will compare the hazard of the timing of new *days to recidivism* for juveniles in SOS to juveniles on traditional probation.

In summary, I use several strategies to analyze the data 1) HLM modeling to determine the probability of *one year recidivism, two year recidivism, recidivism felony, recidivism violence, recidivism drug and recidivism school,* 2) HLM modeling to

determine the probability of *placements* for SOS schools versus non-SOS schools, 3) Cox

regression proportional hazard modeling with a STATA cluster command to determine if

participation in SOS has an impact on the timing of *days to recidivism.*

Chapter 4

Results

Chapter 4: Results

As described above, the empirical examinations of SBP programs is scant. There are few studies that attempt to assess the impact of SBP programs using multilevel modeling methods to account for the nested nature of school based data. The goal of this study is to address this gap in the literature and determine if the SOS program has an effect on recidivism, seriousness of recidivism and the timing of recidivism. First descriptive statistics are discussed for the variables of interest. Then, mean differences between the treatment and control group are assessed. Next, hierarchical linear models of recidivism, placement, and seriousness of recidivism are estimated. Finally, survival analysis is conducted to assess whether the program affects the timing of recidivism.

Descriptive Findings

Table 1 examines descriptive statistics for outcome, individual level, school level, and community level predictor variables. Recall the sample size (N = 1,757) where 1,132 students were in the control group compared to 625 in the SOS sample. Examination of the dependent variables demonstrates that 21% of the total sample was rearrested within the first year and 38% were rearrested within two years of the start of their probation sentence. For those who recidivated, the average time length to a new arrest was 343 days. About 20% of the total sample was subject to an out-of-home placement after the current offense selected in this study. When examining the kinds of offenses that lead to subsequent contact with DJS, 29% were felonies, 20% involved a violent offense, and 29% involved drugs.

From the demographic characteristics, we see that the majority of the sample are males, 84%, African American, 78%, and were about 15.5 years of age at the time of the offense that triggered their inclusion in the study. The sample also has relatively minor criminal histories. The average number of previous offenses was less than one, and only about 20% of the sample had previous offenses that were felonies. According to the characteristics of the current offense that triggered their probation sentence, about half of the sample was adjudicated for felonies, 23% for offenses that involved violence and 26% for charges that involve drugs.

Examination of the school and community level variables demonstrates that the average school size was 1,551 students. Average percent of black students in the schools was 66%. These schools had some discipline issues as demonstrated by the average suspension rate of the schools. The total sample had an average of 34 suspensions per 100 students. Looking at the community level variables, the median income across the sample was $48,637, and percent of residents with high school diplomas was 79%. The communities experienced relatively high population mobility (35%), high population densities (5,494.25 per square mile), high numbers of renter occupied housing units (35%) and high juvenile intake rates (49.88 per 1,000 youth below 18 years old).

As this study is examining the differences between two groups of individuals based on their school attendance and participation in the SOS program, it is important to examine how these groups may differ at the outset of this analysis. To determine whether or not there were significant differences between the groups, I conducted paired samples t-tests (See Table 3).

Since this study is a school level analysis, it is important to compare the schools in order to observe differences at the school level. Recall that Table 3 summarizes the findings of the paired sample t-test analysis. Several variables were significantly different between treatment and comparison groups; *population mobility*, *population density*, proportion of families below *poverty*, *juvenile intake rate* by zip code, average school *enrollment*, average *attendance*, and average *suspension rate*.

As evidenced in Table 2, the SOS group and the non-SOS schools differ on a number of aggregate individual level variables as well. The groups differed on the outcome variables of interest. SOS schools had a smaller average proportion of *two year recidivism*, .33 compared to .42 for the non-SOS schools. When examining the seriousness of recidivism offense variables, the groups also differ. Compared to the non-SOS controls, SOS schools had significantly smaller proportion of recidivism offenses that involved felonies (SOS = .19, non-SOS = .33) and drugs (SOS = .17, non-SOS = .33), p<.001. However, SOS schools did have larger proportions on two of the indicators of seriousness of recidivism offenses. SOS schools had larger average proportion of recidivism offenses that involved violence (SOS = .24, non-SOS = .18) and larger average proportion of recidivism offenses that involved disrupting school activities (SOS = .07, non-SOS = .02).

The two groups differ on several demographic and criminal history variables including race. SOS has proportionally fewer African Americans and more White / Non-Hispanic students. The SOS sample also appears to have significantly fewer previous offenses than the comparison group, .3 previous offenses compared to .93 respectively.

The comparison group was more likely to have committed felonies and drug offenses as the current offense that triggered their inclusion in the study

This study employed a method to find matched treatment and control groups. As discussed above, schools were matched based on *Average Z scores*. However, all of the SOS schools were located in one of the DJS geographic areas and because not enough non-SOS schools were available in this area, I had to choose control schools from Baltimore City. This necessary decision resulted in non-equivalencies across treatment and control schools. The two samples differ on several important individual level variables including *number of previous offenses*, types of offenses that brought them into contact with DJS and *race* of sample participants. The samples also differ significantly on school level characteristics including *population mobility*, *population density*, the proportion of families below *poverty*, *juvenile intake rate*, average school *enrollment*, average *attendance*, and average *school suspension rate*.

This raises the possibility that the differences observed on the outcomes of interest may not be due to SOS participation but to these pre-existing group differences. Note, however, that the observed differences indicated that students in the SOS schools were less at-risk of recidivism. That is, the pre-existing differences between the groups suggest that students in the SOS schools would have lower recidivism rates when compared to the non-SOS schools. These differences then would have been a plausible alternative explanation for a finding that the SOS participation was significantly related to lower recidivism on the outcome variables compared the control schools. However, they do not explain null findings since the treatment group was less at risk than the control group.

Individual HLM Models of Recidivism

Before using HLM to estimate individual level models of recidivism, it is important to estimate the fully unconditional model. The fully unconditional model includes each dependent variable and the intercept. This intercept-only model helps determine how much variance in each dependent variable exists between and within schools. Table 6 summarizes the findings from the fully unconditional model estimations on the seven outcome variables used in this analysis. According to the analysis, there is significant variance between schools for six of the seven outcome variables. The only variable with no significant between-school variance is whether or not a recidivism offense involved violence. Since there is no between-school variance in the unconditional model, it will be excluded from future analysis because the variable of interest, *SOS participation*, a school level variable, cannot explain variance in the outcome.

HLM also has the advantage of allowing the effects of variables to differ between schools by estimating random slope models. To test whether fixed effects or random slope model would fit this data better, I estimated models with random slopes across all of the level-1 covariates. The results of these estimates are in Table 7. The table shows that none of the variance components estimated by the random effects were significant when they were allowed to vary across schools for any of the six outcome variables.[13] For this reason, fixed effects models were used for the remainder of these analyses.

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[13] I checked the random effects models two different ways. First I added all the individual level covariates in and allowed all of them to vary across schools. Second, I added the covariates in the model one at a time and allowed it to vary across schools. Both methods presented the same results.

Table 8 presents results for the fixed effects HLM models examining individual level influences on one *year recidivism*, *two year recidivism*, *placement*, recidivism offense including *felony*, and *drugs*. These models correct for correlated error terms among juveniles in the same school. One additional outcome was excluded from Table 8 and all subsequent tables. There was not sufficient school level variation in the recidivism school variable. Only 31 of the 1,757 total sample's recidivism offense involved disturbing school activities. These 31 disturbing school activities offenses came from 19 different schools and most of those schools had one juvenile with this type of offense as their recidivism offense. For these reasons it will be excluded from further analysis as well.

Analyzing the results of the HLM level 1 models, several covariates appear to have a significant effect on the outcome variables. Two variables did significantly increase the odds of recidivating within the first year, *age at current offense* and *current offense drugs* significantly increased the odds of recidivating within the first year. If the current offense involved drugs, the juvenile was 40% more likely to recidivate within one year.

The results for the *two year recidivism* model differ slightly than the *one year recidivism* model. While the *current offense drugs* variable remains significant, additional variables significantly increase the odds of *two year recidivism*. Gender is significantly related to increased odds of *two year recidivism*, males have a 67% increased odds of recidivating in two years compared to females. The number of previous offenses significantly increases the odds of *two year recidivism*. One variable was

negatively related to this outcome variable. The *Hispanic / Latino* ethnicity variable is significantly decreased the likelihood of a juvenile recidivating within two years.

Out-of-home Placement was another outcome variable of interest examined in this study. Recall that hypothesis 3 postulated that juveniles on traditional probation will be more likely to have an out-of-home placement than juveniles in SOS. According to the HLM model, *age at current offense*, *gender*, and *number of previous offenses* was significantly related to the odds of an *out-of-home placement* subsequent to the current probation sentence. In addition, youth whose *current offense involved violence* had a 24% increased odds of an out-of-home placement after the current offense.

The two remaining outcome variables, *recidivism felony* and *recidivism drug*, were analyzed in order to look at the seriousness of recidivism offenses. Several predictor variables were significantly related to the seriousness of the recidivism offense. Demographic variables such as *race*, *age at current offense* and *gender* were significantly related to whether the recidivism offense involved a *felony* or involved *drugs*.

Similar to previous recidivism research, several of the individual level control variables were significantly related to both the odds of recidivism and also type of recidivism on the individual level. These variables include, gender, race, age, and criminal history characteristics.

I next checked to see whether controlling for these individual level covariates explained much of the between school variation in the dependent variables. Refer to the bottom of Table 8 to see the estimated between school variance of each model with level 1 fixed effects. Only three of the seven outcome variables have significant between school variation remaining in the dependent variable in these level 1 models. These are

two year recidivism, *recidivism felony* and *recidivism drug*. Further analysis on these

outcome variables was conducted and described below. The other outcome variables,

one year recidivism, *out-of-home placement*, have no remaining significant between

school variation. As noted at the bottom of Table 8, the between school variance

components was explained by the individual level covariates included in the models.

This means there is no longer any significant variance between schools that may be

attributed to the school's participation in SOS program. For these reasons, further

analysis will only examine the three outcome variables with remaining significant

variation in the outcome variable that maybe explained by school level variables[14].

School Level Models of Recidivism

Recall from the individual level HLM analysis described above, three outcome

variables had significant between-school variance remaining to be explained after

accounting for individual level covariates. These outcomes, *two year recidivism*,

recidivism felony and *recidivism drug* were estimated in multilevel models controlling for

individual and school level variables. Table 9 presents the results of this analysis.

Before interpreting the results of Table 9, note one important analytical detail.

The analysis for these models was estimated with a simplified version of the individual

level models[15]. Table 8 presented individual level models with each of the individual

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[14] The full HLM level 2 fixed effects with covariates analysis was conducted on one year recidivism, out of home placement, and recidivism violence outcome variables. While this analysis is not provided here, it is available on request. The level 2 variable of interest, School SOS participation, was not significantly related to the average school level odds of recidivism for any of these outcomes.

[15] Models including all level 1 and level 2 variables were also estimated. For ease of comparison between level 1, SOS only and Level 2 models, the simplified version is presented here. The tables with full models including all level 1 and level 2 covariates are available upon request.

level covariates estimated in the model. In the following models, rather than including each of the level 1 covariates from Table 8, I only include those covariates that were significantly related to the outcome variable in the previously estimated individual level models. Thus for each outcome variable, *two year recidivism*, *recidivism felony* and *recidivism drug*, the simplified model does not include variables that were not related to the outcome variables on the individual level.

Two Year Recidivism Outcome

When examining the results for *two year recidivism*, it is apparent that all of the variables that were significantly related to *two year recidivism* at the individual level continue to be significantly related to this outcome variable when *SOS*, *community organization* and *average suspension rate* are introduced into the model. Those individual level predictors that significantly increased the odds of recidivating within two years include gender (males 70% increased probability of recidivating in two years, number of previous offenses (each additional offense in the juvenile's criminal history increased the odds of recidivating within two years by 10%), and if the current offense involved drugs (increased the probability of recidivating within two years by 44%). Hispanic / Latino ethnicity continues to be negatively related to the odds of recidivism, Hispanics have a 26% lower chance of recidivating compared to all other ethnicities.

When SOS is added to the model, *SOS participation* was not significantly related to average school *two year recidivism*. This non effect remains the same when the additional level 2 variables, *community organization*[16] and *suspension rate* are included

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[16]As a check on the effects of using factor scores instead of the individual covariates, I did conduct analysis with the simplified level 1 variables and all of the level 2 covariates. The results are almost identical to the analysis using the community organization factor.

in the model. The SOS program appears to have no relationship with the average school level *two year recidivism*.

Recidivism Felony Outcome

In examining the models for the *recidivism felony* outcome, once again, the individual level covariates that were significantly related to *recidivism felony* outcome continue to be significant in the simplified level 1 model, the level 2 SOS only model and the level 2 model with covariates. The only exception is the Black / African American variable. In the Level 2 Model with covariates, this variable is no longer significant.

Regarding the level 2 covariate of interest, *SOS participation*, the results differ somewhat from the *two year recidivism* outcome. When the *SOS participation* variable is added to the model by itself, it is significantly negatively related to the average school recidivism felony variable. If this effect holds once school level covariates are added to the model, it would suggest that the SOS program might reduce the likelihood of a juvenile committing a felony offense after participation in the program. However, this negative effect is no longer significant when the *community organization factor* and *average school suspension rate* are added to the model. In fact *community organization factor* is significantly negatively related to *recidivism offense felony*. This negative relationship indicates that as the schools score on *community organization* increases, the likelihood of a juvenile committing a felony offense decreases.

Recidivism Offense Drug

Once again, Table 9 demonstrates that the individual level variables that are significantly related to the *recidivism offense drug* outcome at the individual level are

also significantly related at the school level. These variables include *age at current offense*, *gender*, and not surprisingly, whether the c*urrent offense involved drugs*. When *SOS participation* is added to the model, it is significantly related to average school level *recidivism offense drug*. Unlike *two year recidivism* and *recidivism offense felony* outcome variables, *SOS participation* remains significantly related to recidivism offense drug when the school level covariates are added to the model. Also note that the relationship is negative. Schools with the SOS program have a lower average *recidivism offense involving drugs* when all other variables are held at their averages. This is the only outcome for which SOS participation is significantly related to the outcome while controlling for important school level variables. Students who participated in SOS had a 50% reduced odds of their offense leading to recidivism being a drug related offense when controlling for individual level and community level organization variables.

Throughout all of these models, the variable of interest is *SOS Participation*. As evidenced by Table 9, *SOS participation* is not significantly related to six out of seven of the outcome variables in this school level analysis.   Recall the hypothesis tested during this analysis, hypothesis 2 postulated that students in SOS have less serious forms of recidivism compared to students on traditional probation. In this analysis, less serious forms of recidivism were operationalized using the type of recidivism offense. Offenses involving felony violence or drug use were considered more serious and school related offenses were considered less serious. According to the HLM analysis presented above, the only outcome for which SOS participation was significantly related to recidivism was when the *recidivism offense involved drugs*.

Cox Regression Analysis Results

Recall the fourth hypothesis tested in this dissertation:

Hypothesis 4

4. Students in SOS will have more time in the community until recidivism than those in traditional probation.

Refer to the data in Table 2. The SOS sample had an average of 336 days before new contact with DJS versus 345 days for the control sample. While these differences are not statistically significant, they suggest that perhaps the SOS sample of juveniles have a shorter time in the community before recidivism compared to the control sample. Further analysis will explore this relationship.

Cox regression analysis was used to test if the *SOS participation* has an impact on the timing of recidivism while controlling for relevant individual and school level covariates. Table 10 presents the results of this analysis on the outcome variable *time to recidivism*. As discussed in chapter 3, this analysis was run in STATA using to cluster command in an attempt to account for the hierarchical structure of the school level data[17].

The first model in Table 10 is a Cox regression model run with SOS participation as the only covariate. Here *SOS participation* is significantly related to *time to recidivism*. The relationship is negative which indicates that SOS participation may lead fewer days before recidivism. When the individual level covariates are added to the model, we observe that several variables are significantly related to *time to recidivism*.

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[17] Supplemental analysis was conducted to determine to what extent the cluster command approximates an HLM model. Logistic regression on each of the outcome variables was compared to a logistic regression model using the STATA cluster command and the same models run with the HLM software. In each of these models the beta coefficients were identical. The standard errors in the models were varied. Logistic regression with the cluster command produced slightly smaller standard errors than the un-clustered model. The HLM models' standard errors were very similar to the Logistic regression models clustered on school. This analysis indicated that the STATA cluster command is a reasonable method to control for school level variation in this analysis. Results of this analysis are available upon request.

Hispanic / Latino ethnicity is significantly negatively related to *time to recidivism*. This suggests that Hispanic / Latino youth survive fewer days in the community before they have a subsequent contact with DJS.

However, males, juveniles with higher *numbers of previous offenses* in their criminal histories and juvenile whose *current offenses involves drugs* are all covariates that are significantly increase the hazard of *timing of recidivism*. Note that when the individual level covariates are added to the Cox regression model estimating *time to recidivism*, the significant effect of *SOS participation* disappears. The beta coefficient is reduced by more than half (from -0.29 to -0.13) and the variable's effect on *time to recidivism* becomes insignificant. This pattern holds when average suspension rate and *community level organization factor* score are included. *SOS participation* does not appear to be significantly related to the hazard of timing of recidivism.

Anne Arundel County Sensitivity Analysis

In light of the fact that the SOS and non-SOS schools are non-equivalent, I conducted a sub-analysis of schools in one jurisdiction to assess whether schools that were more similar to one another would have different results. One county, Anne Arundel, had 283 juveniles from three SOS schools and six non-SOS schools. These schools from Anne Arundel County were selected to conduct a sensitivity analysis.

Before running the analysis, I compared the Anne Arundel schools on the community and school level characteristics to assess the comparability of the schools. Compared to the full sample, where treatment and control schools differed in eight of the 16 comparison variables (See Table 3), the Anne Arundel sub sample only differed in three of the 16 comparison variables, see Table 11. SOS schools had a significantly

lower median income than the comparison schools, $51,129 compared to $71,310. The

Anne Arundel SOS schools had significantly lower percentage of the population with a

high school diplomas (80%) compared with the Anne Arundel controls (88%). Finally,

the Anne Arundel SOS schools had significantly lower average school attendance (91%)

compared to the Anne Arundel controls (94%). The differences observed in the median

income and education variables are likely very highly correlated to one another and

represent an underlying community economic capacity construct. These differences and

the differences in school attendance are the only significant differences between the Anne

Arundel county SOS schools and control schools. The observed significant differences,

all of which favor the control schools, are statistically controlled in the following

analyses.

I re-ran the HLM school level models using only these nine schools as a

sensitivity check on the overall study results. The ethnicity variables, *Hispanic / Latino*

and *African American* were omitted from this analysis because there was no within-

school variation on these variables in some of the schools. Also, since the three variables

that were significantly different between treatment and control groups were highly

correlated to one another (Pearson *r*'s all greater than .92 and significant $p \leq .001$), factor

analysis was used to create a single component factor score called *Anne Arundel*

community factor. Three variables were used to calculate these factor scores, median

income, percentage of the population with a high school diploma and average attendance

at school. It is also important to note that Table 12 presents model results without robust

standard errors. HLM calculation of robust standard errors is dependent on the dataset

having a large number of level 2 units. In this Anne Arundel County sub analysis, there

are only nine level 2 schools and thus the robust standard error adjustments do not fit the data. The results of this sub analysis are presented in Table 12.

In this sub analysis of treatment and control schools from Anne Arundel, *SOS participation* was not significantly related to the *two year recidivism* outcome variable. SOS participation was not significantly related to the *recidivism felony* outcome variable and neither was it related to the *recidivism drug* outcome variable. In all three of these models, *gender* and *age at current offense* appear to be the only variables that significantly impact recidivism. This sub analysis confirms the results from the analysis of the full sample of 1,757 juveniles.

Recall the results for the *recidivism drug* outcome variable in the full sample analysis. *SOS participation* was significantly related to *recidivism drug*. *SOS participation* did significantly reduce the risk of a juvenile committing a *recidivism offense involving drugs*. In the Anne Arundel County analysis, this negative relationship disappears. The coefficient in Table 12 suggests that the relationship, while not significant, was in the positive direction.

This analysis of a sub-sample of juveniles from Anne Arundel County was a way to assess the sensitivity of results from the overall analysis in a sample for which the treatment and control schools were more similar prior to *SOS participation*. *SOS participation* does not significantly reduce recidivism nor does it reduce the seriousness of recidivism. While the community and school characteristics in this sub sample are more similar than the overall study, this sample is a smaller size and less generalizable since these schools came from the same jurisdiction. The sub analysis suggests that *SOS participation* does not have a significant impact on the likelihood of recidivism. The

conclusions from both of these analyses, the full sample and Anne Arundel County sub sample, need to be interpreted through an understanding of the implementation of the SOS program across jurisdictions.

Implementation of SOS

The results presented above indicate that the SOS program does not significantly impact recidivism with the exception for juveniles committing subsequent drug related offenses. These null findings prompted a closer examination of the implementation of the SOS program. Qualitative data from caseworker and principal interviews, school level implementation variables, and caseworker caseload information will be used to assess implementation of the SOS program.

Qualitative Interview Analysis

Recall that principals and probation officers were interviewed as part of this evaluation study. Probation officer and principal responses will serve as the basis for assessing implementation. SBP officers came from various backgrounds and had a wide range of experiences working as probation officers. Several SBP officers had almost 20 years of experience, while others were just beginning their careers as probation officers. Upon review of the interview responses, several themes emerged that may shed light on the evaluation findings summarized above. The probation officers perceived role and responsibilities, training and knowledge, enforcement powers and caseload size are all themes that emerged in the course of the interviews.

One question asked probation officers, "What do you believe to be your perceived role: child advocate, mentor, officer of the court, police officer / security, school official,

or social worker?" SBP officers viewed themselves as either officers of the court or they

viewed themselves more as child advocates / social workers / mentors. This perception of

their roles and responsibilities seemed to be influenced by their training or lack of

training. According to one respondent, the purpose and mission of the SOS program was

clearer when the program first began.

> Originally, 10 years ago, I was one of the first SOS workers and we had
> one school and our directive was to work with the kids on probation and to
> work prevention, prevention, prevention, prevention. If you work
> prevention, it limits the number of kids that end up in the system. That
> focus has changed through the years ... Now, the SOS program is, in my
> humble opinion, a watered down version of what somebody thinks it
> should be and none of these people who are making decisions about this
> program went through the original training. [Interviewee # 207]

In analyzing the interview responses, there seemed to be a marked difference in

perceptions of roles and responsibilities between newer and older SBP officers. The cadre

of SBP officers who had been with the program for more than five years reported their

roles as child advocates / social workers / mentors. They each had a clear sense of

purpose and their activities reflected their perception of themselves as child advocates.

They recalled attending regular retreats and trainings to share knowledge about best

practice with one another. One SBP officer suggested that this lack of training and

communication between SBP staff was the cause of high staff turnover and low personal

investment of newer SBP officers in the SOS program.

In contrast, the newer cadre of SBP officers reported less clarity and

understanding of their role in the school. When administrators asked them to perform

security duties such as monitoring the lunchrooms or hallways, they were uncertain if

those were appropriate duties for an SBP officer. They were more uncertain about how

to establish their roles in the school and how to determine what activities to undertake as a SBP officer.

Review of the interviews also demonstrated little consistency in practices across probation officers including differences in frequency of contact and responsibilities with youth on their caseloads. While some officers reported daily contact via sign in sheets and daily progress reports from teachers, others reported that they might see their juveniles once per week depending on when they were in that particular school.

The interviews also asked about SBP officer's expectations towards the general school population and juveniles whom the school identified as at-risk for delinquency involvement. As interviewee #207 mentioned, SOS officers were tasked with being actively involved in prevention of future delinquency. Once again, the SBP officers who had been in SOS longer viewed prevention activities as essential to their job performance and were dissatisfied that there was no way to quantify this work for their superiors at DJS. However, newer SBP officers had a more narrow focus and viewed their primary work to be with the juveniles already under supervision.

Finally, perhaps the theme that was repeated most frequently by SBP officers was their assignment to schools. Again, many of the older SBP officer recalled that when SOS began, SBP officers were assigned to one school. However, at the time of interviewees seven of the 11 officers were assigned to multiple schools, and one of those officers was assigned to three schools.

Part B of Table 12 examines the distribution of juveniles across caseworkers in more detail. When I examined the caseworkers who supervised the juveniles in this study sample, 402 different caseworkers were assigned to the 1,757 juveniles. Upon

closer analysis of the caseworkers caseloads, it was apparent that there were some

caseworkers who supervised non-SOS juveniles (N=108), some caseworkers who

supervised SOS juveniles (N= 147) and caseworkers who supervised both SOS and non-

SOS juveniles (N = 147). Using ANOVA, I compared the average caseloads of SOS,

non-SOS and both caseworkers. The average caseload size for the non-SOS and SOS

caseworkers did not significantly differ from one another. But, for those caseworkers

who supervised both SOS and Non-SOS juveniles, their caseloads were about 20

juveniles more than the other groups.

This analysis is supported with responses from interviews with the probation

officers. One SOS probation officer in response to a question about overall satisfaction

with the SOS program said,

> "[I am] somewhat satisfied. My only problem is the multiple schools and
> the kids outside. It would be a more effective program if you didn't have
> to deal with the kids that were not in school, if those kids were in the
> regular probation unit. Or if you only had one school the program would
> be a lot more effective and the worker would be a lot more satisfied ...."
> (Interviewee #201)

The problem of probation officers being assigned to multiple schools and simultaneously

being assigned juveniles from the community was a recurring them across the interviews.

In response to a question about what she liked least about the SOS program one probation

officer answered:

> "[What I like] least about the program right now for me is having kids that
> are not in my school. Then I have to leave my school. My kids are
> wondering, where were you? Where have you been? They know we can't
> do anything about court, we have to go … [But] I have to leave [the
> school] to deal with another kid at another school. Then I have to go over
> and deal with that kid in my school. Or if a parent calls me and says my
> kid is doing such and such. This maybe [a kid] who is not in school,
> maybe at home doing a GED. Then I still have to address that issue. Get

> them in here or go see them or something. That splits your time.
> (Interviewee #203)

In fact, almost all of the probation officers expressed concerns about splitting time between multiple schools and managing their caseloads. Chief among their concerns were that their efforts at prevention and intervention within the schools were being watered down because they were spending fewer hours in any one school.

Length of Probation and Program Costs

Table 12 presents data gathered on implementation characteristics of SOS and comparison schools. Juveniles in SOS schools served probation sentences that were significantly longer than juveniles in the comparison schools. SOS juveniles had an average of 434 days[18] between their probation start date and end date, compared to 396 days for the control schools, p<.001.

Part B of Table 12 also presents estimated costs of the SOS program. According to DJS personnel (Personal Communication 2010), the cost to DJS of a community probation officer is identical to the cost of a SOS probation officer. These costs include salary[19], benefits, travel, and training. The average annual cost of probation officers is about $71,810. SOS and non-SOS officers represent approximately equal annual costs to DJS. Their average caseloads are not statistically different from one another.   The one aspect in which these programs do differ is in the approximate length of sentence. If SOS juveniles have a longer length of sentence, as suggested by the data, this may translate to increased costs of the SOS program in comparison to traditional probation.

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[18] For reasons addressed in detail in chapter 5, the length of probation variable in Table 12 was not used as a control variable in this analysis. The results reported in Table 12 are an approximation of the length of sentence using DJS data. See page 108 for a more detailed discussion.

[19] Salary alone was estimated to be $49,371 which is the average salary of probation officers across three levels of probation officers for the last merit payroll increase as of 2010.

Chapter 5

Discussion and Conclusions

Chapter 5: Discussion and Conclusion

This chapter provides a summary and discussion of the results presented in the previous chapter. Limitations of the research are reviewed, followed by a discussion of future research directions, and finally concluding remarks are offered.

Summary of Findings

Recall that the goal of this evaluation was to determine the relationship between school participation in the SOS program and recidivism using rigorous statistical methods and controlling for relevant individual level and school level variables. Using a two year follow up period and a hierarchical modeling strategy, recidivism was examined eight different ways – *one year recidivism*, *two year recidivism*, *out-of-home placement*, *recidivism felony*, *recidivism drug*, *recidivism violence*, *recidivism school* and *time to recidivism*.

The results presented in Chapter 4 indicate little support for the hypotheses presented in this study. Hypothesis 1 asserted that students in SOS would be less likely to recidivate than students in traditional probation. If the program was effective in reducing the recidivism rate, then youth in the SOS program would have lower recidivism rates than the comparison group. *One year recidivism* and *two year recidivism* were the outcome variables used to assess this relationship. SOS participation was not significantly related to either of these outcomes. From this analysis we can conclude that the SOS program does not significantly decrease the likelihood of recidivism in this sample of juveniles. While *SOS participation* was negatively related to *one year* and *two year recidivism*, this effect was not statistically significant.

The second hypothesis was that students in SOS would have less serious forms of recidivism compared to juveniles in traditional probation. Four outcomes were examined in regards to this hypothesis - *recidivism felony*, *recidivism drug*, *recidivism violence*, *recidivism school*. If SOS participation was related to seriousness of recidivism offenses, then I would expect that this variable would be negatively related to each of these four outcomes.

As discussed in the results section, two of these outcomes did not have sufficient variation between schools for further analysis. Neither the *recidivism violence* outcome nor the *recidivism school variable* had enough between school variation in the outcome to be included in the HLM analysis. This means that neither *SOS participation* nor any of the other school level variables could significantly predict variation in the *recidivism violence* and *recidivism school* outcome variable since no such variation remained in those outcomes. *SOS participation* was not significantly related to the average school *recidivism felonies* or *recidivism violence*. However, participation in the SOS program did significantly reduce the likelihood that a juvenile would be rearrested for a drug offense. Recall that the *recidivism drug* variable includes all offenses related to drugs, from possession to manufacture with intent to distribute. This was the only outcome for which SOS participation significantly reduced the type of recidivism. This suggests that the *SOS participation* may cause juveniles to curtail their offending involving controlled substances.

This finding is intriguing. There are a couple of potential explanations. It is possible that juveniles in SOS perceive that they are monitored more closely by their probation officers and as a result, they restrict their drug-related behavior. Another

explanation might be that SOS officers are better able to assess the individual needs of their clients, especially those with drug problems and are able to get then into drug treatment programs.

An alternative explanation is that, while more thorough than previous analysis, this study may have failed to control for pre-existing individual level differences in drug abuse. SOS schools were less at risk than non-SOS schools in a number of ways. Recall that *current offense drug* was one of the control variables. The proportion of the SOS sample whose current offense involved drugs was .10 compared to .34 for the comparison schools. Although I controlled for this measured characteristic, this measure of official drug related offending may not adequately reflect the full extent of pre-existing predisposition to use drugs. That is unmeasured characteristics may have favored the SOS schools. Further analysis would be required to understand how the SOS program engages juveniles with drug related offenses.

Because *SOS participation* was significantly related to one of the seriousness of recidivism outcome variables, the hypothesis that juveniles in SOS program have less serious forms of recidivism was, in general, not supported by this analysis. The significant relationship between *SOS participation* and *recidivism offense drug* warrants further investigation to disentangle the actual relationship.

The third hypothesis examined in this study was that juveniles on traditional probation will be more likely to have an *out-of-home placement* than juveniles in SOS. In estimating the individual level model *out-of-home placement*, inclusion of the individual level covariates explained most of the variation in the placement outcome. Because there was no significant variation remaining to explain after including the

individual level covariates, one can conclude that *SOS participation* was not significantly

related to juveniles' odds of being assigned to *out-of-home placement* subsequent to

participation in the treatment program. Instead, several individual level characteristics

were better predictors of *out-of-home placement* including *Black / African American

race*, *age at time of current offense*, *gender*, and the *number of previous offenses*

committed by the juvenile. This hypothesis was not supported in this study. Juveniles on

traditional probation are no more or less likely to have a subsequent *out-of-home

placement* compared to juveniles in the SOS program.

This study examined *out-of-home placements* as a measure of subsequent

recidivism offenses. Several comments during the interviews suggest that this may not

always be the case. Probation officers indicate that juveniles were placed out of the home

both for subsequent offending, and also because of family circumstances. One probation

officer said,

> "How effective is SOS in reducing out-of-home placement? Again, it
> depends on the situation. I have three kids right now who are being placed
> out of the home; one for criminal and the other two because their parents
> don't want to deal with them. I would say somewhat. (Interviewee #202)

Another probation officer expressed it this way:

> I am strict with my kids and they know that. I will bring them back to
> court. A lot of my kids are gang involved. I don't always view placement
> as a bad thing. Sometimes I will take kids out of the home for their own
> protection. Now they wouldn't look at it that way of course. But if I know
> their life is in danger, I will place them out of the home in order to save
> their future. (Interviewee #7)

If juveniles are placed out of the home for multiple reasons, only one of which is

subsequent offending behavior, that maybe an explanation for the null findings.

The fourth and final hypothesis examined was whether students in SOS had more time in the community until recidivism than those in traditional probation. This hypothesis was analyzed using Cox regression techniques in STATA with clustered variance around the schools. If *SOS participation* was significantly related to the *timing of recidivism*, then this hypothesis would be supported. However, *SOS participation* was not significantly related to the *timing of recidivism*. This hypothesis was not supported.

As an added analysis, Anne Arundel County schools were analyzed. These schools were more similar to one another than the overall school sample. Results from this sub analysis indicate that *SOS participation* was not significantly related to *two year recidivism*, *recidivism felony* or *recidivism drug*. These findings follow the same trend as the full sample analysis. The observation that in a sub sample of schools that were statistically more similar than the full sample, *SOS participation* had no impact on recidivism supports the overall findings from the full sample analysis.

This evaluation of the Maryland SOS program indicates that *SOS participation* is not significantly related to the seriousness of recidivism, the *timing of recidivism* and not significantly related to the likelihood of an *out-of-home placement*. Based on the analysis of probation officer caseloads in this sample of SOS and non-SOS caseworkers, SOS does not reduce costs associated with the administration of probation services since it cost the same as having traditional probation officer. The Anne Arundel County sub analysis supports the conclusion that *SOS participation* does not have an impact on the likelihood of recidivism.

Synthesis of Evaluation Results

This evaluation presents findings that indicate that the SOS program does not work to reduce recidivism. There are several theories that may explain these null findings. Perhaps the implementation of the SOS program has resulted in a watered down treatment effect. Finally perhaps some characteristics of this evaluation have contributed to the null findings. Each of these possibilities will be discussed in detail below.

One possible explanation for the null study findings is perhaps the implementation of SOS has resulted in a weakened treatment effect. Recall from the interviews that probation officers perceived role and responsibilities, training, knowledge, enforcement powers and caseload size are all themes that emerged suggesting implementation issues with SOS.

Through the course of this evaluation additional implementation challenges were illuminated. Ideally SOS was designed to treat all probationers who attended an SOS school and control schools would only serve probationers on probation and no other programs. However it was possible that probationers were assigned to a school and did not receive the SOS program. During the interviews, probation officers commented on a lag between when a child was placed on probation in their school and when they were notified. Also, juveniles who attend their SOS school might have been assigned to another probation officer not with the SOS program. To minimize the potential contamination that these scenarios may have engendered, only those juveniles assigned to SOS and traditional probation and not simultaneously involved in any other programs were included in this study sample. However without more accurate data on when

juveniles actually began receiving SOS services, it would be difficult to disentangle these findings.

Finally, some limitations of this evaluation may have contributed to the null findings. Those limitations will be discussed in more detail in the following section.

Limitations of Current Research

As with all non-equivalent control group design studies, this study suffered from limitations. This study was an attempt to evaluate the SOS program to meet the Flay et al (2005) standards of evaluation research. This research was able to meet some but not all of those standards. First, the current study was designed to incorporate rigorous statistical analysis. Using HLM and Cox proportional Hazard modeling to ascertain a causal link between SBP, likelihood of recidivism and the timing of recidivism was an improvement on previous evaluations of SBPs. Second, not only did this evaluation use a more rigorous statistical technique, it also acknowledged that school level data is nested and used methods that controlled for the nested nature of the data. Both HLM and the Cox Proportional Hazard Modeling with the cluster command controlled for school level differences in the analysis. Third, this study utilized more sound measures.than any of the previous SBP evaluations. Recidivism was measured eight different ways, community and school level variables were included to control for alternative explanations and the analysis compared groups of youth receiving the treatment with groups not receiving the treatment.

Non-equivalent Comparison and Control Groups

However, this study also failed to meet the Flay et. al (2005) standards in some important respects. A major limitation of the evaluation was that the treatment and control groups were not equivalent. Because the treatment schools were selected from DJS Area V, and most control schools were selected from Baltimore City, the SOS and Non-SOS groups were not equivalent. Dissemination of the SOS program across the state resulted in almost all schools in Prince George's county having the program. In order to find comparison schools, I had to look outside of DJS Area V schools and selected Baltimore City as a comparison area. I calculated *Average Z Scores* in an attempt to match schools on school and community level variables. But, there were still significant differences between the treatment and control groups. This indicates that schools that receive the SOS program are different than schools that do not have the program.

To successfully meet the Flay et. al. (2005) standards, this evaluation needed to do a better match on treatment and comparison schools. This could have been achieved through a randomized trial. Rather than matching schools from two DJS regions, Area V and Baltimore City, a randomized control trial where schools without the program are randomly assigned to SOS and non-SOS treatment conditions would result in more comparable groups. Future analysis of the SOS program should consider this study design.

Despite the current study's design shortcoming, it is important to note that the non-equivalencies demonstrated that the youth in the SOS program were less at risk than the non-SOS youth. The SOS sample of juveniles consisted of less serious offenders from neighborhoods that were more socially organized. The offenses they committed that

triggered their probation sentence were less likely to be felonies and involve drugs. Because SOS youth were less delinquent, these factors might explain the one positive finding of the study, that students in SOS schools had lower rates of drug-related recidivism than students in comparison schools. However, this limitation can not explain the null findings found for seven of the eight outcome variables.

As an extra precaution, I conducted a sensitivity analysis to check on the possibility that initial non-equivalencies between the treatment and control schools explained the study outcomes. I conducted additional analysis on treatment and control schools in Anne Arundel County. These schools were all located in the same jurisdiction and were more similar than the larger sample of treatment and control schools, see Table 11. An independent sample t-test found three significant differences between Anne Arundel SOS schools and non-SOS schools. These differences were in median income, percentage of the population with a high school diploma and the school average attendance. These factors were controlled explicitly in the Anne Arundel County sub-analysis.

The results of this analysis mirror the results of the full HLM analysis. *SOS participation* did not significantly reduce the likelihood of recidivism, nor did it decrease the seriousness of recidivism. SOS schools in Anne Arundel County were less at risk than the comparison schools and yet *SOS participation* still did not significantly decrease the likelihood of recidivism.

Use of Official Records

A second limitation of this study was the dependence on official records to assess recidivism. Official records capture recidivism that has been detected by the criminal

justice system. Yet, a juveniles offending behavior may continue without detection. A better analysis would triangulate offending behavior by using multiple sources of data including official records and self reported offending behavior.

Data Limitations

Another set of limitations of the current study was the lack additional data that would have strengthened the evaluation's conclusions. This study was unable to obtain data on length of time assigned to probation, educational variables related to the goals of SOS and quantitative implementation data to asses how this program was being administered. First, while, the measures used in this analysis were more extensive than previous evaluations by controlling for individual level, school level and community level characteristics, at least one important variable was not included in this analysis. The length of the juveniles' probation sentence was not analyzed. Data problems with calculating an accurate measure of probation length prevented its inclusion in the analysis.

DJS was able to provide dates called "probation start date" and "probation end date" in the data they provided. However, there was significant missing data with the end date variable. Upon further investigation, it was discovered that, in some cases, the probation end date in DJS data was not the date which the juvenile's probation was terminated for the offense that triggered their inclusion in this evaluation (Personal Communication 2010). According to DJS officials, a juvenile was not necessarily under probation supervision for the entire period between the start date and end date. If a youth recidivated and was given another probation disposition, the end date in the data represents the last date of probation dismissal.

This is problematic because if probation length was calculated with these dates, that variable may not accurately reflect the youth's assignment to probation for the current offense and may include subsequent supervision due to recidivism. Omitting length of probation sentence was a limitation of this study. Juvenile's reoffending behavior may change dramatically while they are under supervision and when they are no longer under probation supervision. Without a measure that accurately reflects the youth's length of probation sentence this analysis was unable to control for this possible surveillance effect. By utilizing the 24 month follow up period I attempted to use one year as proximate length of probation sentence for each individual. However, one year represents an approximate average length of sentence. Few of the youth in this sample actually served probation sentences that were the average.

Another data limitation was that I did not obtain important school related outcome variables such as the juveniles' attendance, disciplinary infractions, dropout status, and academic performance. Several of the goals of the SOS program were to increase school attendance and increase academic achievement while decreasing disciplinary referrals, expulsions and reoffending behavior. This evaluation was able to analyze recidivism; however it is possible that this program may have a significant impact on school related outcomes. The interviews also suggest that SBP officers spend a great deal of time and energy working on these other outcomes:

> A lot of times, what will happen is we will get a kid on probation that has maybe been socially promoted out of elementary and socially promoted out of middle school because of behavior problems. Somewhere around 8th grade summer or coming into 9th grade they will get into some trouble. At that point they are so far behind academically that they see no light at the end of the tunnel. It is very difficult for those kids. For the kids you catch young, you can really work on that dropout rate if you get them matched with the right services. For the older kids that come on probation

> – for example I have a 16 year old that can barely read and can barely spell his name. For him, I am working really hard on getting him not to drop out. It takes everything in me just to get him to come to school and to try because he is embarrassed. I think I have helped with that. I had to put some sanctions in place because at first I just couldn't even get him to come [to school]. His Mom is happy that at least now he is coming to school and making some effort. We also set him up with some tutoring things after school to give him some one-on-one help. (Interviewee #204)

This school related data is currently not maintained by DJS and thus unavailable for analysis in this current study. These additional variables may shed more light on the other effects of SOS program in addition to recidivism.

Finally, a significant data limitation was that this evaluation did not include sufficient data on the implementation of the SOS program. I attempted to address this limitation by interviewing probation officers and principals and gathering caseload and cost information from DJS. In the interviews, several SBP officers indicated that the implementation of the SOS program has changed since the beginning of the program. However, without more careful assessment of implementation this remains a limitation of this study. It is possible that the program was not implemented with fidelity and better implementation may increase program effectiveness.

Discussion of Results in Context of SBP Literature

Prior to the present research, other states have attempted to evaluate their SBP programs. Ashley (2006) evaluated the Jackson County Illinois program. This evaluation was flawed because program implementation issues prevented data collection in important outcome variables and the evaluation did not include a quantitative examination of recidivism. Metzger and Tobin-Fiore (1997) used a slightly more rigorous

methodology to evaluate the Pennsylvania SBP program. They matched juveniles on age, race, gender and county of supervision. In their matched comparison and control group analysis of 75 youth, they compared mean differences between the two groups. The study found statistically significant differences in the severity of recidivism and the timing of recidivism. However, while Metzger and Tobin-Fiore (1997) matched treatment and control groups, their analysis failed to control for relevant level and school level variables. The present analysis demonstrated that in Table 10 when *SOS participation* was used to predict the hazard of recidivism, it was significant. When covariates were added to the model, that significant effect disappeared.

Guided by the Flay et al (2005) suggestions for effective evaluations, the present study has attempted to provide a more rigorous treatment of SBP program evaluation. In particular, this study controlled for relevant school and community level characteristics . The data was analyzed with rigorous statistical approaches. Given the lack of program implementation data, the quasi-experimental design of this study attempted to assess the causal relationship between SOS and recidivism. This study also compared the SOS group with a sample of students who did not receive the treatment program. Unfortunately, the non-equivalent treatment and control samples prevent this study from making strong causal statements regarding the efficacy of the program.

With these methodological factors in mind, the results of this study contradict the previous research on SBP programs. Using a more sophisticated method and controlling for relevant individual level and school level characteristics, this study's findings differ from the Metzger and Tobin-Fiore (1997) study. Metzger and Tobin-Fiore's (1997) analysis indicated statistically significant differences in the severity of new charges and

in the timing of new charges between their matched samples of SBP youth and traditional probation youth. This examination found no such effects.

There are several reasons for these divergent findings. On reason may be the study design. While Metzger and Tobin-Fiore (1997) matched their sample on the individual level, they did not control for pre-existing differences among the juveniles such as number of previous offenses or felony criminal history. The present study did control for these and other variables that may have an impact on recidivism. Another reason may Metzger and Tobin-Fiore (1997) essentially conducted a comparison of means. The authors even acknowledge that they cannot determine whether the differences they observed can be attributable to the SBP program. Their data only suggest a program effect. The design of this study used a comparison group, controlled for the nested nature of school data by using hierarchical linear modeling, and controlled for relevant individual level and school level variables. For these reasons, the present study addressed limitations in the Metzger and Tobin-Fiore (1997) evaluation of Pennsylvania's SBP program. This study is a more rigorous assessment of SBP programs than the other evaluations reviewed above.

Discussion of Results in Context of Intensive Supervision Literature

SBP programs are one example of JIPS. This evaluation of SOS joins an ever growing list of evaluations which suggest that JIPS programs do not have significant effects on juvenile recidivism (Austin et al. 1990; Barton & Butts 1991; and Lane et al 2005).

The Lipsey (1992) meta-analysis reviewed in previous chapters indicated effective interventions are ones that have treatment delivery with large amounts of

meaningful contact, are focused on behavior modification and targeted toward high risk youth. Smaller effect sizes are generally found in evaluations of programs that focused on deterrence only. If SBP programs are implemented with only deterrence in mind, they are likely to be less effective than other programs.

Intensive programs are generally no better than those of regular probation and the few programs that have positive results are designed to be specifically targeted to specialized groups of offenders (Clear 1991). At the moment, the SOS program in Maryland is not geared towards specific groups of offenders. Rather it is broadly used for all offenders who attend a school that has the program.

Lane et al.'s (2005) evaluation highlights implementation issues that many evaluators struggle to address. In asking why there were no significant differences, the authors suggest that incomplete or inaccurate data files of probation officers or failure to record additional services that juveniles received. How a program is implemented can have strong impacts on the effects of that program. The present evaluation is no exception to these observations.

The above discussion of the limitations of the current research highlighted implementation issues that may account for the null findings in the present study. This study was not able to fully capture implementation of the SOS SBP program. However, the qualitative interviews conducted with principals and probation officers indicate that at present there is no clarity in the role of a SOS officer and their responsibilities within the school structure. New SOS officers were not given the same training as SOS officer received in the beginning of the program. There is no formal mechanism for SOS officers to pass on knowledge about best practices or what works to one another. There

was little clarity on the enforcement powers of SOS officers. Some respondents interviewed felt they had no power to violate a juvenile, while others would not hesitate to do so. These factors suggest a lack of clarity and focus in the administration of the SOS program today.

Suggestions for Policy on Juvenile Offenders

In regard to policy for juvenile offenders, the implementation of SBP programs needs to be strengthened. This evaluation is the third, in addition to Ahalt, (1999) and Ashley, (2006) that suffered from implementation challenges. The Maryland SOS program would benefit from revamping the program to address the implementation issues currently afflicting the program. In addition to the goals and responsibilities of an SOS officer, SOS probation officers should receive explicit guidance on their roles and responsibilities within the context of the school and their authority to handle recidivism or non-compliance with probationary guidelines. Explicit guidance from DJS may help these officers focus their efforts in the areas that are most important to DJS rather than spending time in school related activities that may or may not have bearing on their specific role in the school. These other activities may take time away from their SOS activities and water down the effect of the SOS program.

Another recommendation is that DJS provide an opportunity for SOS officers to obtain training, discuss strategies and have significant interaction with more experienced SOS probation officers. One of the SOS officers interviewed had been with SOS since its inception. She indicated that yearly training retreats were once a common practice during

the early years of SOS. DJS may consider employing a similar strategy to ensure that effective strategies, best practices, and programmatic knowledge are passed from one generation of SOS officers to the next.

Finally, DJS should analyze how caseload size and assignment to different schools affects the way SOS officers carry out their duties. Several of the SOS officers interviewed indicated that challenges they face when they are assigned to multiple schools. The cost benefit analysis indicates that juveniles were assigned to SOS for longer periods of time than their traditional probation counterparts. While staffing challenges may not allow for one SOS officer to be assigned to one school, perhaps analyzing the workload of officers assigned to multiple schools would lead to a solution that would ease the burden of the SOS officer.

Probation continues to be one of the most frequently used sentences for juvenile offenders (Armstrong, 1991; Palmer 1991; Torbet 1997; Tonry & Lynch 1996). Forty years ago the National Advisory Commission for Criminal Justice Standards and Goals (1972) and the U.S. Comptroller General (1976) both articulated that probation was a "bright hope" for the future of the criminal justice system. Unfortunately, probation administration has yet to reach its potential.   Preventing recidivism among juvenile offenders should be a big priority for criminal justice policy.

This evaluation suggests that, on their own, JIPS programs are not effective in reducing recidivism. This body of research suggests that in order to be effective intensive juvenile probation programs should be based on more than just increased monitoring and deterrence. Greenwood (1996) recommended that effective JIPS

programs would offer large doses of meaningful treatment, to a specific group of juveniles and for an appropriate length of time.

SBP programs may benefit from these suggestions. More focused and specific delineation of the SBP officers roles and responsibilities, better implementation of the program through regular training opportunities for SBP officers, and minimizing the burden of supervising both SOS and non-SOS juveniles may help improve the implementation of the SOS program specifically and other SBP programs more broadly.

Suggestions for Future Research

While this evaluation was an improvement on previous evaluations of SBP programs, further research is needed. The major limitation of this evaluation was the non-equivalence of treatment and control groups. DJS should attempt to address the limitations of the implementation of the SOS program as well as the limitations of the current evaluation. Future research should consider a randomized controlled experiment with equivalent groups. Random assignment designs allow the strongest causal statements about the effectiveness of the SOS program in reducing recidivism.

Future studies should conduct an explicit implementation evaluation to closely examine how the SOS program has been implemented. In addition to collecting implementation data, future evaluations should also collect data on pre-existing drug abuse of the juveniles; indicators of how drug involved offenders are treated by SOS officers, and better data on characteristics of recidivism. Additional data on recidivism may disentangle possible surveillance effects of the SOS program. Analyzing violations of probation, the type of recidivism offense and location of the recidivism offense (in the school or in the community) Also, future research should attempt to measure the school

related variables that were missing from this analysis. These variables include school attendance, school disciplinary referrals, school suspension, grade point average, and dropout rate. These suggestions would greatly improve any future analysis of the SOS program and any other SBP programs.

Table 1. Descriptive Statistics for Outcome and Predictor Variables

	Mean	*S.D.*	*N*	*Min*	*Max*
Individual Level Outcome Variables					
New Arrests Within One Year	0.21	---	1757	0	1
New Arrests Within Two Years	0.38	---	1757	0	1
Time to New Arrest (in Days)	343	210	674	2	730
Out-of-home placement	0.20	---	1757	0	1
Recidivism Offense Felony	0.29	---	1757	0	1
Recidivism Offense Violence	0.20	---	1757	0	1
Recidivism Offense Drug	0.29	---	1757	0	1
Recidivism Offense School	0.03	---	1757	0	1
Individual Level Predictor Variables					
Demographic					
Gender	0.84	---	1757	0	1
Black / African American	0.78	---	1757	0	1
White / Non-Hispanic	0.18	---	1757	0	1
Hispanic/Latino	0.01	---	1757	0	1
Other Race	0.01	---	1757	0	1
Age at Current Offense	15.64	1.38	1756	10	20
Criminal History					
Age of Onset	14.35	1.84	1754	7.54	17.99
Number of Previous Offenses	0.71	1.32	1757	0	13
Previous Offenses Include Felony Charge	0.19	---	1757	0	1
Characteristics of Current Offense					
Current Offense Charge is a Felony	0.56	---	1757	0	1
Current Offense Charge Involves Violence	0.23	---	1757	0	1
Current Offense Charge Involves Drugs	0.26	---	1757	0	1
School Level Predictor Variables					
SOS Participation	0.50	---	40	0	1
Social Organization Factor Score	.00	1.00	40	-2.22	1.87
Average Enrollment (2005-2007)	1,551	555	40	639	2,571
Average Attendance (2005-2007)	0.87	0.06	40	0.73	0.95
Average Students Receiving Free or Reduced Lunch (2005-2007)	0.36	0.20	40	0.02	0.65
Average Percent Black (2005-2007)	0.66	0.36	40	0.04	0.99
Average Dropout (2005-2007)	0.04	0.03	40	0.00	0.15
Average Suspension Rate (2005-2007)	0.34	0.20	40	0.02	1.04
Community Predictor Variables					
Percentage Female Headed Households	0.11	0.05	40	-0.03	0.19
Median Income	48,637.93	16,840.96	40	20,637	85,530
Population Mobility	0.17	0.07	40	0.00	0.33
Percentage Renter Occupied Housing	0.35	0.17	40	0.09	0.72
Education	0.79	0.10	40	0.51	0.94
Population Density	5,494.25	4,616.37	40	18,845.40	139.00
Percentage Families Below Poverty	0.10	0.10	40	0.01	0.50
Juvenile Crime Rate by Zip Code	49.88	25.43	40	12.27	100.97

Table 2. School Means for Individual-Level Variables Used in Analysis by Condition

	SOS Schools			Comparison Schools		
	Mean		*SD*	*N = 20*	*Mean*	*SD*	*N = 20*
Individual Level Outcome Variables							
New Arrests Within One Year	0.19		0.39	20	0.22	0.42	20
New Arrests Within Two Years	0.33	***	0.35	20	0.42	0.40	20
Time to New Arrest (in Days)	336.78		203.02	20	345.73	212.54	20
Out-of-Home Placement	0.19		0.39	20	0.21	0.41	20
Recidivism Offense Felony	0.19	***	0.40	20	0.33	0.47	20
Recidivism Offense Violence	0.24	*	0.43	20	0.18	0.38	20
Recidivism Offense Drug	0.17	***	0.37	20	0.33	0.47	20
Recidivism Offense School	0.07	***	0.25	20	0.02	0.13	20
Individual Level Predictor Variables							
Demographic							
Gender	0.84		0.37	20	0.83	0.37	20
Black / African American	0.71	***	0.46	20	0.82	0.38	20
White / Non-Hispanic	0.24	***	0.43	20	0.15	0.35	20
Hispanic/Latino	0.04	***	0.18	20	0.002	0.04	20
Other Race	0.02	**	0.13	20	0.004	0.06	20
Age at Time of Current Offense	15.59		1.27	20	15.67	1.44	20
Criminal History							
Age of Onset	14.50	**	1.83	20	14.27	1.83	20
Number of Previous Offenses	0.30	***	0.98	20	0.93	1.43	20
% Previous Offenses Include Felony Charge	0.10	***	0.30	20	0.25	0.43	20
Characteristics of Current Offense							
Current Offense Felony	0.49	***	0.50	20	0.61	0.49	20
Current Offense Violence	0.24		0.43	20	0.23	0.42	20
Current Offense Drugs	0.10	***	0.30	20	0.34	0.47	20

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

Table 3. Mean Differences for School Level Independent Variables

	SOS Schools			Comparison Schools		
	Mean		*SD*	*N=20*	*Mean*	*SD*	*N=20*
Community Level Variables							
Percentage Female Headed Households [a]	0.11		0.05	20	0.11	0.05	20
Median Income [b]	52,887		12,458	20	44,389	20,236	20
Population Mobility [a]	0.19	*	0.07	20	0.15	0.06	20
Percentage Renter Occupied Housing [a]	0.36		0.16	20	0.35	0.17	20
Education	0.81		0.09	20	0.76	0.13	20
Population Density [a b]	3,001	***	2178	20	7,988	5057	20
Percentage Families Below Poverty [a c]	0.06	**	0.09	20	0.14	0.13	20
Juvenile Crime Rate by Zip Code [b]	41.23	*	24.49	20	58.53	23.88	20
Average Z Score	0.12		0.31	20	0.09	0.36	20
Community Social Organization Factor	.305	*	0.65	20	-.305	1.20	20
School Variables							
Average Enrollment (2005-2007) [b]	1,816	**	456	20	1,286	552	20
Average Attendance (2005-2007)	0.89	*	0.03	20	0.85	0.07	20
Average Students Receiving Reduced Lunch (2005-2007)	0.31		0.17	20	0.39	0.24	20
Average Percent Black (2005-2007)	0.6		0.32	20	0.71	0.39	20
Average Dropout (2005-2007)	0.03		0.02	20	0.05	0.04	20
Average Suspension Rate (2005-2007)[a]	0.44	***	0.19	20	0.24	0.15	20

* $p \leq .05$ Paired Sample T-Test

** $p \leq .01$

*** $p \leq .001$

a. Indicates variables multiplied by -1 in the analyses.

b. These variables were on a different scale than the rest of the variables. For HLM models they were divided by 1,000.

c. Poverty was multiplied by 100 for HLM analysis in order to put it on the same scale as the other predictor variables.

Table 4. Model Specifications and Data Analysis Strategy

No.		Equation
3.1	Level-1	$Y_{ij} \mid \phi_{ij} \sim B(m_{ij}, \phi_{ij})$ Where: $_i$ = student in school j Y_{ij} = the number of successes in m_{ij} trials Φ_{ij} = the probability of success
3.2	Level-1	$\eta_{ij} = \log\left(\dfrac{\phi_{ij}}{1-\phi_{ij}}\right)$ Where: η_{ij} = the log of the odds of success
3.3	Level-1	$\eta_{ij} = \beta_{0j} + \beta_{1j}(X_{1ij} - \overline{X_1}) + \beta_{2j}(X_{2ij} - \overline{X_2}) + ... + \beta_{kj}(X_{kij} - \overline{X_k}) + r_{ij}$ Where: β_{kj} = regression coefficient that characterizes relationship between each individual predictor and the outcome variable in school $_j$ $(X_{kij} - \overline{X_k})$ = value of the explanatory variable X_k for juvenile i in school j, centered on the grand mean of the variable X_k. r_{ij} = random error term
3.4	Level-1	$\phi_{ij} = \dfrac{1}{1 + \exp(-\eta_{ij})}$
3.5	Level-2	$\beta_{0j} = \theta_{00} + \theta_{01}W_{ij} + \theta_{02}W_{2j} + \theta_{03}W_{3j}$ Where: θ_{0p} = level-2 coefficients capture effect of school level variables on level-1 coefficients β_{0j} for variable p and school j W_{pj} = level-2 predictor variables for school j μ_{0j} = error representing the random component for school j

Table 5. Cox Regression Proportional Hazard Model Equations		
Equation No.		Equation
3.7	Cox Regression Equation	$h\{(t),(x_1,x_2...,x_m)\} = h_0(t) * \exp(\beta_1 x_1 + ... + \beta_m x_m)$ Where: $h_0(t)$ = the baseline hazard of recidivism value of covariates is set to 0. $X_{1....m}$ = individual covariates (i.e. race, gender etc) This model will cluster on schools.

Table 6. HLM Unconditional Models for Outcome Variables

Recidivism Outcome Variables	Variance	S.D.	Chi-Square	df	
Proportion New Arrests Within One Year	0.06	0.25	57.09	39	**
Proportion New Arrests Within Two Years	0.17	0.41	99.00	39	***
Proportion in Placement After Probation	0.07	0.26	57.04	39	**
Severity of Recidivism Outcomes Variables					
Recidivism Offense Felony	0.66	0.81	215.89	39	***
Recidivism Offense Violence	0.01	0.07	37.40	39	
Recidivism Offense Drug	0.52	0.72	158.71	39	***
Recidivism Offense School	0.84	0.92	62.46	39	**

* $p \leq .05$
** $p \leq .01$
*** $p \leq .001$

Table 7. HLM Random Coefficient Models for One Year & Two Year Recidivism and Placement – Random Effects

Individual Level Models
Full Random Effects

	One Year Recidivism			Two Year Recidivism			Placement		
	Variance	df	$X^{2\,a}$	Variance	df	X^2	Variance	df	X^2
Gender (Female Reference)	0.19	39	1.26	0.14	39	2.28	0.08	39	1.89
Black / African American	0.28	39	0.02	0.38	39	0.20	0.42	39	0.29
Hispanic/Latino	0.62	39	0.01	0.76	39	0.07	0.12	39	1.55
Other Race	1.16	39	0.21	0.68	39	0.64	1.22	39	1.13
Age at Current Offense	0.02	39	0.62	0.04	39	0.20	0.04	39	0.47
Age of Onset	0.01	39	0.51	0.01	39	0.92	0.01	39	0.17
Number of Previous Offenses	0.07	39	0.00	0.01	39	0.54	0.11	39	0.74
Felony Charge in Criminal History	0.12	39	0.01	0.16	39	0.03	0.26	39	1.71
Current Offense is a Felony	0.06	39	1.31	0.01	39	0.14	0.17	39	0.29
Current Offense Involves Violence	0.16	39	1.42	0.11	39	1.18	0.03	39	0.00
Current Offense Involves Drugs	0.04	39	0.30	0.03	39	0.25	0.19	39	0.25

Individual Level Models
Full Random Effects

	Recidivism Offense Felony			Recidivism Drug		
	Variance	df	$X^{2\,a}$	Variance	df	$X^{2\,a}$
Gender (Female Reference)	0.52	39	0.04	1.19	39	0.93
Black / African American	0.58	39	0.03	0.85	39	0.00
Hispanic/Latino	0.24	39	0.00	1.62	39	0.11
Other Race	2.22	39	0.03	0.17	39	0.13
Age at Current Offense	0.06	39	0.01	0.03	39	3.00
Age of Onset	0.00	39	0.00	0.05	39	0.08
Number of Previous Offenses	0.00	39	0.00	0.01	39	0.10
Felony Charge in Criminal History	0.48	39	0.00	0.30	39	0.95
Current Offense is a Felony	0.45	39	0.00	0.45	39	0.02
Current Offense Involves Violence	0.28	39	0.01	0.62	39	2.77
Current Offense Involves Drugs	0.23	39	0.00	0.14	39	3.40

* $p \le .05$

** $p \le .01$

*** $p \le .001$

Table 8. HLM Models for Outcome Variables - Fixed Effects

Individual Level Models

Fixed Effects

Individual Level Predictors	One Year Recidivism				Two Year Recidivism				Placement			
	b	S.E.	Odds Ratio		b	S.E.	Odds Ratio		b	S.E.	Odds Ratio	
Constant	-1.39	0.06	0.25	***	-0.51	0.07	0.60	***	-1.56	0.07	0.21	***
Demographics												
White / Non-Hispanic (reference)												
Black / African American	-0.25	0.16	0.78		0.04	0.16	1.04		-0.51	0.19	0.60	**
Hispanic/Latino	-1.11	0.59	0.33		-1.35	0.52	0.26	**	-0.62	0.39	0.54	
Other Race	-0.20	0.55	0.82		-0.44	0.49	0.64		-0.76	0.67	0.47	
Age at Current Offense	0.21	0.05	1.24	***	0.04	0.06	1.04		-0.45	0.06	0.64	***
Gender (Female Reference)	0.20	0.18	1.22		0.52	0.14	1.67	***	0.67	0.16	1.95	***
Criminal History												
Age of Onset	-0.02	0.04	0.98		-0.04	0.04	0.96		-0.05	0.04	0.95	
Number of Previous Offenses	0.09	0.05	1.09		0.09	0.04	1.10	*	0.26	0.06	1.30	***
Felony Charge in Criminal History	0.04	0.13	1.04		-0.07	0.15	0.93		0.24	0.17	1.27	
Characteristics of Current Offense												
Current Offense is a Felony	-0.03	0.10	0.97		0.05	0.08	1.05		0.16	0.13	1.18	
Current Offense Involves Violence	-0.08	0.15	0.92		-0.07	0.12	0.93		0.22	0.13	1.24	
Current Offense Involves Drugs	0.34	0.13	1.40	**	0.44	0.12	1.55	***	0.18	0.16	1.20	
Estimation of Variance Component	Variance	df	X^2		Variance	df	X^2		Variance	df	X^2	
	0.01	39	43.81		0.09	39	70.42	**	0.03	39	49.19	
N		**1,757**				**1,757**				**1,757**		

* $p \leq .05$
** $p \leq .01$
*** $p \leq .001$

Table 8. HLM Models for Outcome Variables - Fixed Effects (Cont'd) [a]

Individual Level Models

Fixed Effects	Seriousness of Recidivism Models							
	Recidivism Offense is Felony				**Recidivism Offense Drug**			
Individual Level Predictors	b	S.E.	Odds Ratio		b	S.E.	Odds Ratio	
Constant	-2.06	0.12	0.13	***	-1.96	0.11	0.14	***
Demographics								
White / Non-Hispanic (reference)								
Black / African American	1.07	0.33	2.91	***	0.52	0.23	1.68	*
Hispanic/Latino	0.77	0.47	2.16	**	-0.08	0.74	0.92	
Other Race	0.38	0.97	1.46		1.10	0.63	3.01	
Age at Current Offense	-0.30	0.05	0.74	***	-0.13	0.05	0.88	**
Gender (Female Reference)	1.12	0.25	3.06	***	1.45	0.36	4.26	***
Criminal History								
Age of Onset	-0.05	0.04	0.95		-0.06	0.06	0.94	
Number of Previous Offenses	-0.05	0.05	0.95		-0.05	0.06	0.95	
Felony Charge in Criminal History	0.22	0.19	1.24		-0.04	0.22	0.96	
Characteristics of Current Offense								
Current Offense is a Felony	-0.06	0.16	0.94		0.19	0.15	1.21	
Current Offense Involves Violence	-0.35	0.20	0.71		0.01	0.19	1.01	
Current Offense Involves Drugs	0.54	0.18	1.72	**	1.08	0.15	2.93	***
Estimation of Variance Components	Variance	df	X^2		Variance	df	X^2	
	0.31	39	109.05	***	0.20	39	80.87	***
N		**1,757**				**1,757**		

a. There was not sufficient data at level 2 for the recidivism school variable and thus this was excluded from further analysis.

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

Table 9. HLM School Level Models for Two Year, Recidivism Felony and Drug - Simplified

Individual and School Level Models

<div align="center">Two Year Recidivism</div>

Fixed Effects

Individual Level Predictors	Simplified Level 1 Model (N=1752)				Level 2 Model SOS Only (N=1750)				Level 2 Model with Covariates (N=1748)			
	b	S.E.	Odds Ratio		b	S.E.	Odds Ratio		b	S.E.	Odds Ratio	
Constant	-0.52	0.07	0.60	***	-0.53	0.08	0.59	***	-0.53	0.08	0.59	***
Demographics												
Hispanic/Latino	-1.39	0.53	0.25	**	-1.33	0.55	0.26	*	-1.33	0.57	0.26	*
Gender (Female Reference)	0.52	0.14	1.69	***	0.53	0.14	1.70	***	0.53	0.14	1.71	***
Criminal History												
Number of Previous Offenses	0.10	0.03	1.10	***	0.09	0.03	1.10	***	0.09	0.03	1.10	***
Characteristics of Current Offense												
Current Offense Involves Drugs	0.46	0.12	1.59	***	0.44	0.13	1.56	***	0.44	0.13	1.55	***
School Level Predictors												
SOS Participation					-0.17	0.16	0.84		-0.16	0.23	0.85	
Community Organization Factor									-0.01	0.07	0.99	
Average Suspension Rate									0.01	0.37	1.01	
	Variance	df	X^2		Variance	df	X^2		Variance	df	X^2	
Individual Level Variance	0.10	39	72.06	***								
School Level Variance					0.10	38	69.62	**	0.11	36	69.80	***

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

Table 9. HLM School Level Models for Two Year, Recidivism Felony and Drug - Simplified (cont'd)

Individual and School Level Models   **Recidivism Offense Felony**

Fixed Effects

Individual Level Predictors	Simplified Level 1 Model (N=1751)				Level 2 Model SOS Only (N=1750)				Level 2 Model with Covariates (N=1748)			
	b	S.E.	Odds Ratio		b	S.E.	Odds Ratio		b	S.E.	Odds Ratio	
Constant	-2.05	0.13	0.13	***	-2.07	0.11	0.13	***	2.14	0.10	0.12	***
Demographics												
Black / African American	0.94	0.30	2.56	**	0.98	0.30	2.67	***	0.57	0.31	1.77	
Age at Current Offense	-0.34	0.05	0.71	***	-0.34	0.05	0.71	***	-0.34	0.05	0.71	***
Gender (Female Reference)	1.17	0.26	3.21	***	1.19	0.26	3.29	***	1.21	0.26	3.34	***
Characteristics of Current Offense												
Current Offense Involves Drugs	0.63	0.16	1.89	***	0.60	0.16	1.82	***	0.54	0.16	1.71	***
School Level Predictors												
SOS Participation					-0.72	0.22	0.48	**	-0.25	0.19	0.78	
Community Organization Factor									-0.45	0.11	0.64	***
Average Suspension Rate									0.66	0.49	1.93	

	Variance	df	X^2		Variance	df	X^2		Variance	df	X^2	
Individual Level Variance	0.32	39	110.39	***								
School Level Variance					0.15	38	65.82	**	0.09	36	50.59	

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

Table 9. HLM School Level Models for Two Year, Recidivism Felony and Drug - Simplified (cont'd)

Individual and School Level Models   **Recidivism Drug**

Fixed Effects

Individual Level Predictors	Simplified Level 1 Model (N=1751)				Level 2 Model SOS Only (N=1750)				Level 2 Model with Covariates (N=1748)			
	b	S.E.	Odds Ratio		b	S.E.	Odds Ratio		b	S.E.	Odds Ratio	
Constant	-1.96	0.11	0.14	***	-2.06	0.11	0.13	***	-2.08	0.11	0.12	***
Demographics												
Black / African American	0.47	0.20	1.61	*	0.42	0.22	1.52		0.20	0.22	1.23	
Age at Current Offense	-0.18	0.04	0.83	***	-0.19	0.04	0.83	***	-0.19	0.04	0.83	***
Gender (Female Reference)	1.46	0.35	4.29	***	1.48	0.34	4.40	***	1.49	0.35	4.44	***
Characteristics of Current Offense												
Current Offense Involves Drugs	1.06	0.13	2.90	***	1.03	0.13	2.80	***	0.99	0.13	2.68	***
School Level Predictors												
SOS Participation					-0.95	0.21611	0.39	***	-0.69	0.24	0.50	**
Community Organization Factor									-0.16	0.08	0.85	
Average Suspension Rate									0.67	0.38	1.94	
	Variance	df	X^2		Variance	df	X^2		Variance	df	X^2	
Individual Level Variance												
School Level Variance	0.23	39	82.85	***	0.01	38.00	50.30		0.01	36.00	44.51	

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

Table 10. Cox Regression Proportional Hazard Model Days to Recidivism

	SOS			Individual Level Predictors			Factored Model		
Individual Level Predictors	b	S.E.		b	S.E.		b.	S.E.	
Demographics									
White / Non-Hispanic (reference)									
Black / African American				-0.02	0.12		-0.01	0.14	
Hispanic/Latino				-1.13	0.47	**	-1.12	0.48	*
Other Race				-0.35	0.42		-0.34	0.42	
Age at Current Offense				0.06	0.04		0.06	0.04	
Gender (Female Reference)				0.41	0.13	***	0.41	0.13	***
Criminal History									
Age of Onset				-0.04	0.03		-0.03	0.03	
Number of Previous Offenses				0.08	0.03	**	0.08	0.03	**
Felony Charge in Criminal History				-0.07	0.11		-0.07	0.11	
Characteristics of Current Offense									
Current Offense is a Felony				0.02	0.06		0.02	0.06	
Current Offense Involves Violence				-0.08	0.09		-0.09	0.09	
Current Offense Involves Drugs				0.33	0.09	***	0.33	0.09	***
Length of Probation Sentence				0.01	.20		0.01	.20	
School Level Predictors									
SOS Participation	-0.29	0.13	*	-0.13	0.13		-0.13	0.15	
Average Suspension Rate							.44	.31	
Community Social Organization							0.01	0.05	

  *   p<.05

  **   p<.01

  ***   p<.001

Table 11. Anne Arundel County Mean Differences for School Level Independent Variables

	SOS Schools			Comparison Schools		
	Mean		*SD*	*N=3*	*Mean*	*SD*	*N=6*

	Mean		*SD*	*N=3*	*Mean*	*SD*	*N=6*
Community Level Variables							
Percentage Female Headed Households [a]	0.07		0.02	3	0.06	0.04	6
Median Income [b]	$51,129	*	8947.29	3	$71,310	8891.23	6
Population Mobility [a]	0.12		0.11	3	0.09	0.07	6
Percentage Renter Occupied Housing [a]	0.26		0.11	3	0.13	0.06	6
Education	0.80	*	0.04	3	0.88	0.04	6
Population Density [a b]	2314.83		665.09	3	2693.05	4165.32	6
Percentage Families Below Poverty [a c]	0.04		0.01	3	0.10	0.20	6
Juvenile Crime Rate by Zip Code [b]	50.68		32.50	3	46.19	24.64	6
Community Social Organization Factor	0.83		0.37	3	1.28	0.43	6
School Variables							
Average Enrollment (2005-2007) [b]	2044		127.76	3	1814	381.34	6
Average Attendance (2005-2007)	0.91	*	0.01	3	0.94	0.01	6
Average Students Reduced Lunch (2005-2007)	0.16		0.09	3	0.07	0.04	6
Average Percent Black (2005-2007)	0.17		0.10	3	0.12	0.10	6
Average Dropout (2005-2007)	0.02		0.01	3	0.01	0.01	6
Average Suspension Rate (2005-2007)[a]	0.35		0.01	3	0.21	0.10	6

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

a. Indicates variables multiplied by -1 in the analyses.

b. These variables were on a different scale than the rest of the variables. For HLM models they were divided by 1,000.

c. Poverty was multiplied by 100 for HLM analysis in order to put it on the same scale as the other predictor variables.

Table 12. Anne Arundel County Sensitivity Analysis

Individual and School Level Models	**Two Year Recidivism**				**Recidivism Felony**				**Recidivism Drug**			
Fixed Effects												
	Simplified Level 2 Model *(N=276)*				**Simplified Level 2 Model** *(N=276)*				**Simplified Level 2 Model** *(N=276)*			
Individual Level Predictors	b	S.E.	Odds Ratio		b	S.E.	Odds Ratio		b	S.E.	Odds Ratio	
Constant	-0.3	0.13	0.70	*	-3.53	0.41	0.03	***	-2.07	0.10	0.12	***
Demographics												
Gender (Female Reference)	0.89	0.39	2.43	*	0.68	0.85	1.97		1.10	0.72	3.01	
Age at Current Offense					-0.68	0.18	0.50	***	-0.28	0.14	0.75	*
Criminal History												
Number of Previous Offenses	-0.09	0.11	0.90		--	--	--		--	--	--	
Characteristics of Current Offense												
Current Offense Involves Drugs	-0.02	0.33	0.98		-1.00	1.08	0.36		0.44	0.65	1.56	
School Level Predictors												
SOS Participation	0.7	0.23	2.65		-0.37	0.89	0.69		0.76	0.43	2.14	
Anne Arunde County Factor	-0.09	0.44	0.91		0.27	0.58	1.31		0.17	0.25	1.1	
Average Suspension Rate	1.77	1.81	5.89		-8.689	4.50	0.00		3.38	2.00	29.34	
	Variance	df	X^2		Variance	df	X^2		Variance	df	X^2	
School Level Variance	0.00	5	2.65		0.00	5	2.82		0.00	5	4.32	

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

Table 13. SOS & Comparison School Implementation Table

	SOS Schools				Comparison Schools		
	Mean		*SD*	*N = 20*	*Mean*	*SD*	*N = 20*
Part A School Level Implementation							
Length of Probation Sentence	434.00	***	211.77	20	395.54	208.27	20
Caseworker Caseload Size	44.56		39.73	20	42.85	38.95	20
Juveniles On Probation Per School	31.25		15.50	20	56.60	54.68	20

Part B Caseworker Caseload & Cost						
	Mean	*SD*	*N*	*Min*	*Max*	*Estimated Cost*
SOS Caseworkers	44.59	39.73	147	1	142	$3,202,007.90
Non-SOS Caseworkers	42.85	38.95	108	1	187	$3,077,058.50
Both SOS and Non-SOS Caseworkers	63.27	35.27	147	6	212	$4,543,418.70

* $p \le .05$

** $p \le .01$

*** $p \le .001$

Appendix A. Outcome and Predictor Variable Coding Table

Individual Level Outcome Variables	Coding	Description
Proportion New Arrests Within One Year	1 = 1 yr New Arrest	Dichotomous variable for contact with DJS 1 year after probation start date
Proportion New Arrests Within Two Years	1 = 2 yr New Arrest	Dichotomous variable for contact with DJS 2 years after probation start date
Number of Days to New Contact with DJS	2 - 730 days	If recidivated, number of days from probation start date to new offense date
Proportion in Placement After Probation Sentence	1 = Placement	Committed to Department of Juvenile Services after probation start date
Recidivism Offense Felony	1 = Recid Felony	If recidivated, offense was a felony
Recidivism Offense Violence	1 = Recid Violence	If recidivated, first offense after recidivism involved violence
Recidivism Offense Drug	1 = Recid Drug	If recidivated, first offense after recidivism involved drugs
Recidivism Offense School	1 = Recid School	If recidivated, first offense after recidivism was "Disturbing School Activities"

Individual Level Predictor Variables

Demographic		
Gender	1 = Male	Dichotomous variable 1 = Male
Black / African American	1 = Black	Dichotomous variable 1 = Black and 0 = All others
White / Non-Hispanic	1 = White (reference)	Dichotomous variable 1 = White and 0 = All others
Hispanic/Latino	1 = Hispanic	Dichotomous variable 1 = Hispanic and 0 = All others
Other Race	1 = Other Race	Categorical Variable including Native American, Pacific Islander, Asians and Unknown race
Age at Time of Current Offense	(9 - 19)	Age (Years) calculated subtracting date of current offense from date of birth

Criminal History		
Age of Onset	(7 - 18)	Age (Years) calculated subtracting date of birth from date of first offense
Number of Previous Offenses	(0 - 13)	Number of Previous Contacts with DJS
Previous Offenses Include Felony Charge	1 = Felony Prev Offense	Felony charge in Juveniles criminal history

Characteristics of Current Offense		
Current Offense Felony	1 = Felony	Current Offense charge was a felony
Current Offense Violence	1 = Violence	Current Offense charge was a violent offense
Current Offense Drugs	1 = Drugs	Current Offense charge was a drug offense

Appendix B. Individual Level Covariates Correlation Matrix

	SOS	1 year	2 years	Days	Placement	Felony	Violence	Recid Offense Drug	Disturbing School	Gender	Black	White	Hispanic
SOS Participation (SOS)	1												
Individual Level Outcome Variables													
One Year Recidivism	-.043	1											
Two Year Recidivism	-.087	.651	1										
Days to New Arrest	-.020	-.869	.a	1									
Placement	-.020	-.005	.065	.099	1								
Recidivism Offense Felony	-.135	-.040	-.028	.050	.087	1							
Recidivism Offense Violence	.066	-.092	-.073	.059	.099	-.058	1						
Recidivism Offense Drug	-.165	.060	.081	.008	-.044	.274	-.278	1					
Recidivism Offense School	.134	-.004	-.010	.018	.016	-.102	.043	-.100	1				
Individual Level Predictor Variables													
Gender	.009	.040	.107	.052	.109	.110	-.074	.139	.010	1			
Black	-.154	-.027	.036	.099	-.015	.166	.005	.077	-.074	.008	1		
White	.106	.038	-.013	-.085	.021	-.176	-.006	-.084	.085	-.008	-.927	1	
Hispanic	.138	-.036	-.063	-.050	-.011	.035	-.006	.008	-.014	.027	-.228	-.056	1
Other Race	.066	-.005	-.026	-.034	-.019	-.033	.012	.018	-.016	-.021	-.186	-.046	-.011
Age at Current Offense	-.034	.123	.021	-.341	-.235	-.015	-.160	.142	-.084	-.039	-.083	.092	-.021
School	-.049	-.005	.006	.016	.048	-.010	.030	-.007	-.060	-.002	.091	-.092	-.013
Previous Offenses	-.228	.089	.111	-.061	.162	.036	.033	.016	-.057	.142	.117	-.098	-.041
Age of Onset	.059	.040	-.050	-.186	-.216	-.012	-.141	.085	-.086	-.105	-.072	.058	.034
Felony Criminal History	-.175	.059	.075	-.032	.125	.077	.020	.029	-.056	.140	.151	-.135	-.033
Current Offense Felony	-.115	.004	.042	.046	.036	.069	-.065	.121	-.066	.108	.160	-.151	-.015
Current Offense Violence	.015	-.050	-.055	.043	.035	-.080	.125	-.077	.058	-.071	.022	-.023	-.019
Current Offense Drugs	-.265	.103	.139	-.042	.013	.127	-.150	.250	-.068	.119	.087	-.068	-.047

Appendix B. Individual Level Covariates Correlation Matrix (Cont'd)

	Other Race	Age at Offense	School	Num Previous Offenses	Age of Onset	Felony Criminal History	Current Offense Felony	Current Offense Violence	Current Offense Drugs
SOS Participation (SOS)									
Individual Level Outcome Variables									
One Year Recidivism									
Two Year Recidivism									
Days to New Arrest									
Placement									
Recidivism Offense Felony									
Recidivism Offense Violence									
Recidivism Offense Drug									
Recidivism Offense School									
Individual Level Predictor Variables									
Gender									
Black									
White									
Hispanic									
Other Race	1								
Age at Current Offense	.002	1							
School	.005	-.020	1						
Previous Offenses	-.042	.099	.069	1					
Age of Onset	.020	.610	-.033	-.227	1				
Felony Criminal History	-.047	.049	.029	.629	-.172	1			
Current Offense Felony	-.048	-.007	-.010	.059	.034	.073	1		
Current Offense Violence	.032	-.123	.011	-.044	-.076	-.068	-.100	1	
Current Offense Drugs	-.029	.191	.002	.209	.043	.177	.143	-.311	1

Appendix C. School Level Correlation Matrix

	School	SOS	Female	Med Inc	Pop Mobility	Renter Housing	Educ	Pop Density	Poverty	Avg Enrolled	Avg Attend	Avg Free Lunch	Avg Black	Avg Dropout	Avg Susp	Juv. Intake Rate
School	1															
SOS Participation	-.061	1														
Female Headed Household	-.008	.022	1													
Median Income	.077	.256	.682	1												
Population Mobility	.078	-.332	.388	.354	1											
Renter Occupied Housing	.196	-.024	.726	.821	.620	1										
Education	.041	.262	.541	.874	.138	.679	1									
Population Density	.013	.547	.480	.781	.237	.647	.727	1								
Poverty	.185	.419	.489	.551	.132	.466	.578	.539	1							
Average School Enrollment	-.082	.484	.341	.428	-.085	.123	.389	.397	.214	1						
Average School Attendance	-.274	.326	.539	.681	.107	.407	.596	.567	.354	.511	1					
Average Free Lunch	.021	.187	.643	.846	.367	.718	.696	.664	.375	.484	.733	1				
Average Black	-.081	.150	.704	.661	.357	.607	.447	.584	.252	.499	.694	.821	1			
Average Dropout	-.140	.269	.475	.590	.131	.395	.596	.501	.346	.391	.860	.624	.496	1		
Average Suspension Rate	-.060	-.508	.067	-.075	.213	.034	-.081	-.322	-.254	-.036	.004	-.064	-.033	.079	1	
Juvenile Intake Rate	-.219	a	-.729	-.649	-.587	-.752	-.765	-.630	-.880	-/190	-.247	-.382	-.311	-.338	-.030	1

Appendix D. Factor Loadings for Community Social Organization Variable

	Component
<u>School Level Variables</u>	1
Female Headed Household	.774
Median Income	.941
Population Mobility	.391
Renter Occupied Housing	.804
Education	.841
Population Density	.814
Poverty	.617
Average School Enrollment	.521
Average School Attendance	.792
Average Free Lunch	.887
Average Black	.777
Average Dropout	.719
Juvenile Intake Rate	.487

Appendix E. Potential Treatment and Control Schools

County	School	Zip Code	SOS	Average Z Score	Pair
Anne Arundel	Meade High	20755	Y	-0.95	
Prince Georges	Bladensburg Hs	20710	Y	-0.63	Q
Anne Arundel	Broadneck High School	21409	N	-0.54	Q
Baltimore City	Samuel L. Banks High	21223	N	-0.47	D
Baltimore City	Vivien T. Thomas Medical Arts	21223	N	-0.47	
Baltimore City	Frederick Douglass Senior	21217	N	-0.35	E
Baltimore City	Northwestern Sr HS B. City	21215	N	-0.35	L
St. Mary	Great Mills Hs	20634	Y	-0.18	D
Prince Georges	Oxon Hill Hs	20745	Y	-0.18	E
Prince Georges	Potomac Hs	20745	Y	-0.18	L
Baltimore City	Patterson Hs	21224	Y	-0.12	N
Baltimore City	Lake Clifton	21213	N	-0.09	K
Baltimore City	Walbrook Liberal Arts	21216	N	-0.09	N
Prince Georges	Northwestern Hs	20783	Y	-0.06	K
Prince Georges	Laurel Hs	20707	Y	0.02	
Baltimore City	Carver Vocational Tech Hs	21218	N	0.04	F
Baltimore City	Mergenthaler Vocational Tech	21218	N	0.04	J
Baltimore City	Baltimore City College	21218	N	0.04	S
Prince Georges	Suitland Hs	20747	Y	0.07	F
Prince Georges	Forestville Hs	20747	Y	0.07	H
Calvert	Calvert Hs	20678	Y	0.09	I
Prince Georges	Central Hs	20743	Y	0.12	M
Prince Georges	High Point Hs	20705	Y	0.12	S
Prince Georges	Fairmont Heights Hs	20743	Y	0.12	
Baltimore City	Edmondson Westside High	21229	N	0.13	I
St. Mary	Leonardtown Hs	20650	Y	0.13	J
Baltimore City	Thurgood Marshall High	21206	N	0.17	H
Baltimore City	Forest Park Hs	21207	Y	0.19	R
Anne Arundel	North County Hs	21061	Y	0.19	R
Baltimore City	WEB Dubois Hs	21214	N	0.22	A
Baltimore City	Reginald F. Lewis High	21214	N	0.22	G
Baltimore City	Northern Sr HS / B.City	21214	N	0.22	O
Charles	Westlake Hs	20603	Y	0.22	O
Prince Georges	Crossland Hs	20748	Y	0.23	A
Charles	Thomas Stone Hs	20601	Y	0.27	G
Prince Georges	Duval Hs	20706	Y	0.31	
Prince Georges	Gwynn Park Hs	20613	Y	0.32	
Anne Arundel	Glen Burnie Hs	21060	Y	0.36	P
Anne Arundel	Old Mills Hs	21108	Y	0.41	
Anne Arundel	Annapolis Hs	21401	Y	0.48	
Calvert	Northern Hs	20736	Y	0.50	
Prince Georges	Flowers	20774	Y	0.51	
Prince Georges	Largo Hs	20772	Y	0.52	
Anne Arundel	Arundel High School	21054	N	0.54	M
Anne Arundel	South River High School	21037	N	0.55	C
Prince Georges	Surrattsville Hs	20735	Y	0.56	C
Anne Arundel	Chesapeake Hs	21122	Y	0.65	B
St. Mary	Chopticon Hs	20660	Y	0.65	
Prince Georges	Friendly Hs	20744	Y	0.71	T
Anne Arundel	Severna Park Hs	21146	N	0.91	B
Anne Arundel	Southern Hs	20776	N	0.95	P
Anne Arundel	Northeast High School	21122	N	0.98	T

Appendix E. Potential Treatment and Control Schools (Cont'd)

County	School	Zip Code	SOS	Average Z Score	Pair
Anne Arundel	Meade High	20755	Y	-0.95	
Prince Georges	Bladensburg Hs	20710	Y	-0.63	Q
Anne Arundel	Broadneck High School	21409	N	-0.54	Q
Baltimore City	Samuel L. Banks High	21223	N	-0.47	D
Baltimore City	Vivien T. Thomas Medical Arts	21223	N	-0.47	
Baltimore City	Frederick Douglass Senior	21217	N	-0.35	E
Baltimore City	Northwestern Sr HS B. City	21215	N	-0.35	L
St. Mary	Great Mills Hs	20634	Y	-0.18	D
Prince Georges	Oxon Hill Hs	20745	Y	-0.18	E
Prince Georges	Potomac Hs	20745	Y	-0.18	L
Baltimore City	Patterson Hs	21224	Y	-0.12	N
Baltimore City	Lake Clifton	21213	N	-0.09	K
Baltimore City	Walbrook Liberal Arts	21216	N	-0.09	N
Prince Georges	Northwestern Hs	20783	Y	-0.06	K
Prince Georges	Laurel Hs	20707	Y	0.02	
Baltimore City	Carver Vocational Tech Hs	21218	N	0.04	F
Baltimore City	Mergenthaler Vocational Tech	21218	N	0.04	J
Baltimore City	Baltimore City College	21218	N	0.04	S
Prince Georges	Suitland Hs	20747	Y	0.07	F
Prince Georges	Forestville Hs	20747	Y	0.07	H
Calvert	Calvert Hs	20678	Y	0.09	I
Prince Georges	Central Hs	20743	Y	0.12	M
Prince Georges	High Point Hs	20705	Y	0.12	S
Prince Georges	Fairmont Heights Hs	20743	Y	0.12	
Baltimore City	Edmondson Westside High	21229	N	0.13	I
St. Mary	Leonardtown Hs	20650	Y	0.13	J
Baltimore City	Thurgood Marshall High	21206	N	0.17	H
Baltimore City	Forest Park Hs	21207	Y	0.19	R
Anne Arundel	North County Hs	21061	Y	0.19	R
Baltimore City	WEB Dubois Hs	21214	N	0.22	A
Baltimore City	Reginald F. Lewis High	21214	N	0.22	G
Baltimore City	Northern Sr HS / B.City	21214	N	0.22	O
Charles	Westlake Hs	20603	Y	0.22	O
Prince Georges	Crossland Hs	20748	Y	0.23	A
Charles	Thomas Stone Hs	20601	Y	0.27	G
Prince Georges	Duval Hs	20706	Y	0.31	
Prince Georges	Gwynn Park Hs	20613	Y	0.32	
Anne Arundel	Glen Burnie Hs	21060	Y	0.36	P
Anne Arundel	Old Mills Hs	21108	Y	0.41	
Anne Arundel	Annapolis Hs	21401	Y	0.48	
Calvert	Northern Hs	20736	Y	0.50	
Prince Georges	Flowers	20774	Y	0.51	
Prince Georges	Largo Hs	20772	Y	0.52	
Anne Arundel	Arundel High School	21054	N	0.54	M
Anne Arundel	South River High School	21037	N	0.55	C
Prince Georges	Surrattsville Hs	20735	Y	0.56	C
Anne Arundel	Chesapeake Hs	21122	Y	0.65	B
St. Mary	Chopticon Hs	20660	Y	0.65	
Prince Georges	Friendly Hs	20744	Y	0.71	T
Anne Arundel	Severna Park Hs	21146	N	0.91	B
Anne Arundel	Southern Hs	20776	N	0.95	P
Anne Arundel	Northeast High School	21122	N	0.98	T

Appendix F
School Based Probation Survey
Probation Officers

<u>Demographic Information</u>

1. Age _____

2. Gender: Male   Female

3. What is your highest level of education?

    a. High School Diploma
    b. Bachelor's degree
    c. Master's Degree
    d. Doctorate

4. How many years of probation experience did you have prior to your appointment as a school based probation officer?

    a. 0 years
    b. 1 year
    c. 2 years
    d. 3-5 years
    e. 5-10 years
    f. Over 10 years

5. How long have you been at your current assignment?
    a. 0 years
    b. 1 year
    c. 2 years
    d. 3- 5 years
    e. 5-10 years
    f. Over 10 years

6. What attracted you to this current position?

_____

_____

_____

7. How many more years do you plan on being a school based probation officer?

_____

8. What county do you currently supervise probationers in?

_____

Caseload Information

9. What is the approximate size of your current caseload?

Category	Number of Students
Formal Probation	
Informal Probation	
Spotlight on Schools	
C-Safe	
Other (Indicate which program? & how many?)	

10. Indicate the number of school based probationers on your caseload by grade level.

Grade	Number of Students
6	
7	
8	
9	
10	
11	
12	

11. On Average, about how many times per week do you have contact with the various groups on your caseload?

Category	Average # of Contacts
Formal Probation	
Informal Probation	
Spotlight on Schools	
C-Safe	
Other (which program & how many)	

12. At how many schools do you serve as a school-based probation officer? _____

13. What services do you most often refer the juveniles on your caseload to?

_____

_____

_____

14. In your opinion what is the optimal caseload size for a school based probation officer?
   a. 10 and under
   b. 15
   c. 25
   d. 30
   e. 35-40

Perceived Roles and Responsibilities

15. What do you believe to be your "Perceived Role" of the school-based probation officers listed below, then consider how you believe school administrators, probationers on your caseload, and their parents/guardians view your primary role.

Your Perceived Role	School Administration	Probationers	Parents/Guardians
Child Advocate	Child Advocate	Child Advocate	Child Advocate
Mentor	Mentor	Mentor	Mentor
Officer of the Court	Officer of the Court	Officer of the Court	Officer of the Court
Police Officer / Security	Police Officer / Security	Police Officer / Security	Police Officer / Security
School Official	School Official	School Official	School Official
Social Worker	Social Worker	Social Worker	Social Worker

16. If you believe school administration views your primary role differently from how you view your role, using a scale 1 (a Little or No Extent) to 3 (A great extent), please indicate the extent to which this difference in role perceptions impacts your effectiveness as a school based probation officer

Little / No Extent	Moderate Extent	To Great Extent
1	**2**	**3**

17. In what ways, if any does this difference in role perception impact your effectiveness as a school based probation officer?

_____

_____

_____

18. The following is a list of the possible duties related to the probationers on your caseload. Using a scale from 1 (Not Important) to 5 (Very Important), indicate how important each of the duties is in your day-to-day responsibilities as a school based probation officer. If activity is not part of your duties, circle 0 under the category "Not Applicable".

	N/A	Not Important	A Little Important	Somewhat Important	Important	Very Important
Develop a supervision plan for each probationer that included educational goals and objectives	0	1	2	3	4	5
Conduct an orientation for all newly assigned probationers & their parents or guardians	0	1	2	3	4	5
Help probationers obtain services	0	1	2	3	4	5
Set limits & expectations for probationers	0	1	2	3	4	5
Work to reduce probationers in & out of school suspensions, tardiness, absenteeism and drop out rates	0	1	2	3	4	5
Help develop alternatives to out of school suspensions	0	1	2	3	4	5
Provide tutoring services for probationers	0	1	2	3	4	5
Promote participation of probationers in school activities	0	1	2	3	4	5
Facilitate re-entry of probationers into school after placement	0	1	2	3	4	5
Function as an advocate for probationers	0	1	2	3	4	5
Encourage the involvement of probationers' parents or guardians in school activities	0	1	2	3	4	5
Assist school personnel who are making decisions about probationers	0	1	2	3	4	5
Augment the school disciplinary structure	0	1	2	3	4	5

	N/A					
Maintain a chronological record of contacts	**0**	**1**	**2**	**3**	**4**	**5**
Collect relevant data to assess program effectiveness.	**0**	**1**	**2**	**3**	**4**	**5**

19. The following is a list of the possible duties related to the general school population (***students not assigned to school based probation***). Using a scale from 1 (Not Important) to 5 (Very Important), please indicate how important each of the duties is to your day-to-day responsibilities as a school based probation officer. If activity is not one of your duties, circle 0 under the "N/A".

Possible Duties	N/A	Not Important	A Little Important	Somewhat Important	Important	Very Important
Provide in-service training for school officials about probation services & the juvenile justice system	**0**	**1**	**2**	**3**	**4**	**5**
Make Presentations in classes about the juvenile justice system	**0**	**1**	**2**	**3**	**4**	**5**
Serve as a liaison (information source) between school and court.	**0**	**1**	**2**	**3**	**4**	**5**
Promote a positive image of the juvenile court	**0**	**1**	**2**	**3**	**4**	**5**
At the request of school, help to divert at-risk youth from formal juvenile court involvement	**0**	**1**	**2**	**3**	**4**	**5**
Provide a presence / visibility in conjunction with school officials to deter potential conflicts involving the general school population	**0**	**1**	**2**	**3**	**4**	**5**
Promote a drug free & safe school environment	**0**	**1**	**2**	**3**	**4**	**5**
Promote participation of probationers in school activities	**0**	**1**	**2**	**3**	**4**	**5**
Co-Facilitate various support groups	**0**	**1**	**2**	**3**	**4**	**5**
Get involved in school activities	**0**	**1**	**2**	**3**	**4**	**5**
Provide services to students who are NOT under the jurisdiction of the court	**0**	**1**	**2**	**3**	**4**	**5**

20. What is your level of involvement in school disciplinary infractions of the general school population (***students not assigned to school-based probation***)?
    a. No involvement
    b. Give advice to school officials
    c. Talk to the student
    d. Make an intake decision
    e. Provide informal supervision
    f. Refer case to court
    g. Provide informal supervision

21. Using a scale from 1 (Not Effective) to 5 (Very Effective), indicate how effective you believe school based probation is in meeting the following objectives for school based probationers. If you are uncertain, circle 0 under the column "Don't Know"

Objectives	Don't Know	Not Effective	A little Effective	Somewhat Effective	Effective	Very Effective
Decreasing school disciplinary referrals	0	1	2	3	4	5
Decreasing number of days in detention	0	1	2	3	4	5
Decreasing frequency of detention	0	1	2	3	4	5
Decreasing number of days of suspension	0	1	2	3	4	5
Decreasing frequency of suspensions	0	1	2	3	4	5
Decreasing absenteeism	0	1	2	3	4	5
Decreasing tardiness	0	1	2	3	4	5
Decreasing the drop out rate	0	1	2	3	4	5
Reduce recidivism	0	1	2	3	4	5
Reducing the number of out of home placements	0	1	2	3	4	5
Improving academic performance	0	1	2	3	4	5
Increasing the number of positive school reports	0	1	2	3	4	5

22. Using a scale from 1 (Not Effective) to 5 (Very Effective), indicate how effective you believe school based probation is in meeting the following objectives for the general school population (***students not assigned to school based probation***). If you are uncertain, circle 0 under "Don't Know" column.

Objectives	Don't Know	Not Effective	A little Effective	Somewhat Effective	Effective	Very Effective
Deterring non-probation students from disruptive behaviors	0	1	2	3	4	5
Improving overall school climate	0	1	2	3	4	5

17. Using a scale from 1 (Dissatisfied) to 4 (Satisfied), indicate your general level of satisfaction with the school-based probation program. If you are uncertain, circle 0 under the column "Don't Know".

Objectives	Don't Know	Dissatisfied	Somewhat Dissatisfied	Somewhat Satisfied	Satisfied	Very Satisfied
Satisfaction with your job as a school-based probation officer	0	1	2	3	4	5
Satisfaction with overall program	0	1	2	3	4	5
Satisfaction with level of communication between the court and the schools	0	1	2	3	4	5
Satisfaction with perceived positive impact on probationers assigned to school based probation.	0	1	2	3	4	5
Satisfaction with perceived positive impact of school-based probation on the overall school climate.	0	1	2	3	4	5

23. What do you like most about school-based probation?

_____

_____

_____

24. What do you like least about school based probation?

_____

_____

_____

25. Identify any outcomes (either positive or negative) of school-based probation that were not anticipated.

_____

_____

26. How would you describe a successful student in the SOS program?

_____

_____

_____

27. What do you think is the biggest contributing factor to a juvenile being successful in the school based probation program?

_____

_____

_____

28. If you could improve any aspect of the SOS program what would it be and why?

_____

_____

_____

Appendix G
School Based Probation Survey
Principals and School Officials

Demographic Information

1. Age _____

2. Gender: Male   Female

3. What is your highest level of education?

    a. High School Diploma
    b. Bachelor's degree
    c. Master's Degree
    d. Doctorate

4. How many years of administration experience did you have prior to your appointment as a school administrator?

    a. 0 years
    b. 1 year
    c. 2 years
    d. 3-5 years
    e. 5-10 years
    f. Over 10 years

5. How long have you been at your current position?
    a. 0 years
    b. 1 year
    c. 2 years
    d. 3- 5 years
    e. 5-10 years
    f. Over 10 years

6. How many more years do you plan on being a principal? _____

7. What county is your school located? _____

8. What grades does your school serve?

Grades	Check which one
7-12	
8-12	
9-12	
10-12	
Other	

9. In what year did the SOS program begin in your school? _____

10. What do you perceive to be the **primary role** of the school based probation officer?
   a. Officer of the Court
   b. Mentor
   c. Child Advocate
   d. Social Worker
   e. Police Officer / Security
   f. School Official

11. Using a scale form 1 (Not Effective) to 5 (Very Effective), indicate how effective you believe school based probation is in meeting the following objectives for school based probationers. If you are uncertain, circle 0 under the "Don't Know" column.

Objectives	Don't Know	Not Effective	A little Effective	Somewhat Effective	Effective	Very Effective
Decreasing school disciplinary referrals	0	1	2	3	4	5
Decreasing number of days in detention	0	1	2	3	4	5
Decreasing frequency of detention	0	1	2	3	4	5
Decreasing number of days of suspension	0	1	2	3	4	5
Decreasing frequency of suspensions	0	1	2	3	4	5
Decreasing absenteeism	0	1	2	3	4	5
Decreasing tardiness	0	1	2	3	4	5
Decreasing the drop out rate	0	1	2	3	4	5
Reduce recidivism	0	1	2	3	4	5
Reducing the number of out of home placements	0	1	2	3	4	5
Improving academic performance	0	1	2	3	4	5
Increasing the number of positive school reports	0	1	2	3	4	5

12. Are there any other objectives for the probation officer and their case load that have been omitted from the above list and that you feel are important for the probation officer?

13. Using a scale from 1 (Not Effective), indicate how effective you believe school based probation is in meeting the following objectives for the general school population (*students not assigned to school based probation*). If you are uncertain, circle "0" under "Don't Know".

Objectives	Don't know	Not Effective	A little Effective	Somewhat Effective	Effective	Very Effective
Deterring non-probation students from disruptive behaviors	0	1	2	3	4	5
Improving overall school climate	0	1	2	3	4	5

14. Are there any other objectives for the probation officer and the general population that have been omitted from the above list and that you feel are important for the probation officer?

15. Respond to the following statements concerning school based probation in your school

Statements	Yes	No	Don't Know
A written agreement exists between Court and this school district that sets forth the responsibilities of school based probation officers and school staff			
School based probation officers have sufficient contact with relevant school personnel			
Regularly scheduled meetings are held between court administration and school administrations to discuss school based probation program issues			
I would advocate for the continued funding of the school based probation program in this school district			
A school Resources officers also works in this school			

16. Estimate the percentage of work time the school based probation officer(s) spends in your school. Circle the box that applies.

20%	40%	60%	80%	100%

17. Does the probation officer in your school have their own office?

18. Estimate how often to you have contact with the probation officer per week?

19. Who initiates the contact, you ore the probation officer?

20. Describe the quality of your interactions with the school probation officer?

21. The following is a list of the possible duties of school-based probation officers related to youth on their caseloads. Using a scale from 1 (Not important) to 5 (Very Important), please indicate how important each of the duties is to the day-to-day responsibilities of school based probation officers. If you are uncertain, circle 0 under the "Don't Know" column.

Duties	Don't Know	Not Effective	A little Effective	Somewhat Effective	Effective	Very Effective
Develop a supervision plan for each probationer that includes educational goals & objectives	0	1	2	3	4	5
Conduct an orientation for all newly assigned probationers & their parent(s) or guardian(s)	0	1	2	3	4	5
Help probationers obtain services	0	1	2	3	4	5
Set limits & expectations for probationers	0	1	2	3	4	5
Work to reduce probationers in & out of school suspensions, tardiness, absenteeism & drop out rates.	0	1	2	3	4	5
Help to develop alternatives to out of school suspensions	0	1	2	3	4	5
Provide tutoring services for probationers	0	1	2	3	4	5
Promote participation of probationers in school activities	0	1	2	3	4	5
Facilitate re-entry of probationers in school activities	0	1	2	3	4	5
Function as an advocate for probationers	0	1	2	3	4	5
Encourage the involvement of probationers parents or guardians in school activities	0	1	2	3	4	5
Assist school personnel who are making decisions about probationers	0	1	2	3	4	5
Augment the school disciplinary structure	0	1	2	3	4	5
Maintain a chronological record of contacts	0	1	2	3	4	5
Collect relevant data to assess program effectiveness	0	1	2	3	4	5

22. The following is a list of the possible duties of school based probation officers related to the general school population (students not assigned to school based probation). Using a scale from 1 (Not Important) to 5 (Very Important), please indicate how important each of the duties is to the day-to-day responsibilities of school based probation officers. If you are uncertain, circle 0 under "Don't Know".

Duties	Don't Know	Not Effective	A little Effective	Somewhat Effective	Effective	Very Effective
Provide in service training for school officials about probation services & the juvenile justice system	0	1	2	3	4	5
Make presentations in classes about the juvenile justice system	0	1	2	3	4	5
Serve as a liaison (information sources) between school and court	0	1	2	3	4	5
Promote a positive image of the juvenile court	0	1	2	3	4	5
Serve on different school teams	0	1	2	3	4	5
At the request of school, help divert at risk youth from formal juvenile court involvement	0	1	2	3	4	5
Provide a presence / visibility in conjunction with school officials to deter potential conflicts involving the general school population	0	1	2	3	4	5
Promote a drug free & safe school environment	0	1	2	3	4	5
Co-facilitate various support groups	0	1	2	3	4	5
Get involved in school activities	0	1	2	3	4	5
Provide services to students who are NOT under the jurisdiction of the court	0	1	2	3	4	5

23. Using a scale from 1 (Dissatisfied) to 5 (Very Satisfied), indicate your general level of satisfaction with the school based probation program. If you are uncertain, circle 0 under "Don't Know"

Objectives	Don't Know	Dissatisfied	Somewhat Dissatisfied	Somewhat Satisfied	Satisfied	Very Satisfied
Satisfaction with the overall program	0	1	2	3	4	5
Satisfaction with the level of communication between the court and the schools	0	1	2	3	4	5
Satisfaction with perceived positive impact on probationers assigned to school based probation	0	1	2	3	4	5
Satisfaction with perceived positive impact of school based probation on the overall school climate	0	1	2	3	4	5
Satisfaction with services provided by school based probation	0	1	2	3	4	5

24. What do you like most about the school based probation program?

25. What do you like the least about the school based probation program?

26. Identify any outcomes (either positive or negative) of school based probation that were not anticipated.

27. How would you describe a successful student in the SOS program?

28. What do you think is the biggest contributing factor to a juvenile being successful in the school based probation program?

29. If you could improve any aspect of the SOS program what would it be and why?

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