

COMPARISON OF ATTITUDES RELATED TO SUBSTANCE ABUSE IN
MALE INMATES FOLLOWING TREATMENT IN BOOT CAMPS AND
THERAPEUTIC COMMUNITIES

A DISSERTATION
SUBMITTED TO THE FACULTY
OF
SCHOOL OF PROFESSIONAL PSYCHOLOGY
PACIFIC UNIVERSITY
FOREST GROVE, OREGON

BY
ALEXANDER M. MILLKEY, MS
IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE
OF
DOCTOR OF PSYCHOLOGY

JULY 29, 2005

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ABSTRACT

Substance abuse histories are widespread among inmates, and prisons are legally mandated to provide inmates with necessary treatment. Two common forms of intensive substance abuse treatment in correctional settings are therapeutic communities and correctional boot camps. Although these types of programs have been evaluated in terms of their impact on recidivism and cost-effectiveness, no study has directly compared attitude changes related to substance abuse in participants in these two programs.

This study compared the pre- and post-treatment responses of 57 male participants in a correctional therapeutic community and those of 88 male participants in a correctional boot camp on measures of attitudes towards substance use, antisocial attitudes, and experiential avoidance. Inmates qualifying for substance abuse treatment were administratively assigned to either a boot camp or a therapeutic community, with an effort to randomly assign inmates within administrative and practical constraints. Program participants were administered the Action and Acceptance Questionnaire (Hayes, Strosahl, Wilson, Bissett, Pistorello, Toarmine et al., 2004), the Assertive Interactions Questionnaire (Goodstein & Hepburn, 1985), and three subscales of the Drug Attitudes Scale (Goodstadt, Cook, Magid, & Gruson, 1978) at program admission and program completion. It was hypothesized that participants in both treatment conditions

would demonstrate improvement on all measures, with therapeutic community participants demonstrating greater gains than boot camp participants.

Participants in both treatment conditions were found to have statistically significant change on all measures, with a mean effect size of $\eta^2 = 0.15$, and with effect sizes ranging from 0.07 – 0.25. Participants who completed the therapeutic community had significantly better attitudes regarding substance use than those who completed the boot camp. However, the effect sizes associated with these differences were small. Implications of these results for substance abuse treatment in correctional facilities are discussed.

ACKNOWLEDGEMENTS

First and foremost, I would like to thank Genevieve Arnaut, Ph.D., Psy.D. for her mentorship, guidance and support as a research and professional mentor. I would also like to thank Krista Brockwood, Ph.D. for her feedback and guidance, particularly in the realm of statistics. I owe a debt of gratitude to Paul Bellatty, Ph.D., the Director of Research of the ODOC, without whose support this and many other students' research would not be possible. This project would not have come to fruition if it were not for the efforts of Lori Wright at SUMMIT and Samantha Moon at New Directions, who went above and beyond their job responsibilities to collect data for this project. Thanks also to Peter Coulson, for compiling the measures into an integrated form. I would also like to thank Ruby Berdine, who collected data for this project and is bringing the depth of analysis to the female participants of SUMMIT that they deserve. I also feel grateful to the other members of Genevieve Arnaut's research team, who are truly a community of seekers dedicated to supporting each other in every way as they plumb the depths of the human psyche. I am eternally thankful to my wife, Sara Morton, who continually supports and inspires me. Last, but far from least, I am deeply grateful to the participants of the SUMMIT and New Directions programs who agreed to participate in this research, and who are expending blood, sweat, and tears in their journey to escape the cycle of drug addiction and incarceration.

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INTRODUCTION

Our nation's prisons are filled with inmates whose crimes are inexorably linked with drug and alcohol abuse. Prisoners sentenced for drug offenses constitute 22% of inmates in State prisons (Bureau of Justice Statistics, 1999a) and comprise the largest group of Federal inmates, with 55% of all Federal offenders having been sentenced on drug charges (Stephan & Karberg, 2003). In addition, many prisoners who abused or were dependent on substances were not sentenced for drug offenses per se but were convicted of other drug-related crimes. For example, in 1997, 16% of Federal prisoners and 19% of State inmates reported that they committed their offenses in order to obtain money for drugs, with 37% of property offenses having been committed under the influence of an intoxicant (Bureau of Justice Statistics, 1999b). Across all classes of crime, 22% of Federal prisoners offended while under the influence of drugs (Bureau of Justice Statistics, 1999b) and 51% of State inmates were using drugs or alcohol at the time of their offense (Bureau of Justice Statistics, 1999a). Greenfeld and Henneberg (2001) estimated that 48% of all violent offenses were committed by an intoxicated assailant, with rates of intoxication being much higher in crimes directed at intimate partners and family members than in crimes perpetrated upon strangers. With 51% of arrestees being found to qualify for a diagnosis of drug or alcohol dependence (Lo & Stephens, 2000), substance abuse is truly endemic to crime in America.

Given the pervasive presence of drug and alcohol abuse histories among the incarcerated population, it is unsurprising that most, if not all, prisons have instituted

some form of drug and alcohol treatment. Not only are prisons legally compelled to provide some form of treatment to inmates with diagnosed substance dependence (Ruiz v Estelle, 1980), but to do so is also congruent with the mission of the penal system. Yet, despite the well-documented link between substance abuse and crime, and despite the legal mandate to treat, very little is known about the efficacy of prison-based alcohol and drug treatment in addressing addiction. Research to date has shown that substance use relapse is strongly correlated with criminal recidivism (Messina, Wish, & Nemes, 2001) and that successful completion of substance abuse treatment can result in a significant decrease in recidivism (Miller & Sheppard, 2000; Pelissier et al., 2001; Thanner & Taxman, 2003). One study demonstrated that treatment completers recidivated at half of the rate of inmates in the general population (Hartmann, Wolk, Johnston, & Colyer, 1997). Additionally, provided that the inmate completes treatment, it appears to be immaterial whether the inmate entered treatment voluntarily or through coercion (Farabee, Pendergast, & Anglin, 1998).

In addition to the decrease in criminal recidivism associated with treatment of addiction, it also appears that effective treatment results in a safer and more stable prison environment. Prisons with substance abuse treatment delivered through a therapeutic community found that in these programs there was virtually no drug use (Prendergast, Farabee & Cartier, 2001), there was a significantly lower frequency of disciplinary referrals (Dietz, O'Connell & Scarpitti, 2003; Prendergrast et al., 2001), and the environment was perceived as significantly more positive by both correctional officers (Prendergrast et al., 2001) and inmates (Dietz et al. 2003; Prendergrast et al., 2001; Stohr, Hemmens, Shapiro, Chambers, & Kelley, 2002). Given the cost of disciplinary

infractions (e.g., in 1996 each disciplinary infraction cost the institution an average of \$970.00; Lovell & Jemelka, 1996) and the lowered rate of recidivism associated with treatment, effective substance abuse treatment not only results in great human and societal gains, but it also potentially reduces the financial burden incurred by the institution.

Unfortunately, the demand for such programs in most institutions greatly exceeds the ability to provide treatment (Miller & Sheppard, 2000). Such is the case in the institutions of the Oregon Department of Corrections (ODOC). Although the treatment options of most ODOC inmates with substance abuse histories are confined to twelve-step programs such as Alcoholics or Narcotics Anonymous, two Alternative Incarceration Programs (AIPs) are available in which inmates who qualify may obtain residential drug and alcohol treatment. The two programs, which are as far apart in philosophy as they are in distance, are New Directions Northwest at the Powder River Correctional Facility in Baker City, Oregon, and the Summit Program at Shutter Creek Correctional Facility in North Bend, Oregon. Both programs are designed to foster behavioral and attitudinal change to reduce future substance use, with the former utilizing a social learning model (New Directions Northwest, 2004; O'Brian & Devin, 1997) and the latter using a combination of military style discipline (Pearson & Lipton, 1999) and cognitive techniques (Beers & Lipton, 1996).

However, although evaluations of similar treatment milieus have been conducted (Pearson & Lipton, 1999), the effectiveness of ODOC's programs per se and in relation to each other has not been determined. This is particularly salient in the case of the Summit Program, which has modified the normal boot camp model by incorporating the

use of cognitive techniques and twelve-step programming. Additionally, boot camp and therapeutic community-based treatments in other correctional systems have typically been studied using a quasi-experimental design with neither random assignment nor a control group (Pearson & Lipton, 1999). Because of this, a number of confounding variables have undermined the validity of research to date, making a meaningful comparison of these treatment modalities difficult. The current study addressed these deficits by using an experimental design with random assignment to compare the efficacy of the Summit Program and New Directions Northwest in changing attitudes related to substance abuse relapse.

REVIEW OF THE LITERATURE ON BOOT CAMPS AND THERAPEUTIC COMMUNITIES

Boot Camps: History and Development

Shock Incarceration Programs, more commonly referred to as correctional boot camps, have been and continue to be lightning rods for controversy. They have been heralded as “a panacea which can simultaneously reduce recidivism through rehabilitation, provide retribution, deter crime, and cut prison costs and overcrowding” (Osler, 1991, p. 34) and derided as “voodoo penology” (Mathlas & Mathews, 1991, p. 326). One reason for such polarized and passionate reactions is the vivid depictions of boot camps in the media and the consequent public image of boot camps as highly punitive and perhaps abusive environments where offenders are given a “sound three to four month long thrashing” (Jones & Ross, 1997, p. 147) in response to their misdeeds. This section will address the history and current practice of correctional boot camps in order to present a less inflammatory and more objective description of this setting.

The application of military rigor and austerity within a correctional setting did not find its inception in modern correctional boot camps. In 1888, Warden Zebulon Brockway instituted military measures at the Elmira Reformatory in upstate New York as a means of rehabilitating and controlling inmates (Anderson, Dyson, & Burns, 1999). This idea was rediscovered in the early 1980s as a means of addressing overcrowding in prisons when the Reagan Administration’s “War on Drugs” initiative brought about a rapid

increase in correctional populations (Mathlas & Mathews, 1991). The idea appears to have first been broached in an internal memo in the Georgia Department of Corrections in 1981, reportedly stemming from a conversation between the Commissioner of Corrections and a local judge (Osler, 1991). Boot camps were conceived of as a means of alternative incarceration for first-time nonviolent offenders. The camps would use a brief but intense period of incarceration to deliver the legally mandated punishment to this population while preserving beds in traditional prison settings for violent or repeat offenders (MacKenzie & Souryal, 1994).

In 1983, the first modern correctional boot camps were opened in Georgia and Oklahoma (Parent, 1989). These facilities propagated at a truly astonishing rate, with 40% of state Departments of Corrections having either instituted correctional boot camps or having boot camps in development by 1987 (Parent, 1989). In 1990, Congress authorized the Bureau of Justice Assistance to fund correctional boot camps through its discretionary grant program (American Correctional Association, 1995). A 1991 nationwide survey of the 50 states, the District of Columbia, and the Federal Bureau of Prisons found that 46% of respondents either had established or were developing plans for boot camp programs (Burns & Vito, 1995). The Correctional Boot Camp Initiative in the 1994 Crime Act funded the construction of 44 new projects, 27 planning grants, 7 renovation grants, and 10 construction grants at a cost of \$24.5 million (Office of Justice Programs, 1996). Since that time, the number of boot camps in the U.S. has increased by 46%, up from 65 facilities in 1995 to 95 facilities in 2000. The number of inmates serving time in correctional boot camps increased from 8,968 to 12,751 during the same period, an increase of 42% (Bureau of Justice Statistics, 2000).

Although there are some variations in how correctional boot camps are implemented, because they are based on the military boot camp model they all share certain traits. Sentences in boot camps are invariably short with long and difficult days, with the total sentence rarely exceeding 6 months (Burns, Anderson, & Dyson, 1997; MacKenzie & Shaw, 1990). Boot camps use strict military discipline and etiquette as well as military-style ceremony and drills (Cronin, 1994; Ethridge & Sorenson, 1997; Keenan, Ruback, & Hadley, 1994; MacKenzie & Shaw, 1990; Parent, 1989). Boot camp inmates adopt a military appearance, with shaved or closely cropped hair and maintenance of their uniforms with a military crease (Keenan, Rubuck, & Hadley, 1994). Although not universal, it is extremely common for boot camp inmates to be required to use military vocabulary as well (Keenan, Ruback, & Hadley, 1994; Parent, 1999). Summary punishment for minor misconduct, often in the form of doing push-ups or being assigned undesirable jobs, is the norm (Morash & Rucker, 1990; Parent, 1989).

Many boot camp facilities, including the one at the Shutter Creek Correctional Institution, house boot camp and traditional inmates in the same institution. It is now common practice to prevent inmates in the boot camp program from interacting with the general population (MacKenzie & Shaw, 1990). However, this was not always the case. In the early years of correctional boot camps, prisoners from the general population (typically repeat offenders serving long sentences for serious crimes) were often encouraged to interact with boot camp participants. Their mode of interaction was generally engineered by the prison officers and administration to inspire fear in the boot camp prisoners; for example, traditional prisoners were encouraged to hurl taunts and

insults at boot camp inmates engaged in military drills in order to increase the deterrent impact of the program (Osler, 1991).

The eligibility requirements for admission to correctional boot camps for adults vary widely (MacKenzie & Souryal, 1995), but there are still some commonalities. Boot camp participants are generally first-time referrals to the adult correctional system (Benda, 2001; Freeland, 1987; MacKenzie & Parent, 1991) and, whether they are first-time referrals or not, have not been convicted of a violent crime (Benda, 2001; Burns, Anderson, & Dyson, 1997; Freeland, 1987). Prisoners in boot camp typically participate in the program as a means of shortening the length of their sentence (Benda, 2001; Burns, Anderson, & Dyson, 1997; Cronin, 1994; MacKenzie & Souryal, 1994; MacKenzie & Shaw, 1993; McCorkle, 1995). Participants generally must have sentences of 10 years at the longest (Benda, 2001; MacKenzie & Shaw, 1990), although, even in boot camps that do not have this as an explicit requirement, the common requirement that participants be first-time nonviolent offenders would tend to make this a de facto requirement of eligibility. Inmates in boot camp facilities are generally younger than inmates in traditional prison settings, sometimes due to age requirements and sometimes because first-time offenders are likely to be younger (Burns, Anderson, & Dyson, 1997; Cowles, Castellano, & Gransky, 1995; Etheridge & Sorenson, 1997). Although one study made mention that having an IQ below 70 or physical or psychological problems that would preclude military training are official exclusion criteria (Benda, 2001), it seems likely that many programs have unofficial exclusion criteria of a similar sort.

Boot Camps: Theory, Purpose, and Programming

As discussed earlier, the original impetus for correctional boot camps was to alleviate the overcrowding problem endemic to American prisons in the early 1980s. This served the agenda of officials in state and federal agencies charged with overseeing corrections by proposing an acceptable way to relieve pressure on the penal system's strained infrastructure. However, immediately after their inception, correctional boot camps spread like wildfire across the country, being applauded and reviled by politicians and the public (Armstrong, 2004; MacKenzie & Parent, 2004; MacKenzie & Souryal, 2004).

It is rare that a measure designed to deal with such mundane administrative issues as overcrowding and trimming the budget be met with such a passionate and widespread response. The secret to boot camps' rapid propagation and popularity is that they appear to offer something to satisfy every political agenda. For constituents who are concerned with punishing offenders and politicians who desire to ingratiate themselves to these constituents, correctional boot camps offer a satisfyingly harsh environment with images that convey a punitive aura (American Correctional Association, 1995; Anderson, Dyson, & Burns, 1999; Burton et al., 1993; Cowles, Castellano & Gransky, 1995; MacKenzie & Parent, 2004; MacKenzie & Souryal, 2004). The political desirability of boot camps became particularly salient in the 1980s, when the Reagan Administration initiated the War on Drugs and the philosophy guiding corrections swung from a rehabilitative to a punitive focus. During that period, many influential politicians wished to appear tough on crime (American Correctional Association, 1995; Mathlas & Mathews, 1991). The legislation passed by these politicians resulted in harsher sentences for many crimes, particularly due to the imposition of mandatory sentences for offenders convicted of

drug-related crimes, causing the size of the prison population to balloon (Clark, Moscicki, & Perry, 1995).

Prior to the advent of boot camps, a harsh sentence was tantamount to a long sentence. Boot camps simultaneously satisfied the public demand for retribution and the fiscal demands of government by substituting a shorter but harsher sentence in a boot camp for a longer but presumably less harsh sentence in a traditional prison (Anderson et al. 1999; MacKenzie & Parent, 2004). This approach could be applied to offenders convicted of substance abuse and drug trafficking, because these offenders receive harsh sentences (Mathlas & Mathews, 1991) but they typically represent a lower level of threat to public safety than do offenders convicted of violent offenses. The idea that a shorter but more aversive sentence could serve as an equivalent substitute to a longer but less intense period of incarceration is a major shift in philosophy from prisons being used *for* punishment to prisons being used *as* punishment (Meachum, 1990, as cited in MacKenzie & Parent, 2004).

In addition to satisfying the agenda of those concerned with retribution and punishment, boot camps also appear to address the concerns of those constituents and politicians who are primarily concerned with rehabilitation (Anderson et al. 1999; Burns, Anderson, & Dyson, 1997; MacKenzie & Souryal, 1991; McCorkle, 1995). One desired outcome of rehabilitation is that offenders will become fruitful and productive citizens upon release, and the primary outcome measure for gauging rehabilitation of offenders is a drop in recidivism (Burns et al. 1997; MacKenzie, Gould, Riechers, & Shaw, 2004; MacKenzie & Parent, 2004; MacKenzie & Souryal, 1991; McCorkle, 1995). Boot camp proponents hope to reduce recidivism by instilling in inmates the discipline and self-

esteem that is presumed to be necessary to maintain a law-abiding lifestyle. In addition, they hope to provide a sufficiently noxious experience such that boot camp graduates will consider the deterrent value of incarceration to be greater than any possible gain from criminal behavior (MacKenzie & Parent, 2004).

Boot camps were designed and implemented quickly in order to address the immediate concern of alleviating overcrowding in prisons by reducing the sentences of low-risk offenders in a politically acceptable manner (American Correctional Association, 1995; Anderson et al. 1999). Consequently, there is no consensus as to possible underlying theoretical mechanisms for correctional boot camps that might lead to reduced recidivism for boot camp graduates (Cowles et al. 1995). Boot camps are primarily based on a “common sense” approach, informed by the public’s direct or indirect experience with military boot camps that transform a recruit from a civilian into a disciplined soldier (Armstrong, 2004; Morash & Rucker, 1990; Zhang, 1998). The elements common to boot camps that are presumed to be integral to rehabilitation are a demanding environment that creates a reasonable amount of stress (Armstrong, 2004), high levels of military-style discipline in action and speech (Benda, 2001; Burns et al. 1997; MacKenzie & Parent, 1991; Lutze & Marenin, 1997; Pearson & Lipton, 1999), the presence of therapeutic programming (Benda, 2001; Burton et al. 1993; Cowles, 1996; Gransky et al. 1995; Palmer, 1995), and access to prosocial role models in the form of corrections staff (Lutze, 2001; MacKenzie et al. 2004; Palmer, 1995; Zhang, 1998).

Although there is no unifying psychological theory from which correctional boot camps as a whole have emerged, various programs cite a potpourri of theoretical influences. The general philosophical stance of boot camp programs is that of

constructive punishment. This principle holds that offenders must be subjected to a reasonable amount of stress to make them amenable to external influences on behavior (Armstrong, 2004). A correctional boot camp accomplishes this by thrusting an inmate into a disciplined and rigorous program and simultaneously encouraging the participant to confront the causes of their criminal behavior through programming and treatment.

Related to and perhaps undergirding this philosophy is rational choice theory (Burns et al. 1997). This theory, which finds its roots in the philosophical work of Beccaria and Bentham in the mid-1700s, contends that when offenders violate the law they are rationally exercising their free will rather than responding to social or environmental factors. Offenders are presumed to conduct a cost-benefit analysis of breaking versus obeying the law based on their experiences, their knowledge of the law, and the anticipated consequences should they be apprehended. Thus, if the potential offender perceives the combination of the probability of being caught and the harshness of the potential punishment as outweighing the probability of evading punishment and the potential gains, then he or she is likely to obey the law. If not, then they are likely to break the law (Akers, 1999). In an extension of rational choice theory, Yochelson and Samenow (1977) contended that, although offenders do exercise their free will in making a decision to commit a crime, they invariably do not see themselves as criminals. Yochelson and Samenow held that for offenders to change their behavior they must accept that they are criminals and that they chose to break the law, and thus they may choose differently in the future (Beers & Duval, 1996; Burns et al. 1997).

Rational choice theory, which appears to reflect the common understanding of how and why offenders break the law, is couched in philosophical rather than

psychological terms. Putting aside the issue of free will, rational choice theory when applied to corrections appears to have much in common with behaviorism in that it relies on intensifying the deterrent value of the consequences in an effort to shape behavior. Yochelson and Samenow's extension of the theory appears to have some elements in common with cognitive therapy, in that they demand that one must recognize thinking that led to the transgression against the law and correct that thinking in order to maintain a law-abiding lifestyle. Although some of the tenets of rational choice theory may be controversial, it does appear that this theory reflects the common sense thinking that likely characterizes many of the boot camp participants and is thus likely to be more acceptable to them than a philosophy that seems more counterintuitive. Additionally, it is not unlikely that the emphasis on choice may enhance the offenders' self-efficacy in being able to resist future criminal activity, which may have a protective effect (Burton et al. 1993; Zhang, 1998).

Most correctional boot camps utilize mental health contractors to provide therapeutic programming (Cronin, 1994). The programming content is generally congruent with rational choice theory's assertion that offenders are responsible for their actions and that they must accept responsibility for their past and future choices. Programming is often cognitive-behavioral in nature and is designed to aid inmates in recognizing and correcting maladaptive thoughts and behaviors (Beers & Duval, 1996; Matheson, 1996). Social and life skills training are also common in correctional boot camps (Beers & Duval, 1996; Benda, 2001; Burton et al. 1993; Cowles et al. 1995; Ethridge & Sorenson, 1997; Matheson, 1996).

Although drug and alcohol treatment and rehabilitative services are considered to be integral to boot camp programs (Office of Justice Programs, 1996) and are legally mandated by case law (Ruiz v Estelle, 1980), it is unclear whether as many as 25% of boot camps have drug and alcohol treatment programs, with no homogeneity as to how those facilities with programs implement treatment (Cowles et al. 1995). Of those boot camps that offer alcohol and drug treatment, the time dedicated to programming ranges from zero to three hours a day (MacKenzie & Souryal, 1995). Nearly all of the boot camp programs reviewed offered Twelve Step programming, such as Alcoholics and Narcotics Anonymous, to provide treatment for inmates with alcohol and drug histories. Another alcohol and drug treatment approach utilized in boot camps is the incorporation of a therapeutic community, which is based on social learning theory (Cowles et al. 1995). Social learning theory is also a major influence cited for promoting change in generic boot camp settings (Zhang, 1998). Given that New Directions Northwest, one of this study's comparison groups, is a therapeutic community, the topic of social learning theory and therapeutic communities will be discussed in depth later in this text.

Boot Camps: Effectiveness

The primary purposes of boot camps are to reduce overcrowding, to reduce correctional costs, and to decrease recidivism rates (Burns et al. 1997; Parent, 1996). Most program evaluations have focused on the latter (Zhang, 1998) with surprisingly little research using overcrowding and savings as outcome measures, given that these were the original impetuses for the creation of correctional boot camps.

Although there was a great deal of early optimism that boot camps would serve as a panacea for all of the overcrowding ills of the correctional system (MacKenzie &

Parent, 1991; MacKenzie & Piquero, 2004; McCorkle, 1995), whether or not boot camps can deliver on these hopes is contingent on multiple factors. The bulk of the factors influencing prison populations are outside of the control of prison administrators. These include sentencing laws passed by the legislatures, enforcement priorities set by police, charging and bargaining practices of prosecutors, sentencing patterns of judges, supervision and revocation patterns followed by probation officers, and release and revocation practices of parole boards (Parent, 1996).

In contrast prison officials have only one option at their disposal, which is the institution of early-release programs, such as correctional boot camps (Armstrong, 2004). Under the proper circumstances correctional boot camps can contribute to a reduction in prison overcrowding. However, if not properly instituted boot camps can significantly add to the prison overcrowding problem. The primary factors that determine boot camps immediate effectiveness in reducing the prison population are the probability that participants would have otherwise been imprisoned, whether boot camp participants get a substantial and real reduction in their sentence as a result of participation, the rate of program completion, and the size of the population serving in boot camps (Cronin, 1994; Parent, 1996; MacKenzie & Piquero, 2004).

Many of the participants who are sent to boot camps would have been sentenced to probation rather than prison if a boot camp program was unavailable (Aziz & Korotkin, 1996; Parent, 1996). There is a tendency among many judges to view boot camps as “enhanced probation” rather than an early release program for inmates who are already incarcerated, a phenomenon referred to as “widening the net” (Armstrong, 2004; Etheridge & Sorenson, 1997). An inmate that enters and completes a boot camp program

in six months does add a short term burden to the system. However, boot camps often have high rates of attrition, and if an offender that would otherwise be sentenced to probation and supervision fails to complete a boot camp program they then serve a longer sentence in a traditional prison setting, resulting in a long-term burden on the system (Cronin, 1994; Etheridge & Sorenson, 1997; MacKenzie, 1994; Mathlas & Matthews, 1991; Parent, 1996). In order for a boot camp program to be effective in reducing the prison population, between approximately 75% (MacKenzie & Piquero, 2004) and 80% (Parent, 1996) of boot camp participants must have been prison-bound rather than otherwise being sentenced to probation to realize any savings in prison bed space. In those jurisdictions in which judges are not given the option of sentencing an offender to boot camp the number of boot camp participants who would otherwise have served time in a traditional prison approaches 100%, but even in these cases judges will on occasion craft their sentencing so as to maximize the chance that an offender that would otherwise get probation will very likely end up in a boot camp (Parent, 1996).

For a boot camp to significantly reduce the prison population, boot camp participants must receive a substantial reduction in their sentence as a result of their participation (Parent, 1996). If a boot camp graduate serves 6 months rather than 36 months, then that boot camp graduate will have saved the system 30 person-months of confinement, a substantial savings. However, a small reduction in sentence, such as 6 months versus 8 months, does not have an appreciable impact on the prison population. In determining the odds that a boot camp participant will receive a substantial reduction in their sentence, one must consider that many inmates serve a substantial portion of their sentence before being transferred to a boot camp (MacKenzie & Parent; 2004). More

importantly, in most boot camps participants are first-time nonviolent offenders who would serve a relatively short sentence regardless of their participation in the program (Benda, 2001; Burns et al. 1997; Freeland, 1987; MacKenzie & Parent, 1991). Boot camps would be more effective in reducing correctional populations were prison officials to refer inmates who are serving longer sentences for perhaps more serious crimes (MacKenzie & Piquero, 2004).

When a boot camp participant is either dismissed from or voluntarily leaves a program they serve a longer sentence in a traditional prison (Anderson, et al. 1999; MacKenzie & Parent, 2004). Rates of attrition from boot camps vary widely, ranging from approximately 9% to over 50% (MacKenzie & Piquero, 2004), with the average rate of attrition falling between 30% and 40% (Parent, 1996). When a high rate of attrition coexists with widespread sentencing practices that send offenders to boot camps who would otherwise receive probation, the result is boot camps that are markedly ineffective at reducing the prison population (Cronin, 1994; MacKenzie & Piquero, 2004; Parent, 1996).

If the three aforementioned conditions are not met, most simulations indicate that boot camps will actually *increase* prison populations (Cronin, 1994; MacKenzie & Piquero, 2004; Parent, 1996). Parent (1996) illustrates this vividly:

Boot camps can cause substantial increases (relative to their capacity) depending on how they are configured. If their participants have a low probability of imprisonment – for example, if only 10 percent of them would have been in prison if the boot camp did not exist – a typical 200-bed boot camp will increase the prison population by more than 500 inmates, due mainly to the 30 to 40

percent who will fail the program and who will serve prison terms as a consequence. If the boot camp lasts just 90 days, then four times a year it can cycle in a new group of participants, of whom 30 to 40 percent will then become regular prison inmates. In this example, 90 percent of these in-program failures would not have been in prison at all if the boot camp did not exist. (p. 267).

If the three conditions described above are in place, a jurisdiction still must operate a large-scale boot camp to realize a substantial decrease in prison population (Aziz & Korotkin, 1996; Cronin, 1994; Parent, 1996). The size boot camp necessary to realize an immediately substantial decrease in prison population varies with attrition rates, the average reduction in sentence, and the probability of imprisonment in the absence of boot camps (Parent, 1996). Conversely, if these three factors are not configured in such a way that projections predict a net savings of prison beds, a small boot camp is desirable to minimize the increase in prison population (Parent, 1994).

Whether or not correctional boot camps precipitate a net cost-savings for correctional agencies is primarily contingent on whether boot camps result in a reduction in the prison population (MacKenzie & Piquero, 2004). Laying this issue aside, the cost of constructing a correctional boot camp is significantly less than that of constructing a traditional prison (Cronin, 1994; McCorkle, 1995; Zhang, 1998), and thus they do save money in terms of investment in infrastructure. If run without therapeutic programming, the per diem cost of operating a boot camp is comparable to that of traditional prisons (Cronin, 1994; Benda, 2001). However, when therapeutic programming is provided in the boot camp, as dictated by the American Correctional Association's standards of practice (American Correctional Association, 1995), the per diem cost of operating a correctional

boot camp generally exceeds that of traditional prisons (Aziz & Korotkin, 1996). Because the amount of time an inmate spends in boot camp is less than that which they would have spent in a traditional prison this greater per diem cost may still result in a net financial savings (Aziz & Korotkin, 1996; McCorkle, 1995), but this supposition is only correct if the presence of boot camps do not result in an increase in the prison population.

Despite the hopes of legislators and prison officials, there is no conclusive evidence that correctional boot camps have either a positive or negative effect on recidivism when compared with traditional prison settings (Benda, 2001; MacKenzie, 1994; MacKenzie, Brame, McDowell, & Souryal, 1995; MacKenzie, Wilson, & Kider, 2004; Zhang, 1998). In fact, the rate of recidivism among boot camp graduates varies significantly between various programs (MacKenzie, et al. 2004; Zhang, 1998). While at one point it was thought that the intensity of a correctional boot camp's military atmosphere was key to reducing recidivism (Keenan, et al. 1994) and is still considered to be an integral part of the boot camp experience (Clark, Moscicki, & Perry, 1996), there does not appear to be any relationship between the level of militarism and the rate of recidivism among boot camp graduates (MacKenzie, 1994; MacKenzie, et al. 2004). Two possible reasons have been put forward as to why different boot camp programs differentially impact rates of recidivism. These are the availability of programming and the intensity of supervision following incarceration.

The most frequently proffered reason that there is such variability between the recidivism rates of boot camp graduates is that there are extreme differences as to the accessibility and quality of rehabilitative programming available at different facilities (American Correctional Association, 1995; Cowles, et al. 1995; Cronin, 1994;

MacKenzie & Souryal, 1995). MacKenzie (1994), in her program evaluation of eight correctional boot camps, found that those boot camps which had graduates that recidivated at below the base rate were those that had greater than three hours a day devoted to therapeutic activities. Other researchers have similarly hypothesized that the amount of time devoted to rehabilitative activities in boot camps is the most important factor in reducing recidivism (Palmer, 1995; Parent, 1996). However, reaching a conclusion as to the validity of this hypothesis is hobbled by the lack of experimental design studies comparing boot camps (MacKenzie, et al. 2004; Pearson & Lipton, 1999; Zhang, 1998). Even if this hypothesis is true, some researchers hold that boot camps facilitate the acquisition of funding for therapeutic programming in a “Machiavellian” fashion in that policymakers are only willing to provide sufficient funding for rehabilitative programming in a milieu that they perceive as harsh and punishing (Armstrong, 2004; MacKenzie & Souryal, 2004).

A second explanation for the variation of recidivism rates between different boot camps are variations in the intensity of community supervision while graduates are on parole (Brame & MacKenzie, 1996; MacKenzie, Brame, McDowell, & Souryal, 2004; Parent, 1996). Many states provide more intense supervision for boot camp graduates than for those inmates who have been paroled from traditional prison settings (Brame & MacKenzie, 1996). Regardless of the details of the programming available at the boot camp this heightened level of supervision may lower the rate of criminal recidivism (Brame & MacKenzie, 1996; Osler, 1991; Parent, 1996). However, it may also increase the rate of revocation of parole due to technical rather than criminal violations (Brame & MacKenzie, 1996). The revocation of parole for technical reasons may reduce the rate of

criminal recidivism (MacKenzie & Brame, 2004), but it would not facilitate the reduction of the prison population.

Therapeutic Communities: History and Development

Like boot camps, therapeutic communities in corrections became widespread largely in response to ballooning prison populations resulting from the Reagan Administration's "War on Drugs" (Griffith, Hiller, Knight, & Simpson, 1999; Martin, Butzin, & Inciardi, 1999; Pan, Scarpitti, Inciardi, & Lockwood, 1993). Unlike correctional boot camps, therapeutic communities have attracted relatively little attention from the public in spite of having a total treatment capacity of well over 100,000 across the U.S. (O'Brien & Devlin, 1997). The relatively low profile of therapeutic communities may be in part due to the difference between the philosophies of boot camps and therapeutic communities: while boot camps offer politicians seeking to appear "tough on crime" a spectacular example of criminals getting their "just desserts," therapeutic communities are rehabilitative rather than punitive in outlook (Pan et al., 1993). Broadly, therapeutic communities address drug and alcohol problems by establishing a community with prosocial group norms incompatible with substance abuse, with the assumption that participants will retain these norms upon discharge from the program. This section will address the history and development of therapeutic communities.

The earliest modern precursor of therapeutic communities was The Boys' Republic. This was an institution founded by Homer Lane and built for and maintained by juvenile offenders in Detroit, Michigan in 1907. The structure of this program was based on the U.S. Constitution, and the close supervision that was (and is) typical of

juvenile halls was replaced by an emphasis on successful task performance and personal responsibility. Mr. Lane's approach was predicated on the assumptions that if youth were given free choice and an opportunities for self-expression that the latent talents of the youth would replace their inappropriate behavior (Pan et al., 1993). The development of The Boys' Republic coincided with psychiatrist J.L. Moreno's recognition of the value of patients as co-therapists in group processes, a concept that profoundly informs the current practices of therapeutic communities (Pan et al., 1993). In 1935, Alcoholics Anonymous was founded. Without being explicitly theory driven, Alcoholics Anonymous pioneered the use of paraprofessionals and the importance of community in addressing substance abuse and addiction (Alcoholics Anonymous, 1998; Pan et al., 1993).

Therapeutic communities per se had their inception in the late 1940s, when two British psychiatrists, Drs. Maxwell Jones and Tom Main, independently developed methods to treat inpatient populations by improving social relationships in hospitals and by experimenting with newly defined roles and new patterns of interacting between patients and staff. Dr. Jones termed this new method of treatment as a "therapeutic community" (De Leon, 1995; Pan et al., 1993). In 1958 the first therapeutic community explicitly for the treatment of alcohol and drug dependence, Synanon, was founded by Charles Dederich (De Leon, 1995; Pan et al., 1993). Synanon was widely heralded by the media for its success and utopian vision (and perhaps also due to Mr. Dederich's media savvy). Although Synanon itself eventually degenerated into a quasi-religious cult, it spawned two offshoots in New York City in the 1960s, Daytop Village and Phoenix House. It was these two programs and the proselytism of the programs' graduates that

provided the impetus for the national, and then international, spread of therapeutic communities (Pan, 1993).

The first therapeutic community in a correctional environment was founded by Synanon in the Nevada State Prison in 1962. Although a few other state prisons sponsored therapeutic communities over the next five years, the first explosion of therapeutic communities in corrections began when the Federal Bureau of Prisons established a therapeutic community in its Danbury, Connecticut facility in 1967 (Martin et al., 1999; Pan et al., 1993). This heralded a boom time for therapeutic communities, as state institutions scrambled to follow the Bureau of Prisons' lead. Unfortunately, many of the therapeutic communities that were subsequently established in prisons were hastily conceived and executed. Due to poor administration, inadequate understanding of therapeutic community principles, and a philosophy that appeared incompatible with the prevailing correctional ethos, as well as the very public deterioration of Synanon from model program to cult, nearly all of the programs that opened during the next decade had closed by 1980 (De Leon, 1995; Martin et al., 1999; Pan, et al., 1993). A notable exception to this was New York's *Stay n' Out* program. This program, founded in 1972, was more research-driven than most of its contemporaries. This program survived largely because it collected data and demonstrated a decrease in the recidivism in program graduates (Pan et al., 1993).

In the 1980s, the Reagan Administration initiated its War on Drugs policy, which resulted in an unprecedented explosion of inmates who were sentenced for nonviolent and relatively minor drug offenses. In an effort to make its policies appear rational, the Reagan Administration initiated Project Reform to aid in the reformation of prisoners of

the War on Drugs. Due to the demonstrated effectiveness of the *Stay n' Out* program the Bureau of Justice Assistance chose the therapeutic community model as its key treatment modality. By the end of the Reagan Administration, Project Reform had helped establish prison-based therapeutic communities in eight states. In 1991, the Bush Administration resurrected Project Reform under the rubric Project Recovery (Pan et al., 1993).

Therapeutic Communities: Theory, Purpose, and Programming

Although both correctional boot camps and prison-based therapeutic communities were popularized during the War on Drugs to address a burgeoning population of incarcerated drug users, they were implemented to address somewhat different issues. While boot camps were implemented primarily to reduce prison overcrowding by reducing the length of criminals' sentences (Anderson et al., 1999; MacKenzie & Parent, 2004), correctional therapeutic communities were primarily instituted to provide treatment for drug and alcohol dependence among the surfeit of inmates incarcerated for drug-related offenses (Pan et al., 1993). Given that there is a strong positive correlation between substance use and reincarceration, in addition to discharging the penal system's legal obligation to provide treatment, therapeutic communities were also anticipated to reduce recidivism and thus relieve prison overcrowding as well (Farabee & Luekefeld, 2001; Martin, Butzin, Saum, & Inciardi, 1999; Prendergast, Farabee, & Cartier, 2001; Wexler, De Leon, Thomas, Kressel, & Peters, 1999).

The curative effects of therapeutic communities are couched in social learning theory (De Leon, 1995; O'Brien & Devlin, 1997; Pan et al., 1993; Pellisier, Rhodes, Saylor, Gaes, Camp, Vanyur, & Wallcae, 2001; Stohr, Hemmens, Shapiro, Chambers, & Kelley, 2002). Briefly stated, social learning theory holds that human behavior is

determined by reciprocal relationships between cognitions, behavior, and the environment. In contrast with purely behavioral or psychodynamic theories of human behavior, social learning theory emphasizes that although humans are strongly impacted by their environment, they are able to regulate their own behavior by changing their internal expectations, by adopting social roles that garner interpersonal reinforcement, and by managing environmental contingencies (Thombs, 1994).

There are four central concepts to a basic understanding of social learning theory: modeling, self-regulation, reciprocal determinism, and self-efficacy. *Modeling* is vicarious or observational learning in which people gain knowledge or reinforcement of behavior through observing others without engaging in the behavior themselves. Modeling may serve to establish group norms or demonstrate positive or negative consequences to actions. *Self-regulation* is the capacity of humans to regulate their behavior through internal standards, thus explaining how behavior can be maintained in the absence of external rewards. It is thought to be based on an individual's history of vicarious learning and past reinforcement. The term self-regulation should not be misconstrued to apply only to positive behaviors. For example, substance abuse should not be considered to imply a *lack* of self-regulation, rather it should be considered a form of self-regulation that is problematic. *Reciprocal determinism* is the mutually reinforcing nature of the interaction between cognition, behavior, and the environment. Reciprocal determinism implies that a change in any of these components will affect the entire system, but because generally only one component will be altered at any given time the other elements of the system tend to conspire to maintain the status quo. Finally, *self-efficacy* refers to a person's expectations as to whether they will be able to succeed in

accomplishing a certain action or deal effectively with a given situation. Efficacy beliefs are based on four sources of information: experiences with success or failure, observations of models' successes or failures, verbal persuasion, and emotional arousal (i.e. the level of anxiety a person experiences related to attempting a task) (Thombs, 1994).

The theoretical grounding of therapeutic communities in social learning theory was well articulated in De Leon's (1995) seminal article. First and foremost, the quintessential therapeutic element in therapeutic communities is the community itself. In the words of De Leon, the therapeutic community works due to "the purposive use of the community as the primary method for facilitating social and psychological change (pg. 1611)." Therapeutic communities induce change by enhancing a resident's sense of efficacy, through social role training, and by vicarious learning through modeling. The resident gains a sense of efficacy by engaging in behaviors that produce both mistakes and successes, with proper behavior being guided by community members. Success is rewarded by social approval and by progressing to higher phases of the program, gaining more desirable jobs within the program, and other positive outcomes. Social role training is gained through following the explicit rules of the community, interpersonal pressure in social interactions, and through guidance and confrontation at community meetings and encounter groups. Finally, residents are given an opportunity for vicarious learning by observing desirable behavior demonstrated by peer and staff role models.

According to De Leon, there are nine essential elements for facilitating the above interventions. These are:

- 1) *Use of participant roles.* Residents engage in all elements of daily life in a therapeutic community, including the jobs necessary to maintain the physical integrity of the program (e.g. cooking, cleaning, maintenance) as well as the therapeutic integrity of the community (e.g. facilitating groups, intervening with peers). This makes residents participants rather than spectators in the milieu, and provides opportunities for learning through social roles.
- 2) *Use of membership feedback.* Peers are the primary influence on each other, rather than staff or administrators. Providing observations and honest reactions to the individual is every residents' responsibility.
- 3) *Use of membership as role models.* Each resident is a role model for the change process. In addition to providing feedback, members are expected to be examples for change.
- 4) *Use of collective formats for guiding individual change.* Recovery is due to the effects of social learning within the context of the community, and is primarily the result of interpersonal transactions with peers. To facilitate change nearly all activities in the therapeutic community; including education, training, job functions, recreation, and therapeutic activities; occur in a group.
- 5) *Use of shared norms and values.* Beliefs and values central to recovery are explicitly stated and reinforced by the word and action of the membership.
- 6) *Use of structure and systems.* Organization of work (e.g., chores, management, etc...) to maintain the therapeutic community is a vehicle for social learning though adhering to procedures, accepting and giving supervision, and gaining

direct experience behaving as a responsible community member with others depending on you.

- 7) *Use of open communication.* Interpersonal and shared experiences are important for facilitating treatment through interventions requiring part or all of the community. Because of the importance of these interactions for facilitating the recovery process, all personal disclosures may eventually be publicly shared.
- 8) *Use of relationships.* Friendships and alliances with peers and staff are essential to the recovery process. Relationships formed in the therapeutic community are often maintained beyond treatment and form the basis for sustained recovery in the community-at-large.
- 9) *Use of language.* Therapeutic community members use a specialized vocabulary, called the “argot.” The use of the argot reflects an individual’s integration into the community, mirrors progress through the community, and the extent to which they have internalized the values of the therapeutic community.

The essential elements for facilitating change that De Leon identifies do appear to be present in all of the correctional programs reviewed. These elements are generally achieved using common structural or programmatic features in therapeutic communities (De Leon, 1995; Tims, De Leon, & Jainchill, 1994). Therapeutic communities in prisons function within the correctional environment, which has a philosophy that greatly differs from a strictly treatment-oriented milieu and imposes its own demands on inmates. Because of this correctional therapeutic communities generally differ in significant ways from non-correctional therapeutic communities. There are fifteen common features that are commonly found in the implementation of therapeutic communities.

Therapeutic communities are generally *separate from the community-at-large*. In outpatient programs participants are generally in the therapeutic community from 4-8 hours a day, while in non-correctional residential therapeutic communities the residents are generally in the program 24 hours a day (De Leon, 1995; Tims, et al., 1994). In correctional settings, residents are generally in the therapeutic community no less than 20 hours a week, but are rarely if ever reside in the therapeutic community around the clock (Burndon, Farabee, Prendergast, Messina, & Cartier, 2002). Few prison facilities were built with residential treatment in mind, and thus residents of a therapeutic community in corrections often share dining, recreational, and residential areas with inmates in the general population (Brundon et al., 2002; Farabee, Prendergast, Cartier, Wexler, Knight, & Anglin, 1999).

Therapeutic communities attempt to create a *community environment*. The physical environment of a therapeutic community will have a communal space for community activities, such as therapy groups and meetings (De Leon, 1995; Tims, et al., 1994). This space will generally have the community participants' names and their level of seniority in the program posted, along with the slogans and philosophies of the program.

In non-correctional therapeutic communities *staff background and roles* tend to be somewhat different than that of therapeutic communities in prisons. In non-correctional settings staff is generally comprised of quasi-professionals who are themselves in recovery from drug or alcohol addiction. Those staff members who are traditional professionals; such as psychologists, physicians, educators, and attorneys; are cross-trained in therapeutic community methods and maintain a primary focus on facilitating

treatment (De Leon, 1995; Tims, 1994). In prison-based therapeutic communities staffing is strongly influenced by the correctional context. While therapeutic communities are primarily focused on rehabilitation, prisons are essentially focused on control and safety (Burndon et al., 2002; Pan et al., 1993; Wexler, 1986). As a result, many of those counselors who are well-suited to work in non-correctional therapeutic communities are poorly suited to or not attracted to working in a prison environment (Farabee, et al., 1999). Often therapeutic communities are heavily staffed by correctional officers who are not well-trained in therapeutic community concepts and rely on institutional punishments rather than therapeutic interventions, thus disrupting the therapeutic milieu (Burndon et al., 2002; Farabee et al., 1999). Finally, therapeutic communities often recruit staff that are in recovery from drug addiction. Because former addicts often have criminal histories they may be ineligible for employment in prisons, thus excluding a number of potential counselors who are familiar with the tenets of therapeutic communities from working in prison-based therapeutic communities.

An essential element of therapeutic communities is the use of *peers and staff as role models*. Given that therapeutic communities are based on social learning theory, the extent to which a therapeutic community can be effective is directly related to the number and quality of effective role models (De Leon, 1995; Wexler, 1986). This is true in therapeutic communities in any context. Though in correctional programs there may be fewer staff members modeling effective recovery due to the reasons detailed above, the availability of positive role models is still an active component of correctional therapeutic communities.

Therapeutic communities have *highly structured days*. Providing structure imposes order on the typically disordered lives of those with addictions, and this facilitates learning self-structure and self-regulation (e.g., time management, planning, setting and meeting goals) (De Leon, 1995; Tims et al., 1994). Given that having a high level of structure is a hallmark of prison life this aspect of therapeutic communities is amenable to correctional environments.

In therapeutic communities there is generally a focus on *work as therapy and education*. Residents of therapeutic communities are responsible for the daily management of the facility, including cleaning, planning activities, meal preparation and service, maintenance, security, facilitating meetings, etcetera (De Leon, 1995; Tims et al., 1994). Working to maintain the physical and programmatic integrity of the program is intended to strengthen the residents' identification with the program, provide an opportunity for learning social roles, and promoting a sense of self-efficacy. Because of correctional therapeutic communities' placement within a larger institutional setting, it is likely that the role that therapeutic community residents play in maintaining the physical integrity of the institution is diminished due to centralized food preparation, institutional security and maintenance staff, and so forth.

Therapeutic communities are organized in a *phase format* to reflect progress through the program as well as reflecting a developmental view of recovery (De Leon, 1995; Tims et al., 1994). There are generally three phases of primary treatment, and progress from one to another is marked by demonstrated mastery of concepts and plateaus of stable behavior, although the daily structure of the program is the same regardless of the phase of treatment (De Leon, 1995).

The formal and informal *teaching of therapeutic community concepts* is an integral part of treatment (De Leon, 1995; Tims, 1994). These concepts are incorporated into virtually every aspect of treatment, including groups, seminars, and readings as well as through posting slogans and encouraging personal writing reflecting on the recovery process, which is then often shared with the group.

Therapeutic communities typically make frequent use of *peer encounter groups*, in which residents, assisted by staff, assist one another in heightening awareness of attitudes and behaviors that need to be either modified or maintained to produce sustained recovery (De Leon, 1995; Tims et al., 1994). De Leon (1995) describes the peer encounter group as the hallmark intervention of the therapeutic community, and states that they can vary a great deal in both intensity and duration, with some groups lasting 24 consecutive hours or for several days interrupted by time for sleeping. Such marathon groups are untenable in most correctional settings due to the adherence of the therapeutic community to an institutional schedule regulating meal times, times for waking and sleeping, count times, etcetera (Farabee et al., 1999).

Two elements of therapeutic communities that remain unchanged in correctional settings are the emphasis on *awareness training* and *emotional growth training*. Awareness training is intended to foster an awareness of the mutual impact of attitudes, behaviors, and the environment (De Leon, 1995), or reciprocal determinism in the parlance of social learning theory. Emotional growth training is directed towards the same aims as awareness training, with the additional intent of helping residents to learn to self-regulate emotions without resorting to substance use (De Leon, 1995).

Therapeutic communities generally have a *planned duration of treatment*. This generally takes the form of establishing a minimum amount of time necessary to finish the program, although the maximum amount of time is contingent on the resident's individual progress in the program (De Leon, 1995; Tims et al., 1994). In correctional therapeutic communities, participants are generally sent to the therapeutic community 9-12 months prior to their anticipated date of release (Pan et al., 1993). This results in a de facto limit to the amount of time in the program being imposed on residents due to institutional factors, although residents may obtain parole early if they complete the program prior to their anticipated date of release.

Most therapeutic communities attempt to institute some *continuity of care*. This may take the form of moving from the therapeutic community into a halfway house that maintains elements of a therapeutic community, or returning to the therapeutic community as an outpatient (De Leon, 1995; Tims, 1994). For inmates leaving prison-based therapeutic communities, continuity of care is usually contingent on whether the therapeutic community has an institutional aftercare component or maintains a halfway house specific to graduates from the program (Martin, Butzin, & Inciardi, 1999). Often inmates leaving a program will not seek out aftercare on their own initiative, in part due to a lack of awareness of resources and in part due to an over reliance on institutional control (Farabee et al., 1999).

Finally, therapeutic communities strive for an *integration of services*. This is actually more commonly the case in correctional than non-correctional therapeutic communities. Most therapeutic communities offer group and individual counseling, and family, medical, mental health, vocational, and educational services (O'Brien & Devlin,

1997). Therapeutic communities in prisons may be more effective than non-correctional programs in providing these services because of greater access to existing institutional resources.

Therapeutic Communities: Effectiveness

The primary goal of implementing therapeutic communities in any setting is to prevent the relapse of substance use in individuals with addictions (De Leon, 1995; Martin, Butzin, & Inciardi, 1999; Pan et al., 1993). Although this is also the nominal primary objective of instituting therapeutic communities in correctional settings, of equal or greater importance are reducing recidivism (Butzin, Martin, & Inciardi, 2002; Hanlon, Nurco, Bateman, & O'Grady, 1999; Hartman, Wolk, Johnston, & Colyer, 1997; Knight, Simpson, & Hiller, 1999; Martin et al., 1999; Miller & Shepphard, 2000; Pelisier, Rhodes et al., 2001; Pelisier, Wallace, et al., 2001; Wexler, De Leon, Thomas, Kressel, & Peters, 1999) and reducing the cost to the system (Griffith, Hiller, Knight, & Simpson, 1999; Martin, Butzin, Saum, et al., 1999). A great deal of research has been conducted on these outcomes, primarily by proponents of correctional therapeutic communities.

Research findings suggest that corrections-based therapeutic communities are effective in decreasing recidivism. For example, Butzin, Martin, and Inciardi (2002) found that one year following release 29% of inmates who had been treated in the Key correctional therapeutic community in Delaware had recidivated, while 45% of a matched sample was arrest-free. This effect remained significant, though not as pronounced, three years after release, when 54% of the treatment group had recidivated versus 63% of the matched controls. Other researchers have found similar results. Pelissier, Rhodes, et al. (2001) conducted a large scale study sponsored by the Federal Bureau of Prisons in

which they examined the outcomes of 2,315 therapeutic community participants. Three years following release, 44% of male therapeutic community graduates had recidivated, compared with 53% of untreated male inmates.

Wexler, DeLeon, Thomas, Kressel, and Peters (1999), studying a sample of 715 inmates at the Amity Therapeutic Community in the California Department of Corrections, found that at one year following release 40% of those who had completed the program had recidivated, as compared with 50% of controls. Two years following release they found that 49% of inmates who had completed treatment had recidivated, as compared with 67% of controls. Thus, Wexler et al. found that the effect of treatment became more pronounced over time, in contrast with Butzin et al. (2002) who found that the difference between treated and untreated inmates narrowed over time. Hartman, Wolk, Johnston, and Colyer (1997), in a quasi-experimental design with an unmatched control, found 28% recidivism one year following release among inmates who had not received treatment, whereas only 14% of treated inmates had recidivated. Put another way, Hartman et al. found that at one year post-release treatment in a therapeutic community was associated with recidivism that had been reduced by *half*. Although this is a dramatic finding, it is overshadowed by Messine, Wish, and Nemes's (2001) finding that, calculated using an adjusted odds ratio, those inmates who had participated in a therapeutic community were 94% less likely to recidivate.

Although most prison-based therapeutic community programs give access to treatment only during the term of incarceration, in some cases access to continuing treatment after release is provided. Outcomes of this additional component of treatment have been published for three correctional therapeutic community programs that

incorporate an aftercare component. In all three programs the level of recidivism has been shown to be effectively decreased by providing treatment to inmates during the probationary period (Butzin et al., 2002; Knight, Simpson, Chatham et al., 1999; Martin et al., 1999; Wexler et al., 1999). Knight, Simpson, and Hiller (1999) found the outcomes for inmates who had participated in a therapeutic community plus an aftercare program to be encouraging. The researchers found that, three years following release, inmates who had participated in a therapeutic community and aftercare program had recidivated at a rate of 25%, while those without any treatment during or after incarceration recidivated at a rate of 46%. The effect was more pronounced for inmates whose substance abuse histories were classified as severe. Among this population of severe substance abusers, inmates who participated in the therapeutic community and aftercare recidivated at a rate of 26%, whereas those who did not receive treatment recidivated at a rate of 52%, or twice that of the treatment group.

One seemingly paradoxical finding of Knight, Simpson, and Hiller (1999) is that among those who had participated in a therapeutic community but who had dropped out of aftercare the rate of reincarceration was 64% overall and 66% for inmates with a severe history of substance abuse. This rate is significantly higher than the general base rate of recidivism and far above the rate of recidivism generally found among therapeutic community participants. However, one caveat should be mentioned: The reason for the high rate of reincarceration in this sample was that participation in aftercare was often stipulated to as a condition of parole. Thus, most of those who dropped out of aftercare had their probation revoked and were reincarcerated without having committed a new crime. The high rate of reincarceration among aftercare dropouts is actually due to a

larger than average rate of revocation of parole and not due to recidivism. The authors of this study pointed this out as a confounding factor and suggested that it is also a confounding factor in similar research. However, despite similar paradoxical findings in other studies, no other researchers cited this as a relevant factor.

The Delaware Department of Corrections full treatment continuum has three components: the Key Therapeutic Community, CREST transitional serviced, and aftercare (Butzin, 2002). CREST incorporates therapeutic community concepts into a work-release program that transitions inmates out of prison. After completing transitional work release through CREST, parolees may opt to remain in ongoing aftercare treatment based in therapeutic community concepts. Aftercare consists of participating in a 6-month program with weekly group and individual counseling sessions and random urine testing. It is not required that inmates participate in Key to participate in CREST or aftercare. In an effort to determine component effects, Butzin et al. (2002) evaluated recidivism in inmates using participation and completion in Key, CREST, and aftercare as independent variables. At one year following release the researchers found that participation in the therapeutic community was associated with significantly improved recidivism outcomes over and above the effect of other conditions. They also found that inmates who completed CREST fared significantly better than those who dropped out of CREST, and both groups fared significantly better than those who did not participate in CREST at all. At one year, for inmates who graduated from the therapeutic community and CREST, aftercare did not have a significant effect. However, among those who did not participate in the therapeutic community but did graduate from CREST, participating in aftercare did reduce recidivism.

Three years following release, Butzin et al. (2002) found that some of the positive effects of treatment had attenuated. Although participation in a therapeutic community was still correlated lowered levels of recidivism in every other condition, there was no longer any difference between the recidivism rates of those who dropped out of CREST and those who did not participate in CREST at all. The finding related to aftercare remained consistent. To summarize this complicated study's findings: The effects of any other treatment were enhanced when the inmate had first participated in the therapeutic community. At one year, any participation in CREST lowered recidivism, but a participant must have actually completed CREST to maintain lower recidivism after three years. Finally, aftercare did not appear to improve outcomes for therapeutic community participants, but it did improve outcomes for those who did not participate in a therapeutic community.

In contrast to Butzin et al.'s (2002) findings, Wexler et al.'s (1999) results supported the hypothesis that higher intensity services would yield incrementally more positive outcomes. These researchers utilized a random assignment technique with a sample of 715 inmates, with aftercare consisting of up to one year in a residential treatment environment. At one year following release 50% of the control group had recidivated, as had 45% of those who dropped out of the therapeutic community, 40% of those who had completed the therapeutic community, and 39% of those who completed the therapeutic community but dropped out of aftercare. In contrast, only an impressive 8% of those who completed the therapeutic community plus aftercare had recidivated. Two years after release, recidivism rates remained comparable to the rates after one year: 67% of the control group had recidivated, 58% of therapeutic community dropouts, 49%

of therapeutic community completers, 60% of aftercare dropouts, and 14% of those who had completed both the therapeutic community and aftercare. In contrast with Butzin et al.'s results, Wexler et al. found strong evidence that aftercare in combination with participation in a therapeutic community lowers recidivism, given that at the two-year follow-up those who had completed aftercare recidivated at a 35% lower rate than participants in therapeutic communities alone. It seems likely that the differences between the findings of these two studies are due to substantial differences in the aftercare programs. Whereas California's Amity program consisted of a full year of residential treatment, Delaware's aftercare program consisted of six months of outpatient counseling and drug testing. However, Wexler et al.'s findings do support Butzin et al.'s findings that long-term outcomes for transitional programs seem to require completion of aftercare programs. Whether this may be a result of program dropouts having their parole revoked, as was the case in Knight et al.'s (1999) study, or the result of commission of new crimes, is unclear.

The original *raison d'être* of therapeutic communities was to prevent relapse of substance abuse, and of course that remains the ostensible focus of therapeutic communities in correctional environments. However, for many prison administrators and taxpayers it is likely not the reduction of substance use *per se* that is the outcome of interest, but rather that reduction in substance abuse tends to correlate with a reduction in recidivism (Martin et al., 1999; Miller & Shepphard, 2000; Prendergast et al., 2001; Wexler et al., 1999). It is therefore not surprising that the effect of therapeutic communities on reincarceration has been better researched than the effect on relapse. In addition to the obvious interest researchers in corrections have in recidivism, another

reason that reincarceration has been studied more frequently is likely because it is more difficult to establish a reliable outcome measure for relapse than it is for recidivism. Using reincarceration as an outcome measure for recidivism presents measurement difficulties; for example, the commission of a crime may go undetected, individuals may be convicted on misdemeanors and not be reincarcerated, and parolees may have their parole revoked for noncriminal offenses. However, reincarceration is a consensual outcome measure that is consistently monitored and enforced. Conversely, relapse is not systematically monitored, and so researchers interested in relapse as an outcome generally rely either on self-report or urine analysis, neither of which are highly reliable outcome measures.

Difficulties with outcome variables aside, research has been conducted regarding the effect of therapeutic communities on relapse, with most findings supporting the hypothesis that therapeutic communities reduce relapse. Knight, Simpson, Chatham, and Camacho (1997) found that six months after release participants in a therapeutic community reported significant reductions in substance use. Prior to incarceration and treatment, 71% of parolees reported having used marijuana, 76% reported some form of cocaine use, and 40% reported opioid use. Following release, only 13% reported using marijuana, 24% reported using cocaine, and 13% reported using opioids. In the Key Therapeutic Community in Delaware, one year following release 25% of the control group were found to be drug-free, whereas 40% of therapeutic community graduates were drug-free. After three years, 16% of the control group members were reportedly drug-free, whereas 24% of therapeutic community graduates reported that they had not used drugs (Martin et al., 1999). Similar positive results were cited by Pellisier, Rhodes,

et al. (2001). In a Federal Bureau of Prisons study with a sample size of 2,315, three years following release 49% of male inmates who participated in a therapeutic community and received community transitional services relapsed into drug use, as opposed to 59% of inmates who did not receive treatment. Looking at the same sample, Pellisier, Wallace, et al. (2001) found that overall participation in a therapeutic community reduced the likelihood that an inmate would use drugs in his or her first six months after release by 44%.

Researchers at the Key Therapeutic Community also examined the effect of the CREST program and aftercare on relapse. Similar to the findings regarding recidivism, they found that participation in the therapeutic community had the effect of decreasing relapse in most conditions at both one- and three-year follow-ups (Martin et al., 1999). However, whereas the researchers found that to observe lowered recidivism inmates must have completed the various programs, this was not a necessary condition to observe a correlation with relapse. Researchers found that, regardless of whether inmates completed CREST or aftercare, it was the length of exposure to treatment rather than the completion of programs that correlated with a decrease in drug use. Compared with the control group, CREST dropouts were three times more likely to be drug free, CREST completers were five times more likely to be drug free, and those who had completed both CREST and aftercare were seven times more likely to be drug free (Martin et al., 1999; Martin, Butzin, Saum, et al., 1999).

In addition to research examining the effect of therapeutic communities on rates of relapse and recidivism, there is a small but important body of research evaluating the effect of therapeutic communities on financial cost to the correctional system. As

discussed previously, the impetus for the spread of both boot camps and therapeutic communities was to reduce a ballooning population of drug-involved offenders incarcerated as a result of the War on Drugs. In some cases therapeutic communities have been used in a fashion similar to correctional boot camps, in that participating in a therapeutic community may reduce an inmate's sentence (O'Brien & Devlin, 1997). This in turn reduces the prison population and thus expenditures. The direct savings to the system from reducing prison sentences is probably not as great for therapeutic communities as it is for boot camps, because typically therapeutic community participants have served a significant portion of their sentence before participating, whereas boot camp participants often go directly to boot camp or go there soon after incarceration.

Therapeutic communities do appear to reduce costs in other ways, however (Farabee & Luekefeld, 2001). The most important way that therapeutic communities help manage costs is by decreasing the prison population by lowering recidivism. Griffith et al. (1999) used a novel approach based on the findings of Knight, Simpson and Hiller in which they calculated the amount of money expended on therapeutic community and aftercare necessary to lower recidivism by 1%. Griffith et al. found that the operational costs for one inmate in an average Texas prison was \$50.87 per day, the cost of the therapeutic community was \$48.50 a day, the cost for residential aftercare was \$36.98 per day, and the cost of parole was \$2.98 per day. The researchers evaluated the inmates according to their base rates of recidivism, classifying inmates as either low-risk or high-risk for reincarceration. Knight, Simpson and Hiller found that those who were classified as low-risk and who did not complete treatment recidivated at a rate of 29%, whereas

those who completed treatment and aftercare recidivated at a rate of 22%, for a decrease of 7%. Among high-risk inmates, those who did not complete treatment recidivated at a rate of 52%, whereas those who completed treatment plus aftercare recidivated at a rate of 26%, a reduction of 26%.

Taking into account base rates of recidivism for high- and low-risk inmates, with and without treatment in a therapeutic community plus aftercare, Griffith et al. (1999) calculated how much of a financial investment must be invested in treatment per inmate in order to result in a 1% decrease in recidivism. The researchers found that for low-risk inmates who completed treatment an investment of \$494 per inmate over the course of incarceration was required to lower recidivism by 1%. Among high-risk inmates it required less of a financial investment to obtain a similar effect, costing the system \$165 to lower recidivism by 1%. Put another way, by investing the amount of money per inmate in treatment that it would cost to house an inmate for fewer than 10 days recidivism could be reduced by 1% among low-risk inmates. Among high risk inmates, by investing the amount of money per inmate in treatment required to house an inmate for slightly more than three days recidivism could be reduced by 1%. This represents an enormous net savings due to reduction in recidivism.

In addition to reducing recidivism, another way of managing costs is by lengthening the amount of time between release and reincarceration for those inmates who do recidivate. Wexler et al. (1999) calculated the mean number of days it took inmates in various treatment conditions to recidivate. When evaluating the sample two years after release, the means were 216.44 days for inmates who had not participated in the therapeutic community, 234.39 days for those who had dropped out of the therapeutic

community, 253.74 days for those who graduated from the therapeutic community, 333.33 days for those who dropped out of aftercare, and 391.17 days for those who completed aftercare. Given that Wexler et al. did not cite the cost of housing an inmate in a traditional prison versus a therapeutic community versus residential treatment, it is difficult to say with certainty how many days a parolee must remain out of prison to justify the investment in treatment. However, if the costs are similar to those cited by Griffith et al. (1999), it seems likely that the 37.3 additional days out of prison that resulted from participation in a therapeutic community is financially justifiable, and it seems almost certain that the 174.73 days gained by completing the whole treatment continuum represents a savings.

METHOD

Research Design

This study was designed to compare drug and alcohol treatment in a therapeutic community with treatment in a boot camp. A control group was initially included in the design and was intended to be a wait-list control comprised of inmates who met criteria for program participation but for whom there was no space available in treatment programs. However, the demand for treatment did not exceed treatment availability, and thus the control group was not implemented.

Participants

Participants were recruited from two institutions in the Oregon Department of Corrections described in the next section. Inmates wishing to participate in either the boot camp or therapeutic community must meet well-defined criteria outlined in the Alternative Incarceration Programs Act (2004). The inmate must:

- 1) be at least 18 years of age at the time of entry into the program, or be under 18 years of age if convicted of a crime upon remand from juvenile court;
- 2) have no more than 36 months and no less than 10 months left of his or her sentence;
- 3) not be incarcerated for any of the following crimes: Aggravated Murder, Murder, Manslaughter I, Kidnapping I, Rape I, Rape II, Rape III, Sodomy I, Sodomy II, Sodomy III, Unlawful Penetration I, Unlawful Penetration II, Sexual Abuse I,

- Sexual Abuse II, Sexual Abuse III, Contributing to the Delinquency of a Minor, Incest, Arson I, or Robbery I;
- 4) not have a sentence that may not be reduced due to mandatory minimum sentencing laws;
 - 5) not have a conviction for Escape or Unauthorized Departure from a State Facility within 3 years prior to the time of program entry;
 - 6) currently qualify for minimum security incarceration;
 - 7) have submitted a request to participate in an alternative incarceration program in writing; and
 - 8) be physically and mentally able to withstand the rigors of the program.

The specific demographic characteristics of the sample will be reviewed in depth in the Results section.

Research Setting

The SUMMIT program is a boot camp located in the Shutter Creek Correctional Institution (SCCI) in North Bend, Oregon. SCCI is a minimum security correctional facility with approximately 266 inmates, roughly 166 of whom are boot camp participants. SUMMIT is an acronym that stands for “Success Using Motivation, Morale, Intensity, and Treatment.” The program emphasizes facilitating cognitive change, basic education, and work skills in an environment characterized by military rigor and discipline. The program takes from 180 to 270 days to complete, and participants participate in programmed activities 14 hr or more a day. Programming includes treatment targeting beliefs and skill deficits that facilitate criminal activities, as well as

approximately 5 hr/week of alcohol and drug treatment. Those participants who complete the program receive a sentence reduction of between 2 and 30 months.

The New Directions program is a therapeutic community located in the Powder River Correctional Facility (PRCF) in Baker City, Oregon. PRCF is a minimum security correctional facility that houses approximately 356 inmates, about 50 of whom are in the therapeutic community. The structure and programming of New Directions conforms to that of correctional therapeutic communities as described above, with program participants fully segregated from the general population of PRCF. This program takes approximately 270 days to complete, and activities are programmed at least 14 hr a day. Participants who complete the program receive a sentence reduction of between 1 and 27 months.

Procedure

During the study period, prison inmates who requested and qualified for substance abuse treatment through an alternative incarceration program were administratively assigned to either the boot camp or the therapeutic community with an attempt made to randomize the assignment as much as possible. In some cases a participant could only be assigned to one of the facilities but did qualify for treatment and was thus included in the study. For example, female inmates could not be assigned to the therapeutic community, because it is located in an all male facility, and participants judged to be in poor physical health could not be assigned to the boot camp. Differences between the two samples will be addressed in the Results section.

Upon entry into the assigned treatment program, a researcher or research assistant reviewed in both verbal and written forms the details of the study with the inmates in a

group setting. Inmates were informed that obtaining treatment was not contingent on participating in the study. Inmates were given an opportunity to ask questions at that time. After written consent was obtained (see Appendix A), inmates who agreed to participate completed the survey measures within 1 week of their arrival at the program, 3 months into the program, and again when they completed the program.

Measures

All measures were selected because of a hypothesized relationship between the attitude measured and relapse or recidivism. Responses were reported as mean scores, and any scale on which a participant did not answer at least half of the questions was not included in analyses. For all scales, a lower score represents a positive state or desirable attitude, and a high score represents a negative state or undesirable attitude. The scales are described here, and the actual text of the scales is included in Appendix B.

Action and Acceptance Questionnaire

The Action and Acceptance Questionnaire (AAQ) was designed as a measure of experiential avoidance (Hayes, Strosahl, Wilson, Bissett, Pistorello, Toarmino, et al., 2004). Experiential avoidance is a phenomenon that occurs when a person is unwilling to remain in contact with particular private experiences, such as certain thoughts, memories, or emotions. In order to avoid fully experiencing the aversive stimulus, an experientially avoidant person takes steps to avoid the experience or the context that occasions it, even when avoidant behaviors cause harm (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). High experiential avoidance has been associated with substance abuse and relapse, especially among those who expect that substance use will lessen negative affect (Cooper, Russell, Skinner, Frone, & Mudar, 1992).

The AAQ consists of nine items related to the construct of experiential avoidance. Participants endorse each item on a 7-point Likert-type scale with responses ranging from “Never” to “Always.” Hayes and his colleagues (2004) normed the AAQ using a sample of 2,400 participants. They found that the internal consistency (i.e., Cronbach’s alpha) of the scale was .70, which is considered adequate (Krista Brockwood, personal communication, May 18, 2005) However, in the present study the AAQ was found to have an internal consistency of .48 (see Table 1), which is suboptimal. The lower internal consistency may be attributed to differences between the norming sample and the population surveyed in this study. Hayes et al. normed their scale primarily with patients in Health Management Organizations, a sample that likely differs significantly from the prison inmates on several important factors. Regardless of the reasons for the difference, the low internal consistency found with this sample suggests that findings involving the AAQ may be suspect.

Assertive Interactions Questionnaire

The Assertive Interactions Questionnaire (AIQ) was developed by Goodstein and Hepburn (1985) to measure endorsement of the “inmate code” that reflects attitudes incompatible with rehabilitation and facilitative of aggression. The AIQ consists of nine items related to aggressive attitudes and criminogenic beliefs. Participants endorse each item on a 6-point Likert-type scale with responses ranging from “Strongly Agree” to “Strongly Disagree.” Goodstein and Hepburn normed the AIQ on 200 prison inmates, and found it to have an internal consistency of .70. Lutze (2001) used this scale with a sample of 271 participants in a federal boot camp and 106 inmates in the general prison

Table 1

Psychometric Properties of Attitude Change Measures

<i>Scale/Subscale</i>	<i>Source</i>	<i>Number of Items</i>	<i>Cronbach's α</i>
AAQ	Hayes et al. (2004)	9	.48
AIQ	Goodstein & Hepburn (1985)	9	.85
DAS	Goodstadt et al. (1978)		
General Drug Use		6	.81
Alcohol Use		6	.85
Marijuana Use		6	.94

population and reported an internal consistency of .74. In the present study the AIQ was found to have an internal consistency of .84.

Drug Attitudes Scale

The Drug Attitudes Scale (DAS) was developed by Goodstadt, Cook, Magid and Gruson (1978) to measure attitudes that moderate the use of legal and illegal substances of abuse. In its complete form the DAS consists of 10 subscales pertaining to attitudes regarding general drug use, alcohol, tobacco, marijuana, tranquilizers, barbiturates, heroin, opiates other than heroin, “speed,” and hallucinogens. To limit the length of the evaluation, only the subscales related to general drug use, alcohol, and marijuana were utilized.

The three subscales that were administered each consisted of six items that could be endorsed on a 6-point Likert-type scale, with responses ranging from “Strongly Agree” to “Strongly Disagree.” Goodstadt and colleagues normed the scale on 1,329 Canadian high school students and found internal consistency for the subscales to range from .78 to .85. Lutze (2001) used these subscales with a sample of 271 participants in a federal boot camp and 106 inmates in the general prison population and reported that the general drug use subscale had an internal consistency of .77, the alcohol subscale had an internal consistency of .71, and the marijuana subscale had an internal consistency of .88. In the present study the general drug use scale had an internal consistency of .81, the alcohol subscale had an internal consistency of .85, and the marijuana subscale had an internal consistency of .94.

RESULTS

Sample Characteristics

A total of 407 inmates agreed to take part in the study. Of these, 66 entered either an inaccurate identification number or did not enter an identification number, and thus their data were excluded from analysis. Of the 341 participants with viable data, 164 were in the therapeutic community and 177 were in the boot camp

Of the 164 study participants in the New Directions therapeutic community, 107 (65.2%) did not complete the program. Of those who did not complete the program, 24 (22.4%) were removed from the program for behavioral reasons, 15 (14.0%) were removed for administrative reasons such as obtaining early parole or being erroneously assigned to the program when they did not meet qualifications, 2 (1.8%) left for physical or mental health reasons, 1 (0.9%) asked to leave, 1 (0.9%) was removed due to being inappropriate for the program, and 64 (60%) were removed for unknown reasons. Only the 57 study participants who completed the program were included in analyses of attitude change.

Of the 177 study participants in the SUMMIT boot camp, 70 (39.6%) did not complete the program. Of those who did not complete the program, 34 (48.6%) were removed from the program for behavioral reasons, 11 (15.7%) were removed for administrative reasons, 3 (4.3%) were removed for medical reasons, 1 (1.4%) asked to leave, 3 (4.3%) left due to being inappropriate for the program, and 18 (25.7%) were

removed for unknown reasons. Only the 107 study participants who completed the program were included in analyses of attitude change.

The therapeutic community is located in an all-male facility and thus no females were included in that sample, whereas 19 (12.4%) of participants who completed the boot camp were female. Data for female participants were not included in primary analyses to control for potential effects of gender. (Data for females will be compared to data for males in a future study.) When data for the 19 female participants were removed, the final boot camp sample consisted of 88 participants.

Comparison of Sample Characteristics by Facility

The two samples did not differ significantly in terms of ethnicity, sentence length, or age (see Table 2). However, the two samples did differ significantly on variables of type of offense and education. The former disparity is potentially problematic in that more therapeutic community participants were incarcerated for statutory offenses. Because statutory offenses are largely comprised of drug offenses, such as possession of a controlled substance or driving while impaired, this may imply a higher level of treatment needs among therapeutic community participants.

To determine whether the higher frequency of statutory crimes correlated with a greater level of treatment need in therapeutic community participants, the attitudes of participants in the two facilities prior to treatment were compared. Multivariate analysis of variance (MANOVA) demonstrated that before treatment the two groups significantly differed on both the DAS Marijuana subscale ($F = 7.93; p = .005; \eta^2 = 0.04$) and on the DAS Alcohol subscale ($F = 5.69; p = .018; \eta^2 = 0.03$). For both scales, participants in the therapeutic community obtained lower scores than did those in the boot camp

Table 2

Demographic Characteristics of the Sample (N = 341)

Therapeutic Community (n = 164)			Boot Camp (n = 177)		
<i>Variable</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>F</i>
Age (years)	34.7	9.9	32.9	9.6	2.84*
Sentence Length (years)	2.6	1.5	2.3	1.3	2.49*
	<i>Percentage</i>	<i>n</i>	<i>Percentage</i>	<i>n</i>	χ^2
<i>Race/Ethnicity</i>					
Caucasian	89.0%	146	87.6%	155	2.69*
African American	4.9%	8	4.5%	8	
Hispanic	3.7%	6	2.8%	5	
Native American	2.4%	4	4.0%	7	
Asian American	0.0%	0	1.1%	2	
<i>Sex</i>					
Male	100.0%	164	87.6%	155	21.79****
Female	0.0%	0	12.4%	22	
<i>Offense</i>					
Personal	27.4%	45	44.1%	78	10.77***
Statutory	47.6%	78	33.9%	60	
Property	25.0%	41	22.0%	39	

*Not Significant

**p < .05

***p < .01

****p < .001

Table 2 (cont.)

Demographic Characteristics of the Sample (N = 341)

Therapeutic Community (n = 164)			Boot Camp (n = 177)		χ^2
<i>Variable</i>	<i>Percentage</i>	<i>n</i>	<i>Percentage</i>	<i>n</i>	
<i>Educational Need (1 = Lowest Educational Need; 6 = Highest Educational Need)</i>					
1	40.2%	66	33.9%	60	18.66****
2	48.2%	79	37.3%	66	
3	6.1%	10	15.8%	28	
4	3.0%	5	6.8%	12	
5	0.0%	0	0.0%	0	
6	1.8%	3	4.5%	8	
Unknown	0.0%	0	1.7%	3	
*Not Significant	**p < .05	***p < .01	****p < .001		

(see Figure 1 and Tables 3 and 4). In light of this, findings related to these subscales should be interpreted with caution. However, because of the small effect size of these differences (see Table 4), further findings related to these subscales should be interpretable.

Comparison of Sample Characteristics by Program Completion

Completers and noncompleters within each facility were compared using an analysis of variance (ANOVA) to examine age and sentence length and with a chi-square procedure analyzing goodness of fit to examine other demographic variables. There were no significant differences between completers and noncompleters on ethnicity ($\chi^2 = 1.30$, $p = .86$), type of crime ($\chi^2 = 1.30$, $p = .52$), or educational need ($\chi^2 = 6.15$, $p = .63$).

The pretreatment responses of completers and noncompleters were also compared to determine whether there was a correlation between attitude and leaving treatment. A MANOVA revealed a difference that approached significance between boot camp completers and noncompleters on the DAS–General Drug Use subscale ($F = 3.85$; $p = .051$; $\eta^2 = 0.02$), with noncompleters having attitudes more conducive to substance use. However, given that the effect size of this difference is very small, this was not a strong finding. There were no other notable differences between completers and noncompleters on the outcome measures.

Given these findings, it is unlikely that any observed changes from pre- to post-treatment are the result of inmates with significantly worse attitudes prior to treatment leaving the program. Only the data provided by treatment completers are used in subsequent analyses.

Figure 1: Comparison of Beginning of Treatment Mean Scores on Attitude Scales for Therapeutic Community and Boot Camp

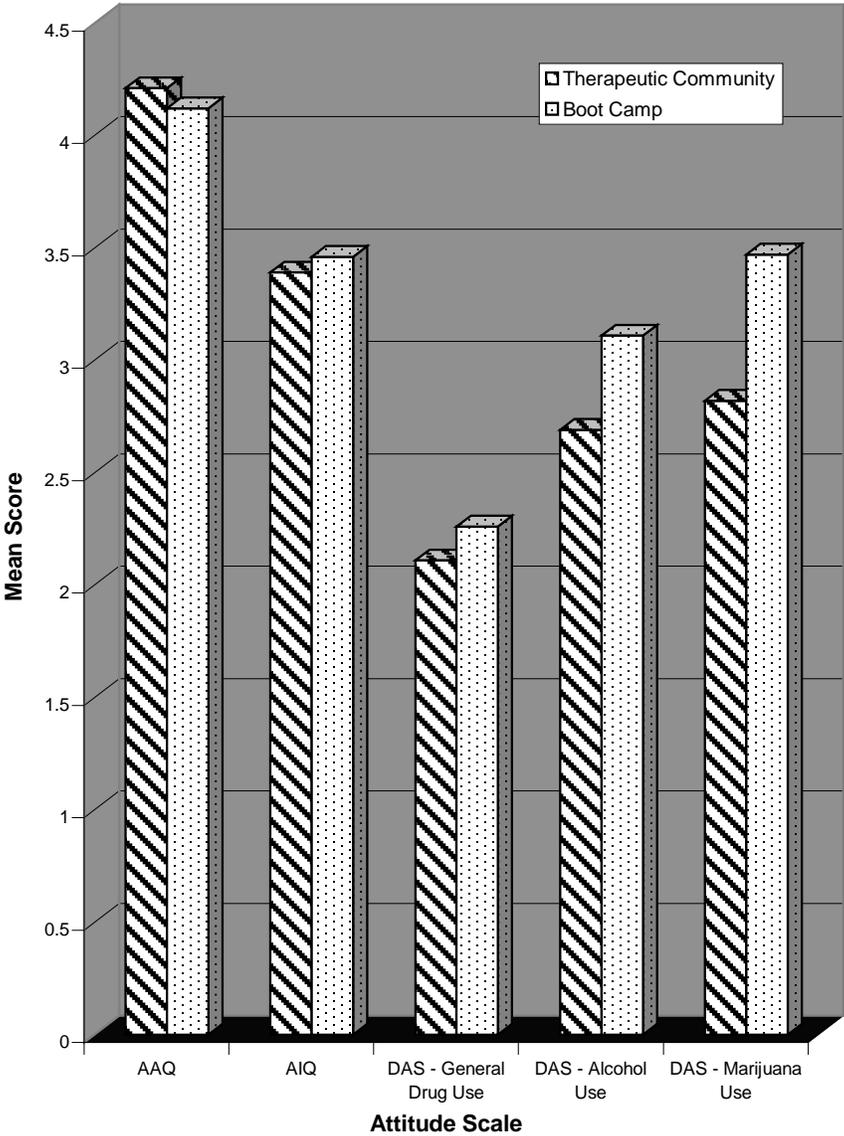


Table 3

Mean Scores on Attitude Scales for Therapeutic Community and Boot Camp

Therapeutic Community						
Variable	Beginning of Treatment			End of Treatment		
	<i>M</i>	<i>CI (95%)</i>	<i>SD</i>	<i>M</i>	<i>CI (95%)</i>	<i>SD</i>
AAQ*	4.21	4.05 – 4.37	.62	3.79	3.64 – 3.95	.61
AIQ**	3.39	3.12 – 3.67	.89	2.43	2.20 – 2.67	.91
<i>DAS</i>						
General Drug Use**	2.11	1.84 – 2.39	1.08	1.45	1.30 – 1.61	.61
Alcohol Use**	2.69	2.38 – 3.00	1.23	1.85	1.61 – 2.09	.94
Marijuana Use**	2.82	2.45 – 3.20	1.49	1.69	1.46 – 1.93	.91
Boot Camp						
Variable	Beginning of Treatment			End of Treatment		
	<i>M</i>	<i>CI (95%)</i>	<i>SD</i>	<i>M</i>	<i>CI (95%)</i>	<i>SD</i>
AAQ*	4.12	4.00 – 4.24	.67	3.62	3.51 – 3.74	.62
AIQ**	3.46	3.30 – 3.62	.87	2.51	2.37 – 2.66	.80
<i>DAS</i>						
General Drug Use**	2.26	2.09 – 2.43	.91	1.78	1.64 – 1.93	.82
Alcohol Use**	3.11	2.93 – 3.29	.98	2.26	2.07 – 2.45	1.05
Marijuana Use**	3.47	3.22 – 3.74	1.42	2.46	2.20 – 2.71	1.39

* 7-point Likert-type scale **6-point Likert-type scale

Table 4

Results of Separate MANOVA Analyses of Facilities at Beginning of Treatment

<i>Variable</i>	<i>MS</i>	<i>F</i>	<i>Partial η^2</i>
AAQ	0.32	0.75	<0.01
AIQ	0.15	0.16	<0.01
DAS General Drug Use	0.66	0.70	<0.01
DAS Alcohol Use	6.59	5.69**	0.03
DAS Marijuana Use	16.68	7.93***	0.04

** $p < .05$ *** $p < .01$

Attitudinal Change

Participants were compared on attitude scales both between groups and within groups. MANOVA was selected for these analyses because it accounts for error variance better than other applicable statistical procedures (Howell, 2002) and because it is appropriate for evaluating multiple outcome measures. Multivariate normality was assessed using the Mahalanobis distance procedure, which suggested that there were possible outliers (Mahalanobis Distance = 38.02, $p = >.001$) that could threaten the assumptions necessary for the MANOVA procedure. However, on further examination there were only 5 outliers, and these were not judged to sufficiently violate the assumptions of the MANOVA procedure to invalidate the results (Newton & Rudestam, 1999). Although the data were somewhat skewed, Tabachnik and Fidell (1996) have suggested that, for samples of this size, data analysis should not be adversely affected by skewness.

Although results for the outcome measures used in this study are typically presented as summed scores, many participants did not answer every item. Therefore, mean scores rather than summed scores were used for data analysis to avoid the distortion that accompanies missing responses. Scales with 50% or fewer items endorsed were excluded from analyses.

Exploratory Analyses

MANOVA repeated-measure analyses were completed separately for the five scales to make an initial assessment of interactions and effect sizes while accounting for error variance. Time was the repeated measure (beginning and end of treatment), and the other variable was treatment facility (therapeutic community vs. boot camp). Because the

primary variable of interest was the difference in participants' attitudes at the beginning and end of treatment, only the initial and final evaluations were included in the current analyses.

The analyses showed significant interactions on all measures for Time at the $p < .001$ level, with η^2 ranging from 0.09 to 0.21 (see Table 5). Analyses also showed significant differences between facilities on the DAS–General Drug Use, DAS–Alcohol and DAS–Marijuana subscales (see Table 5). However, the exploratory analyses did not show any significant effects for the Facility X Time interactions (see Table 5).

Within-Group Changes Across Time

Follow-up MANOVAs were conducted to examine changes on each attitude scale from beginning to end of treatment. Results showed significant within-group differences in both groups on all scales at the end of treatment as compared to the initial assessment (see Table 6). A decrease in scores significant at the $p < .001$ level was observed for all scales, with η^2 ranging from .07 to .25 and a mean effect size of 0.15. The largest effect size in both groups was found on the AIQ, with η^2 of 0.19 in the therapeutic community and 0.25 in the boot camp.

Relationship Between Ethnicity and Attitudinal Change

Meaningful analysis of ethnicity was not possible due to the relatively small number of members of ethnic minorities in the sample. Whereas 141 Caucasians completed treatment, only 7 African Americans, 7 Native Americans, 5 Hispanics, and 1 Asian American completed treatment. As noted previously, this distribution is not due to a higher rate of attrition among ethnic minorities over time in the treatment program, but rather reflected the fact that fewer initially entered treatment (see Table 1).

Table 5

Results of Separate MANOVA Analyses of Facility, Time, and Their Interaction

Facility			
<i>Variable</i>	<i>MS</i>	<i>F</i>	<i>Partial η^2</i>
AAQ	1.35	3.31*	0.01
AIQ	0.39	0.48*	>0.01
General Drug Use	4.20	5.55**	0.02
Alcohol Use	13.56	12.42*****	0.03
Marijuana Use	40.11	21.88*****	0.06
Time			
<i>Variable</i>	<i>MS</i>	<i>F</i>	<i>Partial η^2</i>
AAQ	16.82	41.47*****	0.10
AIQ	74.72	91.68*****	0.21
General Drug Use	26.68	35.21*****	0.09
Alcohol Use	59.10	54.14*****	0.13
Marijuana Use	95.23	51.95*****	0.13

Table 5 (cont.)

Interaction

<i>Variable</i>	<i>MS</i>	<i>F</i>	<i>Partial η^2</i>
AAQ	0.13	0.31*	>0.01
AIQ	0.01	0.01*	>0.01
General Drug Use	0.80	1.06*	>0.01
Alcohol Use	>0.01	>0.01*	>0.01
Marijuana Use	0.30	0.16*	>0.01

*Not significant ** $p < .05$ *** $p < .01$ **** $p < .001$

Table 6

Results of Separate MANOVA Comparisons of Beginning and End of Treatment

Therapeutic Community

<i>Variable</i>	<i>MS</i>	<i>F</i>	<i>Partial η^2</i>
AAQ	5.35	13.92****	0.10
AIQ	29.05	28.10****	0.19
DAS General Drug Use	14.00	18.21****	0.13
DAS Alcohol Use	22.80	19.00****	0.14
DAS Marijuana Use	40.46	26.25****	0.18

Boot Camp

<i>Variable</i>	<i>MS</i>	<i>F</i>	<i>Partial η^2</i>
AAQ	14.42	34.60****	0.13
AIQ	53.19	75.88****	0.25
DAS General Drug Use	13.24	17.64****	0.07
DAS Alcohol Use	42.40	40.96****	0.15
DAS Marijuana Use	61.65	31.05****	0.12

**** $p < .001$

Figure 2: Comparison of Beginning and End of Treatment Mean Scores on Attitude Scales for Therapeutic Community

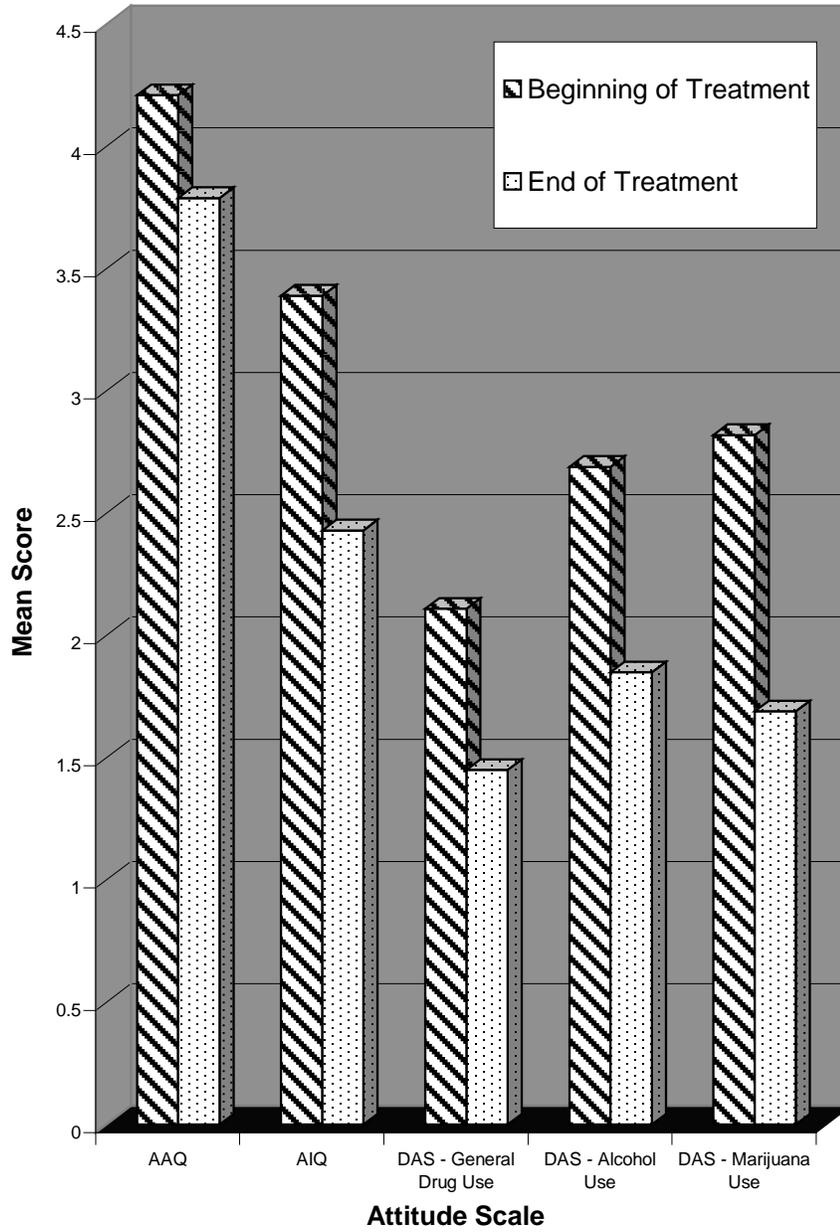
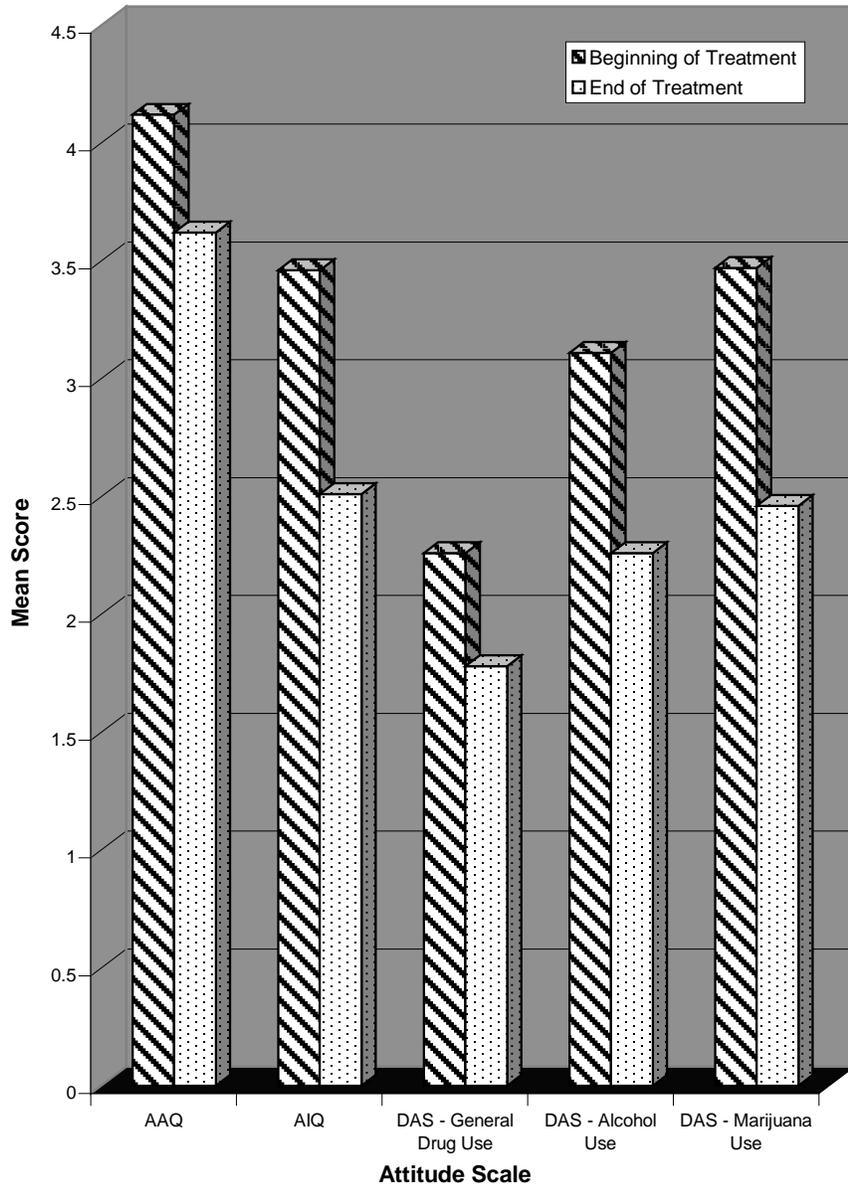


Figure 3: Comparison of Beginning and End of Treatment Mean Scores on Attitude Scales for Boot Camp



Between-Group Differences at End of Treatment

Further MANOVAs to explore the differences between the two treatment groups at the end of treatment revealed several significant differences. Therapeutic community participants had significantly lower scores than boot camp participants on three measures: DAS–General Drug Use ($F = 4.35; p < .01; \eta^2 = 0.04$), DAS–Alcohol Use ($F = 6.98; p < .01; \eta^2 = 0.04$), and DAS–Marijuana Use ($F = 15.15; p < .001; \eta^2 = 0.08$). However, although all of these differences are statistically significant, the small effect sizes suggest that the differences are not likely to be of practical significance (see Figure 4 and Table 7).

Figure 4: Comparison of End of Treatment Mean Scores on Attitude Scales for Therapeutic Community and Boot Camp

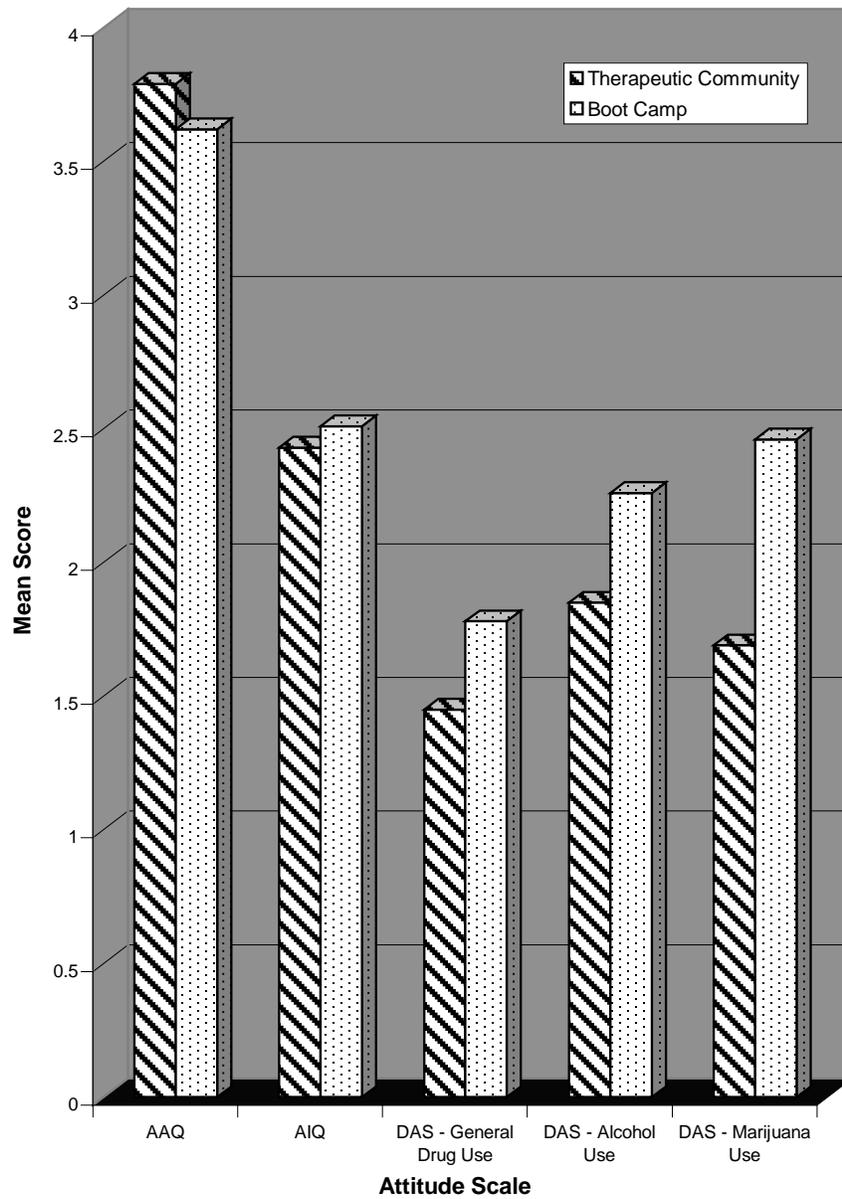


Table 7

Results of Separate MANOVA Comparisons of Facilities at End of Treatment

<i>Variable</i>	<i>MS</i>	<i>F</i>	<i>Partial η^2</i>
AAQ	1.16	3.03*	0.02
AIQ	.25	0.35*	<0.01
DAS General Drug Use	4.35	7.64***	0.04
DAS Alcohol Use	6.98	6.79***	0.04
DAS Marijuana Use	23.77	15.15*****	0.08

* Not significant ** $p < .05$ *** $p < .01$ ***** $p < .001$

DISCUSSION

Based on the body of research reviewed above concerning the effectiveness of boot camps and therapeutic communities, I predicted that, from pre- to post-treatment, participants in both facilities would demonstrate improvement in attitudes regarding drug use and antisocial behavior, as well as lower levels of experiential avoidance. I also hypothesized that, given the richer therapeutic milieu and greater focus on substance abuse in therapeutic communities versus boot camps, therapeutic community participants would show greater improvement in these measures. The findings supported the prediction that participants in both groups would demonstrate significant gains over time. However, the findings were mixed as to whether participants in the therapeutic community showed relatively greater gains than did those in the boot camp.

Participants in both treatment groups showed improvement at the end of treatment on all measures. Although these gains were without exception statistically significant, the effect sizes of the changes were small. The largest effect sizes in the therapeutic community and the boot camp groups were obtained on the AIQ ($\eta^2 = 0.19$ and 0.25 , respectively). This result reflects a notable decrease in aggressive and antisocial beliefs in participants in both conditions. This finding is particularly noteworthy for the boot camp participants, given that one of Morash and Rucker's (1990) criticisms of boot camps was a prediction that the quasi-military environment of boot camp would make participants more oppositional and aggressive.

Participants in both treatment groups showed significant reductions in attitudes facilitative of general drug use, alcohol use, and marijuana use. However, the effect size of the change in attitude towards general drug use among boot camp participants was only $\eta^2 = 0.07$, which is negligible. Paradoxically, the effect size of the change in attitudes towards alcohol and marijuana specifically was approximately double that of the change in attitudes towards general drug use. Although the latter effects remain small, they are notable.

Therapeutic community participants showed consistently significant but small effect sizes in the change of their attitudes towards substance use from the beginning to the end of treatment. In particular, the effect size of the change in their attitudes towards marijuana use was $\eta^2 = 0.18$. This is a particularly striking change because, not only is it the largest change on a measure of attitude toward substance use in this study, but other researchers have noted that, although therapeutic communities are generally effective, participants often do not change their attitudes towards marijuana use (Knight et al., 1999).

These findings are intriguing. Prior research has strongly indicated that therapeutic communities lead to reductions in substance use relapse and criminal recidivism (Butzin et al., 2002; Messine et al., 2001; Pellissier, Rhodes, et al., 2001; Wexler et al., 1999; Wolk et al., 1997), whereas results for boot camps in terms of these outcomes have been equivocal (Benda, 2001; MacKenzie, 1994; MacKenzie, Brame, et al., 1995; MacKenzie, Wilson, et al., 2004; Zhang, 1998). Yet although therapeutic community participants in the present study did have significantly better attitudes regarding drug and alcohol use by the end of treatment, the effect size of this difference is

so small that it may be of little or no practical significance. The attitudes of graduates of the two programs appeared to be more or less equivalent. If therapeutic communities are truly more effective at reducing recidivism than are boot camps, as much prior research suggests, then the functional equivalency of these two groups on measures of attitudes towards substance use and antisocial norms implies that prosocial attitudes are not sufficient to decrease recidivism.

The changes in the AAQ scores of participants in both programs bear special mention. The AAQ is a relatively new measure and is the first measure specifically designed to assess experiential avoidance. The authors of this measure expressed concern that, although they conceptualize experiential avoidance as amenable to change by therapeutic interventions, the AAQ may be inadequate for detecting changes in experiential avoidance (Hayes et al., 2004). In the present study the scores obtained by participants decreased after drug and alcohol treatment, presumably reflecting a decrease in experiential avoidance. That experiential avoidance would decrease as a result of effective drug and alcohol treatment was suggested by Cooper et al. (1992). Although the low internal reliability of the AAQ with the current sample renders these results somewhat suspect, it does lend a measure of support for the sensitivity of the AAQ for detecting changes in degree of experiential avoidance.

In the current study, there were no significant differences between boot camp and therapeutic community participants on the AAQ and AIQ after treatment. Therapeutic community participants did obtain significantly lower scores on all of the DAS subscales after treatment. However, although the scores of therapeutic community completers are significantly lower than those of boot camp completers, the effect sizes of those

differences are very low. Thus, although there are differences between these two groups at the end of treatment, the functional impact of those differences is likely to be negligible.

Limitations of the Study

The most important limitation of this study is the lack of a control group. Although a control group (i.e., inmates who qualified for and requested substance abuse treatment but for whom there was not space available in a treatment program) was built into the study design, the demand for treatment never exceeded treatment availability and thus no control group could be formed. Without a control group, no conclusions regarding causality can be inferred from these results; that is, in the absence of a control group it cannot be known whether participants would have shown similar changes without treatment.

Another limitation is that random assignment of treatment participants was not consistently accomplished. Random assignment was a part of the original study design but was not possible due to practical and administrative considerations, as discussed earlier. Although the assignment of women to the boot camp and the infirm to the therapeutic community is a known and unavoidable assignment variable, the unequal distribution of statutory offenders and the disparate levels of education between the two groups suggest that there may be an additional assignment bias of unknown origin. Any such differences may be the cause of the small but significant difference between the two groups on the measure of attitudes towards marijuana before treatment. However, the fact that the two treatment groups were virtually equivalent on pretreatment measures of

attitudes greatly reduces the threat that this disparity in distribution presents to the study's validity.

The presence of women in the boot camp merits consideration relative to the limitations of this study. Although women were not included in the primary analyses of this study, their presence in the boot camp program may have altered the program in unknown ways. Thus, the outcomes associated with SUMMIT may not generalize to other boot camps that are not mixed gender in composition.

Another limitation is that the conclusions that can be reached regarding the AAQ are somewhat limited due to the low internal consistency of the measure with the current sample. Unlike the other measures, which have been used extensively with correctional populations, the AAQ is a new measure that has not been used with an incarcerated sample and that was primarily normed on outpatients. In spite of the suboptimal internal consistency of this measure, the other measures used demonstrated strong psychometric properties.

Recommendations for Future Research

This study suggests several fruitful avenues for research. A comparison of boot camp and therapeutic communities with a control group would allow researchers to infer causality and to make a more meaningful comparison. As noted above, such a control group was not possible in the current study due to the ratio of available beds to inmates needing treatment. This may also be the case in other correctional facilities. However, a first approximation to a control group might be a comparison group of program noncompleters. These inmates could take the same measures as program completers at the time they would have completed the program, even though they had dropped out at

some point. Although this is a somewhat problematic proposition, the fact that noncompleters in the current study did not initially differ from completers in any detectible way suggests that it could partially address the problems associated with the lack of a control group.

As noted above, treatment noncompleters did not differ in a detectible way from completers. Given the high rates of attrition in both programs, understanding why noncompleters left the program would help Department of Corrections officials to effectively allocate resources. A qualitative study examining noncompleters' experience and their reasons for leaving the program could help to identify inmates who are likely to complete treatment and to alter treatment to reduce attrition.

Following up with the current sample participants to ascertain whether treatment influences criminal recidivism and substance use relapse would be an important component to understanding the role treatment has in moderating criminal behavior. Such a long-term follow-up would also allow for an examination of the relationship of attitude with relapse and recidivism, as well as to assess whether attitude change was maintained over time.

There is a lack of prior research examining the role of ethnicity and minority status in drug and alcohol treatment in correctional populations. Given that many ethnic minorities are overrepresented in this population, this is a conspicuous weakness. Unfortunately, I was unable to assess this factor in the present study because of the small number of ethnic minorities in the sample. The field would benefit from future research to assess ethnicity as an important factor to study in treatment in correctional settings.

Finally, both men and women participate in the SUMMIT program. An appealing avenue of research would be to evaluate the experiences of women in this predominantly male boot camp. Both a quantitative approach examining attrition, attitude change, and recidivism, and a qualitative approach delving into the experience of women in a boot camp, may be fruitful. Additionally, the SUMMIT program is somewhat unusual in two ways. First, few boot camps are mixed gender and thus the SUMMIT program differs from many other boot camp programs nationwide. Second, it is the only mixed gender program in the Oregon Department of Corrections. A comparison of mixed versus single sex boot camps to ascertain whether there is a substantive difference may have implications for how to most effectively structure substance abuse treatment. Additionally, it may be valuable to compare the outcomes from the New Directions therapeutic community program to outcomes in a therapeutic community serving a female correctional population, such as the Oregon Department of Corrections In Focus program.

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APPENDIX A

Statement of Informed Consent

Pacific University School of Professional Psychology

Title: Comparison of Attitude Change in State Prison Inmates Following Substance Abuse Treatment in a Therapeutic Community, a Shock Incarceration Program, and a Control Group.

Principal Investigator: Alexander M. Millkey, MS (503) 880-1917

Faculty Advisor: Genevieve Arnaut, Ph.D., Psy.D. (503) 352-2613

Location: Oregon Department of Corrections Facilities

Date: November 2003

You are invited to participate in a research study. This study will look at the effect of alcohol and drug treatment on attitudes related to substance use. This information may help design effective alcohol and drug treatment programs. It may also help people stay clean and sober. This study is being done by Alexander Millkey, M.S. of the Pacific University School of Professional Psychology. It is supervised by Genevieve Arnaut, Ph.D., Psy.D., Paul Bellatty, Ph.D. and Arthur Tolan, M.D. We want everybody in the study to understand what it is about. Please read this form and ask any questions you have before agreeing to take part in the study.

What You Will Be Asked to Do

We are conducting this study in several prisons in Oregon. We are asking people who qualify for alcohol and drug treatment to take part. We are asking for people in treatment and people in general population to take part. If you decide to take part we will ask you to fill out a brief survey now. We will ask you to fill out the same survey in three months and again in six months. We also contact you in about a year and a half to ask you to fill out the survey one more time. This survey will ask you questions about how you feel about drug use, how you deal with conflict, and how you deal with problems. If you participate you will not be considered a client, employee or representative of Pacific University.

Risks and What Will Be Done to Reduce the Risks

We will be asking you questions about attitudes about substance use, conflict, and solving problems. There is always a chance that someone who is not supposed to see this

information will see it. We take the following steps to make sure your information is kept confidential.

- 1) All information you give us on surveys for this study will be kept confidential. It will even be kept confidential from employees of the Department of Corrections that do not work on the research.
- 2) We will remove all names from the information that we get (except for this consent form). You will be assigned an ID number.
- 3) Your information will be combined with other people's information. It will only be recorded as numbers, such as totals and averages.
- 4) Everyone who works with your information has been trained to work with private information. Your privacy is very important to us.

It is not likely you will be hurt doing this study. If you are hurt in this study and it is not the fault of the people or organizations doing the study, you should not expect the organizations and people doing the study to pay for medical care or to pay you damages.

Benefits to You for Your Participation

There are also benefits to you taking part in this study.

- 1) You may learn about yourself and enjoy filling out the questionnaires exploring your thoughts and attitudes.
- 2) Your participation will help us to understand the effect of treatment on attitude. Attitude is very important in maintaining recovery. Taking part in this research may help us design good treatment programs. This may help others stay off alcohol and drugs.

Your Right to Withdraw

Your participation is completely voluntary. If you fill out the first survey, you can decide to not fill out the second or third survey. You will not be penalized or lose benefits. If you do withdraw we would like to use surveys you have filled out already. If you have questions about this research, you can call or send a kyte to Alexander Millkey or Paul Bellatty at Counseling and Treatment Services. If you are not satisfied with the answers you receive, you can also contact Karl Citek, Ph.D., O.D., Chair of the Institutional Review Board. You can call him at (503) 352-2126.

If you sign below, it shows that: 1) That you are age 18 or older, 2) Read and understood this form, 3) That you agree to take part, and 4) That you can decide not to fill out the second, third, or fourth set of surveys.

Printed Name

Date

Signature

APPENDIX B

Instruments and Measures

Action and Acceptance Questionnaire (AAQ)

- 1) I am able to take action on a problem even if I am uncertain what is the right thing to do.
- 2) When I feel depressed or anxious, I can't take care of my responsibilities.
- 3) I rarely worry about getting my anxieties, worries, and feelings under control.
- 4) I'm not afraid of my feelings.
- 5) Anxiety is bad.
- 6) If I could magically remove all the painful experiences I've had in my life, I would do it.

- 7) I often catch myself daydreaming about things I've done and what I would do differently.
- 8) When I think something is bad, I usually recognize that this is just a reaction, not a fact.
- 9) When I compare myself to other people, it seems that most of them are handling their lives better than I do.

All items are endorsed on a seven point Likert-type scale, with the following response options: Never, Very Rarely, Rarely, Sometimes, Often, Very Often, and Always. Items 1, 5, 7 and 18 are reverse scored.

Assertive Interactions Questionnaire (AIQ)

- 1) It would be pretty hard for anyone to ever make me mad enough for me to fight him.
- 2) One inmate should never inform on another inmate to staff.
- 3) I try to stay out of trouble but nobody is going to push me around and get away with it.
- 4) The other men are right when they say, "don't do anything more than you have to."
- 5) When inmates stick together it's easier to do time.
- 6) You can't let someone push you around because if you do you'll get pushed around from then on.
- 7) It's better to tell staff what they want to hear than to tell the truth if you want to get out soon.

- 8) If you ever do have to fight, you're smart to do a good enough job on the other guy so that he'll never come back for more.
- 9) You can't expect people to think much of you if you're willing to back away from trouble.

All items are endorsed on a six point Likert-type scale, with the following response options: Strongly Agree, Mostly Agree, Somewhat Agree, Somewhat Disagree, Mostly Disagree, and Strongly Disagree. Item 1 is reverse scored.

Drug Attitudes Scale (DAS)

General Drug Use Subscale

- 1) We need stricter control of drugs.
- 2) People who use drugs are a burden on society.
- 3) There is nothing wrong with using drugs if they make you feel good.
- 4) Something is wrong with the world when drug taking becomes an accepted way of life.
- 5) Drugs can help improve relations among people.
- 6) I would welcome the opportunity to get "high" on drugs.

Alcohol Use Subscale

- 7) Alcohol is a good thing to loosen the atmosphere at a party.
- 8) There is nothing wrong with drinking alcohol.
- 9) The dangers of alcohol outweigh the pleasures of drinking.

- 10) Too much fuss is made about alcohol use.
- 11) The government should put tighter controls on the sale of alcohol.
- 12) Drinking alcohol is a waste of money.

Marijuana Use Subscale

- 13) Using marijuana (pot, weed) is a foolish thing to do.
- 14) Marijuana (pot, weed) can make a social gathering more enjoyable.
- 15) Using marijuana (pot, weed) is wrong.
- 16) The only bad thing about marijuana (pot, weed) is the fact that it is illegal.
- 17) There is no harm in the occasional use of marijuana (pot, weed).
- 18) The legalization of marijuana (pot, weed) would be a step in the wrong direction.

All items are endorsed on a six point Likert-type scale, with the following response options: Strongly Agree, Mostly Agree, Somewhat Agree, Somewhat Disagree, Mostly Disagree, and Strongly Disagree. Items 3, 5, 6, 7, 8, 10, 14, 16, and 17 are reverse scored.