2006

A Study To Evaluate The Efficacy Of A Cognitive Change Program, *Thinking For A Change*, On The Behavior Of Adult Male Offenders Incarcerated In Indiana Prisons

Harry James Sykes
Indiana State University

Vita

Harry James Sykes

Education

2006	Indiana State University Ph.D. – Educational Administration	Terre Haute, IN
1997	Indiana State University Secondary Administration Certification	Terre Haute, IN
1990	Indiana State University Teacher Certification – Business Education	Terre Haute, IN
1976	Ball State University M.A. – Counseling	Muncie, IN
1974	University of Maryland B.A. – Business Administration and Management	Heidelberg, Germany

Professional Experience

2005 – Present	Principal, Arthur Campbell High School Plainfield Correctional Facility, Plainfield, IN
1997 – 2005	Asst. Principal, Arthur Campbell High School Plainfield Correctional Facility, Plainfield, IN
1992 – 1997	Teacher, Arthur Campbell High School Plainfield Correctional Facility, Plainfield, IN
1987 – 1992	Data Processing Manager Plainfield Correctional Facility Plainfield, IN
1984 – 1987	Assistant Director, Food Stamp Division Department of Public Welfare, Indianapolis, IN
1978 – 1984	Refugee Resettlement coordinator/Policy Consultant Department of Public Welfare, Indianapolis, IN
1975 – 1978	Caseworker Supervisor/Caseworker Grant County Welfare Department Marion, IN

1966 – 1975	Radio Operations, Vietnam Veteran United States Air Force

Memberships/Affiliations

1980 – Present	Past Master (1984-88), Treasurer (1989-95) Belleville Masonic Lodge No. 65 Cartersburg, IN
1980 – 1988	Board of Trustees (Offices held – president, secretary) Clayton/Liberty Township Library, Clayton, IN
1981 – Present	Scottish Rite Indianapolis Valley, Indianapolis, IN
1978 – Present	American Legion Post No. 118, Danville, IN

A STUDY TO EVALUATE THE EFFICACY OF A COGNITIVE CHANGE PROGRAM, *THINKING FOR A CHANGE*, ON THE BEHAVIOR OF ADULT MALE OFFENDERS INCARCERATED IN INDIANA PRISONS

A Dissertation

Presented to

The School of Graduate Studies

Department of Educational, Leadership, Administration, and Foundations

Indiana State University

Terre Haute, Indiana

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

---

by

Harry James Sykes

August 2006

School of Graduate Studies
Indiana State University
Terre Haute, Indiana

CERTIFICATE OF APPROVAL

DOCTORAL DISSERTATION

This is to certify that the Doctoral Dissertation of

Harry James Sykes

entitled

A Study to Evaluate the Efficacy of a Cognitive Change Program,
Thinking For a Change, on the Behavior of Adult Male Offenders
Incarcerated in Indiana Prisons

has been approved by the Examining Committee for the dissertation requirement for the

Doctor of Philosophy degree

in Educational Administration

August 2006

8/4/06
Bradley Balch, Ph.D. Date
CHAIR, Dissertation Committee

8-4-06
Steve Gruenert, Ph.D. Date
Member, Dissertation Committee

8-4-06
James Jacobs, Ph.D. Date
Member, Dissertation Committee

8/7/06
Jolynn Kuhlman, Ph.D. Date
Interim Dean, School of Graduate Studies

ABSTRACT

Indiana correctional officials continually look for programs that change offender behavior, both within the correctional facility setting and subsequent to their release back into the community. The *Thinking for a Change* program, developed in 1997 by Bush, Glick, and Taymans is a cognitive behavioral program currently being used to affect change in adult males incarcerated within the Indiana Correctional system. This study compared Class "A" and Class "B" disciplinary write-ups received by three groups of offenders; those who completed the *Thinking for a Change* (Bush et al.) program and received a time cut, those who completed the *Thinking for a Change* (Bush et al.) program and did not receive a time cut and those who did not complete the program.

The following research questions were asked: 1) Is there a difference in the number of disciplinary write-ups between offenders who completed the *Thinking for a Change* (Bush et al., 1997) program and received a time cut and those who did not participate in the program? 2) Is there a difference in the number of disciplinary write-ups between offenders who completed the *Thinking for a Change* (Bush et al.) program, did not receive a time cut, and those who did not participate in the program? 3) Is there a difference in the number of disciplinary write-ups between pre and post-test observations for each population category? 4) Is there a difference in the number of disciplinary write-ups within each category that completed the program?

A quantitative analysis utilized comparisons of disciplinary write-ups for each of the three population categories identified above. A quantitative analysis using *t*- tests was used to assess whether any difference existed in disciplinary write-ups for each category. Completion dates for the *Thinking for a Change* (Bush et al., 1997) program of the sample population was used to delineate pre and post time periods for both the sample population and the control group.

There were no statistically significant differences found between offenders who did not complete the *Thinking for a Change* (Bush et al., 1997) program and those who did, regardless of whether they received an educational time cut or not. Statistically significant mean differences were found within the number of Class A write-ups, which represents the most serious of disciplinary infractions, and Class B write-ups, which represents a serious disciplinary infraction, for those offenders who completed the *Thinking for a Change* (Bush et al.) program and received an educational time cut. Class A disciplinary write-ups had statistically higher mean write-ups during the post observation period than the write-ups observed during the prior observation period. Class B disciplinary write-ups also had statistically higher mean write-ups during the post observation period than the write-ups observed during the prior observation period. A statistically significant mean difference was also found within the number of Class A write-ups for those offenders who completed the *Thinking for a Change* (Bush et al.) program and received no educational time cut. Class A disciplinary write-ups had statistically higher mean write-ups during the post observation period than the write-ups observed during the prior observation period.

ACKNOWLEDGMENTS

When I first went back to school to obtain my teaching license, I never dreamed that I would pursue my doctorate. I would like to thank Dr. Mary E. Adams for her patience with me during my studies in the content area of business education. She found that while I knew many things there were gaps in my education. She was the first of many who gave me the desire to continue to fill in these gaps in my education.

I thank all members of my Wednesday cohort group for making me feel welcome and contributing to my understanding of statistics. Education in Indiana is a much better place by having these individuals teach, work and lead in their respective communities.

I thank Dr. Greg Ulm for introducing me to Senge's, *The Fifth Discipline* and for being a professional representative of the principles contained within that book. To Dr. Todd Whitaker for his energy, wit and ability to provide demonstrated strategies to create a positive school climate and commitment of staff.

I wish to thank my committee members who gave their valuable time to help me: Dr. Brad Balch, Dr. Steve Gruenert, Dr. Jim Jacobs, Dr. Greg Ulm and Dr. Eric Hampton. I especially appreciate the support of Dr. Balch in encouraging me to keep going. All of these individuals have and continue to assist me in filling in those gaps in my knowledge base. I appreciate your facilitating my being a lifelong learner.

I thank my wife, Teri, for her continued encouragement and support during this process. Without this support I could not have succeeded.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter 1

INTRODUCTION

Beccaria (1764) in his essay "On Crimes and Punishments" postulated that rational individuals of freewill had made a choice to live together in a social setting instead of living alone. When one chooses to live in a society, then one also chooses to give up some personal liberties in exchange for the safety and comfort of a society. Laws represent the framework of society and set the norms of behavior that apply to all within the membership of that society. This social contract also set forth the need for a criminal justice system and established the government's right to have laws and punishments in the interests of public safety.

Punishment versus treatment has long been a societal issue balancing the need for incarceration and public safety with an individual's need for reformation. A historical perspective reflects that incarceration and punishment by itself does not serve as a deterrent to initial criminal activity nor the recidivism of those previously incarcerated (Smith, Goggin, & Gendreau, 2002). In 2002, over 6.7 million people were under some sort of correctional supervision: probation, parole, in jail, or in prison (Bureau of Justice Statistics, 2002).

The results of a 15-year study found that in 1994 the rate of recidivism (i.e., offenders re-arrested within 3 years) for all offenders was 67.5% (Bureau of Justice

Statistics, 1994). Without an attempt at reformation, we have failed to provide for and insure the interests of public safety upon the release of the offender.

During the past decade, there has been ever increasing pressure to reduce recidivism because of the escalating cost of maintaining offenders in incapacitation and recognition that such a large proportion will recidivate and return a second time. This recognition has directed policy makers to focus upon offender rehabilitation and seek a more formalized empirical basis on which to make decisions about implementing programs of rehabilitation. There is an increasing body of evidence in literature that is beginning to identify "what works" in regard to reducing recidivism. Romig in 1978 represents that there is additional anecdotal evidence from meta-analytical review of the literature that tells us rehabilitation was effective, given certain treatments in certain settings with certain offenders (as cited in Lieb, 1994). With the continued emphasis to use empirical studies to evaluate the effectiveness of interventions designed to reduce recidivism, it is then of necessity a requirement that follow-up studies be done whenever and wherever these interventions have been implemented to determine their effectiveness.

Indiana adopted the use of an intervention program entitled *Thinking for a Change*, developed by Bush, Glick, and Taymans (1997) for use in all correctional facilities in 2002. The author's program is a National Institute of Corrections (NIC) developed program and currently is used in a variety of correctional facilities or with those offenders released to probation. This program is designed to re-structure offenders thinking, teach pro-social cognitive skills, and teach appropriate problem solving skills.

Since implementation of this program in Indiana occurred less than two years ago, these are insufficient numbers of offenders released with whom to conduct a study on recidivism. However, the Department of Correction's public safety responsibilities include providing for the protection of the public by the incarceration of offenders, providing for the protection of staff responsible for providing services to these offenders, and providing for the protection offenders from each other and themselves. While we continue to seek applications of policy that will reduce recidivism, it is equally as important to find effective strategies to manage ever larger populations of offenders housed in over-crowded correctional facilities (Encarta, 2005).

Therefore, the purpose of this study is to evaluate the efficacy of the *Thinking for a Change* (Bush et al., 1997) program on the behavior of adult male offenders incarcerated within Indiana prisons. This focus upon offender behavior is consistent with language in the Indiana Code, concerning educational time cuts, that equates a demonstrated pattern of rehabilitation, to be one that is discipline free at the time of and one year prior to program completion (IC 35-50-6-3.3 [2]).

The problem of rehabilitation has been and continues to be, how does one effectively change the thinking and therefore the behavior of individuals who have demonstrated a failure to comply with the dictates of social norms, thereby finding themselves incarcerated as wards of the state? The issue of rehabilitation must address both the purpose of reduced recidivism and reduced disciplinary problems.

Statement of the Problem

When correctional policies continue to embrace retribution, deterrence, and incapacitation as the primary focus of societal decision making in regard to the treatment

of criminals, we can hardly be surprised at the experiential growth of individuals incarcerated in the United States in recent decades and the staggering number of repeat offenders (Bureau of Justice Statistics, 2002). The Bureau of Justice reports that in 1980, 1.8 million people were under some sort of correctional supervision: probation, parole, in jail, or in prison. By 2002 this population had grown to 6.7 million people (Bureau of Justice Statistics).

On July 1, 2004 Indiana prisons had 23,760 adults incarcerated with an average daily cost per offender of $57.44, or $20,965.60 annually. The Indiana Department of Correction general fund budget has $571 million allocated for statewide operations (Indiana Department of Correction, 2004). At the local correctional facility level, issues of public safety (i.e., the protection of staff, offenders, and property) are more parochial and are measured by compliance with institutional rules governing offender behavior and interaction.

The Indiana Department of Correction Adult Disciplinary Procedures - Policy No. 02-04-101 revised January 2004 provides the purpose and principles for a disciplinary system and codifies offenses by alpha-numerical designators.

> Purpose: It is the objective of the Indiana Department of Corrections to develop reasonable rules and regulations that are designed to encourage offenders to respect the rights of others, and to exercise self-control, and self-discipline. These procedures provide consistent rules of conduct, procedural guidelines, and principles of fair discipline to maintain an orderly and safe environment within Department of Correction facilities.

> General principles: This code establishes conduct guidelines for offenders, procedural guidelines for offenders and employees, appropriate sanctions and appeal procedures. The following general principles shall apply to each disciplinary action:
>
> Disciplinary action shall be taken at such times and in such measures and degree as is necessary to manage an offender's behavior within acceptable limits. (Indiana Department of Correction (DOC) Policy 02-04-101, ii)

The classification of inappropriate behavior is generally grouped into a four-tiered alpha-numeric system. The alpha character represents the class of the infraction and the general severity of the offense. The numeric portion represents the specific codified infraction that occurred.

Class "A" infractions represent conduct that demonstrates a significant threat of personal injury to staff or other offenders, the substantial destruction of state property, escape, and other serious behavior of this nature. Examples of a Class "A" infraction include: committing battery upon another person, with a weapon or inflicting serious injury, rioting, sexual assault, escape, or possession or use of any unauthorized controlled substance, possession of drug paraphernalia, or failure to submit to a substance or alcohol test (DOC Policy 02-04-101, p. 13).

Class "B" infractions represent a serious offense for behavior that is generally disruptive to the routine operation of the facility or promotes a hostile interaction that does not result in serious injury. Examples of a Class "B" infraction include: committing a battery upon another person without a weapon or inflicting serious injury, intimidation or threatening another with bodily harm, engaging in sexual acts with another, possession

of escape paraphernalia, setting a fire, possession of unauthorized items that have been altered or modified for the purpose of becoming a weapon, tattooing, self-mutilation or possession of tattooing paraphernalia, or use or possession of tobacco (DOC Policy 02-04-101, p. 14).

Class "C" and "D" infractions are less serious and are generally related to rules violations. For purposes of this study we will only concern ourselves with Class "A" and Class "B" infractions since they represent the potential to extend the actual period of incarceration that an offender must serve as annotated in Table 1.1.

Table 1.1

Maximum Allowable Sanctions (DOC Policy 02-04-101)

Sanction	Class A	Class B
Disciplinary secretary	1 year	6 months
Reduction in credit class	2 grades	1 grade
Loss of earned credit time	24 months	6 months

The Department of Correction, Statistical Facility Report to the Commissioner, provided information on conduct incidents by offense class at all adult facilities for fiscal year 2004. Information relative to adult male facilities was then derived from this report. Adult male facilities had an average daily population of 79,539 incarcerated offenders. During this fiscal year 57.5% (45,727) of the incarcerated population was found guilty of all categories of conduct incidents. Class "A" conduct incidents accounted for 5.8% (2648) of all incidents and Class "B" conduct incidents accounted for 22.5% (10,270) of all incidents.

Purpose of the Study

The purpose of this study is to evaluate the efficacy of a National Institute of Corrections cognitive behavioral program, *Thinking for a Change*, developed in 1997 by Bush et al., on its use with adult male offenders incarcerated within the facilities of the Indiana Department of Correction. This program is designed to provide systematic training in "thinking skills" required for individuals to function productively and responsibly in a correctional environment and subsequently in society. Assumptions of this program are that offenders have some control over their decisions to comply with or violate the cultural norms as represented by existing laws, rules, and regulations of the community in which they live. It also assumes that a change in cognitive behavior will result in a change in social behavior. If these assumptions are correct, then we participating programs expect to see 1) reduced recidivism rates and 2) reduced disciplinary problems while incarcerated for those offenders who have successfully completed the program.

While the Indiana Department of Correction has implemented this program statewide, no formal study has been done within the state to determine the effectiveness of this training on offender behavior during incarceration. Therefore, this researcher proposed to conduct a formal study of adult male offenders incarcerated within the Indiana Department of Correction to determine if there is a difference in offender disciplinary behavior between offenders who have successfully completed the *Thinking for a Change* (Bush et al., 1997) program and those who never participated in the

program. Through September, 2004 approximately 2,100 adult male offenders have completed this program.

Research Questions

This study sought to answer the following research questions:

1) Is there is a difference in the number of Class A or Class B disciplinary write-ups between offenders who have completed the *Thinking for a Change* (Bush et al., 1997) program, received an educational time cut and those who didn't participate in the program?
2) Is there a difference in the number of Class A or Class B disciplinary write-ups between offenders who have completed the *Thinking for a Change* (Bush et al.) program, received no educational time cut and those who didn't participate in the program?
3) Is there a difference in the number of Class A or Class B disciplinary write-ups, 6 months prior to and 6 months after completing the program, for those offenders who have completed the *Thinking for a Change* (Bush et al.) program and received an educational time cut?
4) Is there a difference in the number of Class A or Class B disciplinary write-ups, 6 months prior to and 6 months after completing the program, for those offenders who have completed the *Thinking for a Change* (Bush et al.) program and received no educational time cut?
5) Is there a difference in the number of Class A or Class B disciplinary write-ups, 6 months prior to and 6 months after completing the program, for those offenders who never participated in the *Thinking for a Change* (Bush et al.) program?

6) Is there a difference in the number of Class A or Class B disciplinary write-ups within those offenders who completed the *Thinking for a Change* (Bush et al.) program and received an educational time cut?

7) Is there a difference in the number of Class A or Class B disciplinary write-ups within those offenders who completed the *Thinking for a Change* (Bush et al.) program and received no educational time cut?

Significance of the Study

The research study has several positive attributes for the Department of Correction, the individual incarcerated offender, and the general good of society. To determine "what works" in rehabilitative programs it is necessary to empirically evaluate specific programs once they have been implemented.

For the administration, this study provided more accurate data enabling them to make informed policy related determinations if the specific program represents an appropriate "treatment" methodology and whether it should be continued or expanded.

For the incarcerated offender, this study determined what impact the *Thinking for a Change* (Bush et al., 1997) program has on increasing the probability of reducing the numbers of Class "A" or Class "B" write-ups and subsequently increasing the probability of creating a safer living environment.

For the general public, this study determined what impact the *Thinking for a Change* (Bush et al., 1997) program has on increasing the probability of reducing the numbers of Class "A" or Class "B" write-ups; thereby reducing the length of time and associated costs for offender incarceration. It is also assumed that the acquisition and use of better thinking, social and problem solving skills will translate into more socially

acceptable decisions when released back into the community, thereby resulting in reduced recidivism rates.

Additionally, this study represented an attempt to improve the state of knowledge concerning the efficacy of the *Thinking for a Change* (Bush et al., 1997) program to make a positive impact on changing the thinking processes of incarcerated offenders, resulting in changes in behavior more consistent with the norms and values of society.

Definition of Key Terms

Conduct report. A summary of an alleged violation committed by an offender and documented by an employee.

Cognitive development. This addresses deficits in areas of problem solving, moral reasoning, and social skills.

Cognitive restructuring. This focuses on thinking distortions rather than thinking deficits.

Correctional facility. This is a broad term which encompasses any correctional setting that is used to incarcerate offenders.

Credit class. One of the three categories provided by Indiana Statute to which an offender may be assigned or reassigned for the purpose of earning credit time.

Credit time. The amount of time credited towards the calculation of offenders projected release dates. (i.e., an offender in credit class one will receive two days credit for each day served. An offender in credit class three will receive one day for each day served.)

Crime. Any act committed in violation of the law that prohibits it and authorizes punishment for its commission (Gottfredson & Hirschi, 1990).

Criminal thinking. Thinking that says it is all right to violate others or the property of others (Yochelson & Samenow, 1976).

Criminogenic needs. Needs are dynamic attributes of an offender, when changed, are associated with changes in the probability of recidivism (Andrews & Bonta, 1994).

Delinquent. A violation of the law committed by a juvenile that would have been a crime if committed by an adult or non-criminal acts for which supervision or treatment is authorized by juvenile authorities.

Disciplinary hearing body. The staff persons charged with the responsibility to hear disciplinary cases.

Educational time cut. A provision of Indiana Code C 35-50-6-3.3 that permits incarcerated offenders to receive reductions in the length of their imprisonment time by successfully completing educational programs and demonstrating a pattern of rehabilitation by being free of any Class "A" or Class "B" disciplinary write-ups at and for one year prior to the completion of the educational program.

Hearing. An administrative process to review evidence and to hear testimony before a Disciplinary Hearing Body.

High-risk offender. This is an individual whose crime and behavior represents a serious threat to staff, other offenders, or him or her self.

Low-risk offender. This is an individual whose crime and behavior represent a minimal threat to staff, other offenders, or him or her self.

Offender. An individual who has been found guilty of a crime and is incarcerated in an Indiana correctional facility operated under the control of the Department of Correction.

Thinking for a Change (Bush et al., 1997). This is a cognitive change program developed specifically for use in a correctional facility. It encompasses cognitive self-change, social skills development, and problem solving skills.

Sanction. A penalty imposed as a result of an Informal Conduct Report or Disciplinary Hearing Body action, which is within the limits of the disciplinary Code for Adult Offenders.

Security classification. This is a classification system used by the Department of Correction to classify both offenders and facilities relative to the level of risk of offenders incarcerated at a given facility.

Segregation. The physical separation of an offender from the general population.

Violation. An offense listed in the disciplinary Code for Adult Offenders.

Write-up. The process by which a staff person documents inappropriate behavior by an offender as defined within the Indiana Adult Disciplinary Procedures Policy 02-04-101, 2004.

Delimitations of the Study

The study was restricted solely to selected correctional facilities that house adult male offenders and have provided the *Thinking for a Change* (Bush et al.) program to offenders at their facility. Selection of correctional facilities was based upon those adult male facilities that have offenders who participated in the program during 2003 or 2004 and were incarcerated 6 months prior to entry into the program and 6 months following

completion of the program. Due to the limited time since implementation of the program, this study did not address the issue of recidivism.

Limitations of the Study

Offenders who participate in the *Thinking for a Change* program self-select into the process and therefore have a built-in bias. Additionally, some program participants who had original Test of Adult Basic Education (TABE) test scores below 5.9 (i.e., grade equivalency of year and month) in any of the 3 areas tested; reading comprehension, English, and mathematics may also be eligible to receive a reduction in their sentence if they complete this program and raise their TABE scores above 5.9 in all areas tested. This researcher recognizes both self-selection and sentence reduction time as two of the limitations of this study. Instructor bias is not considered a factor, since the treatment course was taught by multiple instructors at several correctional facilities within Indiana.

Organization of the Study

The study is organized into five sections. The first chapter is an introduction to the general issue of the social contract governing crime, punishment, and public safety in society. This chapter introduces the concept of punishment versus treatment and the societal issue balancing the need for incarceration and public safety with an individual's need for reformation. It also introduces the recent focus of using empirical based data to develop programs designed to change offenders thinking processes and behavior; thereby resulting in rehabilitation and a subsequent reduction in recidivism. Implicit in this initiative is the requirement that once policy makers have implemented treatment programs it is imperative that formal studies be conducted to evaluate their efficacy. The

final portion of this section is an introduction to the *Thinking for a Change* (Bush et al., 1997) program.

The second chapter covers a review of the literature surrounding criminal conduct, theoretical explanations of crime, criminogenic need factors, and the principles of social and cognitive change theories that underlie the development of the *Thinking for a Change* (Bush et al., 1997) program. It also reports on the extant research of empirical meta-analytical reviews conducted with correctional populations.

The third chapter provides an overview of the methodology and research questions that will be answered following the completion of the study. It includes the individual demographics for each group studied. The fourth chapter provides the analysis and findings resulting from the study and the methods used to analyze the data.
The fifth chapter sets forth the conclusions and recommendations based upon the findings presented in the fourth chapter and the current state of the literature as the writer knows it.

Chapter 2

REVIEW OF THE LITERATURE

Gottfredson and Hirschi (1990), Adler, Mueller, and Laufer (2000), Akers (2000), and Andrews and Bonta (2003) all provide a brief synopsis of what constitutes criminal conduct from four major perspectives.

1) Legally, criminal conduct is an act that is prohibited by the state and punishable by law.
2) Morally, criminal conduct is an act that goes against the norms of a religious morality and is punished by a supreme being.
3) Socially, criminal conduct is an act that goes against the custom and tradition of the community.
4) Finally, the psychological perspective represents criminal conduct as an act that brings pain and loss to others, but is rewarding to the criminal (Andrews & Bonta, 2003, p. 38)

In the textbook required for the introductory course in criminology at Indiana State University, Adler et al. (2000) correspondingly identify four traditional philosophical perspectives that have also molded correctional policy concerning responses to criminal conduct.

Retribution – The type of sentence is proportionate to the crime, deserved (i.e., just desserts), and expresses the moral condemnation of society.

Deterrence – theory of punishment that holds potential offenders will refrain from committing crimes for fear of punishment (i.e., general prevention).

Incapacitation – prevents persons from committing crimes by physical restraint (i.e., incarceration).

Rehabilitation – reformation of an offender through interventions such as education, vocational programs, and psychotherapies. (p. 17)

Historically in the United States, consensus can generally be found for the first three of these traditional philosophies. This consensus reflects a strong political, social, and religious agreement for the past and continued implementation of the practices established under these philosophies.

And yet, regardless of this consensus, society cannot escape the historical use of correctional language that is highly reflective of both social and moral judgements of what will aid in the rehabilitation and reformation of the individual offender. During the colonial period the Quakers were the first to establish correctional facilities for offenders. These facilities were called penitentiaries and offenders were placed in sparsely furnished individual cells. After performing public works during the day, the offender was returned to his cell to contemplate the error of his ways and seek penance for his behavior (Adler et al., 2000). In later years, reformatories replaced penitentiaries. Education and vocational training would become the methodology of choice to reform the individual consistent with the norms and values of society (Adler et al.).

Until the 1970's reformation had been a consistent component of correctional policies. However, in 1974, Martinson published an article entitled *"What Works? - Questions and Answers about Prison Reform"* in the journal *The Public Interest.* This article was the result of his evaluation of 231 case studies on recidivism that had been conducted between 1945 and 1967. From this meta-analytic review Martinson concluded that "nothing works" in the rehabilitation of criminal offenders. This article received wide acceptance and the punishment based strategy of incapacitation became the hard line of political and social rhetoric of the next two decades (as cited in Sarre, 1999).

This influence can even be seen in the 1989 United States Supreme Court decision in the case of Mistretta vs. the United States. This decision upheld that Federal sentencing guidelines were constitutional. And, it removed the goal of rehabilitation from serious consideration for initial sentencing. Specifically, 28 U. S. C 994(K) rejects initial imprisonment as a means of promoting rehabilitation. Additionally, 18 U. S. C. 353 (a) (2) states that punishment should serve retributive, educational, deterrent, and incapacitative goals (Mistretta vs. U.S., 1989).

However, it is the theory of rehabilitation that has caused and continues to cause the greatest discussion on "what works" in aiding the reformation of the incarcerated offender. Warren Burger, former chief justice of the U.S. Supreme Court said, "We must accept the reality that to confine offenders behind walls without trying to change them is an expensive folly with short-term benefits ....a 'winning of battles while losing the war'" (as cited in Walters, 1999, p. 323).

Modern explanations of criminal conduct are generally referred to as the positivist school of criminology (Adler et al., 2000). This school of thought emphasizes the

understanding of criminal behavior by uncovering factors which account for that behavior. Positivists also use the scientific method and empirical data to aid in their understanding of crime and criminal behavior.

Akers and Jensen (2003) reports that research on rehabilitation comprises a data base that can be invaluable in assessing the adequacy of criminological theories. They postulate that if causal factors are reduced then there should be a corresponding reduction in offending. They have suggested that social learning theory draws the clearest and most convincing support from this research on rehabilitation.

Social Learning Theory

In 1947, Sutherland (as cited in Akers, 2000) introduced the theory of differential association. This theory examined the idea that criminal behavior is learned as opposed to being an biological trait. He further suggested that this behavior is learned through interaction with others. Generally this behavior is shared among others in the interactive social group to which they belong (including those in prison); differential association. This principle of differential association has an individual committing criminal acts because they have learned "definitions" favorable to the violation of the law instead of definitions unfavorable to the violation of the law (Akers).

Definitions are the attitudes or norms, including rationalizations, of what is right and wrong. These definitions provide the orientation for both the individual and the group. Differential reinforcement is the balance of providing reward for desired outcomes and punishment for undesirable actions. The greater the reinforcement, the more likely it is to be taken and repeated (Akers, 2000).

Bandura (1986) subsequently developed and introduced one of the most important concepts that modified social learning theory, that of reciprocal determinism. This concept suggested that the interaction of environmental events, personal factors, and behavior all operated as interacting determinants of each other and together contributed to an individual's behavior. This concept further represents the "big picture" of rehabilitative therapies. Since there is a reciprocal relationship in this interaction, it provides the individual with some control over their choices in the decision making process as well as setting limits of self-direction.

This interaction also provides a cognitive process whereby the individual can learn by observation and does not have to individually learn by trial and error; we learn by watching other people. When the behavior makes sense or is attractive, we are willing to experience it for ourselves. When we succeed, we become more confident (i.e., a measure of self-efficacy). As we interact within the environment, it becomes a two-way process of reciprocal determinism: as we change it, it changes us. Thus, learning is a combination of watching, thinking, and trying. Individuals do not simply react to stimulus events. They interpret the events and organize the information derived from them into beliefs about what leads to acceptable behavior within the social group to which they belong (Akers, 2000; Akers & Jenson, 2003; Bandura, 1986).

One of the most powerful means of transmitting values, attitudes, and patterns of thought and behavior has been the use of modeling. The function of modeling is to introduce new behavior and strengthen or weaken behaviors previously learned. Modeling can be accomplished through demonstration by an actual person or by a symbolic representation of a person or action portrayed in some other medium (Bandura,

1986). Figure 2.1 represents the four-step pattern which combines both cognitive and operant views of learning.

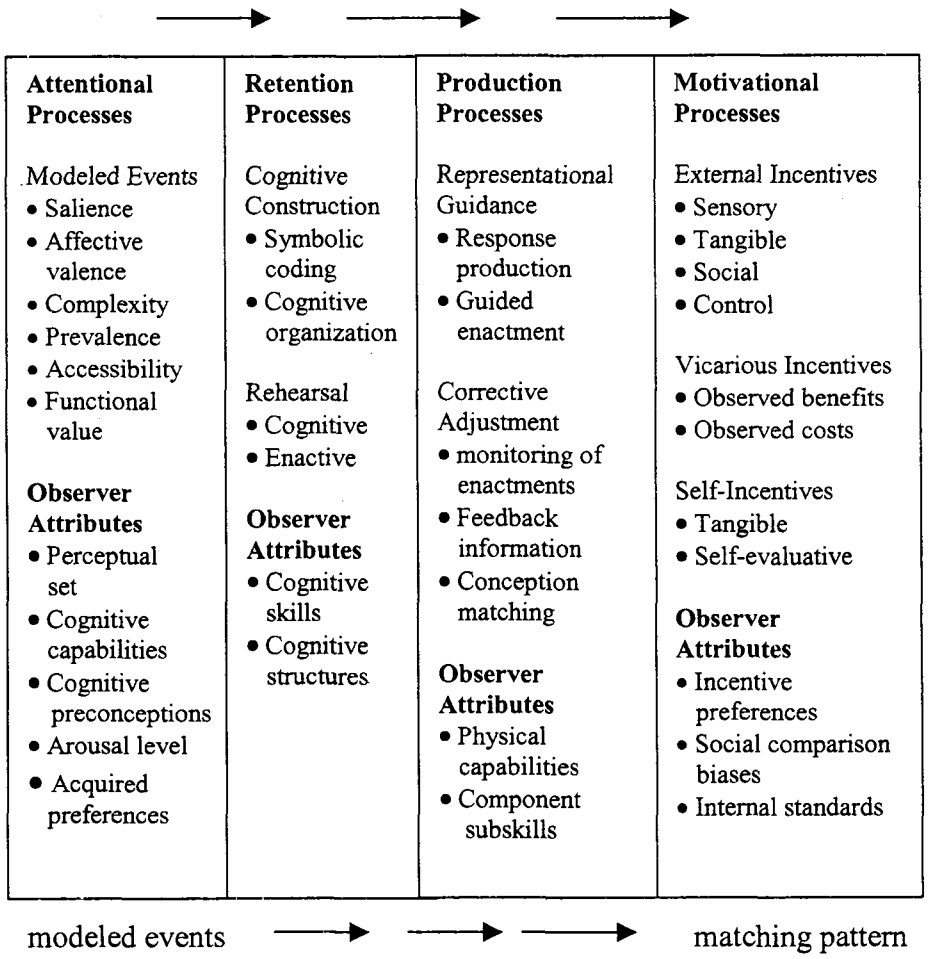

Figure 2.1. Four sub-processes governing observational learning (Bandura, 1986, p. 253).

By observation the individual obtains predictive social cues that play a role in the regulation of individual conduct within the social group. However, Akers and Jenson (2003) noted that after the initial use, imitation becomes less important on whether the effects of definitions should continue. The actual consequences of the behavior will now contribute more substantially to the maintenance of the behavior. Generally speaking, retention of these cues and the learning of appropriate behavior require the active

transformation and restructuring of information about events. This process also provides for the individual's ability to reproduce the behavior and provides outcome expectation judgments of the likely consequences that inappropriate behavior will produce. This process provides the best deterrent to criminal conduct by developing pro-social values, activities, and positive reinforcement for appropriate behavior (Bandura, 1986).

Social learning theory provides an individual learning process in the context of social structure, interaction, situation, and provides the opportunity for both conforming and deviant behaviors (Akers, 2000). It provides a basic foundation principle of social learning theory; people learn by observing the behavior of others and the outcomes of those behaviors (Bandura, 1986). These four principles are as follows.

1. *Attention* – the individual observes something in the environment.
2. *Retention* – the individual can recall his or her impression of what was observed.
3. *Reproduction* -- the individual reproduces an action previously observed.
4. *Motivation* – the environment provides a consequence that influences the probability that the behavior displayed will continue. (p. 253)

Thorndike's (1911) "law of effect" proposes that external influences concerning the expectation of reward or punishment may have an effect on behaviors that are exhibited. This effect is generally considered to be indirect and not the main cause for the exhibited behavior. However, it will influence the extent to which a learned behavior will be exhibited. This relationship of reward and punishment permits individuals to form expectations about the future consequences of one's behavior. Reinforcement will only occur if the individual is aware of the direct connection between the behavior and the

consequence and as long as that system is in place (Bandura, 1986; Thorndike). However, once a behavior is learned, internal reward and motivation factors may be sufficient to reinforce the behavior without an external reinforcement (Akers & Jenson, 2003).

The classical theory of criminal conduct is based upon the assumption that people choose to behave in a criminal manner when they believe the benefits outweigh the costs, reward versus punishment. Gottfredson and Hirschi (1990) proposed that this was the natural consequence of unrestrained human tendencies (i.e., a Freudian concept which is to seek pleasure and avoid pain.) These assumptions have been the basis for the development of policies that utilize external social controls to prevent or deter criminal behavior. We can readily observe that our increased emphasis on punishment has not been effective as seen by the increased number of offenders incarcerated during the past two decades (Bureau of Justice Statistics, 2002). Harer (1994) studied 1205 offenders released in 1987 from federal prisons and concluded that time served in prison was unrelated to recidivism. Additionally, there is sufficient anecdotal evidence in literature reviews, 111 studies involving over 442,000 offenders, which shows that imprisonment by itself results in a 3% increase in recidivism (Gendreau, Goggin, & Cullen, 1999; Smith et al., 2002). These findings were consistent across subgroups of offenders; adult/youth, male/female, and white/minority.

During the past decade, there has been an increasing emphasis to identify and use the literature to identify the best practices concerning "what works" in correctional interventions. Policy decision-makers are using quality research results, including evidence based practices and empirically supported treatment results, to make informed decisions about interventions and treatments (Reitzel, 2005). The results of this emphasis

on empirical based decision making has established that the most promising practices and principles of effective correctional interventions involve the use of behavioral, cognitive and social learning principles (Andrews & Bonta, 1994; Andrews, et al., 1990). Programs having the greatest reductions in recidivism use cognitive-behavioral treatment, target known predictors of crime for change and target high risk offenders (Cullen & Gendreau, 2000). All effective programs share one characteristic in common: some technique that could be expected to have an impact on the offenders thinking (Ross & Fabiano. 1985).

Andrews and Bonta (1998) would agree that inadequate problem solving skills, particularly interpersonal/social problem solving skills, social incompetence and misbehavior is conceptualized primarily as a cognitive deficit that can be remedied through the process of problem solving. As such cognitive skills training became a standard form of psycho-social-emotional interventions during the 1990's and strategies and curricula were developed to teach skills to skill deficit individuals.

Thinking for a Change

The *Thinking for a Change* (Bush et al.) program was developed in 1997 through a technical assistance grant from the U.S. Department of Justice, National Institute of Corrections in conjunction with the Wisconsin Department of Corrections. The National Institute of Corrections had been offering a training seminar, Cognitive Approaches to Changing Offender Behavior, for a number of years throughout the country and at their academy in Longmont, Colorado. As a result of this experience, it became apparent that criminal behavior was susceptible to pro-social change when offenders where able to use the tools from both cognitive restructuring and cognitive skills programs. The intent of

the grant was to develop a cognitive-behavioral program that incorporated the principles of cognitive restructuring and interpersonal and problem solving skills (Bush et al.).

The main idea of *Thinking for a Change* (Bush et al., 1997) is that we can take charge of our lives by learning more effective ways of thinking. This is the same major premise, that offender cognition plays a vital role in offender behavior, expressed by Ross and Fabiano (1985) in their development of a cognitive model of delinquent prevention and offender rehabilitation. Argyris (as cited by Smith, 2001) and Senge, Kleiner, Roberts, Ross, and Smith (1994) proposed a "ladders of inference" model to address thinking errors and biases that distorted effective thought processes. Both suggested that these errors could be overcome and changed by learning more effective ways of thinking; which was then correlated to positive changes in behavior. The core curriculum is designed to increase problem-solving skills using both cognitive restructuring and social skills interventions. The emphasis on teaching the cognitive process by which the individual can develop a general approach to problems, is a "learning set which enables the individual to 'create or discover' solutions to a variety of unfamiliar problems" (Bush et al., p. 74).

The concepts of cognitive restructuring and interpersonal and problem solving skills are presented systemically; whereby an offender learns those cognitive skills required for an objective, systemic approach to identifying thinking, beliefs, attitudes, and values. This takes place during the initial 11 lessons, interspersed with targeted critical social skills which support the cognitive restructuring process. Problem solving techniques are contained in lessons 16-21, again supported by appropriate social skills for each concept. Integration of all concepts occurs during these lessons. The 22nd lesson has

offenders prepared to evaluate themselves using a skills checklist, in order to determine which cognitive skills they need to continue working on. Offenders meet twice a week for eleven weeks to complete the program (Bush et al., 1997).

Taxman (2004) would support the use of this prescribed sequential curriculum designed to assist offenders in acquiring new skills to develop intrinsic controls. Advantages of such a curriculum include providing specific goals and objectives for each session, the material is provided by qualified staff, providing exercises and skill development tools that offenders use as homework, focuses on self-management skills, and the program builds incrementally on the skills the student learns as they go through the process of change.

Thinking Errors or Distortions

Heider (1958) used attribution theory as a basis to answer questions about how people make causal explanations for their actions. The theory developed within social psychology as a means of dealing with questions of social perception. We have a greater sense of control when we can explain the world around us, both to ourselves and to other people, by attributing cause to events. This gives a greater sense of control. Attribution is a three-stage process: 1) behavior is observed, 2) behavior is determined to be deliberate, and 3) behavior is attributed to internal or external causes. Beck (1999) finds that offenders routinely have a regular pattern of thinking errors (i.e., cognitive distortions) that magnify and exaggerate responses to stimuli. In anger outbursts Beck finds that there is a very rapid but analyzable train of thought that occurs between a perceived initial insult and hostile behavior. The offender's perception of the stimuli as an attack on their self-esteem, followed by a feeling of being wronged, and then blaming the other person

for causing the hostile reaction. These findings are consistent with the use of external attribution whereby an offender blames situational factors rather than themselves for the stimuli response. To keep a positive image of themselves, individuals involved in criminal thinking will lie, accuse others of misunderstanding, put others on the defensive, transfer blame to others, minimize the gravity of the situation, and confuse the issue by pointing out inadequacies of others (Yochelson & Samenow, 1976). This is an emotional and motivational self-serving attribution that permits the offender to defend against perceived personal attacks. In the extreme, egocentric bias-aggressive, manipulative people also generally believe they have an entitlement and rights that override the rights of others (Beck, 1999).

Heider (1958) believed that people act on the basis of their beliefs. Therefore, beliefs must be taken into consideration if social psychologists were to account for human behavior. Beck (1999) found that offenders have a unique set of responses to specific situations, to the degree that they had become automatic interpretations of the situations, or beliefs. Ross and Fabiano (1985) found that offenders had a tendency toward comment or action triggered by environmental stimulation – not thought. This tendency was attributed to a cognitive deficit whereby the offender did not think before they acted, and failed to think after they acted. To act without thinking precludes an offender from being able to learn from past experience or plan for future events.

Ladder of Inference

Argyris (as cited by Smith, 2001) describes the progress of making observations, gathering information, making assumptions, and deciding action as similar to climbing up a "ladder of inference". Argyris (as cited by Smith) theorizes that individuals have a

tendency to climb up the "ladder of inference" too fast. After encountering environmental stimuli, individuals integrate the new observation with their existing set of assumptions, sometimes prompting action that is inappropriate to the stimuli.

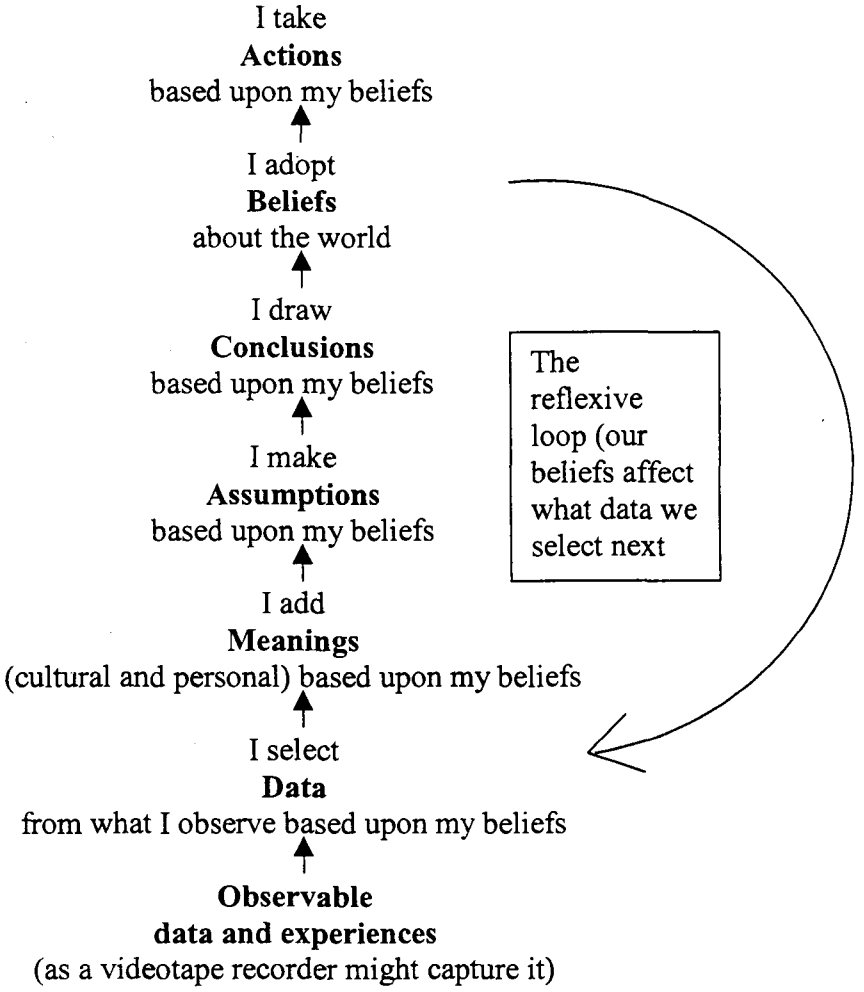

Figure 2.1. The Ladder of Inference (Senge et al., 1994, p. 243)

When this occurs within a social setting, an environment for potential conflict or unwanted results has been created. This occurrence also makes it almost impossible to recognize that the results derived from our actions. If we do not develop an awareness of

our thought processes, we remain unable to change recurrent patterns of inefficiency and inappropriate behavior.

Senge et al. (1994) builds upon this concept whereby our ability to achieve desired outcomes is eroded by our feelings that: our beliefs are the truth, the truth is obvious, our beliefs are based upon real data, and the data we select are the real data. Existing beliefs and the cognitive process strongly influence which environmental events are altered to perceive and effect behavior (Ross & Fabiano, 1985). Myers and Bishop (1970) demonstrated this principle when they conducted a study on racial prejudice. When prejudiced students came together to discuss racial issues they became more prejudiced. Conversely, when unprejudiced students came together to discuss racial issues they became more unprejudiced.

The "ladder of inference" is a model that describes how we make sequential, subjective interpretations or inferences from a set of observations, and then commit to action based upon these inferences. The "ladder of inference" model was also meant to show that defining problems is not usually a concrete and simple act (Senge et al., 1994).

Senge et al. (1994) suggested that you could improve communication through reflection, and by using the "ladder of inference" in three ways. 1) "Become more aware of your own thinking and reasoning (i.e., reflection). 2) Make your thinking and reasoning more visible to others (i.e., advocacy). 3) Inquiring into others' thinking and reasoning (i.e., inquiry)" (p. 245).

Single and Double Loop Learning

Argyris (as cited by Smith, 2001) proposed single and double looped learning as a theory that involves learning values and assumptions concerning the detection and

correction of errors. Upon the detection of an error, most people look for another operational strategy that will work within the same goal-structure and rule-boundaries. This represents "single-loop" learning, using a simple feedback loop, where outcomes cause adjustment of behaviors. In this circumstance there is no critical reflection of baseline values or beliefs. Additionally, simplistic or rigid thinking is not adaptive so it leads to disappointment and frustration (Beck, 1999).

"Double-loop" learning, upon the discovery of an error, requires critical reflection upon goals, beliefs, values, conceptual frameworks, and strategies. It was the theory of "double loop" learning that Argysis (as cited by Smith, 2001) felt would be most productive in helping an individual alter counter productive behavior.

Empirical Research

In 1994, the National Institute on Drug Abuse (NIDA) funded the Correctional Drug Abuse Treatment Effectiveness (CDATE) project for 4 years. This project coded studies of treatment intervention programs in prison, jail, probation, or parole settings from 1968 through 1996. Meta-analyses were conducted on 69 primary research studies on the effectiveness of behavioral and cognitive-behavioral treatment programs in reducing recidivism for offenders. Reduced recidivism rates were mainly given to cognitive-behavioral interventions rather than standard behavior modification approaches. Specific types of programs shown to be effective include cognitive-behavioral social skills programs & cognitive skills development.

In 2001 Lipsey, Chapman, and Laudenberger reported their meta-analytic review of 14 studies selected to provide the best evidence on the effectiveness of cognitive-behavioral programs for reducing the recidivism of criminal offenders. The results

indicated that overall, cognitive-behavioral programs are effective and the best ones are capable of producing sizable reductions in recidivism. There has also been a consensus that including cognitive-problem solving skills is likely to contribute to positive results (McGuire & Hatcher, 2001).

Effects of a cognitive skills program in Georgia were evaluated by tracking 468 offenders randomly assigned to treatment and comparison groups between May and July of 1977. Comparison of employment and returns to prison found that program completers had significantly fewer returns to prison and more favorable employment outcomes than comparison and dropouts (Van Voorhis, Spruance, Ritchey, Listwan, & Seabrook, 2004).

Cann, Falshaw, Nugent, and Friendship (2003) conducted a follow-up study of the effects of a cognitive skills program (Reasoning and Rehabilitation) on adult men and young offenders in England and Wales. They evaluated one-year and two-year reconviction rates of program participants compared to matched groups who had not participated. The results of this study found no significant difference in adult men or in young offenders. These findings were in contrast to initial studies. However, when program dropouts were included, there was a difference in both groups.

Larsen and Gerber (1987) studied the efficacy of teaching social problem solving skills to incarcerated youth. Those trained showed improvement in quantity of negative behavior reports, staff ratings, and living phase promotions when compared to the no treatment control group.

Harer (1994) did find in his study of 1,205 offenders released from federal prison in the first 6 months of 1987, that recidivism rates were directly related to prison misconduct; the higher the frequency of misconduct, the higher the rate of recidivism.

But in further multivariate analysis, misconduct was not found to be a significant predictor of recidivism.

While we have seen empirical data that suggests that cognitive-behavioral programs reduce recidivism little is known about the effects of such programs on institutional behavior (Baro, 1999).

Summary

This chapter introduced the four major perspectives that govern our thoughts concerning criminal conduct as well as four traditional philosophical response approaches to this conduct. It also provided an introduction to the debate on rehabilitation and "what works" in reducing recidivism.

The literature review has identified the philosophies and theories that have been used to establish a common basis of learning, behaving, and how this applies to those individuals whose behavior identifies them as having both attributes and thinking patterns that contribute to their current incarceration. Meta-analysis of programs designed to reduce recidivism conclude that cognitive skills and cognitive restructuring methodology are most effective (Lipsey, 1992; Losel, 1995).

This empirical basis directs us to focus on programs that seek to permit the offender to modify the processes involved in thinking as opposed to attempting to change (control) the content of an offenders thinking. Such thinking involves a broad array of processes and skills, including: a) problem solving, b) planning for the future, c) empathy, d) flexibility, and e) anticipating the consequences of one's actions. The thinking process also includes the attitudes, values, and beliefs with which an offender evaluates environmental stimuli.

The *Thinking for a Change* (Bush et al., 1997) program incorporates all of the desired attributes successful cognitive programs identified in the literature as having a propensity to promote positive change and was selected as Indiana's program of choice to change offenders thinking and subsequent behavior. This methodology is based upon the proposition that teaching offenders to recognize and change criminogenic thinking (Yochelson & Samenow, 1976) and to develop more mature thinking skills (Ross & Fabiano, 1985) should reduce recidivism and criminal conduct.

While it is evidenced that a significant body of evidence exists supporting the use of social/cognitive learning programs in recidivism reduction, little research exists that evaluates the efficacy of this program to assist in the management of incarcerated offenders by reducing the number or severity of disciplinary problems within the incarcerated population.

Chapter 3

METHODOLOGY OF RESEARCH DESIGN

Weisburd (2000), stated that "our primary task in evaluation is to identify whether a particular intervention has an impact on a specific outcome. In policy related research, this often translates to a concern with whether a treatment or sanction reduces crime or recidivism" (p. 182), or offender misconduct. If we are to have constructive approaches to managing incarcerated offenders it is important that the programs we use bring with them the most effective methods and techniques of behavioral change (Bernfeld, Fanrington, & Lesehied, 2001). Therefore, it was the purpose of this study to discover whether the implementation of the cognitive learning program entitled *Thinking for a Change* (Bush et al., 1997) was effective in changing the thinking and behavior of adult males incarcerated within Indiana correctional facilities.

This chapter presents the procedures used in the study. It includes the research questions, the sample populations and grouping procedures, the data source and the means of collecting the data, discussion concerning the treatment of the data and a summary.

Research Questions

This study seeks to answer the following research questions:

1) Is there is a difference in the number of Class A or Class B disciplinary write-ups

between offenders who have completed the *Thinking for a Change* (Bush et al., 1997) program, received an educational time cut and those who didn't participate in the program?

2) Is there a difference in the number of Class A or Class B disciplinary write-ups between offenders who have completed the *Thinking for a Change* (Bush et al.) program, received no educational time cut and those who didn't participate in the program?
3) Is there a difference in the number of Class A or Class B disciplinary write-ups, 6 months prior to and 6 months after completing the program, for those offenders who have completed the *Thinking for a Change* (Bush et al.) program and received an educational time cut?
4) Is there a difference in the number of Class A or Class B disciplinary write-ups, 6 months prior to and 6 months after completing the program, for those offenders who have completed the *Thinking for a Change* (Bush et al.) program and received no educational time cut?
5) Is there a difference in the number of Class A or Class B disciplinary write-ups, 6 months prior to and 6 months after completing the program, for those offenders who never participated in the *Thinking for a Change* (Bush et al.) program?
6) Is there a difference in the number of Class A or Class B disciplinary write-ups within those offenders who completed the *Thinking for a Change* (Bush et al.) program and received an educational time cut?
7) Is there a difference in the number of Class A or Class B disciplinary write-ups

within those offenders who completed the *Thinking for a Change* (Bush et al.) program and received no educational time cut?

Null Hypotheses

$H_0$1: There is no difference between offenders who completed the *Thinking for a Change* (Bush et al.) program, received an educational time cut, and those who did not participate in the program in the number of Class A or Class B disciplinary write-ups they received.

$H_0$2: There is no difference between offenders who completed the *Thinking for a Change* (Bush et al.) program, received no educational time cut, and those who did not participate in the program difference in the number of Class A or Class B disciplinary write-ups they received.

$H_0$3: There is no difference, 6 months prior to and 6 months after completing the program, for those offenders who completed the *Thinking for a Change* (Bush et al.) program and received an educational time cut, in the number of Class A or class disciplinary write-ups in the number of Class A or Class B disciplinary write-ups they received.

$H_0$4: There is no difference, 6 months prior to and 6 months after completing the program, for those offenders who completed the *Thinking for a Change* (Bush et al.) program and received no educational time cut in the number of Class A or Class B disciplinary write-ups in the number of Class A or Class B disciplinary write-ups they received.

$H_0$5: There is no difference, 6 months prior to and 6 months after completing the program, for those offenders who did not participate in the program in the number of Class A or Class B disciplinary write-ups they received.

$H_0$6: There is no difference within those offenders who completed the *Thinking for a Change* (Bush et al.) program and received an educational time cut in the number of Class A or Class B write-ups they received.

$H_0$7: There is no difference within those offenders who completed the *Thinking for a Change* (Bush et al.) program and received no educational time cut difference in the number of Class A or Class B write-ups they received.

Source and Collection of Data

Archival data previously collected by the Department of Correction was used for purposes of this study. Data collection is routinely obtained during the initial intake of all offenders and such data is routinely entered in the Offender Information System (OIS). Information contained in this system provides standard social and demographic characteristics as well as behavioral history while incarcerated.

Data collection concerning the *Thinking for a Change* (Bush et al., 1997) program was originally accomplished by the Department of Correction's Director of Education during September, 2004. Facilities who reported program participation during the initial collection of data were contacted to provide historical information relative to program completion to obtain more current data. This information was forwarded to the Division of Statistics within the Department of Correction.

These two sources of information were used to establish the sample and the random control population. Completion dates for the *Thinking for a Change* (Bush et al.,

1997) program of the sample population was used to delineate pre and post time periods for both the sample population and the control group. Table 3.1 represents the distribution of the 1,578 offenders (sample and control group) from each facility that participated in the study.

Table 3.1

Frequency Distribution by Facility

Facility	Location	n	%
Correctional Industrial Complex	Madison County	278	17.6
Henryville Correctional Facility	Clark County	64	4.1
Pendleton Correctional Facility	Madison County	101	6.4
Plainfield Correctional Facility	Hendricks County	300	19.0
Putnamville Correctional Facility	Putnam County	423	26.8
Miami Correctional Facility	Miami County	54	3.4
Westville Correctional Facility	LaPorte County	358	22.7

n=1,578

Population and Sample

These 7 facilities reported 789 male individuals that had completed the *Thinking for a Change* (Bush et al., 1997) program thereby establishing the sample population. Program completion date was used to delineate pre and post time periods for evaluation of the hypotheses. These dates were combined with the facility where the offender participated in the program and the security level of the individual sample participant. This criteria was used to randomly select individuals for the control group and resulted in

a "paired" relationship existing between each individual in the sample and in the control group.

Treatment of the Data and Statistical Analysis

This study was modeled on data having two dependent variables; number of Class A write-ups and number of Class B write-ups. These represent the variables observed to assess the effect of the *Thinking for a Change* (Bush et al., 1997) program.

The independent variables were identified as follows:

1. Participants who took the *Thinking for a Change* (Bush et al.) program and received an educational time cut.
2. Participants who took the *Thinking for a Change* (Bush et al.) program and received no educational time cut.
3. Participants who never took the *Thinking for a Change* (Bush et al.) program.

The main objective of the study was to determine if there were any significant differences between the group participating in the *Thinking for a Change* (Bush et al., 1997) program and the control group relative to disciplinary write-ups. Inferential statistics were used to determine if any differences in disciplinary write-ups were statistically significant. To reduce the risk of committing a Type I error, the probability level was set at $p = .05$.

The data collected for this study was analyzed using both the independent samples *t*- test and the paired samples *t*-test computations. Comparisons were made between the means of the categorical inquiries to determine if there was any statistical significance. Data was analyzed using SPSS 13.0 statistical software.

Summary

This chapter presented the research questions, null hypotheses, how the sample population was determined, the type of data gathered, and the analysis and treatment of the data after receipt. The study compared differences between the number of Class A or Class B write-ups received by those offenders who completed the program and received an educational time cut, those who completed the program and received no educational time cut, and those who had never participated in the program. Categorical differences were evaluated for Class A or Class B write-ups received 6 months prior to and 6 months after completing the program.

Chapter 4

DESCRIPTION AND ANALYSIS OF DATA

The focus of this study was to determine if participation in the *Thinking for a Change* (Bush et al., 1997) program had an impact on the behavior of incarcerated male felons who successfully completed the program. This chapter discusses the findings of the study as obtained from running descriptive and statistical analyses in SPSS. The level of significance needed to reject the null hypothesis has been set at alpha level of .05. This chapter provides descriptive statistics and then reports on the results of the seven null hypotheses tested for this study

Description of Population

Participants in the study were all males ranging in age from 19 to age 81 with M=34.83, SD=10.35. The racial composition for the population consists of 49% Caucasian, 46.3% Afro/American, 4.2% Hispanic, and less than .3% for Asian/Pacific Islander and American Indians. The majority (62%) were single with an additional 19% divorced or separated. Only 18.3% were married with an additional 0.5% who were widowed.

Table 4.1

Frequency Distribution by Education

Education	n	%
College	60	3.8
GED/High School	510	32.3
Some High School	285	18.1
Below 8th Grade	392	24.8
Below 6th Grade	168	10.6
Below 4th Grade	161	10.2

n=1,578

Table 4.1 displays the educational distribution of the participants. While 54.2% have attended high school, graduated or obtained a GED or attended college, the remainder, 45.6%, are functioning below the eighth grade level as indicated on the Test of Adult Basic Education (TABE). It is possible that education might be a factor affecting the results of this study.

The security level assigned to individual participant's shows that 72.2% coded as level 2. This level has them assigned to a low medium security facility having dormitory style living arrangements. An additional 11.7% were coded as a level 1 that places them in a minimum-security facility residing in dormitory style living arrangements. Participants being coded as a level 3 or 4 reside in facilities with the traditional celled space for living arrangements. A security code of level 3, having 13.4% of the population is housed in a high-medium security facility. Only 2.7% of the participating population was housed in a maximum security facility.

Table 4.2

Frequency Distribution Prior Convictions – Prior Felonies

Prior Convictions	n	%
0	949	60.1
1	431	27.3
2	144	9.1
3	48	3.0
4	4	.3
5	2	.1
Prior Felonies		
0	945	59.9
1	282	17.9
2	147	9.3
3	89	5.6
4	51	3.2
5	30	1.9
6	15	1.0
7	9	.6
8	6	.4
10	1	.1
11	2	.1
14	1	.1

n = 1,578

Table 4.2 represents the descriptive statistics relative to information on prior convictions and prior felonies. The majority, 60.1% of those individuals participating in the study were first time offenders. An additional 27.3% had 1 prior conviction with 12% having more than 2 convictions but less than 4.

Of the total population, 50% did not participate in the *Thinking for a Change* (Bush et al., 1997) program. Those who completed the program and received a time cut accounted for 35.1% while 14.9% completed the program and received no time cut.

Statistical Data Analysis

This study was designed to statistically compare Class A and Class B disciplinary write-ups received by three groups of offenders. Those who completed the *Thinking for a Change* (Bush et al., 1997) program and received a time cut, those who completed the *Thinking for a Change* (Bush et al.) program and did not receive a time cut and those who did not complete the program. A quantitative analysis using *t*-tests was used to assess whether any difference existed in disciplinary write-ups for each category. Completion dates for the *Thinking for a Change* (Bush et al.) program of the sample population was used to delineate pre and post time periods for both the sample population and the control group.

Null hypothesis 1 ($H_0 1$) states there is no difference in the number of Class A or Class B disciplinary write-ups between offenders who completed the *Thinking for a Change* (Bush et al., 1997) program, received an educational time cut, and those who did not participate in the program was tested using an independent *t*-test. The total number of disciplinary Class A and Class B write-ups for the two groups was obtained and analyzed accordingly to determine if a significant difference existed between them. Disciplinary

write-ups were used as the dependent variable while the group (control) acted as the independent variable.

The assumption of homogeneity of variance was examined using Levene's Test for Equality of Variances were examined for Class A and Class B write-ups for those offenders who had completed the *Thinking for a Change* (Bush et al., 1997) program and received an educational time cut. A significance value of .721 was obtained for Class A write-ups. This result is greater than the alpha value of .05. The homogeneity of variance assumption was not violated for this category. However, a significance value of .001 was obtained for Class B write-ups. This result was less than the alpha value of .05 resulting in the homogeneity of variance assumption being violated. Therefore, it is necessary when reading the results of the *t*-test that significant conclusions be read from the equal variances not assumed line.

According to the analysis as illustrated in Table 4.3, significant differences among the two groups on Class A write-ups were not obtained at the .05 level of significance. The difference between the two means was not statistically significant (df = 1,339, t = -.175, $p > .05$, two tailed). Additional analysis as illustrated in Table 4.3 shows that significant differences among the two groups on Class B write-ups were not obtained at the .05 level of significance. The difference between the two means was not statistically significant (df = 1,108, t = -1.740, $p > 0.5$, two-tailed). There is no significant difference in the number of Class A or Class B disciplinary write-ups between those offenders who completed the *Thinking for a Change* (Bush et al., 1997) program, received an educational time cut, and those who did not participate in the program.

Table 4.3

Summary of Independent t-Test Analysis of Disciplinary Write-ups

Variable	*t*	df	*p* value (2-tailed)
Class A disciplinary write-ups	-.175	1,339	.861
Class B disciplinary write-ups	-1.710	1,108	.088

Null hypothesis 2 ($H_0 2$) states there is no difference in the number of Class A or Class B disciplinary write-ups between offenders who completed the *Thinking for a Change* (Bush et al., 1997) program, received no educational time cut, and those who did not participate in the program was tested using an independent *t*-test. The total number of disciplinary Class A and Class B write-ups for the two groups was obtained and analyzed accordingly to determine if a significant difference existed between them. Disciplinary write-ups were used as the dependent variable while the group (control) acted as the independent variable.

The assumption of homogeneity of variance using Levene's Test for Equality of Variances was examined for Class A and Class B write-ups for those offenders who had completed the *Thinking for a Change* (Bush et al., 1997) program and received no educational time cut. A significance value of .000 was obtained for Class A write-ups. This result is less than the alpha value of .05 resulting in the homogeneity of variance assumption being violated. To correct this it is important that the *t*-test read for significant conclusions across the groups were those of equal variance not assumed. A significance value of .060 was obtained for Class B write-ups. This result is greater than

the alpha value of .05. The homogeneity of variance assumption was not violated for this category.

According to the analysis as illustrated in Table 4.4, significant differences among the two groups on Class A write-ups were not obtained at the .05 level of significance. The difference between the two means was not statistically significant (df = 261, t = -1.301, $p > .05$, two tailed). Additional analysis as illustrated in Table 4.4 shows that significant differences among the two groups on Class B write-ups were not obtained at the .05 level of significance. The difference between the two means was not statistically significant (df = 1,024, t = .908, $p > 0.5$, two-tailed). There is no significant difference in the number of Class A or Class B disciplinary write-ups between those offenders who completed the *Thinking for a Change* (Bush et al., 1997) program, received no educational time cut, and those who did not participate in the program.

Table 4.4

Summary of Independent t-Test Analysis of Disciplinary Write-ups

Variable	t	df	p value (2-tailed)
Class A disciplinary write-ups	-1.301	261	.194
Class B disciplinary write-ups	.908	1,024	.364

Null hypothesis 3 ($H_0$3): There is no difference in the number of Class A or Class B disciplinary write-ups, 6 months prior to and 6 months after completing the program, for those offenders who completed the *Thinking for a Change* (Bush et al., 1997) program and received an educational time cut. Statistical analysis of the data was done using paired t-tests. The independent variables were the two periods of time. Statistics

were obtained to compare the difference in the number of disciplinary write-ups 6 months prior to completion of the *Thinking for a Change* (Bush et al.) program and 6 months after completion for both Class A and Class B write-ups. Table 4.5 describes the differences in means for Class A and Class B write-ups obtained for pre and post completion periods.

Table 4.5

Paired t-Test Analysis of Disciplinary Write-ups Pre and Post Program Completion

Pair	Pre/Post	Mean	n	SD	*t*	df	*p*-value (2-tailed)
1	Pre A write-up	.01	552	.085	-2.941	551	.003*
1	Post A write-up	.04		.214			
2	Pre B write-up	.06	552	.265	-3.984	551	.000*
2	Post B write-up	.14		.435			

* = $p<.05$

There is a significant difference in the number of Class A ($p = 0.003$) and Class B ($p = 0.000$) disciplinary write-ups, 6 months prior to and 6 months after completing the program for those offenders who have completed the *Thinking for a Change* (Bush et al., 1997) program and received an educational time cut. The paired samples statistic shows that the means for both categories increased following completion of the program.

Null hypothesis 4 ($H_0$4): There is no difference in the number of Class A or Class disciplinary write-ups, 6 months prior to and 6 months after completing the program, for those offenders who completed the *Thinking for a Change* (Bush et al., 1997) program and received no educational time cut. Statistical analysis of the data was done using

paired *t*-tests. The independent variables were the two periods of time. Statistics were obtained to compare the difference in the number of disciplinary write-ups 6 months prior to completion of the *Thinking for a Change* (Bush et al.) program and 6 months after completion for both Class A and Class B write-ups.

Table 4.6 describes the differences in means for Class A and Class B write-ups obtained for pre and post completion periods.

Table 4.6

Paired t-Test Analysis of Disciplinary Write-ups Pre and Post Program Completion

Pair	Pre/Post	Mean	n	SD	*t*	df	*p*-value (2-tailed)
1	Pre A write-up	.01	237	.092	-2.116	236	.035*
1	Post A write-up	.08		.481			
2	Pre B write-up	.14	237	.424	1.881	236	.061
2	Post B write-up	.08		.287			

* = $p<.05$

There is a significant difference in the number of Class A ($p = 0.035$) disciplinary write-ups, 6 months prior to and 6 months after completing the program for those offenders who have completed the *Thinking for a Change* (Bush et al., 1997) program and received no educational time cut. The paired samples statistic shows that the mean for this category increased significantly following completion of the program. However, there is no significant difference in the number of Class B ($p = 0.061$) disciplinary write-ups, 6 months prior to and 6 months after completing the program, for those offenders

who completed the *Thinking for a Change* (Bush et al.) program and received no educational time cut.

Null hypothesis 5 ($H_0$5): There is no difference in the number of Class A or Class B disciplinary write-ups, 6 months prior to and 6 months after completing the program, for those offenders who did not participate in the *Thinking for a Change* (Bush et al., 1997) program. Statistical analysis of the data was done using paired *t*-tests. The independent variables were the two periods of time. Statistics were obtained to compare the difference in the number of disciplinary write-ups 6 months prior to completion of the *Thinking for a Change* (Bush et al.) program and 6 months after completion for both Class A and Class B write-ups using the sample population completion dates to delineate the pre and post periods for the control group. Table 4.7 describes the differences in means for Class A and Class B write-ups obtained for those pre and post periods.

Table 4.7

Paired t-Test Analysis of Disciplinary Write-ups Pre and Post Program Completion

Pair	Pre/Post	Mean	n	SD	*t*	df	*p*-value (2-tailed)
1	Pre A write-up	.04	789	.264	.321	788	.748
1	Post A write-up	.03		.202			
2	Pre B write-up	.11	789	.373	.151	788	.880
2	Post B write-up	.08		.287			

There is a no significant difference in the number of Class A ($p = 0.748$) and Class B ($p = .880$) disciplinary write-ups, 6 months prior to and 6 months after the established date of delineation for those who did not participate in the *Thinking for a*

Change (Bush et al., 1997) program. The paired samples statistic shows that the mean for both categories of disciplinary write-ups decreased during the post evaluation period.

Null hypothesis 6 ($H_0$6): There is no difference in the number of Class A or Class B write-ups within those offenders who completed the *Thinking for a Change* (Bush et al., 1997) program and received an educational time cut. Statistical analysis of the data was done using paired *t*-tests. Statistics were obtained to compare the difference in the number of disciplinary write-ups between offenders who had completed the *Thinking for a Change* (Bush et al.) program and received an educational time cut. Table 4.8 describes the differences in means for Class A and Class B write-ups obtained for this category of participant.

Table 4.8

Paired t-Test Analysis of Disciplinary Write-ups Pre and Post Program Completion

Pair	Pre/Post	Mean	n	SD	*t*	df	*p*-value (2-tailed)
1	Post A write-up	.04	552	.214	-5.729	551	.000*
1	Post B write-up	.14		.435			

* = $p<.05$

There is a significant difference between the number of Class A and Class B disciplinary write-ups within those offenders who completed the *Thinking for a Change* (Bush et al., 1997) program and received an educational time cut ($p < 0.001$).

Null hypothesis 7 ($H_0$7): There is no difference in the number of Class A or Class B write-ups within those offenders who completed the *Thinking for a Change* (Bush et al., 1997) program and received no educational time cut. Statistical analysis of the data

was completed using paired *t*-tests. Statistics were obtained to compare the difference in the number of disciplinary write-ups between offenders who had completed the *Thinking for a Change* (Bush et al.) program and received no educational time cut. Table 4.9 describes the differences in means for Class A and Class B write-ups obtained for this category of participant.

Table 4.9

Paired t-Test Analysis of Disciplinary Write-ups Pre and Post Program Completion

Pair	Pre/Post	Mean	n	SD	*t*	df	*p*-value (2-tailed)
1	Post A write-up	.08	237	.481	-.146	236	.884
1	Post B write-up	.08		.287			

There is no significant difference between the number of Class A and Class B disciplinary write-ups within those offenders who completed the *Thinking for a Change* (Bush et al., 1997) program and received no educational time cut.

While we have answered the initial research questions the data lends itself to additional evaluation. The following evaluation of individual between-subjects factors for the total population and their effects may contribute to a better understanding of the dynamics involved in more fully answering our research question. A univariate analysis of variance was done using *Thinking for a Change* (Bush et al., 1997) as the dependent variable and all other reported datum as the between-subjects factors. Table 4.10 represents the results of the test of between-subjects effects for both individual source factors and combinations of source factors. Analysis of these results show two primary source factors, facility ($df = 6, f = 6.608, p = .000$) and education ($df = 5, f = 11.174, p =$

.000) as statistically significant relative to the dependent variable of *Thinking for a Change* (Bush et al.).

Table 4.10

Univariate Analysis of Variance

Source	Sum of Squares	df	Mean Squares	F	Sig.
Corrected Model	430.456*	380	1.133	3.385	.000
Intercept	50.596	1	50.596	151.213	.000
Facility	13.267	6	2.211	6.608	.000
sl	.909	3	.303	.906	.438
race	1.151	4	.288	.860	.488
martial	.895	4	.224	.669	.614
education	18.694	5	3.739	11.174	.000
facility * sl	4.072	9	.452	1.352	.205
facility * race	6.651	11	.605	1.807	.048
sl * race	1.890	4	.473	1.412	.228
facility * sl * race	2.531	3	.844	2.522	.056
facility * martial	5.831	16	.364	1.089	.360
sl * martial	1.606	7	.229	.686	.684
facility * sl * martial	.584	3	.195	.582	.627
race * martial	.668	6	.111	.333	.920
facility * race * martial	4.166	11	.379	.132	.332
sl * race * martial	.330	3	.110	.328	.805

Table 4.10 (continued)

Univariate Analysis of Variance

Source	Sum of Squares	df	Mean Squares	F	Sig.
facility * sl * race * martial	.000	0			
facility * ed	21.547	29	.743	2.221	.000
sl * ed	2.248	14	.161	.480	.945
facility * sl * ed	6.016	16	.376	1.124	.327
race * ed	4.591	9	.510	1.524	.134
facility * race * ed	18.967	32	.593	1.771	.005
sl * race * ed	2.443	8	.305	.913	.505
facility * sl * race * ed	1.016	3	.339	1.012	.387
martial * ed	10.940	16	.684	2.044	.009
facility * martial * ed	16.373	42	.390	1.165	.220
sl * martial * ed	2.513	8	.314	.939	.483
facility * sl * martial * ed	.000	0			
race * martial * ed	7.373	13	.567	1.695	.056
facility * race * martial * ed	10.614	17	.624	1.866	.017
sl * race * martial * ed	1.457	2	.728	2.177	.114
facility * sl * race * martial * ed	.000	0			
Error	398.511	1,191	.335		

Table 4.10 (continued)

Univariate Analysis of Variance

Source	Sum of Squares	df	Mean Squares	F	Sig.
Total	1,496.000	1,572			
Corrected Total	828.967	1,571			

* = R Squared = 5.19 (Adjusted R Squared = .366)

The primary source factor of facility was evaluated relative to the effects on Class A and Class B disciplinary write-ups 6 months prior to and 6 months following completion of the program for those offenders who had participated in the program and received a time cut. A one-way ANOVA tested the difference between facilities and the corresponding disciplinary write-ups by period.

Table 4.11

Comparison of Program Completion Between Facilities for Participants with Time Cuts

Dependent Variable	Comparison	Sum of Squares	df	Mean Squares	F	Sig.
Pre A write up	Between Groups	.022	6	.004	.503	.806
	Within Groups	3.949	545	.007		
	Total	3.971	551			
Pre B write-up	Between Groups	1.219	6	.203	2.948	.008*
	Within Groups	37.562	545	.069		
	Total	38.781	551			

Table 4.11 (continued)

Comparison of Program Completion Between Facilities for Participants with Time Cuts

Dependent Variable	Comparison	Sum of Squares	df	Mean Squares	F	Sig.
Post A write up	Between Groups	.376	6	.063	1.371	.224
	Within Groups	24.900	545	.046		
	Total	25.275	551			
Post B write-up	Between Groups	4.112	6	.685	3.724	.001*
	Within Groups	100.294	545	.184		
	Total	104.406	551			

* $p = .005$

Table 4.11 contains the ANOVA summary results of this analysis which show a significant difference between facilities and in the number of Class B disciplinary write-ups 6 months prior to program completion $F(6, 545) = 2.948$, $p < .008$. This analysis further showed a significant difference between facilities in the number of Class B write-ups 6 months after completing the program $F(6, 545) = 3.724$, $p < .001$.

Since the ANOVA identified significant differences in Class B disciplinary write-ups 6 months prior to completion of the program, a Tukey's Honestly Significant Difference test was used to identify the means that differed significantly (see Table 4.12). Analysis of the results of this test showed that CIC had a statistical significance (MD = .138, $p = .020$) in the number of Class B write-ups 6 months prior to program completion than did ISF. They also had a statistical significance (MD = .131, $p = .013$) in the number

of Class B write-ups 6 months prior to program completion than did WCC. The other pair wise comparisons were non-significant.

Analysis of the results of this test during the 6 months following completion of the program showed that ISR had a statistical significance (MD = .317, p = .001) in the number of Class B write-ups than did ISF; a statistical significance (MD = .309, p = .00) in the number of Class B write-ups than did WCC; and a statistical significance (MD = .269, p = .005) in the number of Class B write-ups than did IYC. The other three pair wise comparisons were non-significant.

Table 4.12

Comparison of Facility Identification for Program Participants with Time Cuts Prior to Program Completion

Dependent Variable	Facility	Facility	Mean Difference	*p*
Pre B write-up	CIC	HYC	.159	.794
		ISF	.138*	.020
		ISR	.068	.845
		IYC	.065	.644
		MCF	.159	.468
		WCC	.131*	.013
Post B write-up	ISR	CIC	.203	.198
		HYC	.409	.302
		ISF	.317*	.001
		IYC	.269*	.005

Table 4.12 (continued)

Comparison of Facility Identification for Program Participants with Time Cuts Prior to Program Completion

Dependent Variable	Facility	Facility	Mean Difference	*p*
Post B write-up	ISR	MCF	.326	.231
		WCC	.309*	.000

* $p = .005$

The primary source factor of facility was evaluated relative to the effects on Class A and Class B disciplinary write-ups 6 months prior to and 6 months following completion of the program for those offenders who had participated in the program and received no time cut. A one-way ANOVA tested the difference between facilities and the corresponding disciplinary write-ups by period. Table 4.13 contains the ANOVA summary results of this analysis which show a significant difference between facilities and in the number of Class B disciplinary write-ups 6 months prior to program completion $F(2, 233) = 6.081$, $p < .001$.

Table 4.13

Results of Facility Identification for Program Participants with Time Cuts Following Program Completion

Dependent Variable	Comparison	Sum of Squares	df	Mean Squares	F	Sig.
Pre A write-up	Between Groups	.036	3	.012	1.426	.236
	Within Groups	1.947	233	.008		
	Total	1.983	236			

Table 4.13

Results of Facility Identification for Program Participants with Time Cuts Following Program Completion

Dependent Variable	Comparison	Sum of Squares	df	Mean Squares	F	Sig.
Pre B write-up	Between Groups	3.079	3	1.026	6.081	.001*
	Within Groups	39.326	233	.169		
	Total	42.405	236			
Post A write-up	Between Groups	.286	3	.095	.409	.747
	Within Groups	54.347	233	.233		
	Total	54.633	236			
Post B write-up	Between Groups	.284	3	.095	1.150	.330
	Within Groups	19.193	233	.082		
	Total	19.477	236			

* $p = .005$

Since the ANOVA identified significant differences in Class B disciplinary write-ups 6 months prior to completion of the program, a Tukey's Honestly Significant Difference test was used to identify the means that differed significantly (see Table 4.14). Analysis of the results of this test showed that CIC had a statistical significance (MD = .264, $p = .026$) in the number of Class B write-ups than did HYC, had a statistical significance (MD = .228, $p = .001$) than did ISF, and had a statistical significance (MD = .303, $p = .048$) than did MCF.

Table 4.14

Comparison of Disciplinary Write-ups Between Facilities for Program Participants with No Time Cuts

Dependent Variable	Facility	Facility	Mean Difference	*p*
Pre B write-up	CIC	HYC	.264*	.026
		ISF	.228*	.001
		MCF	.303*	.048

Note: *$p = .005$

The primary source factor of facility was evaluated relative to the effects on Class A and Class B disciplinary write-ups for those offenders who had participated in the study. A one-way ANOVA tested the difference between facilities and the corresponding disciplinary write-ups by period.

Table 4.15 contains the ANOVA summary results of this analysis which show a significant difference between facilities and in the number of Class B disciplinary write-ups 6 months prior to program completion $F(6, 1571) = 7.455, p < .000$). Analysis also shows a significant difference between facilities and the number of Class B write-ups 6 months after program completion $F(6, 1571) = 4.236, p < .000$.

Since the ANOVA identified significant differences in Class B disciplinary write-ups 6 months prior to completion of the program, a Tukey's Honestly Significant Difference test was used to identify the means that differed significantly (see Table 4.16).

Table 4.15

Results of Facility Identification for Program Participants with No Time Cuts Prior to Program Completion

Dependent Variable	Location	Sum of Squares	df	Mean Squares	F	Sig.
Pre A write up	Between Groups	.260	6	.043	1.118	.349
	Within Groups	60.919	1,571	.349		
	Total	61.179	1,577			
Pre B write up	Between Groups	5.320	6	.887	7.455	.000*
	Within Groups	186.845	1,571	.119		
	Total	192.165	1,577			
Post A write up	Between Groups	.383	6	.064	.896	.497
	Within Groups	111.939	1,571	.071		
	Total	112.323	1,577			
Post B write up	Between Groups	3.932	6	.655	4.236	.000*
	Within Groups	243.077	1,571	.155		
	Total	247.009	1,577			

Note: * $p = .005$

Analysis of the results of this test showed that CIC had a statistical significance (MD = .165, $p = .010$) in the number of Class B write-ups 6 months prior to program completion than did HYC which had a statistical significance (MD = .155, $p = .000$) than did ISF, had a statistical significance (MD = .129, $p = .000$) than IYC, had a statistical significance (MD = .175, $p = .012$) than did MCF; and had a statistical significance

(MD = .142, p = .000) than did WCC. The remaining pair wise comparison was non-significant.

Table 4.16

Results of Facility Identification for Program Participants with No Time Cuts Following Program Completion

Dependent Variable	Facility	Facility	Mean Difference	p
Pre B write up	CIC	HYC	.165*	.010
		ISF	.064	.689
		IYC	.129*	.000
		MCF	.175*	.012
		WCC	.142*	.000
Post B write up	ISR	CIC	.099	.313
		HYC	.242*	.002
		ISF	.170*	.002
		IYC	.137*	.039
		MCF	.220	.016
		WCC	.157*	.008

* p = .005

Analysis of the results of this test during the 6 months following completion of the program showed that ISR; had a statistical significance (MD=.242, p=.002 in the number of call B write-ups tan did HYC; had a statistical significance (MD = .170,

$p = .002$) in the number of Class B write-ups than did ISF; had a statistical significance (MD = .137, $p = .039$) in the number of Class B write-ups than did IYC; had a statistical significance (MD = .220, $p = .016$) in the number of Class B write-ups than did MCF; and a statistical significance (MD = .157, $p = .008$) in the number of Class B write-ups than did WCC. The remaining pair wise comparisons were non-significant.

To evaluate the source factor of education we returned to the independent samples *t*-test to determine if there was any statistical significance in Class A and Class B disciplinary write-ups between those offenders who were above the 8th educational level and those who were below the 8th educational level. Table 4.17 represents the analysis of disciplinary write-ups between all offenders in the study who were above the 8th grade educational level and those offenders who were below the 8th grade educational level.

Table 4.17

Summary of Independent t-Test Analysis of Disciplinary Write-ups for Offenders Above or Below 8th Grade Education

Variable	*t*	df	*p*-value (2-tailed)
Pre Class A write-ups	-.382	1,290	.702
Pre Class B write-ups	-1.004	1,479	.315
Post Class A write-ups	-1.408	1,117	.159
Post Class B write-ups	-.911	1,456	.362

There is no significant difference in the number of Class A or Class B write-ups between those who were above the 8th grade educational level and those who were below the 8th grade educational level.

Table 4.18 represents the analysis of disciplinary write-ups between those offenders who did not participate in the *Thinking for a Change* (Bush et al, 1997) and were above or below the 8th grade educational level.

Table 4.18

Summary of Independent t-Test Analysis of Disciplinary Write-ups for Offenders Not Participating in the Programand Were Above or Below the 8th Grade Education Level

Variable	*t*	df	*p*-value (2-tailed)
Pre Class A write-ups	-1.354	202	.177
Pre Class B write-ups	-.661	289	.509
Post Class A write-ups	-1.344	223	.180
Post Class B write-ups	-.029	279	.977

There is no significant difference in the number of Class A or Class B write-ups between those who were above the 8th grade educational level and those who were below the 8th grade educational level.

Table 4.19 represents the analysis of disciplinary write-ups between those offenders who participate in the *Thinking for a Change* (Bush et al., 1997), received a time cut and were above or below the 8th grade educational level. There is a significant difference ($p = .045$) in the number of Class A write-ups 6 months prior to program completion between those who were above the 8th grade educational level and those who were below the 8th grade education level. There is no significant difference in the number of Class A write-ups after program completion or Class B write-ups prior to and after

program completion, between those who were above the 8th grade educational level and those who were below the 8th grade educational level.

Table 4.19

Summary of Independent t-Test Analysis of Disciplinary Write-ups for Offenders Who Participated in the Program, Received a Time Cut and Were Above or Below the 8th Grade Education Level

Variable	*t*	df	*p*-value (2-tailed)
Pre Class A write-ups	-2.008	393	.045*
Pre Class B write-ups	-1.226	396	.221
After Class A write-ups	-.494	228	.622
After Class B write-ups	-.446	349	.656

* = $p < .05$

Table 4.20 represents the analysis of disciplinary write-ups between those offenders who participate in the *Thinking for a Change* (Bush et al., 1997), received no time cut and were above or below the 8th grade educational level.

There is a significant difference ($p = .043$) in the number of Class B write-ups 6 months prior to program completion between those offenders who were above the 8th grade educational level and those who were below the 8th grade educational level. There is no significant differences in the number of Class A write-ups prior to and after program completion or Class B write-ups after program completion, between those who were above the 8th grade educational level and those who were below the 8th grade educational level.

Table 4.20

Summary of Independent t-Test Analysis of Disciplinary Write-ups for Offenders Who Participated in the Program, Received No Time Cut and Were Above or Below the 8th Grade Education Level

Variable	*t*	df	*p*-value (2-tailed)
Pre Class A write-ups	-.320	158	.750
Pre Class B write-ups	-2.040	231	.043*
Post Class A write-ups	-.971	195	.333
Post Class B write-ups	-.141	206	.888

* = $p < .05$

Summary of Findings

The first and second null hypotheses cannot be rejected, as there are no significant difference in the number of Class A or Class B disciplinary write-ups between offenders who completed the *Thinking for a Change* (Bush et al., 1997) program, received an educational time cut, and those who did not participate in the program. This result also held true for those who completed the program, received no educational time cut, and those who did not participate in the program.

The third null hypothesis can be rejected relative to disciplinary write-ups received 6 months prior to and 6 months following completion of the *Thinking for a Change* (Bush et al., 1997) program for those offenders who also received an educational time cut. There is a significant difference in the number of Class A and Class B disciplinary write-ups, 6 months prior to and 6 months after completing the program.

The fourth null hypothesis can be partially rejected as Class A disciplinary write-ups demonstrated a significant difference, 6 months prior to and 6 months after completion of the *Thinking for a Change* (Bush et al., 1997) program, for that group that received no educational time cut. The fourth null hypothesis cannot be rejected as Class B write-ups did not demonstrate a significant difference, 6 months prior to and 6 months after completion of the *Thinking for a Change* (Bush et al.) program, for that group that received no educational time cut.

The fifth null hypothesis cannot be rejected. There is no significant difference in the number of Class A or Class B disciplinary write-ups received, 6 months prior to and 6 months after completing the program, for those offenders who did not participate in the program.

The sixth null hypothesis can be rejected. There is significant difference between the number of Class A and Class B write-ups within those offenders who completed the *Thinking for a Change* (Bush et al., 1997) program and received an educational time cut.

The seventh null hypothesis cannot be rejected. There is no significant difference between the number of Class A and Class B write-ups within those offenders who completed the *Thinking for a Change* (Bush et al., 1997) program and received no educational time cut.

Additional analysis by facility indicates that two, CIC and ISR, have significantly more Class B disciplinary write-ups than other facilities examined. CIC showed a significant difference [$F(3, 233) = 1.426, p = .001$] between facilities in the number of Class B disciplinary write-ups 6 months prior to program completion. ISR showed a

significant difference [F (6, 1571) = 4.236, p = .000] between facilities in the number of Class B disciplinary write-ups 6 months after program completion.

Additional analysis by education level, above or below the 8th grade, indicates a difference for Class A and Class B disciplinary write-ups 6 months prior to program completion for both categories. There was a significant difference (p = .045) in the number of Class A write-ups 6 months prior to program completion for those offenders who had completed the between *Thinking for a Change* (Bush et al., 1997) program and received an educational time cut and were below the 8th grade education level. There was a significant difference (p = .043) in the number of Class B write-ups 6 months prior to program completion for those offenders who had completed the between *Thinking for a Change* (Bush et al.) program and received no educational time cut and were below the 8th grade education level.

Chapter 5

CONCLUSIONS, DISCUSSION AND RECOMMENDATIONS

The primary purpose of this study was to add to the current knowledge base regarding the effects of the *Thinking for a Change* (Bush et al., 1997) program, a cognitive change based program, on the observed behavior of incarcerated male offenders within correctional facilities in Indiana. The purpose, background and significance of this study were discussed in Chapter 1. Discussion of the relevant literature supporting the conceptual framework of the study, cognitive change theory and behavior was contained within Chapter 2. In Chapter 3 the research design and methodology used for the study was discussed. The results and findings of the study were provided in Chapter 4, with conclusions, discussion and recommendations contained within Chapter 5. The following research questions directed the study:

1) Is there is a difference between offenders who have completed the *Thinking for a Change* (Bush et al., 1997) program, received an educational time cut and those who didn't participate in the program in the number of Class A or Class B disciplinary write-ups they received?
2) Is there a difference between offenders who have completed the *Thinking for a Change* (Bush et al.) program, received no educational time cut and those who

didn't participate in the program in the number of Class A or Class B disciplinary write-ups they received?

3) Is there a difference, 6 months prior to and 6 months after completing the program, for those offenders who have completed the *Thinking for a Change* (Bush et al.) program and received an educational time cut in the number of Class A or Class B disciplinary write-ups they received?

4) Is there a difference, 6 months prior to and 6 months after completing the program, for those offenders who have completed the *Thinking for a Change* (Bush et al.) program and received no educational time cut in the number of Class A or Class B disciplinary write-ups they received?

5) Is there a difference, 6 months prior to and 6 months after completing the program, for those offenders who never participated in the *Thinking for a Change* (Bush et al.) program in the number of Class A or Class B disciplinary write-ups they received?

6) Is there a difference within those offenders who completed the *Thinking for a Change* (Bush et al.) program and received an educational time cut difference in the number of Class A or Class B disciplinary write-ups they received?

7) Is there a difference within those offenders who completed the *Thinking for a Change* (Bush et al.) program and received no educational time cut in the number of Class A or Class B disciplinary write-ups they received?

Statistical tests comparing offenders who had completed the *Thinking for a Change* (Bush et al., 1997) program with offenders who had never participated in the program indicated no significant difference in the number of disciplinary write-ups

received by each grouping category during the 6 month period following completion of program instruction. However, statistical tests indicated significant differences in the number of Class A and Class B disciplinary write-ups, 6 months prior to and 6 months after completing the program, for those offenders who also received an educational time cut. The same significant difference was obtained in the number of Class A write-ups, 6 months prior to and 6 months after completing the program, for those offenders who did not receive an educational time cut. Additionally, statistical tests indicated significant differences in the number of Class A and Class B disciplinary write-ups, 6 months after completing the program, for those offenders who also received an educational time cut. The statistically significant difference resulted in higher mean scores for each comparison category. This chapter provides a description of the data, a discussion of the findings and recommendations for future research.

The subjects in the study consisted of offenders from seven correctional facilities who had participated in the *Thinking for a Change* (Bush et al., 1997) program during calendar year 2004-05. Data was gathered concerning the date of program completion, security level of the individual offender and the facility where the offender had resided when participating in the program. This information was used to obtain a control population of offenders who had not participated in the program. Class A and Class B disciplinary write-ups were also obtained for both populations and served as the basis for comparison between the populations. Offenders completing the *Thinking for a Change* (Bush et al.) program and receiving an educational time cut accounted for 552 of the participates, with an additional 237 having participated in the program, but not receiving an educational time cut. The control group was comprised of 789 offenders paired on the

criteria previously noted. The total sample of 1,578 offenders had a representative racial distribution of Caucasin (49%), African American (46.3%), Hispanic (4.2%) with the remainder being Asian/Pacific Islander or American Indian.

Conclusions

This study tested and developed conclusions for the following hypotheses.

$H_0$1 was not rejected. There is no statistically significant mean difference in the number of Class A or Class B disciplinary write-ups between offenders who had completed the *Thinking for a Change* (Bush et al., 1997) program, received an educational time cut, and those who did not participate in the program.

$H_0$2 was not rejected. There is no statistically significant mean difference in the number of Class A or Class B disciplinary write-ups between offenders who completed the *Thinking for a Change* (Bush et al., 1997) program, received no educational time cut, and those who did not participate in the program.

$H_0$3 was rejected for those offenders who completed the *Thinking for a Change* (Bush et al., 1997) program and received an educational time cut. There is a significant mean difference in the number of Class A and Class B write-ups for this group between the comparison period 6 months prior to and 6 months after completing the program. Class A disciplinary write-ups had statistically higher mean write-ups during the post observation period than the write-ups observed during the prior observation period. Class B disciplinary write-ups also had statistically higher mean write-ups during the post observation period than the write-ups observed during the prior observation period.

$H_0$4 was partially rejected for those offenders who completed the *Thinking for a Change* (Bush et al., 1997) program and received no educational time cut. There is no

significant mean difference in the number of Class B write-ups for this group between the comparison period 6 months prior to and 6 months after completing the program. However, There is a significant mean difference in the number of Class A write-ups for this group between the comparison period 6 months prior to and 6 months after completing the program. Class A disciplinary write-ups had statistically higher mean write-ups during the post observation period than the write-ups observed during the prior observation period.

$H_0$5 was not rejected. There is no statistically significant mean difference in the number of Class A or Class B disciplinary write-ups, 6 months prior to and 6 months after the delineated program completion date for those offenders who did not participate in the program.

$H_0$6 was rejected for those offenders who completed the *Thinking for a Change* (Bush et al., 1997) program and received an educational time cut. There is a significant mean difference within the number of Class A and Class B write-ups for this group. Class B disciplinary write-ups had statistically higher mean write-ups during the post observation period than the observed Class A write-ups.

$H_0$7 was not rejected. There is no statistically significant mean difference within the number of Class A and Class B disciplinary write-ups for those offenders who completed the *Thinking for a Change* (Bush et al., 1997) program and received no educational time cut.

The data suggests that completion of the *Thinking for a Change* (Bush et al., 1997) program does not seem to impact offender behavior relative to Class A or Class B disciplinary write-ups when compared to the control population. Statistically, reductions

in Class A or Class B disciplinary write-ups cannot be attributed to completion of the *Thinking for a Change* (Bush et al.) program, regardless of whether a time cut was received or not.

The data suggests that 6-month pre and post observations show no statistically mean differences in Class A and Class B disciplinary write-ups for the control population. However, it further suggests that there are statistically mean differences in Class A and Class B write-ups for those offenders who completed the *Thinking for a Change* (Bush et al., 1997) program, and received an educational time cut. Similar results were obtained with Class A write-ups for those offenders who completed the *Thinking for a Change* (Bush et al.) program, and received no educational time cut. Additional analysis indicates that facility and education level plays a significant role in both prior period and post period observations of disciplinary write-ups. Without further study that includes the results of these observations, it is inappropriate to attribute the results of this study directly to participation or non-participation in the *Thinking for a Change* (Bush et al.) program.

Discussion

The results of the quantitative analysis of Class A and Class B disciplinary write-ups did not show a significant statistical difference between the control group and those offenders who completed the *Thinking for a Change* (Bush et al., 1997) program, regardless of whether they received an educational time cut or received no educational time cut. The results did show a significant statistical difference in pre and post Class A and Class B disciplinary write-up observations for those who completed the *Thinking for a Change* (Bush et al.) program and received an educational time cut. Following

completion of the program there was an increase in the number of write-ups in each category. A similar result was found with Class A write-ups for those offenders who completed the program and received no education time cut.

When viewing the data relative to changes in the absolute numbers being observed the researcher found the following. Offenders who completed the *Thinking for a Change* (Bush et al., 1997) program and received an educational time cut had 4 Class A disciplinary write-ups in the pre observation period as opposed to 20 in the post observation period. The control population had 30 Class A disciplinary write-ups in the pre observation period as opposed to 27 write-ups in the post observation period.

When applying this perspective to Class B disciplinary write-ups for the category above, the researcher found 35 offenses during the pre observation period as opposed to 80 during the post observation period. The control group had 85 Class B disciplinary write-ups during the pre observation period as opposed to 83 write-ups in the post observation period.

Statistical significance can be attributed to changes in the number of disciplinary write-ups for those offenders who completed the *Thinking for a Change* (Bush et al., 1997) program and received an educational time cut between the pre and post observation periods. We know from Chapter 1 that we should expect the occurrence of Class A disciplinary Class A write-ups to occur in 5.8% of the general population and Class B write-ups to occur in 22.5% of the population. This would translate into an expectation of 32 Class A write-ups and 124 Class B write-ups respectively. Both Class A and Class B write-ups were reported at a lesser rate than could be expected for this category and for the general population itself. It may well be that the smallness of the numbers that we can

expect to obtain for both categories of disciplinary write-ups represents a limiting factor in the direct application of the results of this study to the decision making process.

It was most interesting to note that two facilities, CIC and ISR, contribute to Class A and Class B disciplinary write-ups at a greater rate than do other facilities included in this study. Both are geographically located and share similar labor pools that potentially contribute to this observed result.

Most of the literature addresses the fact that cognitive change requires the capacity to address thinking and decision making processes at a fairly high level of conceptual complexity. With 45.6% of the participant population having an educational level below the 8th grade it might be questionable whether this population can fully internalize and use the components contained within the *Thinking for a Change* (Bush et al., 1997) program. While they may be able to complete the series of course instruction, they may only mimic observations of role-playing without changing their simplistic or single loop thinking patterns. It might well be that those offenders functioning below the 8th grade education level remain concrete sequential thinkers.

Additionally, most changes in skill development require the ability to practice the newly acquired skill. Obviously, the controlled and structured environment of a correctional facility limits the opportunities for meaning full practice. Furthermore, while trainers work with willing students no provision has been made to provide overall training to all staff. It would appear that in addition to opportunities to practice newly acquired skills, it is necessary that the environment in which to practice is also prepared to provide support and coaching for this practice. Obviously, for those offenders having

educational levels below the 8th grade, it is most important than they have this opportunity on a continued basis.

It is interesting to note that the provision of educational time cuts is provided at the end of the program if an offender has not received a disciplinary write-up during the preceding year. It would appear more appropriate for the reward of an educational time cut to come after completion of the program and by remaining free of a disciplinary write-up for some period after the completion date.

Recommendations for Further Study

The following recommendations are made for further research.

1. Increase sample size to have a corresponding increase in the number of disciplinary write-ups.
2. Conduct an on-site evaluation at those facilities identified as having significantly more disciplinary write-ups to attempt to identify any facility specific issues (e.g. overcrowding, high staff turn over, etc.) that might better explain these results.
3. Perform additional statistical analysis of the data that would test between-subjects effects to identify significant differences within the identified data.
4. Train staff at a given facility and create additional opportunities for program participants to practice their lesson sets.
5. Evaluate educational levels and thought processes among offenders to better define the level of complexity involved in the decision making process.
6. Evaluate future rates of recidivism for this population subsequent to their release.

There is compelling individual and social reasoning that continuing research to

expand the knowledge base in the area of cognitive change is necessary for that population incarcerated within Indiana correctional facilities. Individual and public safety can only be assured when a convicted felon can be successfully assimilated back into the community and the workforce.

REFERENCES

Adler, F., Mueller, G. O. W., & Laufer, W. S., (2000). *Criminal justice: An introduction, 2nd ed.*, McGraw-Hill Companies, Inc.

Akers, R. L. (2000). *Criminological theories: Introduction, evaluation and application.* Los Angeles: Roxbury Publishing.

Akers, R. L. & Jensen, G. F., Eds. (2003). *Social learning theory and the explanation of crime: A guide for the new century.* New Brunswick, NJ: Transaction Publishers.

Andrews, D. A. & Bonta, J. (1994). *The psychology of criminal conduct.* Cincinnati, OH: Anderson.

Andrews, D., Zinger, I., Hoge, R., Bonta, J., Genreau, P., & Cullen, T. (1990). Does correctional treatment work? A clinically relevant and psychologically informed meta-analysis. *Criminology 28*, 369-404.

Andrews, D. A., & Bonta, J. (1998). *Youth risk/need assessment: An overview of issues and practices*. Department of Justice, Canada – Research and Statistics publication. Retrieved February 9, 2005, from http://canada.justice.gc.ca/en/ps/rs/rep/no34j-4/rr034j-4_04htm

Andrews, D. A. & Bonta, J., (2003). *The psychology of criminal conduct,* (3rd ed.). Cincinnati, OH: Anderson Publishing.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs, NJ: Prentice Hall.

Baro, A. L., (1999). Effects of a cognitive restructing program on inmate institutional behavior. *Criminal Justice & Behavior, 26*, 466-484.

Beccaria, C. (1764). *On crimes and punishments*. Retrieved February 27, 2005, from http://www.crimetheory.com/archieve/Beccaria/

Beck, A., (1999). *Prisoners of hate: The cognitive basis of anger, hostility, and violence.* New York: Harper Collins.

Bernfeld, G. A., Fanrington, D. P., & Lesehied, A. W., (Eds.). (2001). *Offender rehabilitation in practice: Implementing and evaluating effective programs.* London: John Wiley & Sons.

Bureau of Justice Statistics. (1994). *Re-entry trends in the U.S.* Retrieved August 17, 2004, from http://wwwoojp.usdoj.gov/bjs/reentry/recidivism.htm

Bureau of Justice Statistics. (2002). *Facts at-a-glance*. Retrieved August 17, 2004, from http://www/ojp.usdoj.gov/bjs/glance/corr2.htm

Bush, J., Glick, B., & Taymans, J., (1997). *Thinking for a change: Integrated cognitive behavior change program.* Prepared under authorization 97-R000 from National Institute of Corrections. Retrieved February 27, 2005, from http://www.nicic.org/pubs/2001/016672.htm

Cann, J., Falshaw, L., Nugent, F., & Friendship, C., (2003). *Understanding what works: Accredited cognitive skills programs for adult men and young offenders*. Prepared for the Research, Development, and Statistics Directorate – HM Prison Service. Retrieved August 17, 2004, from http://www.homeoffice.gov.uk/rds/pdfs21.226.pdf

Cullen, F. & Gendreau, P. (2000). Assessing correctional rehabilitation: Policy, practice, and prospects. *Criminal Justice, 3*, 109-179.

Department of Correction Statistical Facility Report to the Commissioner. (2004). User report presented at the Quarterly Review Conference August, 2005.

Encarta. (2005). *Prison: Current issues in the United States – overcrowding*. Online encyclopedia article contributed by D. T. Champion. Retrieved February 27, 2005 from http://encarta.msn.com/text_761573083_31/Prison.html

Gendreau, P., Goggin, C., & Cullen, F. (1999). *The effects of prison sentences on recidivism. User report 1999-24*. Presented at the Ottawa conference 2000 on Plenary Risk Assessment and the Control of Risk in the Community. Retrieved March 9, 2005, from http://www.apainTL.org/pub-conf2000-PlenaryGendreau_En.html

Gottfredson, M. R. & Hirschi, T. (1990). *A general theory of crime*. Stanford, CA: Stanford University Press.

Harer, M. (1994). R*ecidivism among federal prisoners released in 1987*. Retrieved March 7, 2005, from http://www.bop.gov//news/research_reports/jsp#recidivism

Heider, F. (1958). *The psychology of interpersonal relations*. New York: Wiley.

Indiana Department of Correction Adult Disciplinary Procedures. (2004). *Policy no. 02-04-101.*

Indiana Department of Corrections. (2004). *Indiana Facts.* Retrieved September 25, 2004, from http://www.in.gov.indcorrection/facts/fags.html

Larsen, K. & Gerber, M. (1987). Effects of social meta-cognitive training for enhancing overt behavior in learning disabled and low achieving delinquents. *Exception Children, 54*(3), 201-211.

Lieb, R. (1994). *Juvenile offenders: What works? A summary of research findings.* Washington State Institute for Public Policy: Retrieved February 12, 2005, from http://www.wsipp.wa.gov/rpt/files/whatwork.pdf

Lipsey, M. (1992). Juvenile delinquency treatment: A meta-analysis inquiry into the variability of effects. In T. Cook, H. Cooper, D. Cordray, H. Hartmann, L. Hedges, R. Light, T. Louis, & F. Mosteller (eds.), *Meta-analysis for explanation*, New York: Russell Sage Foundation.

Lipsey, M. W., Chapman, G. L., & Landenberger, W. A., (2001). Cognitive-behavioral programs for offenders. *The Annals of the American Academy of Political and Social Science, 578*, 144-157.

Losel, F. (1995). Increasing consensus in the evaluation of offender rehabilitation? Lessons from recent research synthesis. *Psychology, Crime, and Law, 2*, 19-39.

Martinson, R., (1974). What works? – Questions and answers about prison reform. *The Public Interest, 10*, 22-54.

McGuire, J., & Hatcher, R., (2001). Offense-focused problem solving: Preliminary evalaution of a cognitive skills program. *Criminal Justice & Behavior*, *28*, 564-587.

Mistretta v U.S. (1989). Retrieved November 12, 2004, from http://www.caselaw.lp.findlaw.com/scripts/getcase.pl?court=US&vol=488&invol=361

Myers, D. & Bishop, G. (1970). Discussion: Effects on racial attitudes, *Science*, *169*, 778-779.

NCIC Glossary of Terms. (2004). Retrieved October 13, 2004, from http://www.nicic.org/downloads/PDF/wwGlossary.pdf

Reitzel, M. (2005). Best practices in corrections: Using literature to guide interventions. *Corrections Today, 67*(1), 42-47.

Ross, R. & Fabiano, E. (1985). *Time to think: A cognitive model of offender rehabilitation and delinquency prevention.* Johnson City, TN: Institute of Social Sciences and Arts.

Sarre, R. (1999). Beyond 'what works?' A 25-year jubilee retrospective of Robert Martinson. Paper presented at the 1999 symposium on the History of Crime, Policy, & Punishment conference convened by the Australian Institute of Criminology and held in Canberra, Australia. Retrieved December 1, 2004, from http://www.aic.gov.au/conferences/hcpp/sarre.pdf

Senge, P., Kleiner, A., Roberts, C., Ross, R., & Smith, B. (1994). *The fifth discipline fieldbook: Strategies and tools for building a learning organization.* New York: Doubleday.