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**The Use of Computer-Based Interventions in Cognitive Behavioral Therapy:
Policy Implications for Violence and Delinquency Prevention in Community Corrections**

by Chad M. Posick

*Masters in Science, Technology, Society/Public Policy
Thesis Submitted in Fulfillment of the Graduate Requirements for the*

*College of Liberal Arts/Public Policy Program at
ROCHESTER INSTITUTE OF TECHNOLOGY*

Rochester, New York

April 2009

Submitted by:

Chad M. Posick	Signature	Date
-----------------------	-----------	------

Accepted by:

Judy L. Porter, Ph.D	Signature	Date
-----------------------------	-----------	------

Faculty Advisor - Department of Criminal Justice, Rochester Institute of Technology

John M. Klofas, Ph.D	Signature	Date
-----------------------------	-----------	------

Thesis Committee Member - Department of Criminal Justice, Rochester Institute of Technology

Samuel C. McQuade, Ph.D	Signature	Date
--------------------------------	-----------	------

Thesis Committee Member – Center for Multidisciplinary Studies, Rochester Institute of Technology

James J. Winebrake, Ph.D	Signature	Date
---------------------------------	-----------	------

Thesis Committee Member - Department of Science, Technology, Society/Public Policy, Rochester Institute of Technology

Franz A. Foltz, Ph.D	Signature	Date
-----------------------------	-----------	------

Graduate Coordinator - Department of Science, Technology, Society/Public Policy, Rochester Institute of Technology

**The Use of Computer-Based Interventions in Cognitive Behavioral Therapy:
Policy Implications for Violence and Delinquency Prevention in Community Corrections**

Author: Chad M. Posick

Thesis Committee Members

Judy L. Porter, Ph.D
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James J. Winebrake, Ph.D

Abstract: This thesis tests the applicability of computer-based cognitive behavioral therapy for building skills that prevent deviancy and delinquency among youth. This is accomplished by first understanding cognitive behavioral therapy through an extensive literature review and then through data analysis of the SMART program which emphasizes anger management and conflict resolution skills using a pre- and post-test questionnaire. This thesis uses the SMART program as a self-administered cognitive behavioral intervention with youth between the ages of 12 and 17 who are on juvenile probation with a juvenile delinquent status. This is an innovative way of using the SMART program from previous studies. Results of this effort reveal that participants exhibited modest improvements from pre-test to post-test, although results were statistically insignificant. However, this thesis finds that there are important applications for computer-based methods of cognitive behavioral therapy in juvenile delinquency prevention which are currently underutilized as exemplified in Monroe County, New York. It is suggested that the local community corrections consider implementing cognitive behavioral programs using an action research model which emphasizes youth, family and community collaboration.

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Background and Literature Review

Introduction

Cognitive behavioral therapy (CBT) is a psychological approach that is often used to treat individuals with behavioral problems or to assist in enhancing existing thinking skills. CBT is designed to influence knowledge, attitudes, decision-making processes and finally behaviors. Behavioral disorders often manifest as social phobias or irrational social behaviors including those that contribute to criminality and delinquency. CBT can also be used as a teaching tool for assisting in the development and/or enhancement of appropriate decision-making and critical thinking skills (Sukhodolsky, Kassinove and Gorman, 2004).

The essence of CBT is to both provide a means of understanding how thought processes in the brain impact the way people feel and what they choose to do in a given situation, and to influence their decision-making in ways that reduce interpersonal/group conflicts leading to violence and crime. In this context, “rational thinking” promotes social norms deemed positive for the majority of people living in society (i.e., consistent with civil behaviors, tolerance and respect for the views and needs of people different from oneself, and compliance with status offenses and adult crime laws). If rational thinking is hindered, people will act on negative cognitions in ways that may be malign and unacceptable by traditional societal standards. In these respects, CBT introduces a causal factor in the prevention of crime and delinquency in society. This model is presented in illustration (Figure 2 - Pathways of Delinquency with CBT Intervention).

Therefore, if it is possible to understand how people think, then it is also possible to modify thinking through therapy in an attempt to improve decision-making and critical thinking skills (NACBT, 2007). This is often accomplished by focusing on several different modes of

delivery such as written assignments, training classes, self-administered programs and role-playing whereby youth act out certain scenarios in a controlled setting which are then critiqued by facilitators of CBT in order to teach appropriate conduct and decision-making processes (TFC, 2002).

Another important facet of CBT is broadening the gamut of options that an individual believes he or she has in response to a certain situation. Many youth, especially youth at-risk of delinquency, have a very limited range of responses to given situations. For example, why do at-risk youth make more violent decisions at higher rates than do their counterparts? Why do at-risk youth grapple with issues such as aggression and anger to a greater extent than their non-violent peers? Such questions are important to ask in order to address thought processes in youth who are at-risk of committing serious criminal activities.

In summation, CBT is an emotion-based therapy where thoughts are believed to cause emotions and corresponding responses. Many macro-level sociological/criminological theory perspectives are not directly addressed by CBT. Rather, the focus is on individual thinking functions in the brain which are seen as the catalyst for emotions and actions. External social environments are not directly addressed by CBT, either. CBT focuses on individual responses and not on larger social structures. However, it is critical to explore the broader theoretical basis for the use of CBT. This is especially so as it pertains to community safety and public policy. This will be the focus of the integrated theory section of the literature review.

Delivery of CBT

The way to successfully deliver effective CBT is by utilizing behavior modification/enhancement tools which restructure the way people think about their personal emotions and situations. To accomplish thought modification, therapists and other facilitators

use modeling, role-playing games, reinforcement, thinking exercises and dilemma games which are administered, or self-administered, to individuals (Hollin et al., 2008). These activities emphasize practicing and revisiting material time and again to ingrain a new thought process into individuals with negative or underdeveloped cognitions who are in need of enhanced thinking skills. Individuals in need of CBT often exhibit negative thinking which manifests from years of learned behavior. Because this behavior is learned, it is therefore also unlearnable or relearnable in new ways. This is achieved through learning new methods of thinking and alternative ways of perceiving the social world. It is about discovering new options and responses to everyday situations (NACBT, 2007; TFC, 2002).

Delivery of CBT can be accomplished by anyone trained in its methods and includes not only medical/psychological professionals but laypersons, as well. Training in CBT is popular among teachers, medical personnel, parents, etc. In fact, the Residency Review Committee (RRC) for Psychiatry of the Accreditation Council on Graduate Medical Education currently requires that all psychiatry programs ensure that their residents display competency in CBT. This is done in an effort to support and spread knowledge in the areas of CBT's application in the field of psychology (Sudak, Beck and Wright, 2003). The RRC is one example among several organizations that stress the importance of CBT training for their staff, recognizing its effectiveness within public service fields.

The innate malleability of CBT allows it to be utilized in myriad different fields and in addressing a multitude of different risk behaviors. Extensive research of CBT has been conducted in medical fields addressing panic, stress and depressive disorders (Newman et al., 1997; Herbelin et al., 2002). It has been shown effective in dispute settlement (Losel and Beelmann, 2003; Resnik, 1998) and criminal rehabilitation (Landenberger and Lipsey, 2005;

Pearson et al., 2003; TFC, 2002). Given the many different applications of CBT in disparate fields, it is often utilized by such organizations as medical institutions (Sudak, Beck, and Wright, 2003), correctional facilities (Wilson, Bouffard, and Mackenzie, 2005), schools and recreation centers (Bosworth, Espelage and BuBay, 1998; Bracy et al., 1999; Resnick, 1998).

Advantages of Computer-Based Cognitive Behavioral Therapy

As discussed, delivering therapy to change thought processes can be done in several different ways. Computer-based cognitive behavioral therapy (CBCBT) has been shown to be effective in the previously mentioned areas and it has been especially effective with youth. Adolescents and young adults are particularly amenable to this approach because it incorporates many of the familiar activities that this demographic finds interesting and comfortable. In today's society, we must consider every possible approach to solving the complex social problems of crime and violence. It is essential to explore science and technology as a salient tool in achieving important goals such as improving mental health and cognitive processes which are just a couple of the criminogenic factors that contribute to delinquent activity.

Newman et al. (1997) conducted comparison research on the use of a palmtop computer-based method of delivering CBT and regular face-to-face CBT. Participants found that using the palmtop computer was easy and accessible in situations where face-to-face meetings would have been difficult, or nearly impossible, given time or location constraints. Both face-to-face and CBCBT therapies showed statistically significant outcomes at post-test. However, at post-test, participants using the palmtop computers were found to have higher levels of satisfaction with the treatment process due to the accessibility of the treatment. Furthermore, the CBCBT group exhibited a lower mortality rate when compared to face-to-face CBT.

Herbelin et al. (2002) found promising results when applying virtual reality methods of CBT to individuals experiencing social anxiety disorder (SAD). SAD is a phobia of several different social situations. The most prevalent SAD's include public speaking and social performing, although many others are less commonly known and studied. These authors state that CBT may be the most effective approach in improving this disorder and thus further considered the use of virtual reality technology as the mode of delivery. This type of virtual reality simulates real-life stress-inducing situations where patients can actually experience stress and actively work to overcome it by using methods learned in CBT sessions. The researchers found that advantages were experienced by the participants using the virtual reality technology. The participants expressed that it created a comfortable simulation in a wide range of different scenarios often unavailable in real world therapy sessions. Because this has been one of the only studies done in the area of virtual reality CBT, they suggest that more research be conducted before conclusive evidence is drawn about the benefits of virtual reality in CBT, despite the many positive outcomes from this particular experiment.

As discussed earlier, CBT can be a useful tool in teaching youth important social and critical thinking skills. Computer-based methods have been used in the classroom to assist educational programs and rehabilitate people with cognitive deficiencies. Bracy et al. (1999) used a sample of 12-14 year-old middle-school students in which an experimental group used CBCBT and a control group did not use CBCBT. The group of students receiving CBT showed statistically significant improvements in all visual-spatial intellectual functioning gauged by the results on an administer aptitude exam containing multiple choice questions testing verbal information, comprehension, arithmetic, similarities and vocabulary. The control group showed no significant improvements at post-test in any of the categories.

The previous studies illustrate the benefits of using a computer-based approach to CBT and why this technology contributes to several positive participant outcomes coupled with satisfaction rates equal to or better than traditional face-to-face methods. What makes CBCBT more utilitarian is that it can be used alongside regular CBT sessions or as an ancillary approach to face-to-face delivery methods.

A study by Chongtay, Hansen and Decker (2006) researched the use of CBCBT alongside *in situ*, or face-to-face, therapy. This hybrid approach allowed those clients who only needed self-guided therapy to complete the program without face-to-face interventions. It also allowed those who needed continued treatment to get that experience by using the computer programs in live sessions and/or in conjunction with a therapist. Because this was both a standalone system and a useable supplementary system, it was found to be very accessible and effective for all participants.

The literature makes a significant argument for the use of CBCBT in a variety of situations. The evidence suggests that technological innovation has had a profound effect on producing efficacious methods of delivering CBT. The tools discussed here have been able to address a plethora of medical and social problems in ways that traditional therapies cannot. These tools have also been shown to be an effective subsidiary or ancillary method to traditional therapy techniques. This is important when it comes to the following sections.

CBT for Violence in Schools

It is unfortunate that violence continues to exist in our nation's schools at all educational levels. However, students attending urban schools are particularly exposed to violence. The National Center for Education Statistics (NCES) reports that 13.9% of all students, grades 9-12, have been in a physical fight on school property. With the exclusion of the 1999 school year, the

highest percentages of students who have experienced physical fighting at school have attended urban schools (includes years 1993-2005). Considering these statistics, CBT may be an important technique in addressing school violence to promote public safety. The following studies, conducted by Molina, Dulmus and Sowers (2005) and Scheckner et al. (2002) investigated the appropriateness and usefulness of CBT for youth at-risk of violence at school.

Molina, Dulmus and Sowers (2005) utilized several interesting and important research findings from previous studies to guide their own research. They reported that the National Center for Injury Prevention and Control (NCIPC) statistics showed that over 400,000 youth between the ages of 10 and 19 were injured as a result of violent acts in the United States (NCIPC, 2004a). This has made school violence not only a local and state concern but one of national importance. Molina and her colleagues stressed that early intervention as a response to alleviate school violence is most promising. The works of Stormont (2002) and White et al. (1990) showed that anti-social behaviors in youth are found to increase over time and add additional evidence that early school-based intervention is a key to violence prevention. The U.S. Surgeon General (2001) reported that children who are violent before the age of 13 are generally believed to be on the path towards career criminality. The risk of violence increases as youth enter their teens and early twenties.

Following in these footsteps, the research conducted by these authors included a review of seven programs shown to be effective in schools in preventing student violence. The most promising results were shown by programs that had cognitive-behavioral components. Participants in these programs showed a reduction in hostile intentions and the use of aggression. The participant group was found to have these same pro-social behaviors at a 1-year follow-up period (Molina, Dulmus and Sowers, 2005).

Similar findings were attributed to cognitive behavioral programs in a meta-analysis conducted by Schreckner et al. (2002). The focus of their study was to determine what programs were in existence in the United States that could effectively address school violence. Like the previous authors, these researchers identified violence as a chronic problem within our schools. They found violence to be a particular problem in public schools which are typically underfunded leading to large classroom sizes, teacher shortages and elevated disparity. Ultimately, this predisposes students to conflict. This phenomenon is typical of the youth being studied in this thesis. Therefore, this study is of paramount importance in this regard.

Studies included in this analysis employed experimental designs and school-based interventions. Strong effect sizes were attributed to both cognitive and cognitive behavioral programs. The authors also stated that computer-based programs are viable tools in addressing school violence (Schreckner et al., 2002).

CBT for Conflict Resolution

Programs and extra-curricular activities have been long explored as ways to teach adolescents non-violent conflict resolution skills and to improve youths' ability to resolve disputes in a peaceful manner by way of rational thinking. Traditionally, this has been achieved through group activities and classroom curricula. However, research on the effectiveness of computer-based methods of violence prevention has become more relevant as technology has improved and become an essential part of many children's everyday lives.

Violence is a prevalent social ill that children have faced throughout history; this is not only a contemporary problem. Research has shown that effective violence prevention tools exist and are integral to achieving safer schools and communities. Computer communication is no longer an ancillary form of interaction between young adults but has become the preferred and

most comfortable forum to discuss plans, feelings, homework, etc. Computer technology is available to most children whether they are at home, school, the library, or at a local recreation center and it provides a safe and comfortable atmosphere to learn and resolve conflicts. Children may be more amenable to learning in this environment than in the traditional classroom.

However, the question remains, “is it effective in reducing violence?”

Two research projects conducted by Bosworth, Espelage and DuBay (1998) and Resnick (1998) are particularly important to this thesis research because they conduct an in-depth examination of Students Managing Anger and Resolution Together (SMART) program and its modules. SMART is a multimedia, computer-based violence-prevention intervention that uses games, simulations, graphics, cartoons, and interactive interviews to engage young adolescents in learning new skills to resolve conflicts without violence. The SMART program is the intervention used in this thesis project which is utilized in a similar but unique way. However, it is critical to consider these evaluations and research studies to gain a better understanding of the previous findings on this program, identify limitations and create new methodologies that will add to the body of knowledge in the area of CBCBT.

Bosworth, Espelage and DuBay (1998) conducted a pilot research project where they sampled 98 seventh graders from a small-sized city middle-school with a diverse socioeconomic population. They were given a four-week period in which they could use the SMART Talk program. This program is the same program that this master’s thesis will utilize in its research. The SMART Talk program is an interactive, multimedia computer program designed to teach youth (ages 11-15 years of age) violence prevention, skills building and conflict resolution techniques. The crux of the program is the use of modules in providing information that is visual

in nature. The program also provides tools, such as the “Talking it Out” module, which are designed to facilitate the resolution of real world conflicts.

In Bosworth et al. (1998) 55% of the sample was female and 45% was male. Ninety percent was white, 6% was black, 3% was Hispanic and 1% was categorized as “other.” The sample was given a pre-test about teen conflict (n=98). After the 4-week pilot, 83% (n=81) completed a post-test. Dependent variables that were included in the design were: knowledge, self-knowledge, pro-social behavior, confidence, intentions, trouble behavior and computer use. Surveys were used to address students’ knowledge of these different areas and their personal experience with them.

Chi-squared (X^2) tests were used to analyze the difference between correct answers on the pre-test and those correct on the post-test. Paired t-tests were conducted at the 0.01 significance level to analyze the difference on the dependent variables. Significant positive outcomes were found on all dependent variables with the exception of “confidence.” Knowledge about violence and dispute settlement increased, pro-social behavior improved, intentions to use non-violent behavior increased, trouble behavior decreased and perceptions of the program were very favorable.

“Talking It Out” is one module of the SMART Talk computer program. Whereas Bosworth et al. (1998) examined the entire program, Resnick (1998) specifically considered the “Talking It Out” module in-depth using a pilot study. Although this module of SMART is not used in this thesis, it is relevant to review this piece given its application to conflict resolution using CBCBT.

Youth in their early adolescence are drawn to media-based learning. The fast paced energy seen in today’s interactive media serves as a starting point in teaching youth the value of

non-violent conflict resolution techniques in a manner that is familiar for that target age group. The “Talking It Out” module allows two or more individuals involved in a dispute to sit down and resolve their conflict with the use of an interactive computer program. Each user is able to type their stories, verify any parts that are unclear, discuss their thoughts and feelings, generate solutions to resolve the conflict and finally create a printed contract that outlines the solution agreements (Resnick, 1998).

Resnick (1998) examined one particular case where participants used the “Talking It Out” program and evaluated more generally the aggregate outcomes from 15 others. Therefore, the study included 16 total cases (32 individuals) where two people had a dispute. The pairs included both males and females. Some cases involved a dispute among a male and female. The paper focuses on one case study in particular between two girls who were former friends before the conflict and rekindled their relationship after solving their dispute through “Talking It Out”.

This case study, and the other 15 cases, has been used to strengthen the case for using this program as a serious approach to resolving youth conflict. It has also shown to be important in skills building. Interviews with those who used the program reported that the youth universally preferred the computer-based methods over live mediation (Resnick, 1998).

The youth had overall positive experiences with the program and stated that they liked the independence it provided for solving their own conflicts. They thought that it did not place a constraint on their time which would hinder their discussion possibilities or make them feel uncomfortable. The kids also stated that it provided a neutral atmosphere to solve problems without one person dominating the entire conversation. In sum, the research suggests that the “Talking It Out” module can be an essential tool in facilitating dispute settlement and educating youth on non-violent conflict resolution techniques (Resnick, 1998).

The ANNALS of the *American Academy of Political and Social Science* released a publication in 2003 which addressed the effects of skills training in preventing anti-social behavior. The extent of their reviews included 851 documents and 84 reports involving 16,723 treated and untreated youth. They reported that anti-social behavior is a frequent problem among youth and early existence of those behaviors often accurately predicts criminal behavior later in life. The authors suggest that the majority of the literature has found that skills building have had promising effects on addressing antisocial behavior. Particularly, inadequate social problem solving skills, deviant beliefs and lack of pro-social attitudes are prevalent areas of antisocial behavior that are often countered with the use of skills building techniques (Losel and Beelmann, 2003). This thesis will build upon this literature and further examine skills building among youth in these developmental areas.

CBT for Anger and Anti-Social Behavior

Another meta-analysis of CBT was conducted by Beck and Fernandez (1998) which specifically looked at the impact of CBT on anger. The results of their analysis were quite astounding. They found a mean effect size of 0.70 which indicated that those who participated in CBT experienced average anger reductions of 76% more than an untreated sample. These statistically significant and robust conclusions also incorporated a body of literature that included unpublished studies. This was an effort to limit the “file drawer” problem. The “file drawer” problem is the tendency of publishers to not publish studies that find no effect of an intervention or studies that don’t produce statistically significant results. Obviously this skews the body of extant literature in favor of interventions and severely limits the power of meta-analyses that only use published material. The authors conclude that CBT has general utility in the clinical

management of anger and is a very effective intervention, particularly when coupled with other programs or services.

A more recent meta-analysis focusing on the effects of CBT on anger in children and adolescents has been conducted by Sukhodolsky, Kassinove and Gorman (2004). These authors addressed the “file drawer” problem as well and included published and unpublished articles all of which included anger as an outcome variable. These authors found a mean effect size of 0.67. This almost mirrors that found by Beck and Fernandez (1998). In addition, those interventions that were multimodal were found to be the most effective in reducing anger and improving social skills.

CBT for Crime, Violence and Delinquency

Many studies have been conducted and much literature has been reviewed investigating the impact of CBT on recidivism of criminal offenders (Landenberger and Lipsey, 2005; Pearson, et al., 2002; Wilson, Bouffard and Mackenzie, 2005). This literature is pertinent to this thesis given the youth offenders being studied. This thesis will contribute to evidence describing the extent to which CBT can achieve behavior modification among those individuals who partake in treatment. Particularly useful are the several meta-analyses conducted which compare heterogeneous programs across many disparate geographical areas and time periods. Some of this material is reviewed here.

Pearson et al. (2002) has probably taken the most comprehensive approach to studying the effects of behavior/cognitive behavioral programs on offender recidivism. The authors’ meta-analysis included 69 research studies between the years of 1968 and 1996 which examined the effectiveness of behavioral programs on the recidivism of offenders. They found that only two interventions had significant effects on recidivism; community-based interventions and

cognitive treatment. Most of the significant outcomes were attributed to cognitive behavioral interventions. These interventions were associated with a mean recidivism reduction of about 30%. They also found that cognitive programs were more than twice as effective as non-cognitive programs. This thesis uses CBT as an intervention within community corrections in an effort to combine these two programmatic components for the most effective intervention.

Similar, albeit somewhat less favorable, results were found from a meta-analysis conducted by Landenberger and Lipsey (2005) which included 58 experimental and quasi-experimental studies exploring the effects of CBT on offender recidivism. Overall, CBT was consistently associated with significant positive effects on recidivism. The authors' major findings indicated that the most significant decreases in recidivism were attributed to treatment of high risk offenders, high quality treatment implementation and CBT that incorporated anger control and problem solving but not victim impact or behavior modification components.

Polacheck et al. (2005) focused their research on adult high-risk violent offenders. They found that their sample of individuals convicted of violent offences were significantly less likely to commit a new offense. Those who did commit a new offense did so after a longer period of time following the program. A 12% difference was found for program completers when looking at non-violent reconvictions and re-imprisonment. Their analysis, while in favor of CBT, showed that most treated and non-treated offenders committed some new offense after their participation in the study. This confirms the literature on the risk of recidivism of this specific population. Their analysis is an important piece to consider because it lends insight into the benefits of using CBT with high-risk offenders. This thesis attempts to focus on medium to high-risk offenders on juvenile probation and will add to the knowledge of CBT use with high-risk populations of offenders.

Wilson, Bouffard and Mackenzie (2005) have completed a meta-analysis composed of 31 documents reviewing the results of 20 distinct studies. The authors' research was intended to investigate the positive results of CBT on recidivism suggested by previous meta-analyses. They found that their analysis resounded that of previous research. The author's determined that 20% of the studies were "true" experimental designs. Those studies offered the strongest support of CBT. They also deemed 35% of the research documents to be high-quality quasi-experiments which were also shown to report positive effects of the CBT.

Most recently, reconviction analysis was completed on offenders who completed a CBT program by Hollin et al. (2005). Hollin and his colleagues focused on offenders under community-based probation supervision. They concluded that significant positive results were found in reconviction of offenders who completed the program. Those who completed the program had significantly lower reconviction rates when compared to those in the control group. Furthermore, the researchers found substantial differences in the completer group when compared to groups of non-starters and non-completers. The methodology section will briefly discuss the "completer effect" and discuss its particular importance in this thesis.

After conducting this thorough review of the literature, evidence suggests that CBT is a very useful and effective method in achieving behavioral modification. The significant effects on anti-social behavior coupled with the ability of CBT to deliver positive outcomes in skills building, make it attractive in myriad fields and in improving mental health in particular. This literature provides a sound basis for CBT implementation and suggests various models which can be used as guiding tools for conducting further research in this arena.

Best Practices in Offender Rehabilitation and Delinquency Prevention

Extensive literature currently exists on what works in correctional treatment. This body of literature has grown and become more in-depth as statistical analysis has improved. Research on what works is important when considering what programs to implement, where to implement them and to what population they should be directed. However, this literature has not always been cut-and-dry and has had a long history throughout the past several decades. This body of knowledge has not always been based on research and sound analysis but rather on what Tonry (2008) has called “moral panics” and what Sacco (2007) calls a “crime wave.” Here, the prevailing zeitgeist, instead of data, dictates policy. This has led to much “bad” policy. This bad policy has been shown through the decades to not work in reducing violent crime and offender recidivism. One such example is the “three strikes law”, which does not reduce violent crime but was enacted in response to a heinous crime committed by a repeat offender. While knee-jerk policy may be well-intentioned, or worse politically motivated, it does not necessarily mean it is “good,” as in effective, policy.

When formulating the infrastructure for this master’s thesis, many programs were considered for implementation in an effort to address violence among at-risk youth. A preliminary review of the literature suggested that CBT held the most promise when working with juveniles at-risk for committing and being the victims of violence. Therefore, the basis of this thesis was founded on an amalgamation of “what works” literature.

The outlook on juvenile correctional programs was not always so optimistic. Martinson (1974) famously wrote “What Works: Questions and Answers about Prison Reform” where he concluded that nothing in offender rehabilitation “worked.” His conclusion was that programs focused on offender treatment and rehabilitation were largely ineffective and, in fact, did not

work in reducing reoffending. His claim was widely accepted at the time and his conclusions guided policy away from offender treatment towards the more punitive criminal justice system based on sanctioning and controlling offenders that we have today. Whether or not this was the original intention, it nevertheless guided policy in this direction. The effects of mass incarceration with little intervention are still felt today.

A more accurate portrayal of offender rehabilitation which refutes much of Martinson's earlier work has been envisaged by Cullen and Gendreau (2001). They have urged criminologists to not only establish the traditional "what doesn't work" body of literature but rather a "what works" body which seeks knowledge construction rather than destruction. The authors claim that Martinson's (1974) work was well received in the collective mindset of the time which was marked by weariness of government intrusion in the lives of citizens and the belief that government-based rehabilitation would never work because of the inherent coercive nature of the criminal justice system. Unfortunately, this led to policy based on negative feelings towards the government instead of sound data and research. The authors warn against this approach and favor scientific criminology which aims to construct policy premised on rigorous scientific analysis.

Another major reason why Martinson, among others, wrongfully concluded that nothing works is that they have based their conclusion on analysis that lacked scientific rigor or have placed over-reliance on scientific rigor at the expense of the exclusion of important scholarly studies. The latter was Martinson's flaw leading him to conclude that little evidence suggests that offender rehabilitation works. Contrary to Martinson, research has since concluded that many offender rehabilitation programs do work and can be effective for certain people. This body of literature finds that different programs work for different individuals and these can be

identified through scientific evaluation and research. As knowledge increases and methodologies become more refined, we learn more and more about effective programs (Sherman et. al, 1998).

CBT is one program among a handful of interventions for offenders that have been shown through scientific research to be effective in reducing recidivism and increasing positive cognitive functioning. In his review of what works in youth violence prevention, Cornell (1999) outlines several interventions that do not work in youth violence prevention (ie- bootcamps, drug education) and several that do work (ie- cognitive behavioral therapy, family counseling and preschool programs). Perhaps the most important conclusion of his work is that no one intervention is *always* effective and not all effective programs work for *everyone*. More accurately, several programs work for many individuals and programs are even more likely to succeed when they are implemented according to the literature of “best practices.”

According to contemporary criminological research and overarching belief, interventions do work. The question remains, why do they work and what can be done to increase the chance of a program succeeding? A substantial body of literature has established “best practices” to answer this question. Best practices are strategies on how to develop successful programs according to what has been successful elsewhere under similar conditions. In the case of this thesis, we will briefly explore the best practices literature on implementing CBT programs.

Dowden and Andrews (1999) conducted a meta-analysis that has been widely referenced in the CBT literature and has influenced the direction of this research in the 21st century. Their meta-analysis focused on scientific research surrounding the principals of human service, risk, need and responsivity. Their analysis showed that CBT programs that focused on high risk offenders, included a human service component and focused on criminogenic needs (ie-

anger/anti-social feelings/peers, self-control, family supervision, etc.) were most successful and were effective for young offender populations.

In his presentation of what works and what doesn't work in reducing recidivism, Latessa (2007) focused on the literature of best practices in CBT and builds on the work of Dowden and Andrews (1999). Latessa showed that treatment models are much more effective than sanctioning models. In fact, sanctioning models do more harm than good and have been shown in many cases to increase recidivism. Furthermore, while concentrating on risk, need and treatment, CBT programs must further refine their approach. Effective CBT programs will treat high-risk offenders and provide the most intensive treatment to the highest-risk offenders. However, CBT must avoid this intensity with low-risk offenders as this has been shown to increase recidivism. Programs that focus on three or less criminogenic needs have been shown to increase recidivism and those that focus on four or more have been shown to have a three percent reduction in recidivism. Lastly, programs must sustain fidelity throughout the program. In other words, it must stay true to its purpose from inception through termination.

A year after Dowden and Andrews (1999) reviewed the appropriate literature on youth violence prevention, Leschied (2000) reviewed what works with young offenders. While the author's conclusions about CBT programs echoed much of the previous literature, this author provided further insight into the need for process evaluation, accurate assessment, staff training, client monitoring and outcome evaluation. Leschied also makes the case for community-based interventions as they have been shown to be most effective with youth because the youth can then be linked to services within the community. Leschied concludes that these components are essential in effective programs and should be the centerpiece in youth violence prevention programs.

Juvenile Probation in CBT Delivery

This review of what works in offender rehabilitation and best practices in offender intervention has been a guiding force for this thesis. After all, if we do not adhere to these standards as best we can, there would be no reason to implement a program for youth offenders which has been shown to be ineffective or harmful, both for research and moral purposes. Therefore, it was chosen to evaluate a CBCBT program using a sample of young offender participants who are currently under juvenile probation supervision. We know that CBT and CBCBT have been shown to be effective with this population and this chapter will discuss the importance of involving juvenile probation in that process.

Several reasons exist to why probation, particularly juvenile probation, can be an effective agent in delivering CBT. Juvenile probation can adequately meet several key factors which contribute to the success of CBT in countering delinquent activity. These factors, outlined in the literature, have been shown to be essential in CBT intervention programs. These factors include: 1) a focus on high-risk offenders; 2) a focus on criminogenic needs; 3) an appropriate dosage; 4) coupling of CBT with other intervention; and 5) program integrity (Dowden and Andrews, 1999; Leschied, 2000; Latessa, 2007). Probation departments that are well supervised, have appropriately trained staff and include programs focused on criminogenic needs are an essential resource needed to accomplish successful CBT and CBCBT.

Juvenile probation is often considered the cornerstone of the juvenile justice system (Kurlycheck, Torbet and Bozynski, 1999). The Monroe County Department of Juvenile Probation has approximately 250 juvenile delinquency cases at a given point in time and a normal caseload for a juvenile probation officer is over 40 cases. Intensive supervision caseload are considerably smaller (around 10-15). Given the amount of supervision needed in these cases,

even the smaller caseload is understandably overwhelming. Undoubtedly, accountability is an important issue. This also shows that program integrity is of utmost importance and the check on accountability must be maximized.

While several organizations may have the resources and expertise to ensure proper use and maintenance of CBT programs, local community corrections agencies may be the best place to ensure that the several elements of successful CBT are met, that links to the community exist and that accountability is established. Juvenile probation has the potential to ensure accountability and affect decision-making processes at every level of the juvenile justice process (Kurlychek, Torbet and Bozynski, 1999).

Furthermore, another reason juvenile probation and other larger organizations with necessary resources may be the most appropriate to deliver CBT programs is the need to combine several services aimed at the same population. Huizinga, Loeber and Thornberry (1994) researched at-risk youth and found that delinquent juveniles are very often found to engage in multiple compounding risky behaviors. Delinquent juveniles are very likely to have substance abuse problems, have learning disabilities, engage in risky sexual behavior and associate with other delinquent peers. Certainly the case can be made that well established organizations with a wide resource base is most appropriate to deal with delinquent juveniles with such a laundry list of risky behaviors and personal needs.

Inclusion of Family in CBT Intervention

An important facet of CBCBT is the inclusion of the family in intervention. It would stand to reason that youth who learn new anger management and dispute resolution techniques would retain those skills longer if their family members promoted and facilitated their application. Conversely, it is also likely that if family members promoted aggressive or violent

responses to situations that the youth would revert back to violent decision-making after their CBCBT intervention. Involving parents as partners in developing pro-social behaviors in youth has been found to have a facilitating effect on the process and its ultimate success (Walker et al., 1998).

It has also been shown that negative family phenomena such as coercion and lack of positive social support are contributors to criminal and delinquent activity. Family coercion in the form of punitive punishment, physical attacks, teasing, humiliation and other physical or non-physical coercion are primary sources of delinquent activity (Snyder and Patterson, 1987). It is unlikely that cognitive behavioral programs will succeed if they are constantly competing with coercion within the family.

Likewise, pro-social support can assist youth in achieving both instrumental and expressive needs which prevent crime. Families which provide avenues for personal and spiritual growth (expressive needs) and financial support (instrumental needs) are more likely to abstain from criminal activity (Cullen, 1994). Cognitive behavioral therapy programs would work best for youth who are positively influenced by their family. Very often this is not the case. Effective programs will look to affecting both the individual and their families and perhaps whole communities.

It is evident through research that crime is a holistic and persistent family problem. Wolfgang, Figlio and Sellin (1979) found that 6% of delinquents commit more than half of all violent crimes. This has been of great interest to criminologists. If this relatively small population can be rehabilitated, or suppressed, you can imagine the impact that it would have on decreasing violent crime. West and Farrington (1977) found a less widely proclaimed result from their earlier research which stated that fewer than 5% of families account for almost half of

all violent crime. Undoubtedly this shows that violence is a chronic problem found within families. In other words, to truly make a profound impact on decreasing violence, families must be a centerpiece in intervention.

It is a limitation of this study that this phenomenon is not more closely addressed. Family members will be offered the chance to partake in the CBCBT program at some point after the evaluation but it is not a focal point of this research. Future research and programming is anticipated to incorporate families to a greater extent.

Explaining Crime and Delinquency Through an Integrated Theory Model

As the saying goes, “if you don’t understand the problem, you can’t fix the problem.” For several centuries sociologists and other academics have been interested in crafting theories to better understand the social world. One can recall Lombroso’s criminal man, phrenology, atavism and many other early theories which have become historical building blocks for modern theory but have not held much credence in contemporary criminology. If criminology has answered only one query, it has been that there is no single all encompassing theory to accurately explain the onset, continuance and desistance of criminal activity. This is evident in recent work and through the proliferation of integrated theories. This thesis will explore an integrated theory to help explain, at least in part, delinquent behavior in juveniles and help construct appropriate policy suggestions to ameliorate these behaviors.

In CBT’s efforts to address thinking in the lives of juveniles one must first look to the acquisition and retention of delinquent behaviors. How or why does one juvenile acquire delinquent behaviors while another does not? What factors contribute to a path of conformity or a path of delinquency? Why does one juvenile desist from criminal behavior while another continues? These are key questions in which criminologists have searched for answers. These

are also the very questions that need to be investigated in this research in order to address crucial policy concerns and formulate appropriate responses to address youth with at-risk behavior using CBT as the basis for intervention.

Criminologist Ronald L. Akers (2009) has provided perhaps the most comprehensive theory for understanding the acquisition of behaviors and delinquent life paths through the development of social learning theory. Akers's theory is an integration of his own research and modification of the late Edwin H. Sutherland and Ronald R. Cressey's (1960) earlier theory of differential association. Akers expands on differential association theory which previously outlined nine propositions of criminal behavior. These propositions combine to suggest that criminal behavior is learned through social groups and is especially learned through intimate relationships with friends, family and others who act in delinquent or criminal ways. Sutherland and Cressey (1960) state that attitudes develop which are either favorable to law abiding or law violating. They believe that all the mechanisms with which an individual learns non-criminal behavior are also used to learn criminal behavior.

Akers (2009) takes this approach a step further to more fully understand the learning mechanisms for conformity or non-conformity of acceptable social standards. Akers adds a broader context for understanding behavioral acquisition, retention and cessation which is important for this type of study. He believes that learning mechanisms are both social and non-social. For instance, television, video games and computers change the context of social environments and contribute to learned behavior. This was largely overlooked by Sutherland and Cressey (1960), albeit, in their defense, this may not have been as prominent an issue as it is today. This has particular implications for this study in that technological innovations are facilitators in both positive and negative socialization.

It would be incomplete to discuss Akers's along with Sutherland and Cressey's contributions to criminological theory without discussing the earlier foundational works of French theorist Gabriel Tarde (1903). Tarde's work set the stage for contemporary theory in differential association and social learning in his theory formulation in "Laws of Imitation." This piece not only laid the infrastructure for modern theory but is particularly relevant to this Master's thesis and serves as a theoretical basis for cognitive behavioral intervention for delinquent juveniles.

Tarde (1903) discusses three propositions in his laws of imitation theory. First, imitation operates top down. Here, the poor imitate the rich, the unpopular imitate the popular, etc. One could extrapolate that on the street where younger kids imitate older teens or adults. Second, individuals will imitate those who are close to them. Family members and close friends will have more of an effect on someone who seeks to imitate them than a distant relative or acquaintance. The gang or "crew" mentality where members adopt a "family-like" relationship can be described by this type of imitation. Lastly, behaviors tend to be replaced or modified over time by more modern behaviors. We can see this in today's style of music, clothes, etc. However, these behaviors ultimately will pop up again and again but in a different fashion. These laws that Tarde discusses lend significant insight into street culture where it is evident that delinquent behaviors are learned through imitation of close relatives and good friends. Often it is the youth who are imitating those older than themselves.

While Akers, Sutherland and Cressey, and Tarde give a social view of how individuals acquire criminal behaviors and factors which either exacerbate or prevent these behaviors, their theories do not concentrate on disparities in the context of social ecology and the onset of delinquent behavior. For instance, why are urban neighborhoods more plagued by crime than

suburban neighborhoods? Are “city kids” inherently more criminal than suburban kids? Several theories attempt to answer these questions. Since this thesis research focuses on juveniles under the supervision of the Monroe County Probation Department, we are dealing with mostly young black males from the inner city of Rochester, New York. If we do not understand our population, understand the city environment and the agencies of supervision and enforcement within this geographic location, we cannot even begin to comprehend the problem, let alone establish policies to benefit the community.

Two theorists stand out among several who describe the inner city phenomena which contribute to criminal activity. Robert J. Sampson and William Julius Wilson (2006) theorize that youth culture located in inner-cities is often contained and isolated from mainstream culture. Disadvantaged communities are segregated in almost every facet of life; schools, housing, recreation centers, etc. Sampson and Wilson describe this in terms of a cognitive landscape. These landscapes are barren of any semblance of culture outside their neighborhood or local community. The inhabitants adapt norms that are specific to the communities of the inner city where they reside. While few individuals even in the most hardened and toughest neighborhoods consider violence an ideal solution to deal with problems, they are often limited in their response to solving conflicts and espouse the options which are most commonly used amongst their peers. Sampson and Wilson do not believe, and neither do I, that cognitive landscapes are a product of inherently “bad kids” but rather the culmination of decades of discrimination, racism and politically driven inequality which has segregated a substantial portion of the population unable to move outside of inner city neighborhoods (Sampson and Wilson, 2006).

This has spawned a culture that is apt to resort to violence to solve problems because conventional solutions (i.e. the police) are not a part of their repertoire of conflict management

techniques. The perpetuation of self-governance in these communities has led a part of the population to establish a counter-culture that is certainly more susceptible to violence given the actual and perceived disparities in access to viable and life enhancing opportunities. In the absence of positive social capital, individuals in these isolated areas have largely turned away from mainstream ideals. Instead, the individuals have developed what sociologist Elijah Anderson (1999) has coined a “code of the street.” The code is an unspoken set of “rules” or codes of conduct with which those of inner city culture ascribe to. For instance, commanding street respect, acting tough, not being cooperative with authorities and the “no snitching” mentality are all part of a code of the street (Anderson, 1999). However, some research has also found that this code may not be as honored as previously thought and instead many individuals will break this code or “bend the code” in certain situations if they are caught by the authorities (Rosenfeld, Jacobs and Wright, 2003).

The code of the street theory has been criticized by opponents for being largely anecdotal and not empirical. Most of Anderson’s accounts have not included statistical analysis using scientific methodology. However, Brezina et al., (2004) used a quantitative review of research and applied quantitative methods to assess the validity of Anderson’s claims. They found that significant evidence exists to substantiate the code of the street and that it is a valuable theory in the study of crime and criminality.

One piece must be added to formulate the integrated theory that this thesis seeks to consider in order to fully understand the problem and construct meaningful policy. I have had the opportunity to discuss at length the assessments done on the juveniles that come through the juvenile justice system in Rochester. These officers, and other qualified workers, repeat consistently that these probationers are “good kids.” These youth know the realities in which

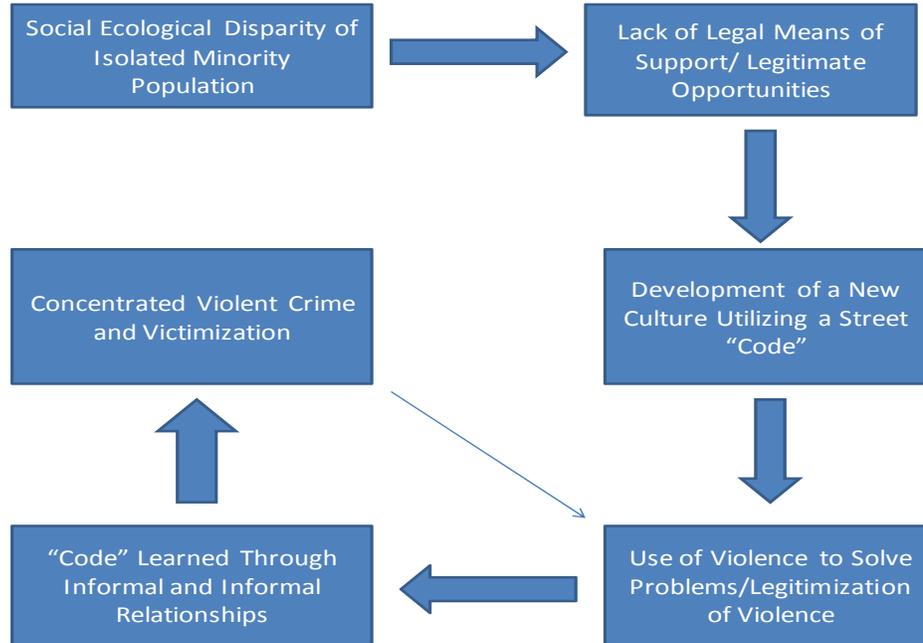
they live and at minimum know appropriate conventional conduct. While some may buy into and adhere to a “code of the street” mentality or have been indoctrinated into the “acting tough” mindset, they know that their behavior is, in part, wrong. However, most believe that their behavior is reasonable, justifiable and even unavoidable in certain situations. Almost all behavior can be justified, even when these responding behaviors are ludicrous to outsiders.

Sykes and Matza (1957) offer their theory which incorporates “techniques of neutralization” to help describe this phenomenon. Techniques of neutralization describe a process whereby offenders (for matters of this thesis we will discuss this theory as it pertains to offending and delinquent behavior) justify their actions through excuses which rationalize their behavior. While individuals may use these excuses to justify crime and other delinquent behaviors they may not completely ascribe to a counterculture of menacing attitudes and/or beliefs. Instead, they may have espoused a set of “subterranean values” that rationalize certain behaviors which are deviant from conventional norms. For example, an individual who assaults another person may justify that by saying that it was in response to an insult that had disrespected them and if they were to “let it go” they would be looked at as a wimp. A kid who steals from a wealthy person may justify this behavior by stating that the victim was rich and therefore would not miss the stolen property and that they need it more or deserve it more. In almost any situation, a justification can be made to excuse the behavior. With at-risk youth from inner-city streets these justifications are seen as rational and the key to changing this line of behavior is to change the way people think about their circumstances and their responses to these situations.

While theory is unable to deliver a promise of total inclusivity, it does provide a strong basis for research. In this thesis, we will use Sampson and Wilsons (2006) race, crime and urban

inequality to help understand the onset of criminal behavior through the disparities of opportunities driven by institutionalized racism and political agendas that lead to criminal behavior. In turn, we can see the development of a parallel culture that lives by a seemingly different “code” described by Anderson (1999). Through Akers’s social learning theory (2009) the perpetuation of this code and set of rules is handed down through generations. This behavior is often justified among those who participate in delinquent acts through techniques of neutralization (Sykes and Matza, 1957). In fact, the notion of rationalization of delinquent behavior is central to Sutherland’s (1947) fourth proposition of differential association which states that, “criminal behavior is learned including... the specific direction of motives, drives rationalizations and attitudes.” Clearly this relates to the thesis of Sykes and Matza who expand on this proposition. As such, this is modeled in the following illustration which attempts to demonstrate the pathway of delinquent behavior through a theoretical process. While this theory is not tested here, future pathway analysis would strengthen this approach and is urged for future study. The pathway is illustrated in figure 1.

Figure 1 - Pathway of Delinquency

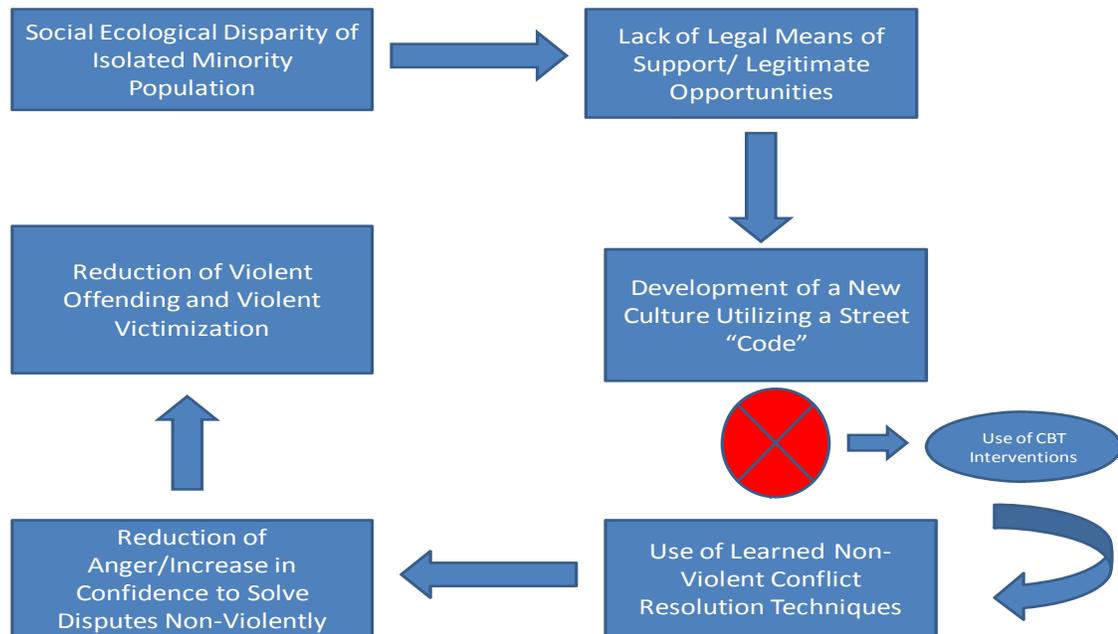


The picture that remains from this philosophy may be a bleak one indeed. How does one go about changing a culture? Many of the probation officers that I have talked with are hopeful for change but are realistic of the existing difficulties of changing such an instilled culture. However, all is not in vain. CBT may be a very viable option to change negative thinking and affect the behavior of youth engulfed in this system of thought. Undeniably, this cannot be the only intervention. When CBT is coupled with other interventions that are available through the Probation Department there is hope for real success. The CBCBT intervention is intended to interrupt this delinquent pathway and intervene for positive change.

Akers (forthcoming) argues that “nothing is as practical as good theory.” The efforts of his work establish the importance of relating good theory to policy and identifying the inextricable link between the two. Furthermore, he elaborates on the importance of CBT as it relates to his theory of social learning. Figure 2 models the pathway of delinquent acquisition

(as seen in Figure 1) but introduces the CBCBT intervention. This is an effort to model theory with a policy intervention as Akers would suggest.

Figure 2 - Pathways of Delinquency with CBT Intervention



The foundation for this thesis was set by considering which theories most accurately depict and describe the population of study therefore setting the stage for the most appropriate policy response. Good theory will be testable, logical and guide policy. The objective is that this integrated theory will guide our research questions and policy considerations.

Escaping the Ivory Tower: Applications for an Action Research Model

Sometimes in the process of conducting research which attempts to answer a set of proposed research questions using sound methodology, researchers remove themselves from the practical applications of their work. While important, statistical rigorousness and advanced methodologies can only achieve success in answering questions with validity and generalizability but often fall short of producing real social change. If research is to live up to

the high expectations of catalyzing change, producing substantive and meaningful results, and guiding policy and practice to improve our society, then we must focus on applying that knowledge in a productive way. The truth is that research really can make a difference. The challenge is how.

Conducting research is hard enough but getting it implemented sometimes seems unattainable. Inflexible systems and adamant minds are hard to change but data-driven decision-making has been making great strides in almost every facet of criminal justice from policing and prosecution (Klofas, Hipple and McGarrell, forthcoming) to violence prevention. Action research provides a model whereby researchers and practitioners work together to solve complex and multifaceted social problems. This model integrates research and practice. Traditionally, research has looked at producing generalizable results. Action research intends to provide locally specific explanations which are tailored to the needs of particular communities. The researcher is a catalyst and stimulus for change through a symbiotic relationship with practitioners and does not impose their own agenda for change (Stringer, 2007).

Action research is not intended to be less “scientific” but instead seeks to incorporate many diverse actors into the analysis process. In fact, action research is seen to be a very valid and potent research method. It can be an integral model for testing and proving a multitude of different theories and functions. It is also a tool for providing a constant feedback loop between stakeholders in the many different stages of designing, implementing and evaluating policy. This process facilitates organizational change and improvement (Stojkovic et al., 2003).

Action research is accomplished through three elements: research, action and participation. All three components are necessary. The research is conducted and action is taken according to the implications of the results in an effort to promote social change. This provides a

mechanism for a continual feedback loop for improving programs. The key variable is participation. All necessary stakeholders need to be present in deciding the course of action. This is in an effort to provide communities with the tools and information to direct their own destinies (Greenwood and Levin, 1998). The focus is on a process which should strive to be democratic, equitable, liberating and life enhancing (Stringer, 2007).

The action research model is becoming more relevant as changes in the criminal justice system begin to solidify. Today we have a system much different than the linear model presented by the President's Crime Commission in 1967. Today, we have a system of interrelated parts, often working together to achieve justice related outcomes. Klofas, Hipple and McGarrell (Forthcoming) have called this "the new criminal justice." In the new criminal justice, separate factions of the criminal justice system collaborate with one other, and with academics, to achieve system related outcomes. There is an emphasis on research and analysis in this model. In the past, research has taken a backseat to strict law enforcement with much less data-driven strategy. There is no doubt that this setting is rich for the inclusiveness of action research.

The goal of this research is to apply qualitative and quantitative methods to analyze the effectiveness of the SMART program in knowledge of anger management and conflict resolution techniques. The results will allow us to make policy suggestions to practitioners in the field and specifically to the Monroe County Probation Department. Traditional research would stop there. However, our focus is to work with and alongside practitioners and policy-makers in developing and implementing their programs. This is the benefit of using an action research model where we will be able to both advise policy and be an active partner in shaping it.

CBCBT as a Technology Policy Issue

With the continuously expanding worldwide population using technology as a means of communication and information sharing, technology can prove to be a useful avenue in delivering programs focused on public safety and violence prevention. Today, almost everyone uses some facet of technology in their everyday life. Whether this is the use of a simple utensil or the use of complex computing software, we all experience the ubiquity of technological innovation. This is particularly evident in youth and adolescents. Communication between youth peers is primarily through technological means such as text messaging, instant messaging, emailing and cell phones. It is not uncommon among this younger demographic to use text messaging on cell phones as a primary form of communication while face-to-face meetings or traditional phone conversations are secondary or even tertiary. This phenomenon lends itself useful in identifying comfortable yet effective approaches for CBT intervention among this population.

Given the extensive use of this relatively new technology, computer-based methods of delivering cognitive behavioral therapy have been shown to be readily accepted by this demographic. If we have this technology, and it is available, we should utilize every tool possible to assist in the efforts of improving public safety and increasing delinquency prevention.

It would be an oversight to not also consider the potential harms that technology has engendered throughout its proliferation. Often, technology can exacerbate conflict by providing an anonymous forum for communication and information sharing. McQuade (2006) cautions that computers and other electronic devices can be used to harass and threaten victims. These are often typical forms of cyberbullying and cybercrime. Computers have facilitated this type of misuse and abuse which has led to harmful impacts on victims and several negative implications

on society. This study will employ careful supervision of youth by the researchers as well as the probation officers to prevent any form of cyberbullying or harassment from occurring.

Governments Role in Supporting CBT

It would be a difficult claim to make that CBT is not a concern of policymakers. It's implications on public safety and mental health make this issue paramount to public policy and the general well being of communities. The federal, state and local governments all have an important role to play in this type of policy but there are very salient concerns for local businesses and private organizations as well. There is very little question that this is a policy concern but the real questions remain as to where in government this intervention is most appropriately sponsored and which model is most effective.

Peter Greenwood (2006) offers an extensive discussion in his recent publication on delinquency prevention as crime control policy that lends insight as to what arm of government is most appropriate in addressing and supporting specific forms of crime control policy. Greenwood states that three branches of federal-level programming are essential in delinquency prevention: the Department of Justice (DOJ), Department Health and Human Service (HHS) and Department of Education (DOE). It is my point of view that these three departments each play different but equally important roles in funding delinquency prevention programs. This section will outline why these governmental arms should take part in CBT as violence prevention and briefly discuss why state and local governments also have a stake in CBT programs and, more broadly, in delinquency prevention in general.

This section will consider the role of the federal, state and local governments in funding CBT and research. While each have a different role to play, the essence of sustainability and effectiveness relies in a real collaboration of efforts. The most appropriate model will

incorporate each level of government in a variety of ways. The federal government will be discussed first. Each of the three previously mentioned divisions will be touched upon.

It is in order that a justification is offered for the claim that CBT in delinquency prevention rests upon the education and health arms of government and not primarily upon the justice arm. Should a justice department take primary responsibility for implementing and funding a crime prevention program? The answer is not entirely. CBT and CBCBT intervention should especially exist within a therapeutic and rehabilitative milieu. CBT and CBCBT are particularly useful in addressing mental health and educational issues. The link between education and mental health is well established and certainly should be of concern to the DOJ. The DOJ is more than appropriately equipped to deal with crime suppression, law enforcement and violent offender confinement. Greenwood (2006) states that the DOJ often utilizes a more authoritarian approach to crime prevention/intervention which stigmatizes offenders and limits the scope of services. While the DOJ has had this approach to crime control in the past under some administrations, they have largely established collaborative models of justice programming incorporating crime prevention and offender intervention programs. These models, such as the Strategic Approaches to Community Safety Initiative (SACSI) under the democratic Clinton administration and Project Safe Neighborhoods (PSN) under the republican Bush administration offer excellent models for a comprehensive approach to public safety.

Since CBCBT can assist the medical field by improving cognitive functioning and strengthening mental health, federal agencies such as the National Institute of Health (NIH) and the Center for Disease Control (CDC) should also have a keen interest in its promotion and sustainability. Because this technology is diverse and easily utilized by many fields, other federal granting agencies, including the National Science Foundation (NSF), can have a hand in

shaping the future of CBCBT. If effective programs are to be implemented in the areas of mental health and violence prevention, the federal government need not be static and conservative. They must take a holistic approach that integrates many funding pools and combines resources from diverse agencies.

It is suggested that the federal level's primary responsibility be funding research and development. Federal grants should be focused on funding R&D in universities and medical institutions. The Association of American Universities (2004) reports that universities perform 13% of the nation's R&D and 54% of the nation's basic research. Therefore, it is important for funding to continue in an effort to encourage and sustain current levels of research.

The federal government can also have an impact on supporting projects by channeling funds through local and state initiatives. Many federal agencies funnel grants to local or state agencies that are then able to use the money to establish their own programs. For example, the DOJ funds PSN in 96 localities throughout the United States. This money is given to local agencies in order to organize efforts which are unique to specific communities. The result is a tailored program which research has shown to be very successful in meeting local crime prevention objectives. The PSN model is an excellent model that should be investigated when implementing programs with a local focus.

Another key role for the federal government, or more specifically federal organizations, is to offer support through public communication and awareness. An example can be taken from the National Institute of Health and Clinical Excellence (NICE) in the United Kingdom. NICE provides recommendations to the National Health Service (NHS) in the areas of public health, health technologies and clinical practices. Recently, in 2006, NICE issued support for computerized cognitive behavioral therapy as an important health technology. This type of

advisory organization should be modeled in the United States so that the federal government can make effective decisions in the areas of public health and health technologies (MHN, 2006).

Lastly, a major concern of the federal arm of government is seeking alternatives to crime control which maximize taxpayers' dollars. In other words, the most parsimonious crime control policy should be selected. This would be the program which gets the most "bang for the buck" and maximizes the effects of the prevention while utilizing the least amount of resources possible. Evidence suggests that CBT is one such prevention program that follows this "principle of parsimony".

Robertson, Grimes and Rogers (2001) conducted a cost-benefit analysis (CBA) of community-based interventions for juvenile offenders. These authors found that those offenders who participated in a CBT program had significantly less cost on the criminal justice system than those in a control group in overall expenditures. In fact, their findings revealed that there was a net savings of \$1,435 per youth who partook in the CBT program during the sample period. Furthermore, since these were short-run estimates, this calculation is a conservative estimate on actual expenditures because it concentrates on what taxpayers care most about; short-term, observable results. Over time these results are most likely to have an even greater saving for taxpayers.

Despite the fact that the federal government is important in supporting programs in many horizontal levels, when they acquire too much control over the development and implementation of programs, grassroots ideas are often co-opted by the federal governments' ideas. In concert with action research and the need for focused and specialized programming, CBCBT programs must be tailored to meet the unique challenges faced by local communities. Hospitals and medical centers, probation/parole departments, schools, correctional facilities, recreation centers

and various mental health centers are all local and state level agencies that should be involved in the bolstering of CBCBT programs. These are important objectives of state and local governments.

Problems, however, not only exist at the federal level but at the state and local levels as well. A main problem that is pertinent in relying solely on state and local funds is that often the areas in need of mental health services are those in the most economic disadvantage (Sampson, 2003). When local, and even state, funds are spread thin, the technologies needed for CBCBT take a back seat to other local needs. In this circumstance, the federal government needs to step in to aid the state, or the state needs to step in to assist local government.

Many different and competing self-interests come under the auspice state governments; a difficult task to manage. Migdal, as referenced by Lambach (2004), is a prominent theorist of government organization who lends insight on the push and pulls between the state government and local interest groups. The state represents a single mindset (as a collective of state government bodies) while they also must serve the needs of local groups simultaneously. Friction and disorganization is almost inevitable. To decrease this chaos, there must be a synergistic relationship between each level of government and between the levels of government and community group interests. The challenge is in striking this balance.

Many models exist which define the role of government in supporting local efforts. These models can be applied to CBCBT. One such model is PSN which was discussed previously. Another model is the Weed and Seed model which is housed in the Executive Office for Weed and Seed within the DOJ's Office of Justice Programs. This model is a paragon of government and community cooperation. Weed and Seed is a joint federal, state and local effort to improve quality of life in high crime communities. While this approach concentrates on law

enforcement techniques, its theory can be applied to introducing cognitive behavioral therapy in these same communities that suffer from a multitude of social indicators such as low mental health and high criminal activity (Dunworth and Mills, 1999).

A study completed by the National Institute of Justice in 1999 indicated that outcomes were favorable among eight Weed and Seed pilot funding sites. More importantly, they found that the most favorable outcomes were attained by those communities that relied on bottom-up decision-making strategies with combined efforts and partnerships among local organizations. Sites that were able to secure additional public and private funds were also seen to produce elevated levels of success which shows the importance of private funding (Dunworth and Mills, 1999).

The policy implications taken from the evaluation of Weed and Seed indicates that joint governmental efforts coupled with bottom-up community participation is an effective approach to delivering effective public services. CBCBT can benefit from models such as Weed and Seed and PSN. These models allow enough funding to be channeled to programs without federal or state governments usurping too much control over programs. Therefore, communities and local governments can design programs tailored to their specific needs. With the efforts of government in the areas of funding research and creating awareness, and local organizations creating programs, CBCBT can be an extremely beneficial tool in improving public health and public safety.

Methodology

Twenty participants completed the SMART program in the fall of 2008. Participants completed the program on one of three stations set up in a reporting room at the Monroe County Probation Department. Each station had its own computer and was separate from the other

participants. Participants did not cooperate with each other on any of the modules. Pre-tests and post-tests were given to all participants who completed both CD's of the SMART program. Data collected from these questionnaires provided the variables for the study. Analyses included conducting the McNemar test to identify differences in pre-test and post-test answers and crosstab analysis explored the differences further by indentifying specific areas of improvements or detriment. All analysis was conducted using the Statistical Package for the Social Sciences (SPSS).

Original Methodological Design

Careful planning was conducted in an effort to make the methodology for this thesis as scientifically rigorous as possible. However, the practicalities of real world research have made several aspects of the original model not possible. Several barriers existed that made a true scientific experiment very difficult. Steps were taken throughout the process to ensure sound methodology to the highest extent possible while still addressing realistic limitations. These barriers and limitations are discussed below along with the final methodology employed for this thesis.

The original framework for the sample included two groups of 30 individuals. Thirty of these participants were to participate in a control group consisting of computer programming unrelated to anger management and conflict resolution. The other 30 were to participate in the SMART CBCBT program focusing on anger management and conflict resolution. Participants would be randomly assigned to either of these two groups and the participants themselves would be randomly selected from a database consisting of juvenile probationers who met the selection criteria.

Original selection requirements for the database included youth, male or female of any race/ethnicity, who were: between 12 and 15 years of age, currently on juvenile probation with a juvenile delinquent (JD) status and identified as high risk using the Youth Assessment and Screening Instrument (YASI). The YASI is a questionnaire that is filled out by a youth's probation officer to assess the individuals' risk and protective factors. All juvenile probationers are required to have a YASI evaluation. This information has been very informative for this thesis and has also contributed to the foundation of both theory and program development.

The optimal approach for this design was to work with the Monroe County Management System and query the selection criteria listed above. Unfortunately, using this level of specificity only filtered out 46 cases. This would not be enough for a 30/30 split for a control and experimental group so the criteria was broadened to include youth who were 12-17 years of age. While these selection criteria included enough cases (86) for both a control group and an experimental group, randomly assigning the youth proved challenging based on transience and non-compliance of participants.

The first sessions of the research took place on June 17th and 18th 2008 at the Monroe Country Probation Training Center. This plan, to have a two-day session consisting of the experimental group, was restructured when only three individuals attended the first session and three attended the second session. The reasons for such a small initial group were discussed and the officers explained that the structure was at fault because it failed to allow for flexibility in time for the probationers. Many could not plan ahead for the session and many failed to show up. A meeting was held to explore options for future programming and it was determined that being present at the probation department reporting office on heavy reporting days was the most effective operable solution.

Description of Participants and Study Design

It was quickly perceived that this population was transitory and unreliable. Many of the youth, especially those with high risk and low protective factors, were violated or incarcerated during the study period. Also, some were removed from caseloads or transferred to other sections. By utilizing the relationships with probation officers developed through an action research model, Monroe County probation officers identified on a case by case basis the sample to participate in the SMART program.

These youth were identified as ideal participants in that they needed some sort of anger management or conflict resolution training and that they were all currently juvenile delinquents with a JD status. All were on juvenile probation, therefore aged 17 and under. There were no limitation criteria on gender, race/ethnicity or other demographic variables. Participants were given a \$10 dollar gift card to Target as a token of appreciation for completing the program.

The research took place at the Monroe County Probation Department in the juvenile reporting room. This location facilitated the program because youth reporting to their probation officers on report day could easily transfer to the program room located in the same area. However, while this created a fluid environment for the officers and probationers, it was difficult to anticipate when and how many youth would be reporting on a given date and time. Good communication between the officers and the researcher alleviated much of the uncertainty and critical programmatic issues. The remaining 14 participants were obtained during seven following visits to the probation department's reporting room.

The original concept behind the SMART program was for use in the classroom utilizing a full curriculum. Therefore, using the SMART program as this thesis has, as an intervention with at-risk youth on juvenile probation, wasn't necessarily the original intent for this particular

program. However, given the results of prior research and the needs of the Monroe County Probation Department, this program was chosen for this purpose.

The youth who participated in this research are generally much different than the youth who participated in previous research studies evaluating the SMART program. The youth in this study are at-risk for recidivism, are being served by multiple organizations and generally have poor reading and comprehension skills. Given these sets of circumstances, the probation department was looking for a program that was short (about one hour), easy to understand and enjoyable for its clients.

Anger management and conflict resolution are areas in which everyone can improve, especially this population. While budgets have been cut and programs have since been disbanded, including the anger management course in the Monroe County Probation Department, a CBCBT program which is self-administered could be of significant benefit to the department and its clients. The SMART program could be such a program and this was the reason for its evaluation in this thesis.

This study uses a non-experimental design because there is no random assignment due to the lack of a control or comparison group. Instead, this research uses a one-group, pre-test/post-test design. This can be denoted as [O₁ X O₂] where the “O” is the observation (questionnaire) and the X is the CBCBT intervention. Here, the participants act as their own control group and comparisons are made before and after the intervention. This design was chosen because of its ease in application in this type of project. However, there are several limitations: 1) without a control/comparison group it is difficult to ascertain whether changes are due to the intervention or other outside factors and 2) Hawthorne effects are prevalent when participants know they are in an experiment and there is no control/comparison group in which to compare results (Spector,

1981). This design poses several threats to the validity of program effects (Bingham and Felbinger, 2002).

In this thesis, the post-test was given immediately after intervention, thus limiting the time between tests where outside events could influence outcomes. Hawthorne effects are a valid threat to this research because each participant was informed that they were a part of an evaluation of the program. Each participant volunteered and gave consent. As there was no control/comparison group, it is difficult to determine if there was or was not a Hawthorne effect.

Using the SMART Program

The SMART program consists of a conflict resolution CD and an anger management CD. Each CD has four modules related to either anger management or conflict resolution. The purpose of the modules is to increase knowledge, self-knowledge, confidence, self-efficacy, positive interactions, increase altruism and reduce aggression.

While utilizing each module would have been most effective, we had to modify our program to shorten the length of time for each participant. Each participant completed the “What’s Anger” and “Anger Busters” modules on the anger CD and the “What’s on Their Minds” and “Teen Interviews” modules on the conflict CD. This shortened the program to about an hour and utilized the information on both CD’s to the fullest extent possible.

To evaluate the effects of the program on the research hypotheses, pre-test and post-test questionnaires were given. The pre-test was given just before the participants partook in the CBCBT and the post-test was given immediately following the completion of the program. The thesis instruments are included in Appendix D and E.

Data Collection and Analysis

The bulk of the data collected and analyzed in this thesis research are ordinal data. All the data were collected from a questionnaire given before the CBCBT intervention and one given after CBCBT intervention. These data are ranked data, usually using a Likert scale, with a logical hierarchy but there is no way to calculate distance between answers (i.e. ratio or interval data). Since much of the data in social science does rely on ordinal information it deserves some attention.

Hildebrand, Laing and Rosenthal (1977) describe social research as taking on the form of “the more of this, the more of that.” In other words, data collected from questionnaires usually ask participant to rank items, feelings, etc. These data are usually presented in categories with an ascending or descending order but with no way of quantifying precise distance between items. The categories are natural states which are mutually exclusive. Therefore, the analysis of these types of variables will take into account the measurement of their association. For the use of this thesis, it will be necessary to choose a statistical test that measures ordinal data.

Another important analytical issue for this thesis is the small number of participants (the small “n”). Datasets which are large (generally over 30) and randomly selected can be considered to be normally distributed. Smaller datasets cannot adequately be assumed to be regularly distributed. Because this dataset is small and not randomly selected, it will be necessary to choose a statistical test that can measure data which are not normally distributed. These statistical procedures are non-parametric tests.

The data gathered from the questionnaires in this study were evaluated using the McNemar test. This is a non-parametric procedure used to measure differences in categorical

data. Further analytical procedures, such as crosstabulation, are used in this thesis to investigate further differences in pre-test and post-test answers.

A major concern of delinquency research and social science research in general is causal analysis. Does “A” cause “B?” Hirschi and Selvin (1967) address causality and several other issues in studying delinquency, in *Delinquency Research*. These authors devote much time to techniques in overcoming methodological limitations in causal analysis but also warn that it is fruitless to become over-reliant on design to the extent that substance is sacrificed. While the analysis done here has many methodological design limitations, the substance of the analysis is methodologically sound. The important goal of delinquency research should not be to determine without fail that “A” causes “B” but more importantly, when and under what conditions does “A” contribute to and/or cause “B.”

Research Hypotheses

A set of four research hypotheses guided this study. The four areas of interest included: 1) willingness to use violence/aggression, 2) knowledge of conflict resolution and anger management techniques, 3) self-confidence in controlling anger and 4) perceptions of the effectiveness of violence in solving disputes. Given the plethora of literature on the effectiveness of CBT and the previous evaluations of SMART, the program was expected to 1) decrease the willingness of an individual to use violence, 2) increase knowledge of conflict resolution and anger management techniques, 3) increase an individual’s confidence in controlling their anger and 4) decrease the perception that violence is effective in solving problems.

To test for differences from pre-test to post-test in these four areas, the McNemar statistical test was used. This test is a non-parametric procedure used to analyze categorical data

in experiments with paired data. The McNemar test was chosen because of the small sample size (n=20) which could not provide assurance that our sample was normally distributed.

Experiments with larger sample sizes generally use the chi-square statistic but given the non-normality assumption of these data, the non-parametric alternative was chosen. Crosstabulation analyses were also used to further examine critical changes in participant answers not detected by the McNemar test. This thesis used a pre- and post- test questionnaire to obtain information on each of the hypothesis questions. The null hypotheses and the alternative hypotheses used for this thesis are presented below.

H ₀ : There is not a statistically significant difference in “willingness to use violence” from pre- to post- test.	H ₁ : There is a statistically significant difference in “willingness to use violence from pre- to post- test.”
H ₀ : There is not a statistically significant difference in “knowledge of anger management and conflict resolution techniques” from pre- to post- test.	H ₂ : There is a statistically significant difference in “knowledge of anger management and conflict resolution techniques” from pre- to post- test.
H ₀ : There is not a statistically significant difference in “self-confidence in anger management” from pre- to post- test.	H ₃ : There is a statistically significant difference in “self-confidence in anger management” from pre- to post- test.
H ₀ : There is not a statistically significant difference in “the perception of the effectiveness of violence” from pre- to post- test.	H ₄ : There is a statistically significant difference in “the perception of the effectiveness of violence” from pre- to post- test.

Institutional Review Board

This research was reviewed and approved by the Rochester Institute of Technology’s Institutional Review Board (IRB). When human subjects are represented and participate in research, several important ethical issues need to be addressed before the research can take place. Please refer to appendix A and B to review the parental permission slip for participating in the program and the confidentiality agreement.

Please refer to appendix C to review the agreement between the Rochester Institute of Technology and the Monroe County Probation Department. This agreement outlines the permission given to the researchers to access particular files for research purposes. Furthermore, it explicitly states ethical issues regarding probationer participation and negative/positive rewards for program completion and failure.

Appendices D and E contain the pre-test instrument and the post-test instrument, respectively. Both instruments were reviewed and approved by the IRB. These instruments were the data collection tools used for this thesis.

Results

This section will review the results from the research. Twenty participants participated in the research study. All were currently on juvenile probation with a JD status. All had a need to participate in a conflict resolution and anger management program as identified by their specific probation officer. There were no drop outs and all participants completed the program along with the pre- and post-tests. It is important to note that all 20 participants completed the program given that program effects are often less significant for non-completers and non-starters. Also, non-completers are seen to have negative effects in greater frequency than program completers (Hollin et al., 2008).

Demographics

Twenty total participants participated in this thesis research. Of those twenty, 17 were male and three were female. There was a normal distribution for age and the majority of the participants were Black and Hispanic. Table 1 is a crosstabulation of the race and age of the participants.

Table 1 - Age and Race Crosstabulation

		Race					Total
		White	Black	Hispanic	Asian	Other	
Age	12	0	0	0	0	1	1
	13	0	0	1	0	1	2
	14	1	2	1	1	1	6
	15	0	1	2	0	1	4
	16	0	2	2	0	0	4
	17	1	2	0	0	0	3
Total		2	7	6	1	4	20

Willingness to Use Violence (H₁)

The first hypothesis question is, “Is there a change in the participant’s willingness to use violence before they went through the program compared to after completion of the program?” Willingness to use violence was originally a latent variable including six indices. Participants were asked if violence was ok in the following six situations: 1) when a family member is in a fight, 2) when a friend is in a fight, 3) when you have been disrespected, 4) when someone starts a fight with you first, 5) when someone calls you a name, and 6) when someone steals from you. Participants were able to answer on a 3-point Likert scale of never, sometimes or always.

A correlation analysis was run using the Spearman’s rho statistic to determine if there were significant correlations between the six indices. The Spearman’s rho statistic was chosen because these data are categorical using a 3-point Likert scale. Based upon the small sample size the normal distribution of these data could not be assumed. Since the direction of the correlation is unknown but important to the research, a two-tailed test was conducted and reported at a 95% confidence interval. Table 2 displays the results of the correlation analysis on these six indices of the willingness to use violence variable.

Table 2 - Spearman's Rho Correlation Matrix for Willingness to Use Violence Index

When is the Use of Violence OK

Violence is OK...	When a Family Member is in a Fight	When a Friend is in a Fight	When Someone Disrespects You	When Someone Starts a Fight with You First	When Someone Calls You a Name	When Someone Steals From You
When a Family Member is in a Fight	1.000 . 20	.543 .013 20	.459 .042 20	.445 .049 20	.041 .865 20	.530 .016 20
When a Friend is in a Fight	.543 .013 20	1.000 . 20	.495 .027 20	.544 .013 20	.178 .453 20	.492 .027 20
When Someone Disrespects You	.459 .042 20	.495 .027 20	1.000 . 20	.157 .510 20	.258 .273 20	.597** .005 20
When Someone starts a Fight with you First	.445 .049 20	.544 .013 20	.157 .510 20	1.000 . 20	.263 .263 20	.396 .084 20
When Someone Calls You a Name	.041 .865 20	.178 .453 20	.258 .273 20	.263 .263 20	1.000 . 20	.173 .467 20
When Someone Steals From You	.530 .016 20	.492 .027 20	.597** .005 20	.396 .084 20	.173 .467 20	1.000 . 20

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Several relationships between indices were significant at the 0.05 level. One correlation, between the acceptability of using violence when someone disrespects you and when someone steals from you, was found statistically significant at the 0.01 level. This relationship is an intriguing one and should be analyzed more in-depth in future research. It would be informative to understand the social interpretation of disrespect as it relates to someone stealing from another individual. Is stealing in fact a form of disrespect among this sample and if so, what are the implications for policy?

To compliment the correlation analysis, a reliability analysis was run to determine if the indices are accurately measuring the same concept of willingness to use violence. In social science, theoretical concepts which do not lend themselves to a universal definition or easily

definable set of parameters require several indices to measure them. Construct validity is a measure of how well the selected indices measure the concept of interest (Carmines and Zeller, 1979). In this case, the six questions asked on both pre- and post-tests regarding the willingness to use violence may be used as a measure of the overall concept. Cronbach's alpha is a test of construct validity and gives a result from 0-1. The closer the output is to 1, the more construct valid the instrument. A reliability analysis using Cronbach's alpha was used to determine the validity of the six variables as a construction of the "willingness to use violence" variable (Table 3).

Table 3 - Reliability Analysis of Willingness to Use Violence Variable

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.785	.780	6

This output shows that there is a moderately high alpha of 0.785 meaning that there is evidence to believe that these indices are measuring the same concept. Given the correlation output and the reliability analysis, there is sufficient evidence that the willingness to use violence variable could include these six index measures. However, there is very limited statistical power in this conclusion based on the small sample size and limited number of indices of measure.

While some of the correlations above are statistically significant and there is sufficient validity in the measure of the index, the choice to analyze them separately was made. Given the limited statistical power, and the theoretic basis of analyzing each index separately, it was concluded that more important information could be obtained by studying each as its own variable. However, future research may incorporate this construct as a basis for a willingness to use violence variable with additional indices of measure.

The McNemar test was run on the pre-test answers and the post-test answers to determine if there was a statistically significant difference on each of the hypotheses. Each test is a two-tailed test because it is important to establish if there was a negative effect of the program as well as if there was a positive effect. If there is seen to be a substantial negative effect, this would establish enough evidence to discontinue use of the program immediately. Each test was run at a 95% confidence level because this was determined to deliver enough statistical evidence to accept or reject a null hypothesis without making a critical error or overlooking a significant result. Statistically significant results will fall within a critical range of an alpha (α) below 0.05.

In order to run the McNemar test, it was necessary to recode these data, which used a 3-point Likert scale, into dichotomous variables. In this research, the intent was to increase fundamental areas of knowledge of anger management and conflict resolution and decrease the perception that violence is a viable solution to social problems. Thus, it was chosen to group together the two options of the Likert scale “sometimes” and “always” to denote any use of violence being acceptable in the given situation and was coded as “1.” Only the choice of “never” was coded as a “0” to denote unwillingness to use violence in the situation (Table 4).

Table 4 - McNemar Test of Willingness to Use Violence (95% Confidence Level)

When is the Use of Violence OK						
Violence is Ok When...	A Family Member is in a Fight (Pre- vs. Post - Test)	A Friend is in a Fight (Pre- vs. Post – Test)	Someone Disrespects You (Pre- vs. Post – Test)	Someone Starts the Fight First (Pre- vs. Post - Test)	Someone Calls You a Name (Pre- vs. Post – Test)	Someone Steals From You (Pre- vs. Post – Test)
N	20	20	20	20	20	20
Exact Sig. (2-tailed)	1.000 ^a	1.000 ^a	.625 ^a	1.000 ^a	1.000 ^a	.219 ^a

a. Binomial distribution used.

b. McNemar Test

This test shows that there were no statistically significant differences in pre-test answers and post-test answers. In fact, there was very little variation in these data at all. The only variables to show a change were the “willingness to use violence when disrespected” (0.625) and “willingness to use violence when some steals from you” (0.219). For a further examination of the pre-test/post-test comparisons, refer to Appendix F. This crosstab output compares pre-test answers (columns) with post-test answers (rows). It is important to take note of changes between answers, for example, how many participants answered “no” on the pre-test and changed their answer on the post-test, or vice-versa.

An interesting finding from this output is the differences in answers reported in the “disrespect” variable and the “stealing” variable. These two variables were also shown to be correlated to the 0.01 level in the correlation matrix. These data indicate that participants were more likely to report that they were unwilling to use violence in these two situations after the CBCBT intervention. Although this finding is not statistically significant, it is an area that deserves more research. Modifying the intervention in the future may prove statistically significant in these areas.

Knowledge of Anger Management and Conflict Resolution Techniques (H₂)

The second area of interest in this thesis was identifying any increases in knowledge of conflict resolution and anger management techniques after completion of the intervention. This information was obtained through two questions on the survey instrument which asked the participants if they 1) knew of non-violent anger management techniques and 2) conflict resolution techniques. This was a dichotomous variable of “no” or “yes.” They were coded as “0” and “1” respectively. To ensure that participants who answered “yes” actually knew of techniques and that they were, in fact, non-violent, they were asked to provide examples in an

open ended question. If the extrapolation on the question included suggestions that were violent, it was determined that the participant did not know of non-violent strategies and the variable was coded as “no.” However, there were no cases where this occurred.

The McNemar test was run to determine any differences after the CBCBT intervention. This test was run on both questions asked of the participants at the 95% confidence level. Again, this is a two-tailed test because both a negative and positive relationship were of great interest (Table 5).

Table 5 - McNemar Test for Knowledge of Conflict Resolution and Anger Management Techniques (95% Confidence Level)

Do Participants Know of Non-Violence Anger Management and Conflict Resolution Techniques		
Do you Know of Ways to Control Anger & Resolve Conflict Peacefully?	Ways to Control Anger (Pre- vs. Post-Test)	Ways to Solve Conflict Peacefully (Pre- vs. Post- Test)
N	20	20
Exact Sig. (2-tailed)	.250 ^a	.250 ^a

a. Binomial distribution used.
 b. McNemar Test

The two variables of interest in this analysis were 1) do the participants know of any non-violent way to control their anger and 2) do they know of any non-violent ways to solve conflict peacefully. The McNemar test shows that there were no statistically significant results from the CBCBT intervention when looking at these two variables. The significant level reported (0.250) is not within the critical range of 0.05 and therefore is non-significant.

However, an examination Appendix G lends insight into a largely ignored topic in social science. It is important to explicate the difference between “statistically significance” and “analytical significance.” Statistical significance is a reliance on a p-value or an indicator establishing the percentage that you are studying the right population and your sample is not

obtained from another population by chance. This also relies on statistical power dependent on sample size. Analytical significance on the other hand, relies more on theoretical significance which is analytically interesting but may not be statistically significant. Purely basing assessments on statistical significance can overlook very essential findings through overreliance on p-values (Bushway and Sweeten, 2006).

Appendix G shows that 17 out of the 20 participants already had techniques that they used to control their anger and solve conflicts. Each of these techniques was non-violent and overall the answers were heterogeneous. On the post-test, all 20 participants answered that they knew of techniques to control their anger and resolve conflict peacefully. They were able to demonstrate that knowledge on the open ended questions. Furthermore, after completing the “talking it out” module, which was part of the program, half (10) of the participants said that talking it out was a peaceful way to solve an argument and of those half (5) used the exact words “talk it out.” This shows that some of the participants gained knowledge that they did not have before and also that several learned a new technique as a direct result of completing the program. This may not be a statistically significant outcome, but analytically, it adds a great deal to the overall evaluation of the SMART program.

Self-Confidence in Managing Anger (H₃)

This concept was measured using two questions from the research instrument. Participants were asked how well they think that they control their anger. This was asked on the pre-test and post-test. The McNemar test was used to detect any statistically significant differences for this question. Also, one question was used on the post-test which asked the participants how much of what they learned do they plan to use in the future. While this is not a direct question asking about self-confidence, it does lend insight into the confidence of a

participant in their abilities to apply knowledge. Since there is no long term follow-up with participants included in this thesis, actual application of knowledge is not measured but may be in future studies.

Secondly, since it was necessary to dichotomize these two variables, it is important to consider modest improvements of participants. The tails of the 5-point Likert scale were collapsed to allow for statistical analysis but in doing so, essential information is lost that may be very analytically important. For example, a participant may have thought they were poor at controlling their anger before the intervention but thought they were fair after completing the program. This would have been a significant finding! Likewise, a person who thought that they were good at controlling their anger at the beginning of the program may have thought that they were excellent after completing it. This too would be very significant! However, these findings would have been lost if it were only of concern to conduct statistical analyses while ignoring other descriptive methods.

The confidence variable was re-coded in order to run the McNemar test. The two ends of the Likert scale were collapsed into two separate categories while the middle was dropped out completely. The new variable was dichotomous which included “below average” or “above average.” The McNemar was a two-tailed test conducted at the 95% confidence level. Table 6 shows the results from the McNemar test.

Table 6 - McNemar Test for Significance in Anger Management (95% Confidence Level)

How Well Participants Perceive their Anger Management	
	Confidence in Anger Management (Pre- vs. Post - Test)
N	12
Exact Sig. (2-tailed)	1.000 ^a

a. Binomial distribution used.

b. McNemar Test

This test shows that there were eight cases that were dropped because they fell in the middle of the scale. Of the twelve remaining cases, one participant answered that he or she was below average to start with and ended up answering that he or she was above average after and one participant said that he or she was above average to start with and ended up below average after the intervention. The remaining ten stayed the same. These data can be found in Appendix H. There were no statistically significant findings in the confidence variable. The associated alpha falls above the critical range at 1.0.

While no statistically significant finding resulted from the intervention, it is important to conduct a crosstab analysis of the confidence variable to tease out modest improvements, or deteriorations, from pre- to post-intervention. Table 7 shows this relationship and adds strength to this analysis.

Table 7 - Crosstab Analysis on Confidence in Using Anger Management

How Well Participants Perceive Their Anger Management (Pre- vs. Post – Test)

		Anger Management (Post – Test)					Total
		Poor	Fair	Average	Good	Excellent	
Anger Management (Pre – Test)	Poor	1	1	0	1	0	3
	Fair	0	3	0	0	0	3
	Average	0	0	6	1	1	8
	Good	0	1	0	4	0	5
	Excellent	0	0	0	0	1	1
Total		1	5	6	6	2	20

The pre-test answers are recorded in the columns and the post-test answers are recorded in the rows. This chart illustrates that several participants showed no change, which is indicated by the numbers which match up to the same answer in the column and the row. However, four individuals showed some improvement in their confidence to control their anger. One showed a drop in confidence. Of three participants who answered in the pre-test that they were poor at controlling their anger one stayed the same, one thought that he or she was fair and one thought

that he or she was good. In other words, two gained more confidence in their ability to control their anger. Similarly, of eight participants who said that they were average at controlling their anger on the pre-test, six stayed the same, one said that he or she was good and one said that he or she was excellent.

Another indicator of confidence is the willingness of a participant to use their knowledge in the future. On the post-test, participants were asked if they felt that they had learned anything and if they planned on using any new knowledge in the future. This is illustrated in Table 8.

Table 8 - Participants' Willingness to Use Knowledge in the Future

How Much of What Participants Learned Will They Use

	Frequency	Percent	Valid Percent	Cumulative Percent
A little	3	15.0	15.0	15.0
Some	6	30.0	30.0	45.0
Quite a bit	6	30.0	30.0	75.0
A lot	5	25.0	25.0	100.0
Total	20	100.0	100.0	

It is worth noting that all 20 participants said that they would use at least a little of what they learned in the future. The majority (11) said that they would use quite a bit or a lot of what they learned in the future. All 20 participants demonstrated that they knew of non-violent anger management and conflict resolution techniques. While this is important, it is important to identify who out of the three participants who did not know of any techniques before the intervention will use their new knowledge in the future. If these three youth learned something and plan to use it in the future, the program would be very advantageous and worthwhile (Table 9 and Table 10).

**Table 9 - Participants who Gained Knowledge and Will Use it in the Future
(Anger Management)**

How Much of What Was Learned Will be Used – Anger Management

	How Much of Learned Will be Used?				Total
	A little	Some	Quite a bit	A lot	
Do You Know of Ways to Not Really Control Your Anger?	2	0	0	1	3
Yes I Do	1	6	6	4	17
Total	3	6	6	5	20

**Table 10 - Participants who Gained Knowledge and Will Use it in the Future
(Conflict Resolution)**

How Much of What Was Learned Will be Used – Conflict Resolution (b)

	How Much of Learned Will be Used?				Total
	A little	Some	Quite a bit	A lot	
Do You Know of Ways to Resolve Conflicts Peacefully?	2	0	0	1	3
Not Really	1	6	6	4	17
Yes I Do	1	6	6	4	17
Total	3	6	6	5	20

These tables show those who did not know of ways to control their anger prior to intervention did learn something from the program. It also shows how much they plan to use that knowledge in the future. Two of the three youth said that they would use a little of what they learned in the future. While this may not be the optimal outcome, it is none-the-less favorable. One of the youth who learned new techniques from the program said he or she would use a lot of what he learned in the future. This would be the optimal outcome of the program; for individuals to learn something new and use it in the future. While this analysis in no way investigates actual application of knowledge, it gives a basis for measuring confidence and insight for further research.

Perceptions of the Effectiveness of Violence (H₄)

A goal of the SMART program is to decrease the perception that violence is an effective tool in solving problems. A pre-test and post-test question was proposed asking the participants how effective they thought that violence was in solving problem. This used a 5-point Likert scale (Totally Disagree, Disagree, Undecided, Agree, Totally Agree). To assess any statistically significant changes in this variable, the two-tailed McNemar test was used at a 95% confidence interval. Again, dichotomizing the variable was necessary and in this case a different approach was used than for the previous variables. The program, and a goal of this thesis, is to promulgate the idea that violence is never a good solution to conflict and that it never achieves its intended outcomes. Therefore, instead of dropping off the middle of the Likert scale, the “undecided choice” was grouped with the right side of the scale and was coded as a “1” for the perception that violence is effective. The “0” was coded for those who disagreed or totally disagreed with the assertion that violence is an effective solution to conflict. After all, if a participant is still undecided at the end of the program, it hasn’t achieved its intent (Table 11).

Table 11 - McNemar Test for Violence as an Effective Solution to Conflict (95% Confidence Level)

Is Violence Effective as a Conflict Resolution Technique?	
	Violence as Effective (Pre- vs. Post – Test)
N	20
Exact Sig. (2-tailed)	.375 ^a

a. Binomial distribution used.

b. McNemar Test

The McNemar test shows that there were no statistically significant results in the variable of perception of the effectiveness of violence. A two-tailed significance value of 0.375 was reported which is larger than the 0.05 significance level for this test. A further look was taken

into which of the participants changed their answer from pre- to post- test. Specifically, we want to consider who answered “effective” on the pre-test and changed their answer to “non-effective” on the post-test (Table 12).

Table 12 - Effectiveness of Violence in Solving Conflict Crosstab

Violence as an Effective Conflict Resolution Strategy

Violence is Effective (Pre – Test)	Violence is Effective (Post – Test)	
	Disagree	Agree
Disagree	8	1
Agree	4	7

The crosstab from the McNemar test shows that four participants who originally stated that violence was an effective solution to conflict changed their answer to disagree at post-test. Essentially, 20% of the participants thought that violence was an effective solution to conflict coming into the session and left feeling otherwise. This is a very interesting finding which certainly deserves more attention. One participant thought violence was non-effective to begin with and switched in post-test. While this finding is also vital and this cannot be confirmed to be an instrumental error, this deserves attention as well.

Sample Size and Statistical Significance

It is important to again address the major limitation of this research; the effect of small sample size on statistical significance. It has been shown that the intervention (the SMART program) had modest positive effects on the participants. When looking at p-values, using an alpha of 0.05 (shown throughout this thesis) and also at 0.10 (not shown in this thesis), no statistically significant results were found in any of the study variables. This is not surprising. It would be difficult to find statistical significance using this statistical power.

This limitation is discussed by Cohen (1990). Cohen, among several others (see – Bushway and Sweeten, 2006), have cautioned using p-values at all. P-values often underestimate effects of interventions because they require high statistical power (sample size) to find significant effects. This was exacerbated in this research by using two-tailed tests to determine the direction of effects.

Cohen (1990) and Bushway and Sweeten (2006) instead suggest using confidence intervals and effect sizes. Since these analyses were not appropriate here, the p-value alternative was used. It is suggested that any further research in this area focus on two issues: 1) conducting power analysis to determine the appropriate sample size for statistical testing and 2) report mean effect sizes and confidence intervals where appropriate.

Discussion and Policy Implications

This thesis chose to evaluate an anger management and conflict resolution program based on an extensive review of literature suggesting its usefulness for at-risk populations. The SMART program was chosen among several because of its successful evaluations and its utility to the Monroe County Probation Department. Through a pre-test/post-test research design, four hypotheses were examined using the non-parametric procedures of crosstabulation and the McNemar test. These methods are appropriate for analyzing data which are categorical and where an assumption of normality cannot be assumed.

It has been shown through the several analyses conducted here that statistically significant results were not found in any of the previously stated research hypotheses. While at first take these could be discouraging findings, there is much reason to believe that the program can be effective in achieving successful outcomes. However, there is caution in fully adopting this optimistic view.

The major conclusion and policy suggestion is that more research be conducted before choosing to either adopt or discontinue use of the program. Many variables tested here, especially the perception of the use of violence in conflict resolution and the knowledge attainment variable, showed that they could be very salient variables of study. Each of the four variables showed promise.

By using the crosstab analyses, a further investigation was possible into the true dynamics of these variables. All of them showed more promise than detriment. However, each of the variables showed some declination in some respect. While this is likely in social science, it is still a very serious indicator to monitor. Instrumentation error is critical to explore to determine if the questionnaire has some semantic ambiguity.

The usefulness of SMART as a short, self-guided program for anger management and conflict resolution is promising. In each research hypothesis, there were participants who achieved success. Furthermore, it can be seen from the crosstabs that there were more improvements than negative effects. This leaves reason to conduct more research using this program for its specific intended purpose described in this paper. It also shows reason to continue the use of the SMART program for youth probationers. It is likely that increase use will improve positive results.

Despite the limitations of the study, it is likely that modifying the delivery of the program and the methodological design of the research would yield more accurate results. First, it may be beneficial to run the participants through all of the modules on each CD. A mandatory class or set of classes might have the incentive necessary for compliance. It was seen here that the number of willing participants was a significant problem in this project. Increase use of the

program may be seen to promote the program and involving the probationers in its use may be a key ingredient for program success.

Again, the purpose of this research was to identify a short, self-administered program. This proposed program would be focused on research outcomes in an effort to identify the most effective parts of the program and to obtain a sufficient number of participants to have moderate statistical power. Many of the limitations of this study were based on the small sample size leading to a lack of statistical power. Also, because of the voluntary nature of the program, a control group was difficult to assemble. Further research should use at least one control group and, if possible, additional experimental groups who participate in other anger management/conflict resolution programs. This would certainly add to the body of research and assist in identifying the most effective program for this population and for the probation department's needs.

This research is certainly important for public policy. The program was effective in terms of a short-run, self-administered program. Each participant was able to complete the entire program which is significant considering the harmful effects found in non-completers. Technically, the program was easy to install and run on both laptops and desktops. The specifications to run the program smoothly on a computer are minimal and organizations should have few technical difficulties installing and running the software. This makes the program efficient technologically and translates to better client/administrator satisfaction.

Organizations and probation departments specifically, are encouraged to evaluate the SMART program to determine if this is an effective program for their specific population and an efficient program for meeting organizational needs. For this thesis, it has met these goals and may prove to be a useful tool for the Monroe County Probation Department.

If further research finds little evidence that the program contributes to positive outcomes in individuals, it should not be used as a CBT tool. While this could not be affirmed in this research, it should be a goal of future research. Refining best practices should always be a goal of research and this case is no different. Research should focus on defining to whom the program is best administered and in what circumstances. This research showed that some participants benefitted more than others and some did not benefit at all. Future research should explore more fully the outcomes of specific individuals and identify how to maximize the benefits to the greatest number of individuals.

This research shows that action research models are important for local research and public policy. Through establishing relationships with practitioners, researchers were able to identify a sample of youth who were in need of skills building. Through practical knowledge and social science research, a joint cooperation was established that made for very favorable outcomes in agency satisfaction, client satisfaction and the overall outcomes of the research in hypothesized areas. It is strongly encouraged that action research models be used in all applicable policy areas in the future.

This study also presents the possible benefits of using cognitive behavioral approaches with youth. Several policy initiatives exist that do not use evidence-based practices. This may be detrimental to public safety in both the short and long term. While this study could not confirm with statistical significance that the intervention was “successful,” further analysis showed that it may very well be an important component for public safety policy.

Furthermore, this research shows that probation departments may be a very important facilitator and contributor in the administration of cognitive behavioral programs. Certainly clients of local probation departments would benefit from CBT training. The capacity of

probation departments to conduct initial assessments, set-up training and conduct follow-up assessments are a very key ingredient to program success. While this research cannot be extended well beyond that of the local Rochester criminal justice system, it does set the tone for future research to explore these possibilities. Additionally, it does make a convincing argument that local policy should investigate implementing cognitive behavioral approaches in the probation department and it is urged to do so.

Two recent publications argue strongly for the inclusion of theory in policy research (Akers, Forthcoming) and for the involvement of academics in the policy process (Pratt, 2009). Obviously these goals are not mutually exclusive yet very complimentary. It is imperative that researchers conduct informed policy research grounded in theory that can also be easily translated to policymakers. Pratt (2009) places some of the blame of poor policy decisions on criminological researchers stating that most published academic work appears in journals and are filled with complex quantitative jargon that is not accessible or easily understandable to the policy-maker and general public who, as Pratt states, "...are not privy to the secret academic handshake" (p. 11). In other words, academic research is important but does not supersede the necessity to clearly present complex information necessary for policy decisions.

In his address to the American Society of Criminology, then President Frank Cullen may have said it best when he asked, "why should anyone listen to criminologists?" He makes a good point. He answered with, "as scientists, we have a form of knowledge, scientific knowledge, that has special legitimacy" (p.27). He continued by claiming that policy has the power to make important change and that academics should always think of the policy implication of their work (Cullen, 2005). This is the effort made here.

This thesis attempts to show the outcomes of an evaluation of CBCBT. It also aims to develop a model of carrying out policy related research. The major suggestion made herein is that when conducting policy research, academics need not divorce themselves from the decision-making process. It is possible, and beneficial, for researchers and practitioners to work together on policy initiatives. With the backing of scientific evaluation, quality programs can be implemented which truly make a difference.

In summation, it is recommended that: 1) CBT and CBCBT be made available for at-risk youth at the Monroe County Probation Department, 2) the Monroe County Probation Department continue to work closely with researchers to develop and implement programs for offenders, and 3) research and evaluation continue to be conducted around CBT for offender treatment and for CBCBT in particular as it is still a very nascent approach to offender treatment. These will certainly be essential components for the future of local offender treatment programs in the Juvenile Probation Department and beyond.

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Appendix A – Parental Consent Form

Parental Consent Form

The Rochester Institute of Technology (RIT) and the Monroe County Probation Department are conducting a research study on the effectiveness of a particular computer-based program that teaches non-violent anger management and dispute resolution skills for ages 8-18. The computer program is called Students Managing Anger and Resolution Together (SMART). There are two disks that will be used: one for anger management and one for dispute resolution.

Computer modules make use of scenarios, peer and celebrity interviews, interactive games and powerpoint slides. The kids will use the program and be asked what they learned and if they liked the program. We are interested in seeing if this program is useful, fun and effective for the kid's so that we might use it in the future.

The program will last about 2 hours and the kids will complete both sessions of the computer program in that time. Additionally, questions will be asked about the use of violence and perceptions of violence in the community and schools. Follow up interviews will be conducted at the end of summer programs (in mid-August) to see if the information learned has been useful for the kids. The Rochester Institute of Technology will conduct the program along with the Probation Department and analyze the data collected. Data will also be collected on prior offenses of those who participate. We understand the importance of keeping this information private and all parties involved in this project will respect confidentiality regarding the data collected. If at any time you or your child chooses not to complete the program you can do so. ***More confidentiality information is on the back of this form.**

We are providing lunch for the participants after the program which will be held on the RIT campus in the Department of Criminal Justice.

Chad Posick, Researcher

Judy Porter, Ph.D, Faculty Advisor

_____ Yes, I give permission for my child (please print the name of your child)

_____ to be interviewed and surveyed.

Name of Parent or Guardian

Date

Please return the consent form at your earliest convenience to your child's probation officer. We expect the day to be fun and informative. Thank you very much for your interest and participation in this program!!

Appendix B – Confidentiality Agreement

Confidentiality Agreement

As researchers, we understand the necessity of confidentiality and the privacy of our participants' answers and private information. The youth involved in this research will provide their names and contact information so that we are able to follow-up with them. However, at the end of the program all names will be converted to numbers and the names will be discarded in the interest of privacy. This will be done after the follow-up date.

Between the beginning of the project until the follow-up date, we will have the names and contact information for all participants. This information will be housed at the Rochester Institute of Technology under the close supervision of Dr. Judy Porter and Chad Posick. All questionnaires and additional information will be kept in a locked file. Only Dr. Porter and researcher Chad Posick will have access to the files.

Names from these files will only be viewable by the research staff that is involved in this project. Names will not be released to anyone, used in any presentation or in any publication. Any information viewable to others will be anonymous and data will be aggregate.

If there are any participants in this research that would want to share personal information or would like to receive any type of service, they will be referred to their probation officer who will assist in directing them to the appropriate individuals.

It is important to note that there will be no penalties, unfavorable treatment or punishment of any kind for choosing not to participate in this program. As well, there will be no rewards, reduced requirements or favorable treatment given to those who participate by the Monroe County Probation Department. This program is purely voluntary and you may choose to not complete the program at any time. If you feel that there is any coercion or forcefulness in recruiting participants, please let the researchers know.

Please call Chad Posick at 475-6386 with any questions. I would be happy to better explain the program and address any concerns you may have in being involved. We believe that the program will be very useful and beneficial to the participants and hope that you will be included.

Appendix C – RIT and Monroe County Probation Terms and Agreement

April 10th 2008

Robert Burns
33 N. Fitzhugh St.
Suite 2000
Rochester, NY 14614

Dear Mr. Burns,

As we have discussed at our previous meetings, we will cooperate on a project which assists youth on probation through a cognitive behavioral program dealing with conflict resolution and anger management. The program will be approximately 90 minutes long. Youth will also take a pre-test before the program and a post-test after the program to evaluate knowledge gained by the program. Three months following the program we will conduct a post-post-test focus group to see if the youth had a chance to use knowledge from the program.

Besides the program and testing instruments, we will also gather data on previous criminal history and risk. We will need access to criminal records for the youth and access to the risk-assessment tool used by your department; YASI (Youth Assessment & Screening Instrument.) As researchers, we understand the confidentiality of this information and will keep all records locked in a file in the Department of Criminal Justice's Center for Public Safety Initiatives HQ.

We also must have your assurance that no probationer will receive any reward, special treatment or any reduction in requirements for participating in the project. Likewise, youth must not be punished or sanctioned in any way for choosing not to participate or dropping out at any time. In sum, the participating probationers must not be treated any differently from other probationers for participating or choosing not to participate in the project.

Please call me with any questions or concerns at: 585-475-6386 or email at: chad.posick@rit.edu. If you agree to these terms and conditions, please sign the enclosed sheet. I thank you again for your assistance and cooperation on this project. I think it will be valuable and beneficial for all.

Sincerely,

Chad M. Posick
Center for Public Safety Initiatives
Public Policy Graduate Student; Primary Researcher

Appendix D – Pre – Test Questionnaire

We would like to know a little bit about you and how you handle conflict and anger. Be as honest as you can. Your names and answers are confidential and will not be shared with your parents, teachers, or anyone else who is not associated with this project. This is not a test. We would only like to know about you and how you deal with everyday life. Please feel free to ask us any questions and if at any time you feel that you cannot or do not want to complete the questions, you are welcome to stop filling out the questionnaire at any time. Thank you very much for all your cooperation!!

1.) When you are in a conflict with somebody, how often do you try to solve it without fighting (non-violently)?

Never	Almost Never	Usually	Almost Always	Always
1	2	3	4	5

2.) When your friends get into an argument do they solve it by fighting?

Never	Almost Never	Usually	Almost Always	Always
1	2	3	4	5

3.) How often do you think most people in your neighborhood solve conflicts by fighting?

Never	Almost Never	Usually	Almost Always	Always
1	2	3	4	5

4.) When you are at school, how often do people fight when they disagree?

Never	Almost Never	Usually	Almost Always	Always
1	2	3	4	5

5.) When do you think it is okay to solve problems violently or by fighting?

Never	Almost Never	Sometimes	Almost Always	Always
1	2	3	4	5

Of the following situations, when is it okay to solve a conflict by violence?

	Never	Sometimes	Always
When a family member is in a fight	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When a friend is in a fight	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- When you have been disrespected
- When someone starts a fight with you first
- When someone calls you a name
- When someone steals from you

6.) **How often do you think adults get angry in general?**

Never Almost Never Sometimes Almost Always Always
1 2 3 4 5

7.) **How often do you think kids get angry in general?**

Never Almost Never Sometimes Almost Always Always
1 2 3 4 5

8.) **How often do you think adults use violence to solve problems?**

Never Almost Never Sometimes Almost Always Always
1 2 3 4 5

9.) **How often do you think kids use violence to solve problems?**

Never Almost Never Sometimes Almost Always Always
1 2 3 4 5

10.) **How good do you think adults are at controlling their anger?**

Poor Fair Average Good Excellent
1 2 3 4 5

11.) **How good do you think kids are at controlling their anger?**

Poor Fair Average Good Excellent
1 2 3 4 5

12.) **How good do you think you are at controlling your anger?**

Poor Fair Average Good Excellent
1 2 3 4 5

13.) Do you know of any ways to help you control your anger?

Not really

Yes I do

What are they? _____

14.) Do you know what to do if you get into an argument to solve it peacefully?

Not really

Yes I do

What do you do? _____

**15.) What would you do if saw someone steal one of your cd's at school?
(Mark what you would do with an X)**

Tell a teacher or principal _____

Tell a parent or family member _____

Ask the person to give it back _____

Yell at the person _____

Push or fight the person _____

**16.) If you want to go out to a party or a friend's house but somebody won't let you what would you do?
(Mark what you would do with an X)**

Get upset and yell _____

Fight or act violent _____

Go out anyway _____

Calm down and talk it out _____

17.) What do you think are the two biggest reasons someone might take your cd when it was sitting next to you? (Choose two answers.)

They don't want to pay for it (steal it) _____

They want to make you mad _____

They don't like you _____

They thought it was theirs _____

They thought it was lost _____

18.) You are standing in line and someone comes up and gets in line in front of you. Why do you think they budged you in line? (Choose two answers)

- They want to start a fight _____
- They disrespect you _____
- They didn't see you in line _____
- They are in a big hurry _____
- They are joking around _____

19.) If someone is picking on you in school what is the quickest (most effective) way to make them stop? (Choose two answers)

- Tell them to stop _____
- Tell an adult _____
- Get friends together to threaten them _____
- Fight them, use force (fists) _____
- Threaten them or use a weapon (knife, gun) _____

20.) Do you agree that violence is an effective way to solve a problem?

Totally Disagree	Disagree	Undecided	Agree	Totally agree
1	2	3	4	5

21.) What do you think are good ways to stay safe at school and in your neighborhood? (Choose as many answers as you think.)

- Keep to yourself/stay away from trouble _____
- Act friendly with people/make friends _____
- Join up with a gang _____
- Carry a weapon _____
- Use aggression/act tough _____
- Get involved with sports/hobbies _____
- Get involved with church/youth group _____

22.) How many hours a day do you use a computer?

Less than 1 hour	2-4 hrs.	4-6 hrs.	More than 6 hrs.
1	2	3	4

23.) How often do you use a computer for...?

	Never	Sometimes	Usually
Playing video games	O	O	O

Instant messaging and email	O	O	O
School work	O	O	O
Job related activities	O	O	O

24.) How often do you experience conflict on the computer?

Never	Almost Never	Sometimes	Almost Always	Always
1	2	3	4	5

25.) How old are you? _____

26.) What is your gender? _____

27.) What is your race? _____

28.) What is your ethnicity? _____

29.) What is your grade level? _____

30.) What school do you go to? _____

How can we contact you? Please leave your contact information.

Name: _____

Address: _____

Zip Code: _____

Phone number or email: _____

Appendix E – Post – Test Questionnaire

Thank you for participating in today's activities. We hope you had fun and will come talk to us again in the future! Please look over this questionnaire and answer the following questions. This will help us for future use of the activities and let us know what we can improve. Please ask us if you have any questions.

1.) Do you think computer programs are a good way to learn things?

Not really	They are ok	Average	Very good	Excellent
1	2	3	4	5

2.) Do you think computer programs are fun ways to learn?

Not really	They are ok	Average	Very fun	Excellent
1	2	3	4	5

3.) How much do you think you learned today?

Nothing	A little	Some	Quite a bit	A lot
1	2	3	4	5

4.) How much of what you learned today do you plan on using in the future?

Nothing	A little	Some	Quite a bit	A lot
1	2	3	4	5

5.) When you are in a conflict with somebody, how often do you try to solve it without fighting (non-violently)?

Never	Almost Never	Usually	Almost Always	Always
1	2	3	4	5

6.) When your friends get into an argument do they solve it by fighting?

Never	Almost Never	Usually	Almost Always	Always
1	2	3	4	5

7.) How often do you think most people in your neighborhood solve conflicts by fighting?

Never	Almost Never	Usually	Almost Always	Always
1	2	3	4	5

8.) When you are at school, how often do people fight when they disagree?

Never	Almost Never	Usually	Almost Always	Always
1	2	3	4	5

9.) When do you think it is okay to solve problems violently or by fighting?

Never	Almost Never	Sometimes	Almost Always	Always
1	2	3	4	5

Of the following situations, when is it okay to solve a conflict by violence?

	Never	Sometimes	Always
When a family member is in a fight	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When a friend is in a fight	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When you have been disrespected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When someone starts a fight with you first	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When someone calls you a name	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When someone steals from you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10.) How often do you think adults get angry in general?

Never	Almost Never	Sometimes	Almost Always	Always
1	2	3	4	5

11.) How often do you think kids get angry in general?

Never	Almost Never	Sometimes	Almost Always	Always
1	2	3	4	5

12.) How often do you think adults use violence to solve problems?

Never	Almost Never	Sometimes	Almost Always	Always
1	2	3	4	5

13.) How often do you think kids use violence to solve problems?

Never	Almost Never	Sometimes	Almost Always	Always
1	2	3	4	5

14.) How good do you think adults are at controlling their anger?

Poor	Fair	Average	Good	Excellent
1	2	3	4	5

15.) How good do you think kids are at controlling their anger?

Poor	Fair	Average	Good	Excellent
1	2	3	4	5

16.) How good do you think you are at controlling your anger?

Poor	Fair	Average	Good	Excellent
1	2	3	4	5

17.) Do you know of any ways to help you control your anger?

Not really

Yes I do

What are they? _____

18.) Do you know what to do if you get into an argument to solve it peacefully?

Not really

Yes I do

What do you do? _____

**19.) What would you do if saw someone steal one of your cd's at school?
(Mark what you would do with an X)**

- Tell a teacher or principal _____
- Tell a parent or family member _____
- Ask the person to give it back _____
- Yell at the person _____
- Push or fight the person _____

**20.) If you want to go out to a party or a friend's house but somebody won't let you what would you do?
(Mark what you would do with an X)**

- Get upset and yell _____
- Fight or act violent _____
- Go out anyway _____
- Calm down and talk it out _____

21.) What do you think are the two biggest reasons someone might take your cd when it was sitting next to you? (Choose two answers.)

- They don't want to pay for it (steal it) _____
- They want to make you mad _____
- They don't like you _____
- They thought it was theirs _____
- They thought it was lost _____

22.) You are standing in line and someone comes up and gets in line in front of you. Why do you think they budged you in line? (Choose two answers)

- They want to start a fight _____
- They disrespect you _____
- They didn't see you in line _____
- They are in a big hurry _____
- They are joking around _____

23.) If someone is picking on you in school what is the quickest (most effective) way to make them stop? (Choose two answers)

- Tell them to stop _____
- Tell an adult _____
- Get friends together to threaten them _____
- Fight them, use force (fists) _____
- Threaten them or use a weapon (knife, gun) _____

24.) **Do you agree that violence is an effective way to solve a problem?**

Totally Disagree Disagree Undecided Agree Totally agree
1 2 3 4 5

25.) **What do you think are good ways to stay safe at school and in your neighborhood? (Choose as many answers as you think.)**

Keep to yourself/stay away from trouble _____
Act friendly with people/make friends _____
Join up with a gang _____
Carry a weapon _____
Use aggression/act tough _____
Get involved with sports/hobbies _____
Get involved with church/youth group _____

26.) **How many hours a day do you use a computer?**

Less than 1 hour 2-4 hrs. 4-6 hrs. More than 6 hrs.
1 2 3 4

27.) **How often do you use a computer for...?**

	Never	Sometimes	Usually
Playing video games	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instant messaging and email	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
School work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Job related activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

28.) **How often do you experience conflict on the computer?**

Never Almost Never Sometimes Almost Always Always
1 2 3 4 5

29.) **How old are you?** _____

30.) **What is your gender?** _____

31.) **What is your race?** _____

32.) **What is your ethnicity?** _____

33.) What is your grade level? _____

34.) What school do you go to? _____

How can we contact you? Please leave your contact information.

Name: _____

Address: _____

Zip Code: _____

Phone number or email: _____

Appendix F – Crosstab Output for McNemar Test on “Willingness to Use Violence” Variables

Violence_OK_Fam (Pre – Test) & Violence_OK_Fam (Post – Test)

Violence_OK_Fam (Pre -Test)	Violence_OK_Fam (Post - Test)	
	No	Yes
No	6	2
Yes	2	10

Violence_OK_Fight (Pre – Test) & Violence_OK_Fight (Post – Test)

Violence_OK_Fight (Pre -Test)	Violence_OK_Fight (Post – Test)	
	No	Yes
No	4	1
Yes	2	13

Violence_OK_Friend (Pre – Test) & Violence_OK_Friend (Post – Test)

Violence_OK_Friend (Pre – Test)	Violence_OK_Friend (Post – Test)	
	No	Yes
No	8	1
Yes	1	10

Violence_OK_Name (Pre – Test) & Violence_OK_Name (Post – Test)

Violence_OK_Name (Pre – Test)	Violence_OK_Name (Post – Test)	
	No	Yes
No	13	1
Yes	2	4

Violence_OK_Disrespect (Pre – Test) & Violence_OK_Disrespect (Post – Test)

Violence_OK_Disrespect (Pre – Test)	Violence_OK_Disrespect (Post – Test)	
	No	Yes
No	7	1
Yes	3	9

Violence_OK_Steal (Pre – Test) & Violence_OK_Steal (Post – Test)

Violence_OK_Steal (Pre – Test)	Violence_OK_Steal (Post – Test)	
	No	Yes
No	3	1
Yes	5	11

Appendix G - Crosstab Output For McNemar Test on “Knowledge of Conflict Resolution and Anger Management Techniques”

Ways to Control your Anger (Pre – Test) & Ways to Control your Anger (Post – Test)

Ways to Control your Anger (Pre – Test)	Ways to Control your Anger (Post – Test)	
	Not Really	Yes I Do
Not Really	0	3
Yes I Do	0	17

Ways to Solve Conflict Peacefully (Pre – Test) & Ways to Solve Conflict Peacefully (Post – Test)

Ways to Solve Conflict Peacefully (Pre – Test)	Ways to Solve Conflict Peacefully (Post – Test)	
	Not Really	Yes I Do
Not Really	0	3
Yes I Do	0	17

Test Statistics^b

	Ways to Control your Anger (Pre – Test) & Ways to Control your Anger (Post – Test)	Ways to Solve Conflict Peacefully (Pre – Test) & Ways to Solve Conflict Peacefully (Post – Test)
N	20	20
Exact Sig. (2-tailed)	.250 ^a	.250 ^a

a. Binomial distribution used.

b. McNemar Test

Appendix H – Crosstab Output for McNemar Test on “Self-Confidence in Managing Anger”

You_Control_Anger (Pre – Test) &
You_Control_Anger (Post – Test)

You_Control_Anger (Pre – Test)	You_Control_Anger (Post – Test)	
	Below Average	Above Average
Below Average	5	1
Above Average	1	5

Test Statistics^b

	You_Control_Anger (Pre – Test) & You_Control_Anger (Post – Test)
N	12
Exact Sig. (2-tailed)	1.000 ^a

a. Binomial distribution used.

b. McNemar Test