AN INVESTIGATION OF COMPLETION STATUS OF A COGNITIVE
BEHAVIORAL INTERVENTION IN A POPULATION OF OFFENDERS ON
PROBATION

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DEDICATION

For Mom and Dad, who made all things possible.

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by

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An alternative to traditional punishment and incarceration has been to place individuals who commit crimes under the supervision of a community agency for a specific period of time. These probation sentences are instituted for the purpose of reducing the cost to the state of incarcerating offenders while maintaining deterrence against new offenses. Since the goal of such agencies is to reduce both costs and new offenses by convicted criminals, they are constantly searching for ways to do both. Toward this end, certain programs, based on cognitive behavioral interventions, have been developed for use in these populations.

One such program, Thinking for a Change, is used in the Dallas County Community Supervision and Corrections Department. A prior investigation of the

Thinking for a Change program matched program completers to a control group and found the program to be effective at increasing interpersonal and problem solving skills, as well as reducing recidivism. As a follow up investigation, the current study looked at differences between offenders who complete the program and those who drop out. A sample group of probationers were selected from referrals made over a period of four years in order to determine what outcomes can be expected from a typical program participant. Demographic variables, initial risk assessment, program completion, severity of initial and subsequent offenses, probation revocation, and recidivism data was collected and analyzed to determine differences between program completers and dropouts as well as which variables were predictive of success in completing the program and completing probation without revocation.

Findings suggest that demographic variables and initial risk assessment predicted program completion, completion of probation without revocation, and recidivism. In addition, program dropouts had higher rates of recidivism and more probation revocations than those who complete the program. Additional research is needed on the relationship between program completion and psychological variables associated with personal, social and economic stressors. Potential studies should focus on the use of newer, improved risk assessment measures and ways to implement cognitive behavioral programs in order to increase access to probationers and reduce dropouts.

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LIST OF ABBREVIATIONS

C .... Program Completers

NC ....Program Noncompleters

CHAPTER ONE
Introduction

Civilized societies throughout history have dealt with the need to maintain order by sanctioning those who disregard them. Although there may be differing views on the nature of punishment, whether for retribution, deterrence, or to preserve a balance in our own abstract and highly diverse concepts of justice, it has historically been a very pragmatic response to criminal behavior. As societies have evolved, so have their laws and respective punishments. Public torture and executions gave way to confinement and the development of the modern prison, a far more humane and gentle approach (Foucault, 1979). The modern prison, with its sequestering of criminals from the general population finally allowed for the idea of rehabilitation to take root.

However, the rehabilitation of criminals and their re-introduction into society has its own set of problems. By far the most serious of these in contemporary society is the unacceptably high incidence of recidivism among this population. According to a report by the Bureau of Justice Statistics (Langan & Levin, 2002), among 300,000 prisoners released in 15 states in 1994, 67.5% were rearrested within three years for a new offense, most often a felony or serious misdemeanor. Roughly half of these 300,000 prisoners were returned to prison. The often lackluster performance of the criminal justice system, the overcrowding of our prisons, and the spiraling costs of maintaining and constructing new prisons for a growing criminal population have placed increasing pressure on finding ways to punish "smarter."

The National Institute of Corrections (NIC) is continuously engaged in research to determine the best programs to enhance criminal offender rehabilitation and reduce recidivism. Instead of focusing on punishment exclusively, there is a growing trend to provide interventions that target specific behaviors, attitudes and environmental factors that increase the likelihood of criminal behavior. Toward this end a cognitive behavioral program called Thinking for a Change, developed by Glick, Bush and Taymans (1997), has seen widespread utilization in various agencies as a way to reduce recidivism for offenders under community supervision (i.e., "on probation"). The program is highly structured and is intended to be implemented by trained personnel, who are not necessarily mental health professionals, in its different venues. It consists of twenty-two weekly sessions which address social skills, personal behaviors, thinking errors and environmental factors. The goal of each session differs; however, throughout, the basic tenets of cognitive-behavioral theory are introduced and expanded upon, with real world examples and applications.

A prior study into the efficacy of this program focused on changes in social skills and criminal attitudes and demonstrated the effectiveness of this intervention in reducing recidivism rates (Golden, 2002). The Golden study was the first in-depth investigation to be done on the local implementation of this nationwide program in a major metropolitan area. Although sound in theory, there had been very little empirical data on outcome measures supporting the utility of this intervention. Golden sought to test whether the Thinking for a Change program had a significant effect on social and interpersonal problem solving skills. Offenders who met the requirements for enrollment in the program were matched with offenders who also met the requirements but did not

participate in the program. Pre and post-test measures of problem solving skills were administered to the intervention and control groups. Significant differences were found between the two groups at post-test, with the experimental group showing significantly higher scores. However, questions remain regarding whether the program is typically implemented as designed and concerning how to select those candidates who may benefit most from it.

As a follow up to the Golden (2002) study, the analyses in the current study were conducted to determine differences between those offenders who complete the Thinking for a Change program and those who drop out. The aim of this study was to determine which variables are predictive of program completion, probation revocation, and recidivism. This study was conducted to provide information to assist in improved targeting of offenders for enrollment in the program and enhance its implementation.

Before turning to the study, a review of the literature will be addressed. The literature review focuses on three general facets of the question of whether cognitive behavioral programs really work. First, an exposition of the historical search for effective supervision practices in the United States and how "common sense" approaches gave way to evidence based practices is outlined. Second, an analysis of the effectiveness of community supervision in avoiding unfavorable outcomes and the complex factors that are at play with recidivist offenders is performed. Finally, a review of specific interventions and strategies that attempt to reduce offender recidivism is provided.

CHAPTER TWO
Review of the Literature

Although modern industrial societies have permitted citizens to achieve greater safety and prosperity than at any time in the past, there remains, even among the most progressive of societies, the perceived threat of crime. The extent to which this perception corresponds to an objective reality and how much of it is merely a subjectively experienced fear, albeit an acute one, is a topic of some debate (McGuire, 2002). Regardless of the real nature of that threat, there is little doubt that crime exacts a considerable price on society in terms of economic resources, let alone the human cost. The troubles and triumphs of the criminal justice system in modern societies are unique, both for the evolved philosophies that underlie contemporary correction efforts, and for the occasional regression to less enlightened but often popular approaches of retributive justice.

By the end of 2004, the crime rate in Texas was approximately 23.61% higher than the national average, with approximately 738,000 adults under some type of correctional supervision (National Institute of Corrections [NIC], 2005). Of these, some 432,000 were on probation. With an annual cost of $13,808 per inmate, the economic incentive for reducing both incarceration and its concomitantly high recidivism rate is clear. How to actually proceed, however, is quite another matter.

The "Common Sense" Approach to Corrections

The criminal justice system has been characterized as having an affinity for both eccentric solutions as well as those which tend to address all of the major problems it is presented in one fell swoop, a sort of "panaceaphilia" (Gendreau & Ross, 1979). For the

most part, this attitude is an outgrowth of the "common sense" movement in corrections (Gendreau, Goggin, Cullen, & Paparozzi, 2002). This new way of thinking was the result of a larger politically conservative movement in the 1980's and early 1990's that heralded sweeping changes in social policy in the United States. The "common sense" approach can be characterized by a singularly human propensity to take complex facts and make sweeping generalizations based on subjective observations of single events (Gendreau et al., 2002). Consequently, "common sense" views, such as the notion that harsher punishments deter criminal behavior, became policy, despite the fact that there was little or no evidence to support their effectiveness.

During the mid-1980's and early 90's, the public's frustration with crime was at such a point that it readily accepted the implementation of these programs. Intensive probation and parole programs, known as ISP's for "intensive supervision programs," became more popular in many states and for a time held the promise of reduced recidivism. These programs served two purposes: First, and most obviously, they served the political ends of their proponents in demonstrating harsher retributive justice approaches to a public which was clamoring for change. Second, they were an attempt to reduce prison overcrowding by effecting compliance through the threat of punishment (Gendreau, Cullen, & Bonta, 1994).

The public was enamored with such programs because they had the appearance of holding criminals personally responsible for their own behavior. As one of the proponents of such programs, Erwin (1986) wrote, "…we are in the business of increasing the heat on probationers... [and] satisfying the public's demand for just punishment." The general public tended to view traditional probation programs as

representing freedom for convicted criminals. In contrast, ISP's not only provided constant supervision of offenders, but required them to pay restitution and perform community service as well. Indeed, the intensity of the programs was not understated. Probationers were required to personally report to a supervising officer three times a week, and by phone on remaining days. In addition, they had to submit to random drug testing, searches of their homes, and curfews. Boot camps were sometimes utilized as accessory programs as well (Gendreau, Paparozzi, Little, & Doddard, 1993). Any infraction or technical violation typically resulted in incarceration. ISP's were so harsh that many offenders, when given the choice, elected to serve a prison sentence instead (Petersilia, 1990).

A major problem of intensive supervision programs that eventually emerged was that initial evaluations of their efficacy were poorly designed, resulting in erroneous assumptions of their efficacy. When more stringent analyses were conducted, they did not always live up to their reputations (Petersilia & Turner, 1993). Eventually, despite the initial excitement they generated, it was determined that they were no more successful than routine probation for reducing recidivism. Furthermore, they were found to cost up to 50% more than traditional probation due to the emphasis on frequent drug testing and the additional supervision time (Petersilia, Turner, & Peterson, 1985).

Another partial explanation for the general lackluster success of ISP's may have been that such intensive programs had more serious offenders than traditional probation offices typically handled. Serious felons are not good candidates for probation because they are much more likely to violate probation and get revoked. For example, a study done by the RAND Corporation in California found that felony probationers were not

likely to adapt well to the severe limitations imposed on them by an ISP. Furthermore, 65% of felony probationers were rearrested for serious crimes such as robbery and assault while under community supervision (Petersilia et al., 1985). Additionally, these offenders were not likely to adapt well to the severe limitations imposed on them by the ISP.

The "get tough" policies generated additional problems that had far-reaching implications, not the least of which was an explosion of the prison population as a result of mandatory sentences and harsher penalties for non-violent offenses. The "common sense" theory was that harsher sentences would reduce crime, but in practice they seemed to have the opposite effect. Even today, these approaches continue to have sway in the criminal justice system, as evidenced by the 42% of offenders in prison for drug crimes with no previous incarcerations (Glaze & Bonczar, 2006). Alternative approaches are desperately needed. As one commentator, W. Winter (as cited in Wagoner & Piazza, 1993) said of the emerging problems of the "get tough" approach:

> ...it has become clear that we cannot continue to incarcerate substance abusers convicted of drug abuse, passing bad checks, forgery, theft, and similar property offenses at the rate we have been over the past decade. Practically speaking, prison facilities should be reserved for violent and dangerous offenders (p. 43).

This comment came at a time when only about half of all the inmates in prisons nationwide were violent offenders, as reported in Glaze and Bonczar.

Intensive Supervision Programs that did work tended to have better implementation and adherence on the part of corrections officers, as well as less punitive organizational cultures. One evaluation of a New Jersey program found that the critical

factors in helping reduce recidivism were parole officers that fully embraced the program and took a balanced approach between "social work" and "law enforcement" in dealing with their supervisees. These officers were found to have a 20% lower recidivism rate than their peers who exclusively took one approach or the other (Paparozzi & Gendreau, 1993). These findings were replicated in a second study that yielded comparable results for similar approaches to supervision in a Massachusetts program. Recidivism rates were anywhere from 12% to 33% lower for probation officers who implemented practices similar to those in the New Jersey program (Gendreau et al., 1993).

Thus began a search in the corrections community for approaches that could provide desirable outcomes, what would come to be known as the "what works" movement. Investigations into "what works" were often conducted with the intention of pulling policy makers and organizations away from disastrous "common-sense" approaches towards more scientifically grounded, and often more effective, strategies. Looking into ways of making more effective use of dwindling funds was a secondary aim. Numerous studies and analyses of emerging programs would soon offer a clear alternative to "common sense" approaches and have widespread implications for policy makers. Research suggested that corrections agencies would be more effective at carrying out their mission of reducing recidivism rates if they were to implement cognitive behavioral interventions as a component of community supervision (Pearson, Lipton, Cleland, & Yee, 2002).

However, despite the evidence provided by countless studies regarding the "what works" philosophy, historically the paradigm has not been entirely accepted by corrections agencies. A partial explanation for this might be the traditional leisurely pace

with which organizations adopt new ways of doing things. However, a more nuanced explanation suggests that adoption of innovations is often problematic when they are incompatible with pre-existing organizational values or if they are highly complex (Burrell, 2005). Unfortunately, the behavioral interventions which are part of the "what works" paradigm are often highly complex, requiring assessment, reassessment, performance monitoring, continuing supervision and constant adjustment. Consequently, it is a huge undertaking for organizations to provide the necessary expertise, training, and infrastructure for these programs. In addition, working to change entrenched institutional values often takes considerable time and effort.

The Effectiveness of Community Supervision in Reducing Recidivism

Since 1980, the population of state prisons across the country grew by over 300%, despite a corresponding increase in the United States population of only about 20% (Bureau of Justice Statistics, 2007; United States Census Bureau, 2000). Numerous factors can account for this disturbing trend, but the net result has been dissatisfaction with the criminal justice system by the American public and a growing consensus that the system is broken (Petersilia, 2003).

Although it appears that as a society we have been doing quite well at putting more criminals behind bars, our success at reintegrating them back into society has not been commensurate. An analysis of recidivism trends shows that the rate at which released prisoners re-offend grew significantly between 1983 and 1994 (Bureau of Justice Statistics, 2003; Langan & Levin, 2002).

Recidivism can be measured in different ways, including rearrest, conviction of a crime, or prison sentence. Until about 1991, criminal justice agencies in Texas had no

standardized way to measure recidivism, which meant evaluations of agency performance could vary widely. Additionally, it was difficult to obtain accurate data on arrests, convictions and prison sentences. When the State of Texas' Criminal Justice Policy Council finally decided to develop uniform standards, it was found that rearrests were the most reliably reported measure of recidivism (Fabelo & Arrigona, 1991). Not surprisingly, this is the most typically used measure of recidivism in studies.

Data available from the Bureau of Justice Statistics show that rates of recidivism for offenders released in 1983 was about 62.5% (Beck & Shipley, 1989). A similar analysis was conducted a decade later utilizing data from 15 states tracking twice as many offenders as the previous study. These offenders were all released in 1994 and the findings were very similar, showing a 67.5% recidivism rate within a three-year period (Langan & Levin, 2002). This amounts to a small upward trend, but it is an increase nonetheless. Of the 272,111 offenders tracked in Langan and Levin's study, about half (51.8%) were back in prison within three years. In addition, studies indicate that when probation and parole are revoked and offenders sent to prison, the reason for the confinement in 77% of the cases is a new conviction for a crime committed while the offender was under community supervision (Cohen, 1995).

Further complicating matters is the fact that approximately 16% of offenders in local jails or on probation can be identified as mentally ill (Ditton, 1999). According to this study mentally ill prisoners were more likely to be in prison for committing a violent crime (53%) compared to other inmates (46%), and to have approximately twice the rate of violent recidivism. An additional finding was that mentally ill prisoners were far less likely to have committed a drug related offense (13% compared to 22%).

As a result of these seemingly overwhelming problems with prisons and incarcerations, the criminal justice system has often looked to alternative sanctions such as probation and parole as a way of easing some of the burden. The relationships are often complex, however. Some researchers have argued that the recidivism rate is a large contributor to the overcrowding of our prisons (Petersilia, 2003). Therefore, in order to make the best use of alternative sanctions, it would be best if they could also impact the recidivism rate. Petersilia also found that offenders on probation tend to recidivate at a lower rate than those on parole, and overall, probation results in much lower recidivism rates than prison. She concluded that there are two possible explanations for this finding. The first is that prison somehow has an "iatrogenic" effect on offenders, making them more likely to commit new crimes upon release. The second is that offenders who are imprisoned differ significantly from those who are not. Regardless of which explanation is correct, Petersilia argues that it is difficult to see how imprisonment confers any benefit to prisoners. One notable exception may be for adolescents, whose fear of prison and the justice system may be enough of a motivator to prevent recidivism (Hudson, 2001).

The trends for offenders on probation are quite remarkable. When examined over a ten-year period from 1995 to 2005 the population grew by nearly 50% (Glaze & Bonczar, 2006). Although in recent years, the population growth rate for offenders on probation has slowed considerably, suggesting that a plateau has been reached (Glaze & Bonczar, 2006; Glaze & Palla, 2005). The small increases seen have been the smallest in 26 years.

This population increase has led to greater interest in recidivism research and has produced some interesting findings. An analysis conducted by the Bureau of Justice

Statistics produced a curious finding related to recidivism. This study of recidivism rates among prisoners released in 1994 (Langan & Levin, 2002) illustrates different rates of new offenses based on the previous types of offenses committed by those individuals. Violent crimes, such as homicide, rape, and sexual assault had significantly lower recidivism rates than crimes such as robbery, burglary, larceny, and theft of a motor vehicle. Additionally, certain types of offenses tend to be repeated with greater frequency than others. For example, an offender convicted of robbery is much more likely to be rearrested for that same crime than a recidivist offender whose initial crime was homicide. The authors conclude that the explanation for this is "specialization" among offenders. However, the single most powerful predictor of recidivism was prior arrests. Offenders with one prior arrest have a 40.6% recidivism rate, and that increases incrementally with each additional prior arrest, up to 82.1% for those offenders with 15 or more prior arrests (Langan & Levin, 2002).

In order to target those offenders who are most likely to recidivate, it would be immensely helpful to know which, if any, variables are the best predictors of such an outcome. A meta-analysis conducted by Gendreau, Little and Goggin (1996) attempted to answer this question by reviewing studies of instruments used in parole and probation settings. In order to be included in the meta-analysis, studies had to utilize scientifically developed "actuarial" risk assessments of recidivism utilizing specific criterion measures and having at least a six-month follow-up. The analysis did not include any intervention programs or other strategies that attempt to reduce recidivism. As expected, a number of variables, such as age, criminal history, gender, and substance abuse were found to be very potent predictors of recidivism (Gendreau et al., 1996). However, it was discovered

that criminogenic needs, classified as a "dynamic" variable due to its propensity to change over time, yielded much higher correlations with recidivism than did the aforementioned static variables. This was an important finding because very few instruments took those needs into account, and little research had been done to determine the relationship of those needs to recidivism. In terms of policy implications, the results of this analysis suggested that emphasizing the needs of offenders and addressing those needs by offering services appropriate to that population will likely help produce more favorable outcomes in parole and probation settings. Furthermore, dynamic variables that contribute to recidivism must be reassessed over time with validated actuarial measures in order to adapt to the changing needs of offenders.

Cognitive Behavioral Interventions

In order to address the needs of offenders and reduce their risk of re-offending, agencies began to look at scientifically based methods of altering behavior. However, psychological approaches are quite varied, and it was necessary to find an appropriate modality for this population. In general, exclusively didactic approaches do not seem to work with such populations (McGuire, 1995). The literature does contain a few studies which suggest that a psychodynamic approach may be effective in treating forensic groups. It is hypothesized that small groups may reflect disordered family relationships and help offenders gain some insight and develop a sense of social responsibility (Welldon, 1993). However, despite sporadic successes, the effectiveness of psychodynamic interventions has generally not had widespread support in the literature (Serin & Preston, 2001).

One study of various successful programs across the country revealed that although they used different intervention techniques and selection criteria, one thing held in common by all of them was that they employed at least one technique that had an impact on the offender's thinking (Ross, Fabiano, & Ewles, 1988). These findings were further supported by research conducted by Wilson, Bouffard & Mackenzie (2005) in which programs across the country were examined.

In accordance with the responsivity and criminogenic needs principle, the Thinking for a Change program was introduced. This program tends to target medium to high-risk offenders. The rationale is that this population tends to commit the most crimes and, in addition, is also more likely to re-offend (Bush et al., 1997). Specific targeting strategies can therefore generate more desirable cost/benefit ratios, as well as more desirable outcomes. It has been demonstrated that cognitive behavioral interventions are particularly effective in generating major reductions in recidivism rates among high-risk probationers (Ross et al., 1988).

A review of intervention programs in probation settings shows that those programs that were most effective tended to have four things in common. First, the treatment staff adhered rigorously to the established principles and techniques of the interventions they were implementing. Second, the program developers, who were themselves experts at behavioral techniques and assessments, closely monitored staff. Third, individual differences of offenders were taken into account, especially as these related to the different personal styles of the program staff. Fourth, there was regular contact between offenders and staff (Gendreau, Goggin, Cullen, & Andrews, 2000).

There is also widespread evidence for the importance of teaching social skills to promote daily functioning in criminal populations. It is not uncommon for individuals in this population to exhibit significant deficits in this domain (Samenow, 1996). Typically, good social skills are needed to navigate challenges throughout one's life. This is true even at the earliest stages of education, when a deficit in social skills can be every bit as debilitating as a student's academic competence (Fad & Ryser, 1993). As asserted by Larson (1988), although cognitive thinking errors may not be the primary reason for someone becoming involved in the criminal justice system, a significant proportion of criminals exhibit a pronounced lack of social problem solving skills. Such deficits represent a significant hurdle for criminals to achieve more adaptive social interactions. Additional deficits include poor critical reasoning skills and planning. Thinking tends to be concrete and there is a propensity to ascribe blame to others while failing to see the consequences of their own actions (Fabiano, Proporino, & Robinson, 1991). Furthermore, these problem-solving deficits, of ongoing, may serve as a risk factor for recurrent criminal behavior.

However, one must be careful not to place specific skills deficits squarely within the domain of criminal offenders. As argued by Freedman, Rosenthal, Donahoe, Schundlt, and McFall (1978) in their analysis of delinquent and non-delinquent boys, there is no single deficit or pattern of deficits that is likely to explain delinquency. Rather, the likelihood of delinquency lies in a combination of 3 factors:

1. The extent to which an individual lacks the requisite skills to deal effectively with the everyday problems surrounding him.

2. The frequency with which he encounters such situations.

3. The degree to which his incompetent solutions to such problems take the form of illegal behaviors.

Although many of the subjects in the study exhibited some deficit in social skills, this was not necessarily diagnostic of delinquency.

Problem solving skills, although not the same as thinking errors, nonetheless lie within the purview of cognitive restructuring techniques. Problem solving skills are largely an exercise in cognition and, as a consequence, most cognitive behavioral interventions will tend to have an impact on these skills. Most interventions of this nature have at least two components in common. The first of these is problem solving. Most problem solving skills training typically includes some form of cognitive reappraisal, in which the individual is trained in discriminate observation of a situation in order to better evaluate it. Second, the individual learns to generate and experiment with alternative behaviors for any number of social situations (i.e., behavioral experimentation); (Michenbaum, 1977).

The acquisition of such skills will, of course, vary between individuals, as the individual problems they manifest will likewise be varied, including deeply ingrained personality problems. According to Samenow (1996) the antisocial personality is particularly difficult to treat. However, even criminals with such personality dispositions are amenable to rehabilitation. In contrast to theories of environmental factors or mental illness, Samenow argued that the most prominent feature of the criminal personality lies in his thought patterns. Among these are lack of a concept of personhood and interdependence, concrete thinking, fearfulness and unrealistic expectations of the world.

However, there is an important caveat to bear in mind when considering the thought processes of the antisocial personality. Many people have thinking errors, and this is not necessarily pathological. But the case of the antisocial individual is unique in that he has many of them tied together into a constellation that perceives a very warped reality. "His errors in thinking are pervasive and add up to a view of the world dramatically different from that of the person who lives responsibly" (Samenow, 2001, p. 281).

According to Samenow, change for the antisocial individual involves not only the acquisition of new skills but the recognition of his own thought processes and eventual exasperation with his own thinking errors and the poor problem solving outcomes these errors tend to generate. For example, calculated lying is a hallmark problem solving approach for the antisocial individual. One approach to replacing this behavior with one that is more adaptive would involve working with the individual to elicit recognition of the long-term futility and cost in terms of human relations that such a strategy entails. Such recognition will eventually lead to frustration and disgust, and it is at this point the he may be amenable to change. Barring such a critical event, most criminals have very little motivation to change, and any attempt at using coercion is counterproductive. One can only point out where such individuals have gone wrong in the hope of reaching this moment of insight. Samenow argues that it is, in the final analysis, a matter of choice for criminals to adopt more adaptive ways of thinking and problem solving.

Attributional bias is another common thinking error among offenders particularly among teenagers. Dodge, Price, Bachorowski, & Newman (1990), demonstrated that adolescents with a history of criminal behavior had a marked tendency to mistakenly

attribute hostile intentions to peers. Furthermore, he found these biases were positively correlated with those individuals' previously established levels of severity of aggressive behavior. The implications of these findings are astounding when one takes into account how easily these attributional biases, in response to provocation stimuli, affect the functioning of these individuals and how easily they can be addressed by cognitive behavioral intervention.

The same holds true for a wide range of psychological problems. However, in order to implement interventions to address these issues effectively, it may be necessary for probation officers to become more highly trained than they have been traditionally. As Wagoner and Piazza (1993) found in their study of drug abuse programs, without additional training in detecting the indicators of drug abuse and administering instruments to identify abusers, probation officers are likely to minimize the significance of such abuse. As a result, probationers would be unlikely to receive the treatment that they need. However, even in programs where probation officers are not ideally trained, offenders are still able to acquire the necessary information and skills they are taught (Ross et al., 1988). A corrections officer with effective communications skills is able to assist offenders develop strategies to minimize their own risk levels as well as help them develop new skills with a greater rate of success (Christensen, 2005).

Well-trained and supervised probation officers should be more than capable of administering highly effective cognitive programs. This is advantageous for probationers, since drug abuse tends to have a very high incidence in these populations, estimated to be about 55% (Cohen, 1995). Drug use is often detected by mandatory drug testing and, as a technical violation, can result in revoked probation. A combination of

cognitive behavioral techniques combined with anger management strategies have been found effective in forensic populations as well (Stermac, 1986). Outcomes of the Stermac study showed more adaptive strategies for dealing with stress and anger, as well as significant changes in offenders' provocation tolerance.

A common concern for the widespread implementation of cognitive behavioral programs is the possible reduction in their effectiveness which results from poor program implementation. This generally results from a distancing of the program developers by an additional layer of bureaucracy; a necessity no doubt, but one which often results in lowered efficacy, reduced program integrity, and poorer implementation and application of program strategies (Wilson et al., 2005). This explanation has been maintained by other researchers (Hubbard & Latessa, 2004) who have, at times, found only modest results in reducing recidivism with the use of cognitive behavioral groups. In such cases observation of the treatment groups have often revealed significant variation in the quality of the implementation.

Highly effective programs also tend to take into account three principals: the risk principle, the criminogenic needs principle, and the responsivity principle (Gendreau & Andrews, 1990). The risk principle asserts that criminal behavior can be predicted by factors which can be either static (e.g., age, gender, history) or dynamic (e.g. drug use, friends). This idea has been supported by research (Gendreau et al., 1996), and it has been established that to make use of it, agencies must match the level of supervision intensity to the level of risk. Intensive supervision is typically more effective with high-risk offenders. In fact, there is significant evidence that suggests intensive probation is actually detrimental to low risk cases, and actually results in higher levels of recidivism

(Andrews, 1989). However straightforward this idea is in theory, it is often quite

different in practice. Andrews commented:

> ...the belief persists that treatment services, if effective at all, only work for lower
>
> risk cases. Social workers call this the "casework paradox"; services are great, as
>
> long as the client is not in difficult circumstances. Psychologists and other human
>
> service professionals make reference to "YAVISS;" treatment is great, as long as
>
> the client is Young, Attractive, Verbal, Intelligent, and Socially Successful" (p.
>
> 17).

The criminogenic need principle is similarly straightforward. It asserts that

certain needs, such as employment or marital status will affect an offender's risk level as

well (Clawson, Bogue, & Joplin, 2004). In a corrections setting, addressing these needs

will often take the form of providing additional services, such as counseling, to

ameliorate the possible negative effects of such problems.

The responsivity principle asserts that an individual's personal characteristics,

such as intelligence, self-esteem, depression, personality, and abuse history are related to

offenders' success in rehabilitation programs. Consequently treatment should be matched

to the offender's specific needs, rather than the needs of the institution, by tailoring it to

the individual. It should not be assumed that treatments that work with other types of

populations would be similarly effective (Andrews, Bonta, & Hoge, 1990).

An additional advantage of cognitive behavioral programs is that they make use

of a variety of approaches which can help analyze and evaluate outcomes for offenders'

faulty thinking and problem solving approaches. Strategies such as mapping out one's

problem solving approaches to specific situations via simple flow charts have been shown

to be useful at helping offenders replace dysfunctional patterns with more adaptive ones (Newbern, Dansereau, & Pitre, 1999). Novel approaches such as these are useful because they supply alternative methods of analyzing problems, here by the use of visual aids, for a population that already has difficulty with such tasks.

For those researchers who conduct investigations into effective supervision programs, the debate over "what works" inevitably comes to the conclusion that "when it comes to reducing individual offender recidivism, the 'only game in town' is appropriate cognitive-behavioral treatments which embody known principles of effective intervention" (Gendreau, Cullen, & Bonta 1994, p. 13). Given the needs of criminal justice agencies to service large numbers of people, it is a logical next step to adapt these interventions into a group format. Furthermore, the group format may confer specific advantages to offender populations because they tend to be less oppressive by addressing the problem of inherent power differences as well as developing social skills among participants by encouraging them to be active participants in the group process (Hayden, Hopkinson, Sengendo, & von Rabenau, 1999).

CHAPTER THREE
Method

Study Purpose and Major Aims

The study attempted to determine which data, including demographic data, initial risk assessment, and type of offense, could be used to predict completion of the Thinking for a Change program and probation outcomes for offenders under community supervision. Long-term outcomes were evaluated by investigating recidivism, which were defined as new arrests occurring after the intervention, and revocation of probation. Such information may allow available resources in the criminal justice system to be better allocated where they can be most useful.

Hypotheses

The following hypotheses were proposed:

Hypothesis 1: The demographic variables of race, ethnicity, gender, and employment will not differ significantly between the completer (C) group and noncompleter (NC) group.

Hypothesis 2: The C group will be older, married, and better educated compared to the NC group.

Hypothesis 3: The C group will have lower initial risk scores compared to the NC group.

Hypothesis 4: The C group will exhibit lower rates of recidivism, as measured by rearrests, compared to the NC group.

Hypothesis 5: The C group will have less severe initial offenses, defined as a misdemeanor or felony, as compared to the NC group.

Hypothesis 6: C group members who recidivate will exhibit less severe subsequent

offenses, defined as a misdemeanor or felony, than the NC group.

Hypothesis 7: The C group will exhibit more successful probation outcomes, as

measured by probations completed without revocation, than the NC

group.

Study Participants

The present study utilized data collected from a population of criminal offenders

placed on probation and supervised by the Dallas County Community Supervision and

Corrections Department. The sample size was particularly large (N=519), and comprised

of Thinking for a Change program completers (C group) and noncompleters (NC group).

In order to qualify for selection, participants must be at least 18 years old and have a

referral from a probation officer for participation in the program. In addition, certain

requirements are maintained by the Community Supervision and Corrections Department

for participation in the Thinking for a Change program. First, those offenders classified

as either medium or high risk tend to be favored for participation in the program. The

risk level is assessed by the offender's probation officer by means of the Texas

Department of Criminal Justice-Community Justice Assistance Division (TDCJ-CJAD)

Case Classification Risk Assessment and is intended to reflect an offender's potential for

further criminal activity. Several factors are used to determine this, including criminal

history, employment, living situation, and a history of illegal drug use. The sample to be

used for this study included minimal risk offenders, as well, who are typically referred

due to an expressed interest in the program or because their probation officer thinks they

can specifically benefit from participation. In addition, participants in the program must

be English speaking, have no more than one missed report to their probation officer in the previous six months, require "special programs" as assessed by the probation officer, have no ongoing drug abuse problems or unstable mental illness, and no history of sex offenses.

Design Summary

Due to the nature of criminal justice research, it is often impossible for ethical and legal reasons to randomize subjects into experimental and control groups. This becomes more complicated as one attempts to investigate a treatment program within the criminal justice system, making it impossible to set up a true experimental design. However, it is a generally accepted standard to employ quasi-experimental designs in corrections research (Steurer & Smith, 2003). Although it has been argued that such designs are not "true" experiments and have poor internal validity, their external validity tends to be very high, and thus more easily generalizable across the larger population under examination.

This study was a quasi-experimental design with non-random assignment to a treatment group. Because of the difficulty in assigning individuals to a control group in a forensic setting, the design was a non-equivalent dependent variables design comparing the C group to the NC group. Data on demographic variables, including race, ethnicity, gender, education, employment, marital status, and age, initial risk assessment, program completion, probation outcomes, and rearrests were collected. These data were analyzed to determine significant differences between the C group and the NC group. This investigation could arguably be considered a longitudinal study as well, since offenders were followed for up to 7 years after their referral to the program.

The dependent variables of the study were completion of the Thinking for a Change program. The independent variables were recidivism, risk score, employment, marital status, age, gender, education, race, ethnic background, and probation outcomes.

Procedure

The proposal for the study was submitted to the University of Texas Southwestern Medical Center's Institutional Review Board and was approved. The data for this study was extracted from a database at the Dallas County Community Supervision and Corrections Department as part of an ongoing program evaluation. The initial database query was to identify individuals on probation within the previous 16 months who had been recommended for the Thinking for a Change program. Initially, 1,461 individuals were identified. However, upon closer inspection of the data, it was determined that not all of the referrals were valid. Some referrals were made and then withdrawn at the request of the probationer or the supervising officer. Others were never acted upon because of probation revocation. A number of those referred to the program never appeared at the assigned time and place and were deemed "non-starters." These were not included in the analysis. Of the initial sample, approximately 519 individuals actually started the program as a result of their supervising officer's recommendation or a court order. Thus, data from the 519 subjects was compiled into a new database to allow for various statistical analyses to be executed. Follow up data, in the form of rearrest reports, was requested from the Texas Department of Public Safety using unique State identification numbers. The database was then purged of any identifying data and unique identifying numbers were assigned to each subject.

Because there can be significant variation in the number of sessions attended before dropping out, 30 subjects were selected at random from the NC group in order to formulate an average number of sessions attended for that group and thereby to control for partial adherence effects. However, because the number of average sessions attended before dropping out was less than 4, it was decided that any partial treatment effects were negligible.

Statistical Analyses

Demographics

Demographic variables were analyzed using methods appropriate to their particular data properties. These variables included race, ethnicity, education, marital status, gender, employment, and age. With the exception of age, these data were either nominal or ordinal. In order to conduct more straightforward analyses, offenders were organized into age groups of 18 to 24, 25 to 34, and 35 or more years of age. Once obtained, these demographic variables were analyzed by means of Contingency Tables and Chi-square analyses. These data were expected to show differences between the two groups.

Risk Scores

In addition, an analysis of risk assessment scores was executed using a logistic regression to determine if they predict program completion or revocation of probation. Demographic variables were added to the logistic regression model to determine if any contributed to the predictive ability of the model and to what degree they did so. Multiple predictors in the logistic regression model will yield Cox-Snell R^2 statistics that will express the amount of variance accounted for by the model.

Recidivism Rates and Survival Analysis

The hypothesis that the C group will have lower rates of recidivism was investigated with the use of a survival analysis, or a "time to failure" analysis. There were a few statistical models available for conducting this type of analysis. However, some specific properties of the data set favored certain analyses over others. Because of the time limits of the study, it was inevitable that some of the observations were censored observations. Additionally, the data included two separate groups. For these reasons, it was determined that a Kaplan-Meier analysis was the most appropriate. The time period for the analysis started with the beginning of the offender's probation, the earliest data point being in January 2000, and ended at a selected point in time, specifically February 1, 2007. This was the period for which recidivism data was available. The event of interest in this analysis was recidivism. Survival curves were compared using a Mantel-Cox log rank test. A McNemar test of independent proportions was used to determine that group differences were not attributable to chance.

Recidivism, Offense Severity, and Probation Revocation

Rearrests recorded by the Texas Department of Public Safety were used to assess long-term recidivism outcomes for study participants. The rates of recidivism were compared between the two groups via the aforementioned survival analysis. However, an additional analysis to determine differences in recidivism between the groups was conducted by means of a contingency table. Additionally, differences in severity of offenses between the two groups was determined by looking at the severity of the initial offense and, in the case of those offenders who recidivated, the severity of the subsequent offense. Offenses were categorized as either felonies or misdemeanors, with felonies

being more severe. Contingency tables and Chi-square analyses were conducted to determine differences between the two groups on these variables. Finally, differences between the two groups on revocation of probation were investigated using contingency tables and Chi-square analyses as well.

Materials

TDCJ/CJAD Case Classification Risk Assessment

The Texas Department of Criminal Justice uses an objective risk assessment measure developed by the state of Wisconsin in the 1970's to more efficiently allocate resources to individuals who required more supervision time. The instrument utilizes static predictor variables such as drug and alcohol use, prior convictions, attitude (positive or negative) and number of address changes in the last 12 months, as well as dynamic criminogenic need variables such as employment, academic/vocational skills, and family problems (see Appendix 1). The instrument generates a risk score which ranges from 0 to 45, with a supplementary "needs" score which ranges from 0 to 15. Development of this instrument was in response to a growing need for the State of Wisconsin to budget its resources more effectively, but it eventually was co-opted into a National Institute of Corrections Risk Classification Model that included a structured interview as well in order to increase the accuracy of predicted outcomes (see Jones, Johnson, Latessa, & Travis, 1999). Previous analyses of the predictive abilities of this measure alone have yielded mixed results (Connolly, 2003), with poor prediction of recidivism and a tendency to overpredict negative outcomes for individuals on probation. Despite these shortcomings, however, it continues to be used by many probation departments around the country.

Thinking for a Change Program

The basic organization of this program is a group format with 22 sessions of two hours each. Typically, the size of the group is limited to 20 participants. Groups are conducted at either the Frank Crowley Criminal Courts Building in downtown Dallas, or any number of probation offices throughout Dallas County. Because these groups are facilitated by individuals who are not typically mental health professionals, they tend to be highly structured and follow a very specific script. Group facilitators are trained using a two-day curriculum in which they are made familiar with the theoretical foundations of cognitive behavioral theory, specifically that thinking controls behavior, as well as the treatment program specifics.

The program addresses criminal behavior by way of three components. These are:

1. Cognitive Restructuring: This is the primary focus of sessions 1 through 9. Participants are taught to identify maladaptive attitudes and beliefs and replace them with more adaptive ones. Emphasis is placed on the use of thinking reports to make these identifications as objective as possible. The process is reinforced by group exercises called "thinking check-ins" in which a real-world application of the process is practiced.

2. Social Skills: Explored in sessions 10-15, social skills training involves developing empathy and understanding for others as well as practicing skills to manage anger and confrontation. This includes practicing more adaptive ways of dealing with hostility and accusation from others.

3. Problem Solving: Occurring in sessions 16-22, problem solving focuses on six specific strategies for dealing with problem situations. These strategies, in order, are to stop and think, describe the problem, get information, consider choices and possible consequences, choose-plan-do, and evaluation. Lessons learned in previous sessions are reinforced and integrated into these last six sessions.

CHAPTER FOUR
Results

Demographic Variables

For demographic variables, two-way contingency table analyses were conducted to determine if variables such as race, ethnicity, education level, marital status, gender, employment status, or age group were associated with success in completing the program. A summary of descriptive statistics for each variable can be found on Table 1. Race did not exhibit a significant relationship with program completion. A Pearson χ^2 (2, $N = 519$) = 1.292, $p = .52$. The resulting value of $\phi = .05$ suggested a very weak relationship between the two variables. Frequencies were similar between the C and NC groups. Approximately 69% of Caucasians completed the program, compared with 65% of Blacks and 63% of Hispanics, as shown in Table 2 and Figure 1.

Similarly, the relationship between ethnicity and program completion was neither significant nor strong, with a Pearson χ^2 (1, $N = 519$) = .389, $p = .53$, $\phi = .027$. Frequencies were similar between the C and NC groups. Sixty three percent of Hispanics assigned to the program completed compared with 67 % of non-Hispanics. These data are represented in Table 3 and Figure 2.

Education level demonstrated a significant relationship with program completion with an observed Pearson χ^2 (1, $N = 519$) = 24.02, $p < .01$. The value of $\phi = .215$, suggesting relationship stronger than that of the other demographic variables in the current study. The C group exhibited higher education levels than the NC group. Those offenders with a high school degree or higher completed the program at a rate of 74.6%,

compared with only 53.8% of those with no high school degree (see Table 4 and Figure 3).

Likewise, marital status exhibited a significant, though weak relationship with program completion. Contingency table analysis revealed a Pearson χ^2 (3, $N = 519$) = 8.10, $p = .044$, $\phi = .125$. There were more married offenders in the C group than the NC group. Approximately 78% of married offenders completed the program, compared with 66% of divorced offenders and 64% of single offenders. These data are shown in Table 5 and Figure 4.

Contingency table analysis of gender and program completion yielded Pearson χ^2 (1, $N = 519$) = 7.175, $p = .007$, $\phi = .118$. There were more women in the C group than the NC group. Women completed the program at a rate of 75%, compared to 63% for men. Table 6 and Figure 5 show these proportions.

Contingency table analysis of employment and program completion resulted in a Pearson χ^2 (4, $N = 519$) = 10.52, $p = .03$, $\phi = .142$. Again, this is a significant relationship, although it is very weak. The C group had more fully employed individuals than the NC group, which had more unemployed individuals. Those offenders who were employed full time, employed only part time, or employed full time with a part time job completed the program at higher rates (72%, 71%, and 64% respectively) than those offenders who were unemployed or had two part time jobs (59% and 44%, respectively). Proportions are shown on Table 7 and Figure 6.

Finally, a contingency table analysis to determine the relationship between age group and program completion showed a significant relationship between both variables with a Pearson χ^2 (2, $N = 519$) = 11.74, $p = .003$. However the phi statistic, $\phi = .150$,

shows a weak relationship. The C group tended to have older individuals than the NC group. Offenders aged 35 and older completed the program at a rate of 78%, compared to 64% for those aged 25 to 34 years and 60% for those aged 18 to 24. These data are shown in Table 8 and Figure 7.

The results of these analyses supported the hypothesis that older, married, and better-educated individuals tend to complete the program at a higher rate. In addition, gender and employment variables differed between the C and NC groups, even though race and ethnicity did not. Consequently, the hypothesis that race, ethnicity, gender, and employment would not be different between groups was not supported.

Risk Score as a Predictor

In order to analyze the hypothesis that initial risk scores would predict program completion, probation outcomes, and recidivism, a logistic regression analysis was conducted with the risk score as the predictor variable. The logistic regression analysis for risk score and program completion yielded a result of a Wald $\chi^2 = 13.49$ (2, $N = 505$) which was significant at the $p < .01$ level. Higher risk scores predicted lower completion rates (see Table 9). Follow up analysis using a Hosmer and Lemeshow Test resulted in a χ^2 (7, $N = 505$) = 7.20 with $p = .408$, a significance level demonstrating that observed rates of program completion were not significantly different from those predicted by the model, resulting in a good fit for the data (Table 9). Adding demographic variables as categorical covariates to the logistic regression analysis yielded a more robust predictive model. This analysis yielded a Wald $\chi^2 = 11.62$ (1, $N = 505$), which was significant at the $p = .001$ level. The value of the Nagelkerke $R^2 = .079$ suggested that the predictive variables in the model account for approximately 28% of the variance in the observed

results (see Table 10). These results supported the hypothesis that offenders with higher risk scores will be less likely to complete the Thinking for a Change program.

The logistic regression analysis for risk score and probation outcomes yielded a Wald χ^2 = 58.56 (1, N = 505) which was significant at the $p < .01$ level. Higher risk scores predicted revocation of probation (see Table 2). Follow up analysis resulted in a Hosmer and Lemeshow Test χ^2 (8, N = 505) = 9.35, p = .314, again suggesting a good fit with the model (see Table 9). Adding demographic variables as categorical covariates to the logistic regression analysis yielded a more robust predictive model. This analysis resulted in a Wald χ^2 = 50.51 (1, N = 505) which was significant at the $p < .001$ level. The value of the Nagelkerke R^2 = .301 suggested that the predictive variables in the model account for approximately 55% of the variance in the observed results (see Table 10). These results supported the hypothesis that offenders with higher risk scores will be more likely to have their probation revoked.

Kaplan-Meier Survival Analysis

A Kaplan-Meier survival analysis revealed a significant difference in both recidivism rates and time to recidivate between the C and NC groups, with a mean time to recidivate of 1705 days (4.7 years) for the C group and 1300 days (3.6 years) for the NC group (log rank $p < 0.05$, χ^2 = 19.22). Typically, median survival times are preferable to mean survival times for interpreting the results of a survival analysis. Mean values are sensitive to the effects of outlying data points. Unfortunately, the C group never fell below 50% on the survival curve, thereby making the median time to recidivate impossible to calculate. The survival table can be seen in Table 11, with means and overall comparisons on Table 12. Figure 8 shows the survival plots for both groups.

These percentages were significantly different from each other based on the results of the

McNemar test of dependent proportions, $\chi^2 = 30.16$, $p < .001$. These findings supported

the hypothesis that the C group will have lower rates of recidivism than the NC group.

Recidivism and Offense Severity

Two-way contingency table analyses were conducted to determine differences

between the C and NC groups on recidivism, severity of initial offense (for which they

were placed on probation), and severity of subsequent offense (rearrests subsequent to

program enrollment). A summary of descriptive statistics for this group of analyses can

be found on Table 13.

Contingency table analysis of recidivism and program completion resulted in

significant differences between groups, with Pearson χ^2 (1, $N = 519$) $= 20.00$, $p < .001$, ϕ

$= .196$. The C group exhibited lower rates of recidivism (40%) than the NC group (61%).

These data are shown on Table 14 and Figure 9.

Contingency table analysis of severity of initial offense and program completion

found no significant differences between groups, with Pearson χ^2 (1, $N = 519$) $= 3.64$, $p =$

$.056$, $\phi = .084$. Felony and misdemeanor offenses were similarly distributed between

both groups. These data are shown on Table 15 and Figure 10.

Likewise, an analysis of severity of subsequent offense and program completion

resulted in no significant differences between groups, with Pearson χ^2 (1, $N = 519$) $=$

$.086$, $p = .770$, $\phi = .019$. Again, the severity of subsequent offenses was similarly

distributed between both groups. These data are shown on Table 16 and Figure 11.

The results of these analyses supported the hypothesis that the C group will

recidivate less than the NC group. However, the hypothesis that the C group had less

severe initial offenses, defined as felonies or misdemeanors, compared to the NC group

was not supported. Likewise, the hypothesis that the C group had less severe subsequent

offenses upon being rearrested than the NC group was not supported.

Program Completion and Probation Outcomes

A two-way contingency table analysis was conducted to evaluate whether the C

group differed from the NC group in the frequency of probation revocations. The two

variables were program completion with two levels (successful or unsuccessful) and

probation termination status with two levels (expired or revoked). Results of the analysis

indicated that the two variables were significantly related, Pearson χ^2 (2, $N = 519$) =

90.23, $p < .05$, $\phi = .417$. The NC group had a revocation rate of 71% , compared to only

29% for the C group. These data are illustrated in Table 17 and Figure 12. This finding

supported the hypothesis that the C group will have fewer probation revocations than the

NC group.

CHAPTER FIVE
Discussion

Analyses conducted on the data support the conclusion that the two groups in this study, C and NC, are different. Exactly what might account for those differences and why one group is able to navigate through the Thinking for a Change program and the other is not remain questions to be more fully explored. The additional question of why the C group was less likely to have their probation revoked also remains to be explored more fully. It is likely the information gleaned from this study will shed some light on these questions and suggest directions for further research.

Demographic Variables

The hypothesis that older, married, and more educated offenders would have higher rates of program completion than younger, unmarried, and less educated individuals was supported. However, the hypothesis that race, ethnicity, gender, and employment would not be predictive of program success was not supported. Of the seven demographic variables examined, five (education, marital status, employment, gender, and age) demonstrated significant relationships with program completion. The phi values for these variables were all weak, suggesting that, individually, they were not very good predictors of program completion. The single strongest predictor of program completion was education level, with a phi statistic value of .215. Perhaps this is not so surprising considering the nature of the program. Generally speaking, cognitive behavioral interventions make use of didactics to identify and test maladaptive thoughts and replace them with more adaptive ways of thinking (see Beck, 1995). Offenders with

higher levels of education would likely have an advantage in completing the Thinking for a Change program, and therefore, significantly better completion rates. However, the reasons for age and marital status being associated with program completion are not as clear. In this study, the older an offender, the more likely he or she was to complete the program. In terms of marital status, married and divorced offenders do better than singles.

Examining the other variables may give us some insight into this complex relationship. Race and ethnicity were not significantly associated with program completion. However, gender and employment did have an association with completion. In hindsight, it seems not surprising that gender would be a predictive variable for program success, since previous research shows that women tend to have better outcomes in correctional programs in general (see Gendreau et al., 1996). The question of gender differences remains an important one for future studies.

When taken in their entirety, the variables that predict program completion all have a central theme. They seem to say something about the stability of the individual's life, or, in the case of the NC group, the lack thereof. The individual who is older, married, better educated, and employed full time will have a different lifestyle from one that is young, single, unemployed and poorly educated. These differences may be reflected in the observed rates of program completion.

Analyses of Risk Scores and Outcomes

The results of the logistic regression analyses supported the hypothesis that offenders with higher risk scores were less likely to complete the Thinking for a Change program. Considering that the risk assessment instrument used to determine risk scores

takes into account several of the same variables shown to be associated with program completion in the previous analyses, this is to be expected.

The results of the logistic regression analyses supported the hypothesis that offenders with higher risk scores will be more likely to have their probation revoked. There would seem to be some overlap between the two outcomes in this cluster of analyses, since probation is often revoked when one commits a new crime. However, the risk score was a better predictor of probation revocations, which indicates additional factors may be involved in the observed results. Perhaps technical violations of probation may account for some of these differences, but this remains a topic for future research.

Results of the Survival Analysis

The results of the data analyses supported the hypothesis that the C group would have lower recidivism rates than the NC group. The Kaplan-Meier survival analysis showed very distinct differences between the C and NC groups. Differences were observed in rates of recidivism and the time to recidivate. The C group never reached the 50% survival point, unlike the NC group (See Table 12 and Figure 8). This made the calculation of median survival times impossible. However, it also highlights the stark differences between the two groups given the amount of time in the analysis. Inevitably, when one conducts a survival analysis, some of the data will be censored; that is, individuals will continue past the end date for the analysis without experiencing an event of interest, in this case, recidivism. This is typical of survival analyses, and does not impact the results of this study in any significant way. Research suggests that offenders who recidivate tend to do so within a short period of time, about 1 to 3 years, and these rates fall off as one looks further out (see Beck & Shipley, 1989). It is therefore likely

that the observed recidivism rates in the model will slow down and offer little additional information. However, despite the results of the analysis, it is difficult to say if it was the intervention program that accounted for the observed differences in the two groups. Pre-existing factors are likely to be playing a role in these observed outcomes.

What is needed is a baseline assessment of these mitigating factors. To some extent, we have that in the study conducted by Golden, Gatchel & Cahill (2006). As part of that study, offenders were administered a social problem solving measure before and after undergoing the Thinking for a Change program. The results show a significant difference at time 2, with program completers exhibiting more adaptive skills than the comparison group. This supported the conclusion that participation in the program helped increase problem solving skills among those who completed the course. Individuals who finished the program also had better probation outcomes and lower recidivism rates. Again, this likely reflects an increase in social problem solving skills related to participation in the program. However, program dropouts exhibited lower scores on social problem solving skills and a greater tendency towards impulsivity and avoidance (see Golden, Gatchel & Cahill, 2006). If these characteristics are indeed deeply ingrained and long-standing problem solving approaches, this might help explain the poorer outcomes for this group.

Recidivism, Offense Severity, and Probation Outcomes

Significant differences existed between the C and NC groups on the observed frequency of recidivism, that is, arrests subsequent to enrollment in the program. The data analysis supported the hypothesis that the C group recidivated less than the NC group. However, there were no differences between the groups on the severity of initial

offense or on the severity of the subsequent offense. The hypotheses that the C and NC groups were different in the severity of the initial offense and the severity of a subsequent offense were therefore not supported. An explanation for these results most likely lies in the classification of crimes as felonies and misdemeanors. The categories this variable was divided into for the purposes of the study were too simplistic to capture the criminal activity patterns of the offenders. It may also reflect the idiosyncrasies of the criminal justice system, such as elevating the severity of specific crimes, such as nonviolent drug related crimes, for political reasons. It is possible that classifying crimes into different categories, such as property crimes, drug related crimes and aggressive crimes, will result in greater differences. This remains a subject for future research.

Limitations of the Study

The findings of this study suggest that the overall benefit of the Thinking for a Change program in the Dallas County Community Supervision and Corrections Department is a positive one. However, it is difficult to determine whether those offenders who completed the program and subsequently had better outcomes (lower revocation and recidivism rates) than noncompleters did so as a result of the program or because of other factors that positively influenced the likelihood of success.

Part of the problem is the nature of the collected data. Typically, data are collected for the purposes of administering community supervision programs, with research considerations being secondary. This is to be expected of course, but collecting additional information might help tailor supervision for those cases that tend to fall through the cracks. For example, income level would yield more information than simple employment status, a piece of data that is commonly collected. This would provide a

more robust profile of the difficulties faced by probationers. Other factors such as access to transportation no doubt play a role in probationer outcomes as well, but this variable was not addressed in this study. More flexibility in class scheduling may allow for greater participation in the program by offenders who are otherwise engaged with their jobs or involved with the business of day-to-day living. Making classes available after hours or on weekends may boost participation and improve probation outcomes as well.

It should also be noted that relying on data provided by the Texas Department of Public Safety to measure rearrests might not provide a completely accurate picture of recidivism. Out of state offenses are not captured by such means. Those studies on national recidivism rates that were cited in the literature review (Beck, 1989; Langan & Levin, 2002) utilized national databases collected at the federal level.

Additional problems arise when one takes into account the implementation of the Thinking for a Change program. While examining the database, it became obvious that some referrals were never followed up on. Offenders either never made it into the program or kept getting deferrals for participation. In most cases, this seemed to result from schedule conflicts, although some individuals seem intent on avoiding participation altogether. There are likely different levels of motivation on the part of offenders to actually participate in the program. Although participation is compulsory for some as part of their probation requirements, others seem to avoid participating with no real consequences. These individuals represent yet one more sub-group of the population that was the focus of this study, the non-starter. These are individuals who were referred to the program, but for some reason never attended any sessions. If program completers are

different from noncompleters, the question arises how non-starters are different from those two groups.

Implications for Future Research

In order to answer this question, future research should focus on controlling extraneous variables by carefully matching subjects, a feat that is often difficult in a probation setting and is fraught with ethical dilemmas as well. Such matching was used in a previous investigation of this program (Golden, 2002), but the effects of stressors and inherent psychological factors that may be distinctive of noncompleters should be more fully explored.

Possible future studies may consider controlling for education level, as this was the demographic variable which had the strongest relationship to program completion. Selecting participants according to pre-test of cognitive skills or abilities may also help sift out additional differences between those who complete the program and those who do not. In addition, future research should look into incorporating newer actuarial based risk assessment instruments. The current study utilized an instrument developed in the 1970's, which is still in widespread use among probation agencies. The use of improved objectively administered instruments could provide a better description of group differences.

In addition, future research should investigate the likelihood of recidivism or probation revocations given a history of certain types of offenses. This research would involve classification of crimes into those categories previously discussed (i.e., property crimes, drug related crimes, etc.) in order to determine if real differences exist between individuals who commit those crimes.

This study attempted to encapsulate how completers of the Thinking for a Change program are different from noncompleters by looking at pre-existing difference as well as outcomes. However, there are other social and psychological factors that have not been adequately accounted for by this study, and it is here that future research should begin to look for ways to improve completion rates for this and similar programs.

APPENDIX A

TDCJ-CJAD Case Classification Risk Assessment

RISK ASSESSMENT

TDCJ-CJAD CASE CLASSIFICATION
Risk/Needs
Form Number 30-40

Revised 10/88

DATE:_____   Probationer:_____

RISK SCORES

1. Number of Address Changes in Last 12 Months..............
   - 0 None
   - 2 One
   - 3 Two or more _____(1)

2. Percentage of Time Employed in Last 12 Months............
   - 0 60% or more
   - 1 40% - 59%
   - 2 Under 40%
   - 0 Not Applicable _____(2)

3. Alcohol Usage...
   - 0 Alcohol use unrelated to criminal activity, e.g., no alcohol-related arrests, no evidence of use during offense.
   - 1 Probable relationship between alcohol use and criminal activity
   - 2 Definite relationship between alcohol use and criminal activity, e.g., pattern of committing offenses while using alcohol _____(3)

4. Other Drug Usage...
   - 0 No abuse of legal drugs; no indicators of illegal drug involvement, i.e., possession or abuse
   - 1 Probable relationship between drug involvement and criminal activity
   - 2 Definite relationship between drug involvement and criminal activity, e.g., pattern of committing offenses while using drugs, sale or manufacture of illegal drugs _____(4)

5. Attitude..
   - 0 Motivated to change; receptive to assistance
   - 3 Somewhat motivated but dependent or unwilling to accept responsibility
   - 5 Rationalizes behavior; negative; not motivated to change _____(5)

6. Age at First Adjudication of Guilt.................................
   (Adult or Juvenile - *include deferred*)
   - 0 24 or older
   - 2 20 - 23
   - 4 19 or younger _____(6)

7. Number of Prior Periods of Probation or
   Parole Supervision (Adult or Juvenile)..........................
   - 0 None
   - 4 One or more _____(7)

8. Number of Prior Probation/Parole Revocations................
   - 0 None
   - 4 One or more _____(8)

9. Number of Prior Felony Adjudications of Guilt.................
   (or Juvenile Commitments - *include deferred*)
   - 0 None
   - 2 One
   - 4 Two or more _____(9)

10. Adult or Juvenile Adjudications for..............................
    (Select applicable and add for score.
    Include current offense. *Maximum score: 5*)
    - 0 None
    - 2 Burglary, theft, auto theft, or robbery
    - 3 Worthless checks or forgery _____(10)

11. Adult or Juvenile Adjudication for...............................
    Assaultive Offense within Last FIVE years:
    (An offense which is defined as assaultive, or one which involves the use of a weapon, physical force or the threat of force)
    - 0 No
    - 8 Yes _____(11)

TOTAL RISK SCORE = _____(12)

RISK LEVEL = _____(13)

1 - Maximum (15+)
2 - Medium (8 - 14)
3 - Minimum (0 - 7)

TDCJ-CJAD Case Classification Risk Assessment (continued).

NEEDS ASSESSMENT

NEEDS SCORES

1 ACADEMIC/VOCATIONAL SKILLS:
−1 High school or above skill level · 0 Adequate skills; able to handle everyday requirements · +2 Low skill level causing minor adjustment problems · +4 Minimal Skill level causing serious adjustment problems _____(1)

2 EMPLOYMENT:
−1 Satisfactory employment for one year or longer · 0 Secure employment; no difficulties reported; or homemaker, student or retired · +3 Unsatisfactory employment or unemployed but has adequate job skills · +6 Unemployed and virtually unemployable; needs training _____(2)

3 FINANCIAL MANAGEMENT:
−1 Long-standing pattern of self-sufficiency; e.g., good credit · 0 No current difficulties · +3 Situational or minor difficulties · +5 Severe difficulties; may include overdrafts, bad checks or bankruptcy _____(3)

4 MARITAL/FAMILY RELATIONSHIPS:
−1 Relationships and support exceptionally strong · 0 Relatively stable relationships · + 3 Some disorganization or stress but potential for improvement · +5 Major disorganization or stress _____(4)

5 COMPANIONS:
−1 Good support and influence · 0 No adverse relationships · +2 Associations with occasional negative results · +4 Associations almost completely negative _____(5)

6 EMOTIONAL STABILITY:
−2 Exceptionally well adjusted; accepts responsibility for actions · 0 No symptoms of emotional instability; appropriate emotional responses · +4 Symptoms limit but do not prohibit adequate functioning; e.g., excessive anxiety · +7 Symptoms prohibit adequate functioning; e.g., lashes out or retreats into self _____(6)

7 ALCOHOL USAGE PROBLEMS:
0 No use; use with no abuse; no disruption of functioning · +3 Occasional abuse; some disruption of functioning · +6 Frequent abuse; serious disruption of functioning _____(7)

8 OTHER DRUG USAGE PROBLEMS:
0 No disruption of functioning · +3 Occasional abuse; some disruption of functioning · +5 Frequent abuse; serious disruption of functioning _____(8)

9 MENTAL ABILITY:
0 Able to function independently · +3 Some need for assistance; potential for adequate adjustment; possible retardation · +6 Deficiencies severely limit independent functioning; possible retardation _____(9)

10 HEALTH:
0 Sound physical health; seldom ill · +1 Handicap or illness interferes with functioning on a recurring chronic illness; needs basis · +2 Serious handicap or frequent medical care _____(10)

11 SEXUAL BEHAVIOR:
0 No apparent dysfunction · +3 Real or perceived situational or minor problems · +5 Real or perceived chronic or severe problems _____(11)

P.O.'s IMPRESSION OF PROBATIONER'S NEEDS:
−1 Well Adjusted · 0 No Needs · +3 Moderate Needs · +5 High Needs _____(12)

TOTAL NEEDS SCORE = _____(13)

NEEDS LEVEL = _____(14)

ASSIGNED LEVEL OF SUPERVISION: 1 Maximum_____   2 Medium_____   3 Minimum_____

POSSIBLE REFERRALS

GED _____   NA _____

TEC _____   ALCOHOL COUNSELING _____   DRUG COUNSELING _____

TRC _____   SEX OFFENDER COUNSELING _____

MHMR _____   BUDGET COUNSELING _____

DWI _____   OTHER _____

AA _____   OTHER _____

NEEDS
1 — Maximum (30+)
2 — Medium (15-29)
3 — Minimum (14 & below)

Officer's Signature

TDCJ-CJAD Case Classification Risk Assessment (continued).

RISK REASSESSMENT

TDCJ-CJAD CASE CLASSIFICATION
Risk/Needs
Form Number 30-41

Revised 10/88

DATE:_____   Probationer:_____

			RISK SCORES
1.	Number of Address Changes in Last 12 Months..............	0 None	
		2 One	
		3 Two or more	_____(1)
2.	Age at First Adjudication of Guilt......................................	0 24 or older	_____(2)
		1 20 - 23	
		2 19 or younger	
3.	Number of Prior Probation/Parole Revocations...............	0 None	
	(Adult or Juvenile)	2 One or more	_____(3)
4.	Number of Prior Felony Adjudications of Guilt:..............	0 None	
	(or Juvenile Commitments - *Include Deferred*)	1 One	
		3 Two or more	_____(4)
5.	Adult or Juvenile Adjudications for......................................	0 None	
	(Select applicable and add for score.	1 Burglary, theft, auto theft, or robbery	
	Include current offense. *Maximum score: 3*)	2 Worthless checks or forgery	_____(5)

RATE THE FOLLOWING BASED ON PERIOD SINCE LAST CLASSIFICATION:

6.	Percentage of Time Employed...	0 60% or more	
		1 40% - 59%	
		2 Under 40%	
		0 Not Applicable	_____(6)
7.	Alcohol Usage..	0 No apparent difficulties	
		1 Moderate difficulties	
		3 Serious difficulties	_____(7)
8.	Other Drug Usage...	0 No apparent difficulties	
		1 Moderate difficulties	
		3 Serious difficulties	_____(8)
9.	Problems in Interpersonal Relationships............................	0 None	
	(Living/Working Situation)	1 Few	
		3 Moderate	
		5 Severe	_____(9)
10.	Social Identification..	0 Mainly with positive individuals	
		3 Mainly with delinquent individuals	_____(10)
11.	Response to Court Imposed Conditions............................	0 No problems of consequence	
		3 Moderate compliance problems	
		5 Has been unwilling to comply	_____(11)
12.	Use of Community Resources...	0 Not needed	
		0 Productively utilized	
		2 Needed but not available	
		3 Utilized but not beneficial	
		4 Available but rejected	_____(12)
13.	Adult or Juvenile Adjudication for......................................	0 No	
	Assaultive offense within Last TWO years:	4 Yes	_____(13)
	(An offense which is defined as assaultive, or one		
	which involves the use of a weapon, physical force		
	or the threat of force)		

TOTAL RISK SCORE = _____(14)

RISK LEVEL = _____(15)

```
1 - Maximum (15+)
2 - Medium (8 - 14)
3 - Minimum (0 - 7)
```

TDCJ-CJAD Case Classification Risk Assessment (continued).

NEEDS REASSESSMENT

NEEDS SCORES

1 ACADEMIC/VOCATIONAL SKILLS:
−1 High school or above skill level | 0 Adequate skills; able to handle everyday requirements | +2 Low skill level causing minor adjustment problems | +4 Minimal Skill level causing serious adjustment problems _____(1)

2 EMPLOYMENT:
−1 Satisfactory employment for one year or longer | 0 Secure employment; no difficulties reported; or homemaker, student or retired | +3 Unsatisfactory employment or unemployed but has adequate job skills | +6 Unemployed and virtually unemployable; needs training _____(2)

3 FINANCIAL MANAGEMENT:
−1 Long-standing pattern of self-sufficiency; e.g., good credit | 0 No current difficulties | +3 Situational or minor difficulties | +5 Severe difficulties; may Include overdrafts, bad checks or bankruptcy _____(3)

4 MARITAL/FAMILY RELATIONSHIPS:
−1 Relationships and support exceptionally strong | 0 Relatively stable relationships | +3 Some disorganization or stress but potential for improvement | +5 Major disorganization or stress _____(4)

5 COMPANIONS:
−1 Good support and influence | 0 No adverse relationships | +2 Associations with occasional negative results | +4 Associations almost completely negative _____(5)

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−2 Exceptionally well adjusted; accepts responsibility for actions | 0 No symptoms of emotional instability; appropriate emotional responses | +4 Symptoms limit but do not prohibit adequate functioning; e.g., excessive anxiety | +7 Symptoms prohibit adequate functioning; e.g., lashes out or retreats into self _____(6)

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0 No use; use with no abuse; no disruption of functioning | +3 Occasional abuse; some disruption of functioning | +6 Frequent abuse; serious disruption of functioning _____(7)

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10 HEALTH:
0 Sound physical health; seldom ill | +1 Handicap or illness interferes with functioning on a recurring basis | +2 Serious handicap or chronic illness; needs frequent medical care _____(10)

11 SEXUAL BEHAVIOR:
0 No apparent dysfunction | +3 Real or perceived situational or minor problems | +5 Real or perceived chronic or severe problems _____(11)

P.O.'s IMPRESSION OF PROBATIONER'S NEEDS:
−1 Well Adjusted | 0 No Needs | +3 Moderate Needs | +5 High Needs _____(12)

TOTAL NEEDS SCORE = _____(13)

NEEDS LEVEL = _____(14)

ASSIGNED LEVEL OF SUPERVISION: 1 Maximum_____ 2 Medium_____ 3 Minimum_____

POSSIBLE REFERRALS

GED _____   NA _____

TEC _____   ALCOHOL COUNSELING _____   DRUG COUNSELING _____

TRC _____   SEX OFFENDER COUNSELING _____

MHMR _____   BUDGET COUNSELING _____

DWI _____   OTHER _____

AA _____   OTHER _____

NEEDS
1 — Maximum (30+)
2 — Medium (15-29)
3 — Minimum (14 & below)

Officer's Signature

Table 1.

Descriptive Statistics for Chi-square Analyses of Demographic Variables by Program Completion

Variable	Pearson χ^2	N	df	p	φ
Race	1.292	519	2	.524	.050
Ethnicity	.389	519	1	.533	.027
Education	24.017	519	1	< .001	.215
Marital Status	8.100	519	3	.044	.125
Gender	7.175	519	1	.007	.118
Employment	10.516	519	4	.033	.142
Age Group	11.743	519	2	.003	.150

Table 2.

Frequency of Race by Program Completion

Race	C Group	NC Group
Caucasian	137	61
% of Caucasians	69	31
Blacks	159	86
% of Blacks	65	35
Hispanics	48	28
% of Hispanics	63	37

Figure 1.

Frequency of Race by Program Completion
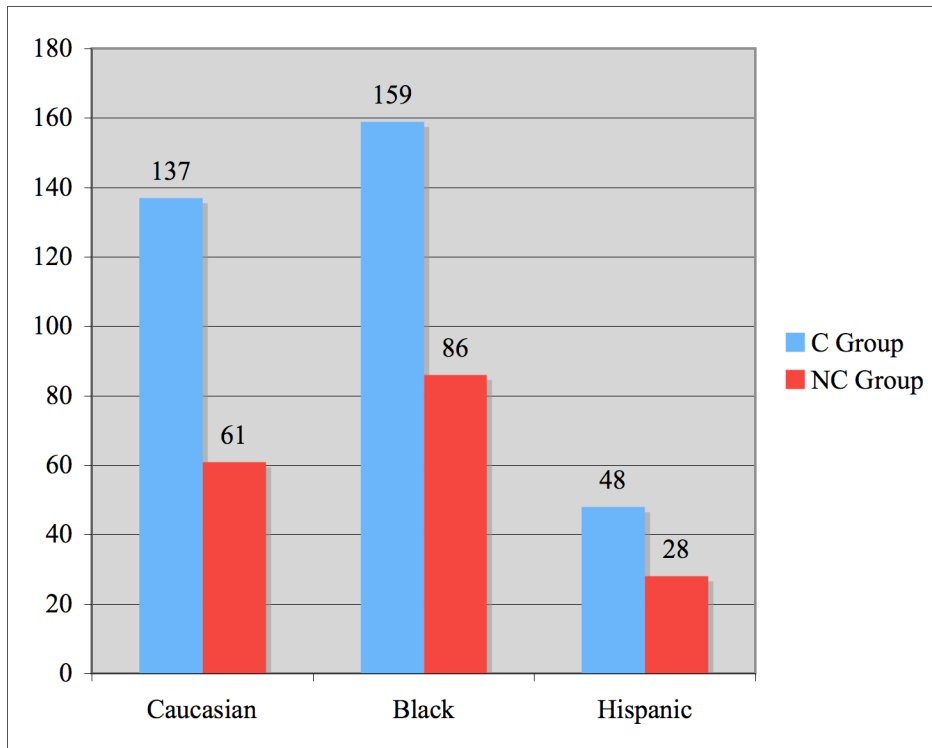
Table 3.

Ethnicity by Program Completion Contingency Table

Ethnicity	C Group	NC Group
Hispanic	48	28
% of Hispanic	63	37
Non-Hispanic	296	147
% of Non-Hispanic	67	33

Figure 2.

Frequency of Ethnicity by Program Completion
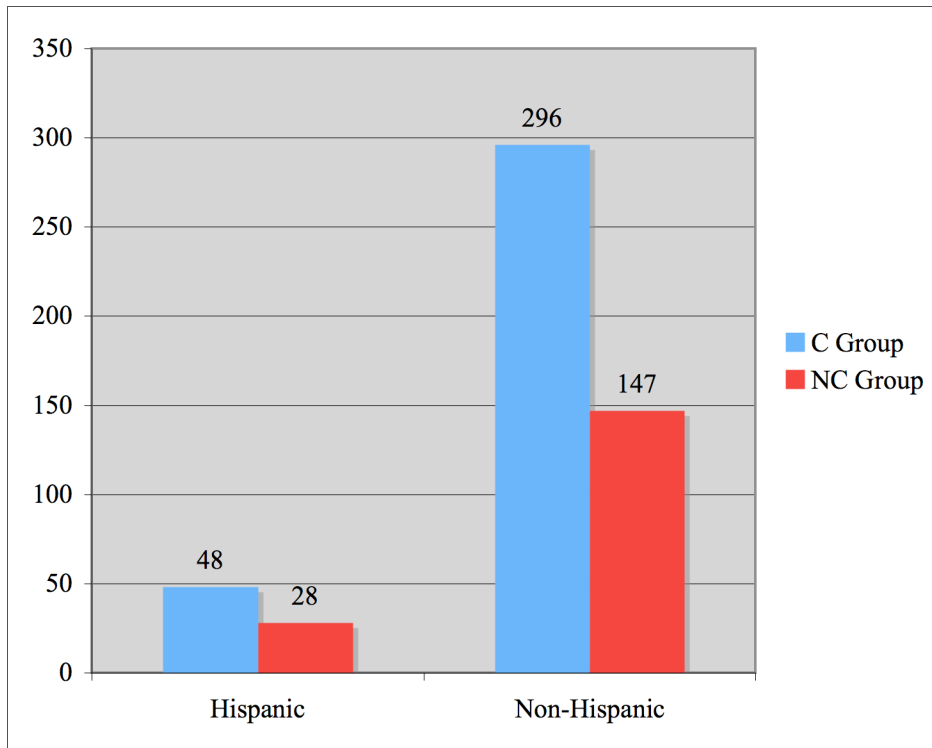
Table 4.

Education Level by Program Completion Contingency Table

Education Level	C Group	NC Group
No High School	112	96
% of No High School	54	46
HS or Higher	232	79
% of HS or Higher	75	25

Figure 3.

Frequency of Education Level by Program Completion
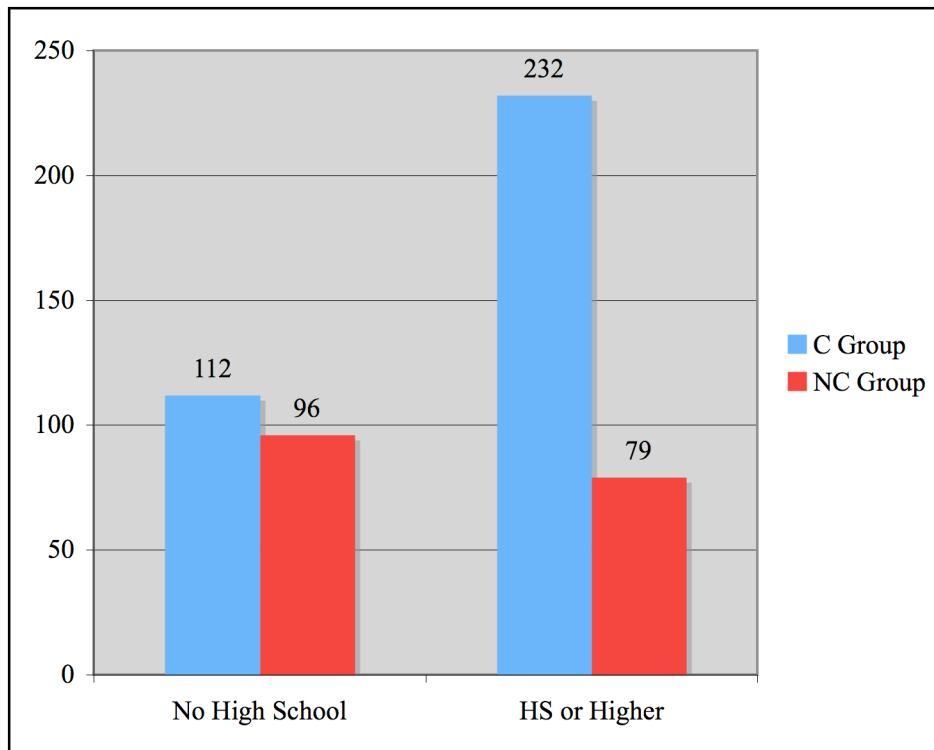
Table 5.

Marital Status by Program Completion Contingency Table

Marital status	C Group	NC Group
Single	251	142
% of Single	64	36
Married	71	20
% of Married	78	22
Divorced	21	11
% of Divorced	66	34

Figure 4.

Frequency of Marital Status by Program Completion
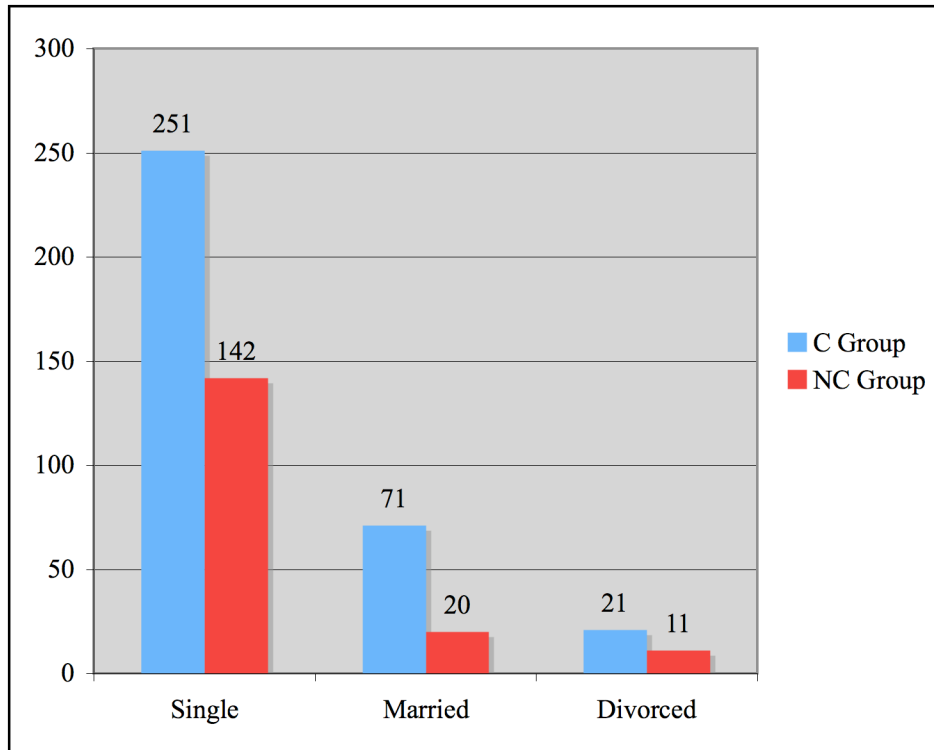
Table 6.

Gender by Program Completion Contingency Table

Gender	C Group	NC Group
Male	226	135
% of Males	63	37
Female	118	40
% of Females	75	25

Figure 5.

Frequency of Gender by Program Completion
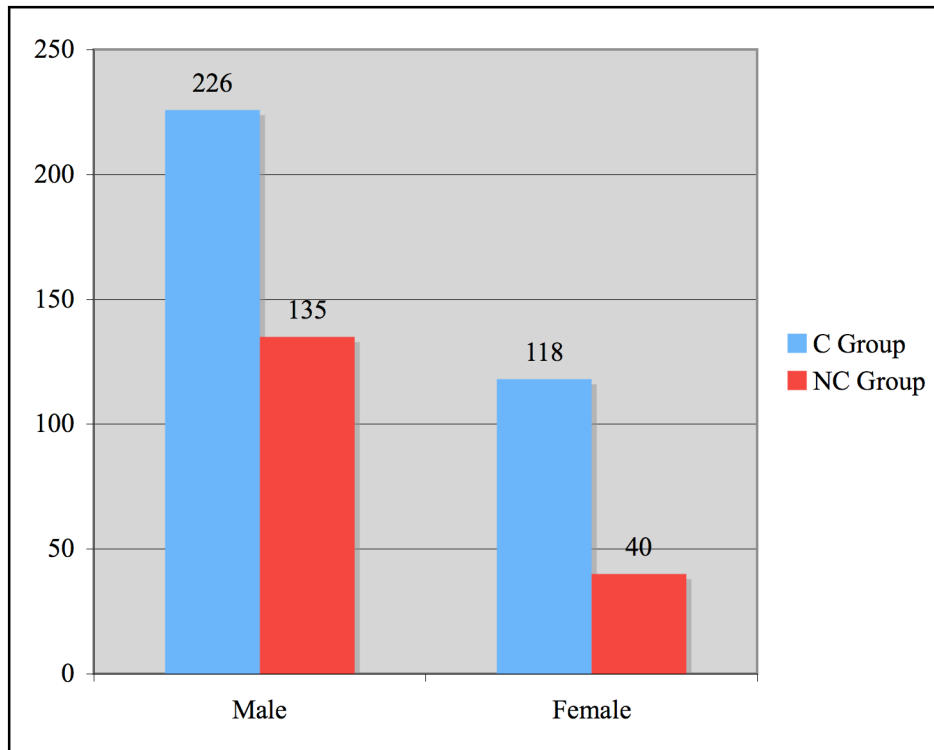
Table 7.

Employment Status by Program Completion Contingency Table

Employment Status	C Group	NC Group
Unemployed	103	73
% of Unemployed	59	42
Full Time	187	74
% of Full Time	72	28
Full Time/Part Time	14	8
% of Full Time/Part Time	64	36
Part Time	36	15
% of Part Time	71	29
Part Time/Part Time	4	5
% of Part Time/Part Time	44	56

Figure 6.

Frequency of Employment Status by Program Completion
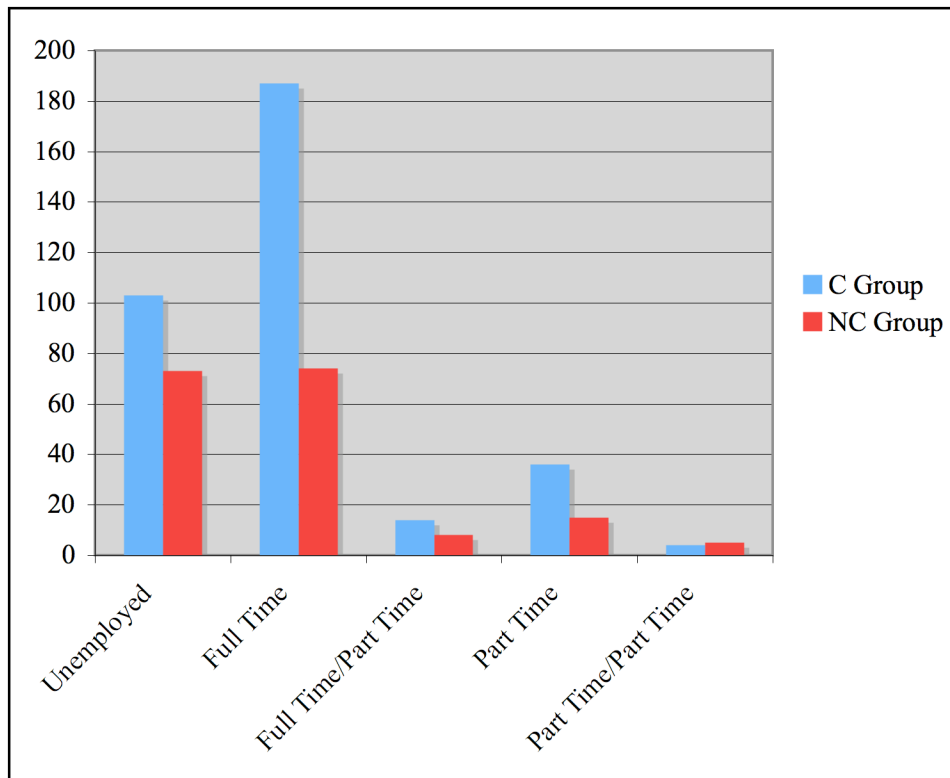
Table 8.

Age Group by Program Completion Contingency Table

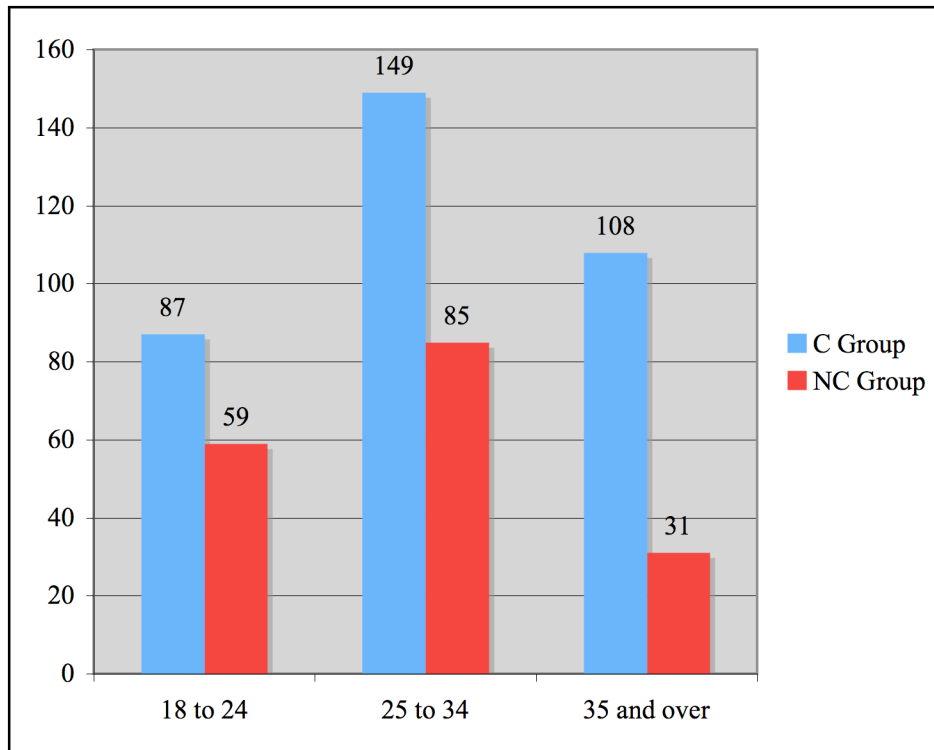| Age Group	C Group	NC Group
18 to 24	87	59
% of 18 to 24	60	40
25 to 34	149	85
% of 25 to 34	64	36
35 to Highest	108	31
% of 35 to Highest	78	22

Figure 7.

Frequency of Age Group by Program Completion

Table 9.

Test Statistics for Logistic Regression Analyses using Risk Score as a Predictor Variable

	B	SE	Wald χ^2	df	p	$\exp(B)$	Hosmer and Lemeshow χ^2	df	p
Program Completion	-.045	.012	13.49	1	< .001	.956	7.204	7	.408
Probation Status	.102	.013	58.56	1	< .001	1.108	9.346	8	.314

Table 10.

Test Statistics for Logistic Regression Analyses Using Risk Score as a Predictor with

Demographic Variables as Categorical Covariates

Variables	B	SE	Wald χ^2	df	p	$\exp(B)$	Nagelkerke R^2
Program Completion	-.043	.013	11.62	1	.001	.958	.079
Probation Status	.100	.014	50.51	1	< .001	1.105	.301

Table 11.

Kaplan-Meier Survival Table Data

Groups	Total N	N of Events	Censored Data	
			N	$\%$
C Group	344	139	205	59.6%
NC Group	175	107	68	38.9%
Overall	519	246	273	52.6%

Table 12.

Means and Medians for Group Survival Times

Group	Means				Medians			
			95% C. I.				95% C. I.	
	Days	*SE*	Lower Bound	Upper Bound	Days	*SE*	Lower Bound	Upper Bound
C Group	1705	55	1596	1813	.	.	.	.
NC Group	1300	77	1149	1450	1000	96	811	1189
Overall	1568	46	1478	1658	1577	251	1086	2068

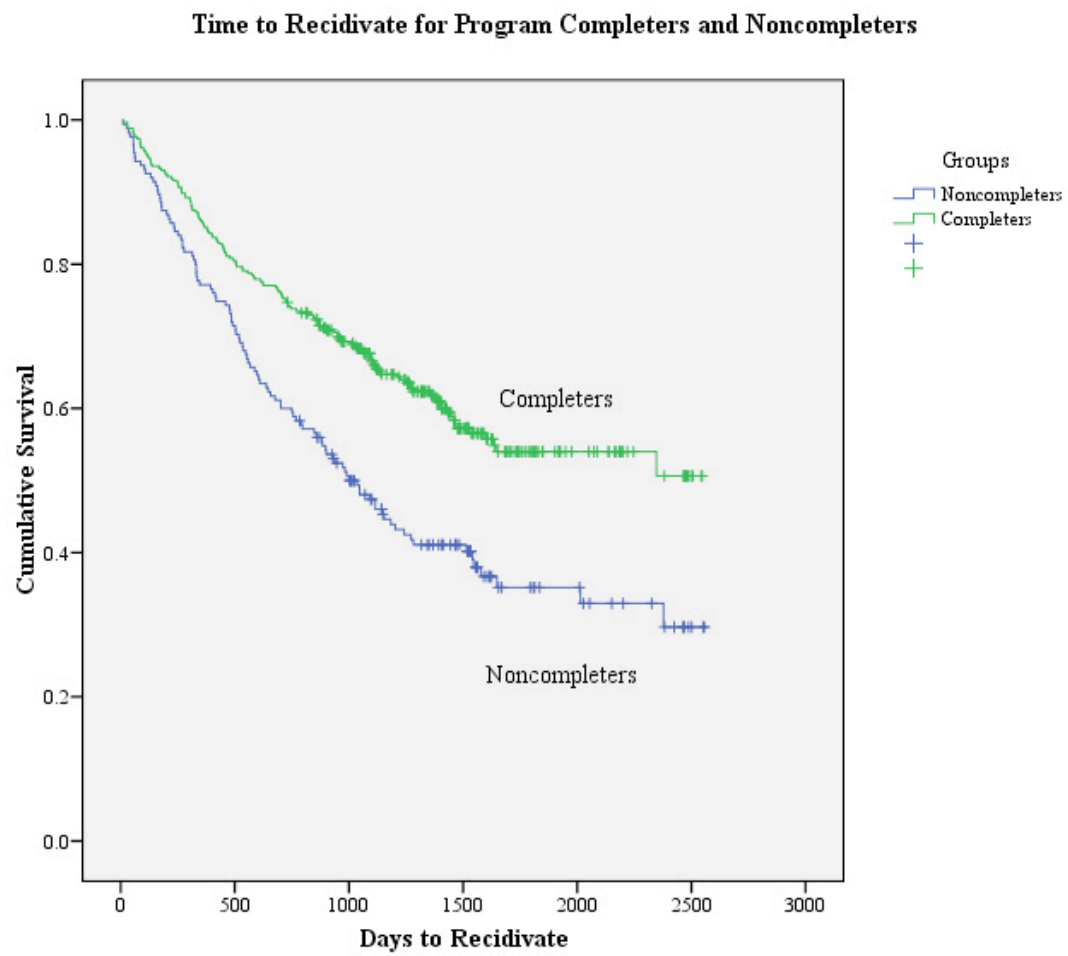Figure 8.

Kaplan-Meier Survival Plot

Time to Recidivate for Program Completers and Noncompleters

Table 13.

Descriptive Statistics for Chi-square Analyses of Nondemographic Variables by Program

Completion

Variable	N	Pearson χ^2	df	p	ϕ
Recidivism	519	20.00	1	< .001	-.196
Severity of Initial Offense	519	3.64	1	.056	-.084
Severity of Subsequent Offense	243	0.09	1	.770	.019
Probation Status	519	90.23	1	< .001	-.417

Table 14.

Recidivism by Program Completion Contingency Table

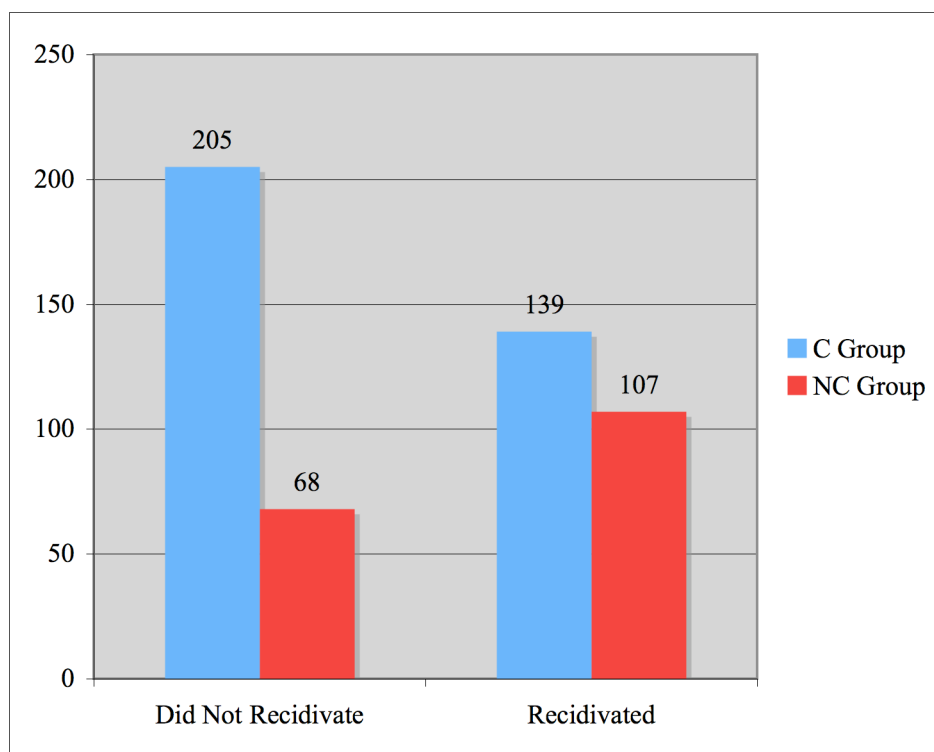| Recidivism	C Group	NC Group
No	205	68
% No	75	25
Yes	139	107
% Yes	57	43

Figure 9.

Frequency of Recidivism by Program Completion

Table 15.

Severity of Initial Offense by Program Completion Contingency Table

Severity of Initial Offense	C Group	NC Group
Felony	73	25
% Felony	74	26
Misdemeanor	271	150
% Misdemeanor	64	36

Figure 10.

Frequency of Severity of Initial Offense by Program Completion
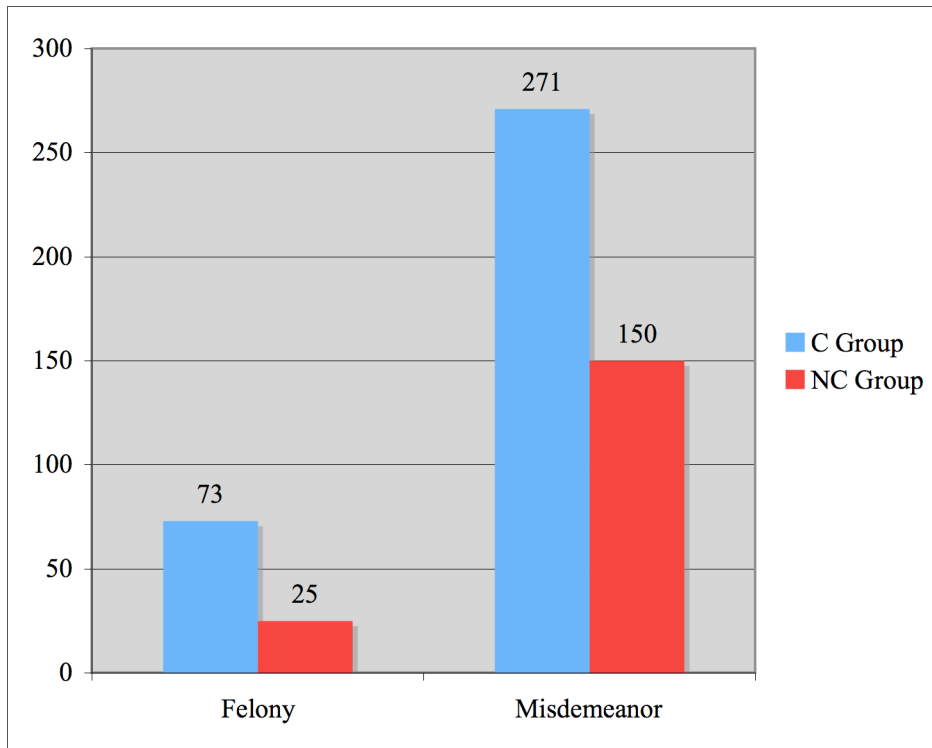
Table 16.

Severity of Subsequent Offense by Program Completion Contingency Table

Severity of Subsequent Offense	C Group	NC Group
Felony	88	70
% Felony	56	44
Misdemeanor	49	36
% Misdemeanor	58	42
Total	137	106

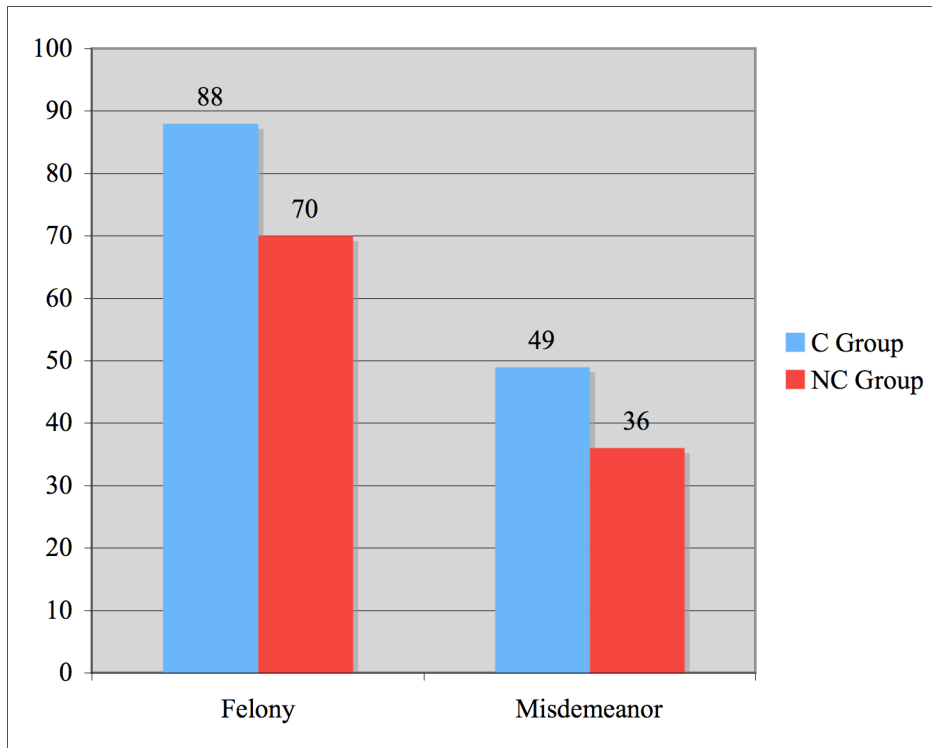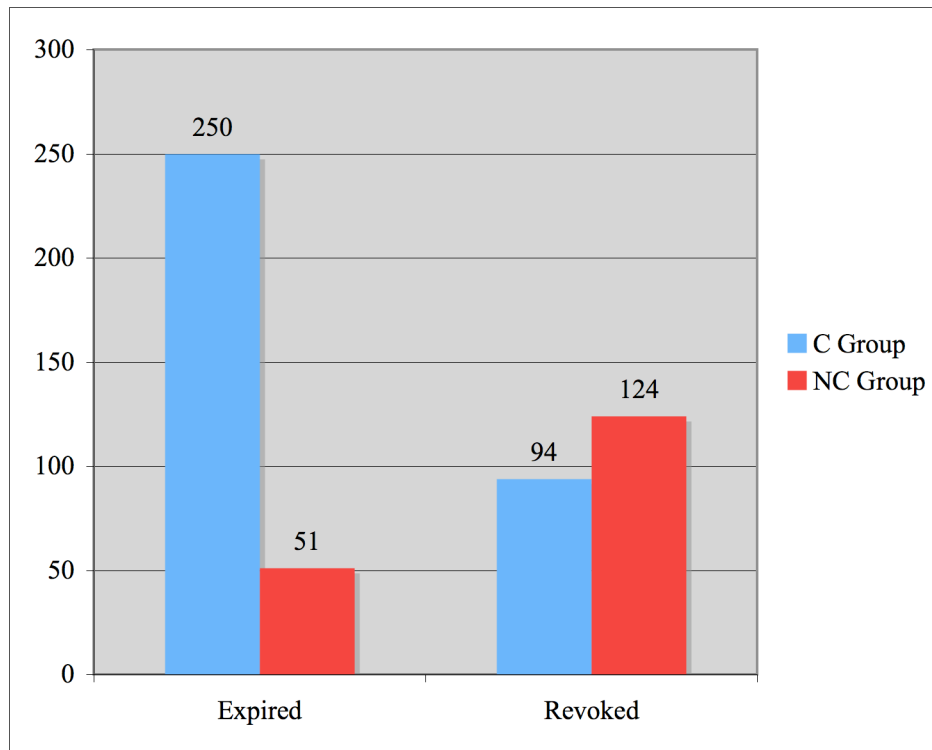Figure 11.

Frequency of Severity of Subsequent Offense by Program Completion

Table 17.

Probation Status by Program Completion Contingency Table

Probation Status	C Group	NC Group
Expired	250	51
% Expired	83	17
Revoked	94	124
% Revoked	43	57

Figure 12.

Frequency of Probation Status by Program Completion

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VITAE

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