INTRODUCTION

There are a substantial number of mentally ill individuals within the prison setting, and their treatment has become an area of concern for society as well as the Department of Corrections. As many as 10-15% of state inmates suffer from a severe mental illness, (Lovell, Allen, Johnson, & Jemelka, 2001) and other than receiving medications, mentally ill inmates are often treated no differently from their non-mentally ill counterparts in the general population of inmates (Munetz, Grande, & Chambers, 2001). The Department of Corrections (DOC) is facing higher numbers of mentally ill inmates each year (Thigpen, Hunter, & Ortiz, 2001). Until recently, mentally ill inmates have had few opportunities to learn how to cope with their disorders in the prison setting. Other than receiving medications, mentally ill inmates are often treated no differently than inmates in general population. Many prisons appear to hold the assumption that all inmates are in voluntary control of their behavior, despite whether this is fact the case or not (Lovell, Allen, Johnson, & Jemelka, 2001). As new inmates are brought into the correctional setting they are screened at intake prior to being placed in a state correctional institution (Beck & Maruschak, 2001). From there it is the job of the correctional institution to handle the issues that arise from these inmates ranging from drug abuse to inability to function socially and independently.

The difficulties faced by mentally ill offenders are likely to be compounded by co-morbid substance use disorders. Research has shown that there is a lifetime prevalence rate for substance abuse in the general population of about 15-18%, while the rate is much higher among those with psychiatric disorders, 19-30% (Lehman, Myers, & Corty, 2000), and in prisons and jails (Munetz, Grande, & Chambers, 2001). One study

found that nearly 50% of people with severe mental disorders will develop at substance use disorder at some point during their lifetime, while about half of those will currently exhibit substance abuse or dependence. Those individuals with severe mental illness suffer from higher rates of substance abuse than the general population—particularly with alcohol, cannabis, and amphetamines. This drug abuse and/or dependence carry adverse consequences for the affected individual with regard to the course of the mental illness and psychosocial functioning. These individuals often exhibit poorer compliance with treatment, have an overall poorer prognosis, and have higher rates of utilization of acute services—which can become expensive for the government (RachBeisel, Scott, & Dixon, 1999).

Often, inmates with severe mental illnesses are unable to function and live safely among the general population of inmates. Severe mental illness that results in psychotic symptoms is associated with violent crime, and those inmates that suffer from these disorders are often forced into general population at various prisons (Munetz, Grande, & Chambers, 2001). However, the violent response generated by their illness can be controlled via appropriate treatment and supervision (Lovell & Jemelka, 1998).

The cost of maintaining mentally ill inmates has also been of concern to the Department of Corrections. Major infractions within the prison setting constitute as many as 90% of inmate disciplinary costs, and offenders with mental illness account for as much as 41% of infractions recorded system-wide in Washington, accounting for about $3.5 million infraction costs annually within that state alone (Jemelka & Lovell, 1996). Effective treatment of inmates with mental illnesses is likely to lead to lower re-incarceration rates and reductions in costs to society.

Although the mental health of inmates in the prison setting has not been traditionally viewed as being a part of the primary mission of corrections facilities, policies are emerging to benefit mentally ill offenders. In the case *Ruiz vs. Estelle* (1980) a landmark decision was made for reform of general prison mental health care. This decision made it mandatory for prisons to have 1) systematic screening and evaluation of inmates to determine those needing mental health treatment, 2) treatment that includes more than segregation and close supervision, 3) participation of trained mental health professionals in sufficient numbers to provide individualized treatment for those with severe mental disorders, 4) maintenance of accurate, complete, and confidential records of treatment of inmates, 5) to refrain from administering behavior altering drugs in dangerous amounts or means, or without adequate supervision and review, and 6) the identification and treatment of inmates suffering from suicidal tendencies (Lovell & Jemelka, 1998). This court decision acknowledged that those in correctional settings were fully dependent on the courts to protect them, and mandated adequate mental health services and treatment.

Rise of Mental Health Treatment Programs

Once it was established that treatment was needed for inmates with severe mental illness, many different forms of treatment were conceived. The overall goal of mental health services is to promote continued compliance with mental health regimens, and it is imperative for the treatment approach to be appropriate for the target group, in this case, the severely mentally ill, (Lovell & Jemelka, 1998). Most correctional facilities utilize the cognitive behavioral treatment approach, which focuses on thinking skills and behavior patterns (Friendship, Blud, Erikson, & Travers, 2002). Therapy consists of a

reasoning and rehabilitation component as well as an enhanced thinking skills component. This approach aids in restructuring thought processes of offenders, as well as teaches them cognitive skills that will assist them in basic decision-making and problem solving (Sullivan, 2001). In order for this treatment approach to be successful, each of the following needs to be present: specific skill development, classroom management, participant involvement, and documentation and accountability. Cognitive-behavioral treatment has been found to be effective for severely mentally ill offenders by researchers in the UK (Friendship, Blud, Erikson, & Travers, 2002), and is sanctioned as the Gold Standard in North Carolina (Sullivan, 2001).

Levels of Care in the North Carolina Department of Corrections

The North Carolina Department of Corrections utilizes a four-tiered system for level of mental health care needed by the inmates. Inpatient care with single-cell housing is necessary for inmates who are suffering from serious acute mental illnesses. The goal at this level is assessment and symptom stabilization (MacKain & Messer, 2002). Treatment at this level includes psychotropic medications, individual and group psychotherapy (however, only few hours of treatment), activity and rehabilitation therapy, and mental health nursing services. Central Prison in Raleigh is the comprehensive care unit for inpatient treatment in North Carolina.

Inmates who require an intermediate level of inpatient care may be sent to a residential mental health facility. At the residential treatment level, inmates are housed in single and double-cells and have 24-hour nursing care in addition to treatment and activity programming that includes individual and group psychotherapy, psychotropic medications, activity therapies, and mental illness education. Residential facilities for

adult male offenders in North Carolina are Eastern Correctional Institution, Hoke Correctional Institution, and Foothills Correctional Institution.

Inmates who display satisfactory extended adjustment within the residential program, but still require structured assistance from mental health staff (Condelli, Bradigan, & Holanchock, 1997) are often transferred to one of the two-day training/intermediate care facilities (North Carolina Division of Prisons Mental Health Services, 2002). The intermediate care level is frequently the initial placement for seriously mentally ill inmates just entering the system, but also serves as a step-down for inmates not in need of inpatient care, but who are too sick to function as an outpatient (MacKain & Messer, 2002). At this level of care inmates are housed in dormitories and are involved in a structured psychosocial programming 40 hours per week. Inmates are educated about medications and mental illnesses, symptom management and are trained in appropriate work, personal, and pro-social behavior. The goal of the intermediate care program is to combat the debilitating effects of chronic mental illness on thought processes and quality of life. Treatment activities include individual and group psychotherapy, psychotropic medication education and administration, horticulture, basic woodworking and carpentry, industrial sewing, arts and crafts, and other work assignments that aid in the operation of the Department. Intermediate care has been shown to be a viable and effective alternative to inpatient and outpatient services (Condelli, Bradigan, & Holanchock, 1997).

Inmates whose psychiatric symptoms have been stabilized and are determined not to be dangerous to themselves or others may be transferred to the general population of inmates in 81 prisons around the state. Services at this level of care are provided on an

outpatient basis and tend to focus on the monitoring of medications. Some inmates receive group psychotherapy, cognitive-behavioral therapies, psychotropic medication administration, psycho-educational training programs, and relapse prevention programs. There are over 30,000 inmates in outpatient treatment facilities around North Carolina (North Carolina Division of Prisons Mental Health Services, 2002). Inmates may be admitted from the community to any level of care following adjudication or be transferred to other levels within the system, depending on current psychiatric status and security risk.

The proposed study attempts to evaluate the potential impact of one intermediate care program in North Carolina that is unique in its comprehensive psychosocial rehabilitation focus. The following is a brief overview of two intermediate care programs described in the research literature, followed by an explanation of psychosocial rehabilitation and its value in these correctional settings.

A Focus on Intermediate Care

Intermediate care programs are typically used in medium security institutions for inmates that are no longer in need of residential or inpatient care (Lovell & Jemelka, 1998). This level of care is designed to help severely mentally ill inmates learn to function optimally in the general population setting. Inmates participating in intermediate care programs typically have a serious psychiatric disorder, a significant psychiatric history including hospitalization or recent utilization of mental health services, and difficulty in adapting to general population prison settings (Condelli, Bradigan, & Holanchock, 1997). Intermediate care programs generally enroll 60 inmates at a time and utilize 3-5 mental health staff. There is a much wider range of therapeutic,

recreational, and security services available for these inmates as opposed to being in general population. Although programs at this level of mental health care were originally used as a "half-way in" programs to avoid the hospitalization of inmates, and "half-way out" programs to ease the transition from a psychiatric center into the prison. At this point many severely mentally ill inmates stay in intermediate care programs until their sentence is completed. This approach has been effective in reducing suicide attempts, emergency medications, and the need for mental health crisis services. Intermediate care programs have been found to be effective in reducing the risks and managing inmates with psychiatric disorders (Condelli, Bradigan, & Holanchock, 1997).

Psychosocial Rehabilitation and the Efficacy of Social Skills Training

Two intermediate care programs have been based on a psychosocial rehabilitation model, an approach longitudinalized in communities, clinics, and hospitals around the world (Liberman, et al., 1998). The goal of psychosocial rehabilitation is to restore an individual's level of functioning within the community through education regarding mental health and social competence, and encouraging the individual to apply this knowledge in real-life settings (Cnaan, Blankertz, Messinger, & Gardner, 1988). Psychosocial interventions are necessary to help severely mentally ill individuals, especially those with schizophrenia spectrum disorders, learn to manage their illness and become more self-sufficient. Skills training is a form of psychosocial rehabilitation that has been empirically validated by several researchers. Individuals with schizophrenia and other serious mental illness can be taught a variety of social skills ranging from simple, non-verbal behaviors, to assertiveness and conversational skills (Penn & Mueser, 1996). Bellack et al. (1984), indicated that social skills were significantly improved and

sustained 2 to 6 months after training, and Marder et al., 1996, stated that improvement may last as long as two years (Bellack, Turner, Hersen, & Luber, 1984; Marder, et al., 1996).

The efficacy of social skills training used in intermediate care programs is of great importance to both inmates and mental health staff. When assessing the efficacy of intermediate care programs that involve social skills training, each of the following areas should be considered: whether or not the training results in the acquisition of desired skills, ability to use those skills in real-world settings, ability for those skills to improve inmate adjustment in the community, and the effect that training has on patient satisfaction and general quality of life displayed by affected inmates (Liberman, 1992).

Skills training focuses on a broad range of skills such as receiving and processing components of interpersonal skills, as well as sending appropriate responses to those with who they are in a conversation (Huxley, Rendall, & Sederer, 2000). Participants are also taught to identify problems in various situations, and to come up with several possible solutions to those problems via the use of role-playing, and other exercises. This training has been associated with improvements in performance in each of these areas. Prior to training, psychiatric patients generated less effective solutions than did normal individuals. But, after completion of training, solutions generated by psychiatric patients were just as effective as those generated by normal individuals (Liberman, 1992).

There is some evidence to suggest that improved identification of problems and generation of relevant solutions may actually generalize to related interpersonal behavior. Social skills training that is focused on teaching patients to "solve" their own problems has resulted in improvement not only on targeted skills, but also in social functioning

skills that were not trained (Liberman, 1992). Generalization of skills learned in social skills training programs have also been extended to improvements in employment, friendships, and functioning within the home. Research by Marder and colleagues (1996) indicated that these skills are still performed at adequate levels up to two years later. It appears that booster sessions given after completion of the program are associated with skill generalization, and longer-lasting benefits (Liberman, 1992).

Skills training also seems to aid in protection of the severely mentally ill against relapse via strengthening their ability to cope with stressors and challenges from their natural environment. Importantly, skills training is also associated with increased medication compliance. Additionally, when this training can be used in conjunction with medication, there is a lowered risk for re-hospitalization. Overall quality of life is also improved as a result of social skills training. There is often a reduction of the presence of positive symptoms, and a marked in improvement in employment activity (Liberman, 1992). Social skills training approaches that promote the generalization of skills to everyday life may are most desirable, but rare (Huxley, Rendall, & Sederer, 2000).

Liberman developed the Social and Independent Living Skills modules to promote skill generalization through the use of in-vivo and homework exercises (1992). Each of the Social and Independents Living Skills (SILS) modules, or curricula, contain a trainer's manual, videotape that illustrates the behaviors/skills being taught, and a workbook for participants that provides them with self-monitoring sheets, checklists, and homework exercises. Approximately 6-10 participants meet in groups three or more times a week for an hour per session, for about 3-4 months per module. The modules employ a variety of teaching techniques: introduction to the skill area being taught in that

module, videotape with question and answers, role play scenarios, resource management, outcome problems, in-vivo exercises, and homework activities. Using these different methods allows the repeated recall of information and skill practice that is needed in individuals with severe mental disorders.

The SILS modules curricula include basic conversation skills, symptom management, medication management, and recreation for leisure skills (Liberman, 1992). The Basic Conversation Skills Module helps participants learn to develop social relationships via teaching them to initiate and maintain friendly conversations with others. The Symptom Management Module teaches participants to be able to identify signs and symptoms of relapse, how to manage the warning signs, cope with persistent symptoms, and to avoid drugs and alcohol. The Medication Management Module contains four skill areas: how to obtain information about their medications, how to administer medications and monitor those medication side effects, how to identify and manage side effects should they occur, and how to negotiate medication issues with health care providers. The Recreation for Leisure Skills Module teaches participants to become more self-reliant and resourceful in the use of their leisure time by learning to plan and enjoy various recreational activities. Rehabilitation activities include arts and crafts class, gym periods, as well as hobbies (MacKain & Messer, 2002). The SILS modules were identified as having the most promise for skill transfer, among other skills training and interventions (Huxley, Rendall, & Sederer, 2000). Several institutions have adopted this level of treatment for their severely mentally ill inmates. Three of these programs that will be discussed: the McNeil program at the McNeil Island Corrections Center in Washington State, the California Department of Mental Health's Psychiatric

program at Vacaville (now defunct), and the site of the current study, Social Skills Day Treatment Program at Brown Creek Correctional Institution in North Carolina.

McNeil Program, Washington State

The McNeil program is an intermediate care program that was designed to help problematic severely mentally ill inmates (e.g., schizophrenia, bipolar disorder, major depression) by addressing their clinical needs while maintaining the standard prison security and classification procedures (Lovell, Allen, Johnson, & Jemelka, 2000). Inmates involved in this program were allowed to leave the unit for meals, recreation, programming, and work assignments, which were completed along with inmates from general population. Mentally ill inmates participating in this program not only had access to counseling, medication, and case management, but also were given psychoeducational classes designed to allow skill building in the areas of anger management, symptom recognition, and relapse prevention. Inmates became part of a supportive environment composed of program staff as well as other inmates. It was expected that there would be fewer and less severe psychiatric symptoms when these inmates left the program, thus helping them to survive in general population.

The researchers of the McNeil program utilized the DOC Offender-Based Tracking System, demographics, felony history, work and school assignments, loss of good time due to infractions, housing assignments, the BPRS, and a cost index to evaluate the program. The McNeil program resulted in a contribution to a more cooperative relationship between the staff and participating inmates. Following the program there was an improvement in the number of major infractions and use of expensive resources following the program, although these numbers were still higher than

those in the general population. Severely mentally ill inmates were found to be more stable in regard to psychiatric symptoms when they left the program, they consumed fewer of the departmental resources, and most were able to adapt successfully in general population (Lovell, Allen, Johnson, & Jemelka, 2001).

Later that year, the authors of the McNeil study added a follow-up component to the study (Lovell, Allen, Johnson, & Jemelka, 2001), which serves as a model for the proposed study. Researchers examined three different areas: how well participants in the program were coping in their new prison units, the participants view of the entire program experience, and how those participants in the special housing units (units designed to provide a safe living environment for inmates with severe mental illnesses who are unable to cope in other settings) differed from inmates in general population because by tracking their housing assignments. Participants were expected to be less symptomatic in general population after participation in the program than they were before entering into the program. Disciplinary actions against participants of the McNeil program were tracked, and housing and work or school assignments were examined in order to assess the benefit of this intermediate care program. Lovell and his associates created a 20 item problem checklist in order to examine social problems, day to day living skills, and compliance with prison staff exhibited by participants in the program. Staff members were also asked to complete surveys to assess participants' deviation from the norms in areas of functioning such as those described above (2001).

Results indicated that McNeil program participants were less symptomatic when they left the program than when they entered, and the inmates appeared to maintain the gains made after transfer from the program. Most former program participants were

assessed to be functioning as well as inmates without a mental disorder, and had learned to adapt to the general population of inmates. Evidence suggests the McNeil program has aided in bridging the gap between inmates and staff members of the prison. When inmates were asked open-ended questions about their experience in the McNeil intermediate care program nearly all described it as a positive experience. Participants commended the psychoeducational classes stating that they helped them to "control anger, stay out of trouble, understand symptoms, and recognize that others shared their problems," (Lovell, Johnson, Jemelka, Harris, & Allen, 2001). These inmates also appreciated the architecture, freedom of movement, and protection from the stresses of general population that the program provided. Some of these inmates expressed wanting even more intervention while others wanted slightly less.

One of the other major benefits discovered was that participating inmates and staff were more tolerant and less hostile, and staff members paid more attention to the needs of these inmates. The medications and classes offered an opportunity to change patterns of thinking in these inmates (Lovell, Johnson, Jemelka, Harris, & Allen, 2001). Participating inmates also improved their ratings on the Brief Psychotic Rating Scale (BPRS), as well as lowered the number of major behavioral infractions. Importantly, these gains remained at follow-up indicating that the skills taught have a long-term effect. Overall, inmates were less symptomatic after the program and had managed to improve their lives. Not only were these gains important to the staff, but also to the inmates as indicated by the positive responses regarding the overall program experience.

California Medical Facility at Vacaville, California

Due to a civil suit brought against the California Department of Corrections for failing to provide adequate mental health services, a comprehensive mental health program was implemented at the California Medical Facility in Vacaville in 1988. The program was a joint effort between the California Department of Mental Health and the California Department of Corrections that resulted in the provision of a continuum of services, from acute hospitalization to outpatient, for 210 inmates within the larger, 9,000-inmate institution.

Three wings of the prison were designated as mental health programs. The "Q" wing was equivalent to inpatient/hospitalization for inmates who were acutely ill and at risk of dangerous or destructive behavior. The "S" wing was equivalent to residential care, where inmates were housed in 2-bed cells and received 24-hour mental health care. Staff took the time to coach and used means of positive reinforcement to elicit these types of responses from inmates. Finally, the "A" wing was an intermediate level of care that was termed "day treatment" and inmates engaged in more off-unit activities, education, vocational rehabilitation, and social and independent living skills. "A" wing participants were given the opportunity to generalize the skills they had acquired throughout the program (MacKain & Streveler, 1990).

In addition to medications, inmates received psychosocial rehabilitation via the Social and Independent Living Skills modules. The SILS modules (Liberman, 1992), described above, served as the primary intervention to improve social functioning and self-sufficiency. This approach takes into account pathology, impairment, disability, and handicap of people with a severe mental disorder. The purpose of this program was to promote skill building for inmates at all levels of care: self-care and grooming, problem

solving, medication management, leisure and recreation, and communication. Most of these inmates were diagnosed with either a schizophrenia spectrum disorder or a mood disorder, although other disorders were accepted as well (MacKain & Streveler, 1990). Through the use and monitoring of psychotropic medications as well as the use of behaviorally based interventions, the program aimed to improve the plight of severely mentally ill inmates.

MacKain and Streveler (1990) conducted an evaluation of the effectiveness of the modules as a teaching tool at Vacaville. It was found that those who had completed at least 18 sessions (or one-half the Medication Management Module) scored significantly higher on the role-play/knowledge test than inmate-patients that had not received training. Also, those who had at least 18 sessions scored significantly higher on the Medication Management Module test overall, than did those who had not participated in the program. Interestingly, medication compliance was not a problem associated with the participants in the program at Vacaville, since inmates had few opportunities to refuse medications. It is difficult to say whether the participants continued to be compliant once outside of the program, especially if they encountered a situation that required self-administration.

MacKain and Streveler highlighted the need for tracking the inmates once they leave programs like the one at Vacaville to see whether the gains received during the program remain in other settings. The failure of mental health professionals to recognize the potential hazards and obstacles that severely mentally ill inmates face in the prison setting becomes even more problematic once the individual is transferred to the general

population of inmates or post-release (MacKain & Streveler, 1990). Unfortunately, the mental health program at Vacaville was radically changed in 1992 and no longer exists.

There is a definite need for more follow-up studies like those done by Lovell and colleagues (2001). Intermediate care programs are still relatively new to prison systems, and it is important to assess the durability and generalizability of the learning after transfer from the treatment setting. The proposed study aims to evaluate the acquisition of possible effects of in intermediate are program in a North Carolina prison and their durability post-transfer to other prisons across the state.

Brown Creek Correctional Institution's Social Skills Day Treatment Program, NC

Brown Creek Correctional Institution is an 852-bed medium security prison for felon, adult male offenders located in Polkton, North Carolina. In late 1992, psychologists developed and implemented a 52-bed intermediate mental health care program at the facility centered on a psychosocial rehabilitation model for inmates with chronic mental illness. The program has grown to 78-beds and has admitted 700 inmates over the past 10 years. Inmates are referred to this program via four channels: the central processing unit, which assesses and assigns inmates just entering the prison system; outpatient, residential, or inpatient programs within the prison system. Originally the mental health program at Brown Creek Correctional Institution was intended as a "step down" program to help ease the transition for mentally ill inmates moving from inpatient or residential care, to outpatient services among the general population of inmates. The program has now evolved to be a viable placement for chronically mentally ill inmates from every point in the system.

Their program is entitled "Social Skills Da y Training Program" and is similar to the program in Vacaville, California. This program was developed by two psychologists, Charles Messer and Robert Phillips, after an extensive review of psychosocial and psychiatric rehabilitation literature. The inherent value in the program at Brown Creek is that it was tailored to the unique needs of the clinically mentally ill, which has been found to increase generalization of the skills learned to the client's day-to day lives (Huxley, Rendall, & Sederer, 2000). Inmates in this program are trained in medication and illness management, problem solving, communication, vocational, and recreational skills to help them learn to deal with everyday issues surrounding their illness. This treatment program is thought to be a cost effective way of treating inmates with severe mental illnesses because it teaches them social and living skills that help to reduce the number of disturbances requiring even more, costly treatment (MacKain & Messer, 2002).

Brown Creek's day training program is divided into two phases. Phase I consists of three social and independent living skills (SILS) modules taught by two behavioral specialists, a module for recreation and leisure skills, as well as a module for rehabilitation activities which are both taught by rehabilitation therapists. By the end of their training of Phase I modules inmates are expected to be able to understand the workings of each of their medications, recognize symptoms (including symptoms of side effects), identify warning signs of relapse, and develop a relapse prevention program in addition to improve medication compliance, their communication skills, as well as social/leisure skills (MacKain & Messer, 2002). Groups of 6-10 inmates meet four times a week in one-hour sessions, with the fifth day being reserved for attending treatment

team and psychiatric clinic. With each module taking approximately two months to complete, Phase I takes somewhere between 6 to 8 months to complete.

Once inmates have completed Phase I of the program, there are a variety of places that they may go. Some inmates are paroled, while others may be transferred to inpatient (Central Prison in Raleigh, North Carolina), outpatient (numerous other facilities) or residential facilities (Eastern Correctional Institution in Maury, North Carolina; Hoke Correctional Institution in McCain, North Carolina; or Foothills Correctional Institution in Morganton, North Carolina) around the state. Those needing continued support at the same level but with a higher inmate-staff ratio may be transferred to Phase II of the program.

Phase II contains a module for community re-entry objectives, including meeting goals for discharge, planning with their case manager, developing a daily schedule, making and keeping appointments, as well as using a relapse prevention plan. During Phase II participating inmates will be given various vocational assignments, some of them being incentive paid positions. Although Phase II is an important part of the program, this study will be focusing primarily on individuals that have participated in Phase I of the program because of the increased rates of transfer to other units from Phase I.

Brown Creek's Day Training Program consists of two behavioral specialists, a psychiatrist for 8 hours per week, two rehabilitation therapists, a contractual social worker, and three masters' level psychologists who split their time between the treatment program and the general population of inmates.

The Importance of Follow-up Studies of Behavioral Treatments

Although programs developed using the social and independent living skills modules developed by Liberman have shown the most promise for skill generalization, overall there is little research supporting the generalizability of behavioral treatments at this point (Liberman, 1992; Huxley, Rendall, Sederer, 2000). There is a definite need for more rigorous and comprehensive measures of outcome. Very few studies have examined the long-term effects of intermediate care programs, and the few exceptions have only looked at one or two relevant dimensions, as opposed to the overall picture (Smith, Bellack, & Liberman, 1996). Wallace and colleagues researched the duration of learning in module-based training in severely mentally ill patients in community based inpatient and day treatment programs (1992). Modules included in this study were medication management, grooming, and recreation. They found participants in the programs maintained skills at the one-year follow-up across all modules (Wallace, Liberman, MacKain, Blackwell, & Eckman, 1992). Wallace and associates, as well as Lovell and his colleagues all argue for the importance of follow-up studies in regard to these treatment programs, so that the most effective models can be implemented and replace less effective ones.

Purpose of the Present Study

Although the Social Skills Day Treatment Program at Brown Creek Correctional Institution has been in operation for ten years, there have been no studies to assess the potential impact of the program or systematic examinations of where participants are housed and treated after transfer to other units or the community. This study examined several aspects of former Social Skills Day Training participants' knowledge and functioning once they left the program and were transferred to other North Carolina

prison institutions. The project does not include former participants who have been paroled, due to logistical problems in locating former participants and obtaining consent. Several variables related to knowledge and skill acquisition, symptomology, and general functioning are considered: knowledge of one's own medications, knowledge and skills related to medication management, and inmate satisfaction with the Social Skills Day Treatment Program at Brown Creek Correctional Institution. Global functioning ratings both before the program as well as after discharge or transfer were also examined.

Many inmates who have left the Social Skills Day Treatment Program at Brown Creek Correctional Institution are still within the North Carolina Department of Corrections system. Some inmates remain at Brown Creek Correctional Institution, while others have been paroled or transferred to other facilities around the state. In this project it was not possible to keep a constant "post discharge" time frame because this constituted the first and only follow-up study completed on this particular program. Ideally, participants would have been contacted two or three months post transfer. However, it was desirable to include as many participants of the program as possible at this stage in the research. Some of the inmates who have participated in the program were transferred one or more times, and the goal was to gather as many participants as possible for this initial follow-up.

Hypotheses

Because the Day Treatment Program at Brown Creek shares much in common with the McNeil program and the Vacaville program, we examined similar variables in the current project. Specifically, it was expected that:

1) Overall functioning in former participants would have improved from intake to Brown Creek Correctional Institution to follow-up after transfer or discharge as measured by the Global Assessment of Functioning (GAF) and Clinical Global Impression (CGI).
2) Former Brown Creek Social Skills Day Treatment Program participants would maintain their knowledge regarding their medication and medication management as measured by medication knowledge scores and medication management test scores at four months post admission to Brown Creek Correctional Institution's Social Skills Day Treatment Program (while still in the program) and at follow-up after transfer or discharge from Brown Creek Correctional Institution.
3) Former Brown Creek Correctional Institution Social Skills Day Treatment Program participants would report high levels of satisfaction with the program at Brown Creek Correctional Institution as measured by satisfaction items on the follow-up interview.

METHOD

Participants

Participants included 54 inmates who have taken part in at least four months (typically 2/3 of the program) of Phase I of the Social Skills Day Treatment Program at Brown Creek Correctional Institution and have been transferred to other prison facilities in North Carolina. Only former Brown Creek Correctional Institution Social Skills Day Treatment Program participants who were still in the North Carolina DOC prison system were included due to logistical difficulties in locating and gaining informed consent from former participants who were paroled. Also, it would have been necessary to obtain

informed consent from the former participants and administer the follow-up interview, exceeding resources available for this project.

Participants were not required to consent to participate in the research because the research is part of a program evaluation. This study is a part of a larger, on-going project approved by the North Carolina Department of Corrections research committee and the University of North Carolina at Wilmington IRB. However, the follow-up interview protocol and procedure were approved by both of these committees.

The length of time since transfer from Brown Creek Correctional Institution varied, but the number of months since transfer was recorded. All participants in the study were males, between the ages of 18 and 60. The majority (70%) of inmates served at Brown Creek Correctional Institution's Social Skills Day Treatment Program have a diagnosis of schizophrenia or other psychotic disorder, although some have mood, anxiety, and organic disorders.

Setting

The follow-up interviews were conducted at correctional institutions throughout North Carolina, wherever inmates who have participated for a minimum of four months at Brown Creek Correctional Institution's Social Skills Day Treatment Program were housed. Some of these inmates were still at Brown Creek in programs other than Phase I of the Social Skills Day Treatment Program, while others had been transferred or discharged to other facilities. The staff psychologist at each institution interviewed each inmate in the mental health office of that prison between the months of May and September in 2003. The interviews took place during the monthly reviews of inmate mental health as required by the North Carolina Department of Corrections.

Materials

A follow-up interview was developed for the staff psychologist at each prison unit to administer to the inmate (see Appendix A). The questionnaire is composed of eight sections: 1) eight medication knowledge items, 3) ten medication management items, 4) nine items related to inmate satisfaction, 5) the Brief Psychiatric Rating Scale (BPRS) (Overall & Gorham, 1962), 6) the Clinical Global Impression (CGI) (National Institute of Mental Health, 1970), and 7) the Global Assessment of Functioning (GAF) (American Psychiatric Association, 2000).

The cover letter outlined to the psychologist exactly what is expected and what to do/not do while administering the questionnaire, which was read aloud to each inmate. The medication knowledge component examines inmate's knowledge and understanding of his own medication ("What are the names of the medications you are talking?" "What is the dosage for each medication?"), administration, potential hazards of using other drugs in conjunction with their medications, and basic medication maintenance issues. The information gathered from this section of the follow-up interview is brief, and only includes items about the participant's knowledge of their own personal medication as well as information about medication in general. This section does not include items that require the application of this knowledge, or to employ problem-solving skills.

Two researchers trained in the administration and scoring of the test scored a subset of 6 medication knowledge test protocols independently. Each of these 6 protocols contained 8 items, thus creating a total of 48 items. Inter-rater reliability was calculated by dividing the number of items the two raters agreed on by the total number of items being rated.

The next items of the follow-up interview were selected from the Medication Management Module test that was administered before and after the inmates had the module at Brown Creek Correctional Institution ("Why might someone need to take more than one type of medication?" "What are some of the benefits of taking antipsychotic medication?") to test knowledge and skill ("What resources would you need in order to overcome any side effects that might occur from your medication?"). This section examines the ability of the participant to apply the skills they have learned in novel situations, including problem solving and role-play exercises. This is quite different from the medication knowledge section, which is much more general and does not require the application of knowledge.

Two researchers trained in the administration and scoring of the test scored a subset of 6 medication management test protocols independently. Each of these 6 protocols contained 14 items, thus creating a total of 84 items. Inter-rater reliability was calculated by dividing the number of items the two raters agreed on by the total number of items being rated.

The satisfaction items were then administered to assess attitudes toward Brown Creek Correctional Institution's Social Skills Day Treatment program. Some of the items ("The mental health staff at Brown Creek were/are genuinely interested in how I am doing." "I have a good understanding of my symptoms.") are rated on a five -point scale (1-strongly disagree to 5-strongly agree), and other items are open-ended ("What are some things you liked about the 'Social Skills Day Treatment Program' at Brown Creek?").

The psychologist at each prison rated the inmates' current symptom severity using the Brief Psychiatric Rating Scale (BPRS), which has been used in many research projects to assess treatment change in psychiatric research (Overall & Gorham, 1962). A four-factor model seems to best explain the factor structure of symptoms in schizophrenia on the BPRS: thought disturbance, anergia, affect, and disorganization. The BPRS is a good measure of functioning along these factors according to Mueser et al. (1997).

The Global Assessment of Functioning (GAF), from the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM IV-TR) is a means of assessing the overall functioning of an individual (American Psychiatric Association, 2000). The GAF provides a single rating scale to examine the psychological, social, and occupational functioning on a continuum of mental health-illness that has a high level of inter-rater reliability (Startup, Jackson, & Bendix, 2002). Startup and colleagues found that psychotic and disorganized dimensions made significant contributions to the prediction of GAF scores (2002). The GAF scale is also a valid summary of symptoms with substance use, Axis I psychiatric and medical diagnoses, and emotional distress being significant predictors of score on this scale. The more impaired the GAF score the more distress, psychiatric symptoms, and substance abuse the individual displays (Moos, McCoy, & Moos, 2000). It was important for this scale to be used so that all dimensions of the inmate's life are included. Due to the fact that so many of the above predictors are often a problem with the inmates that the Social Skills Day Treatment Program, the GAF was helpful in assessing inmates functioning both before and after participation in the program. The staff psychologist at each prison computed a GAF score for the participating inmate at that particular prison.

Last, the Clinical Global Impression scale (CGI) is also a scale that was used to assess functioning of inmates both before and after leaving the program. The CGI is a three-item scale that aids in the assessment of treatment response in psychiatric patients with regard to severity of illness, clinical progress, and therapeutic efficacy (National Institute of Mental Health, 1970). Only the first two scales were used. The Severity of Illness scale asks the respondent to assign a rating of 0 (not rated) to 7 (among the most extremely ill patients) how mentally ill the patient is at this time. The Global Improvement scale asks the clinician to rate how much the patient has changed since admission (to the unit) on a 0 – 7 scale, with 7 being "very much worse." It is a robust measure of efficacy that is both simple and sensitive to change, as well as being one of the most widely used scales due to its brevity and high face value (National Institute of Mental Health, 1970). The staff psychologist at the prison where the participating inmate is housed completed this assessment tool. All portions of the questionnaire were essential to gathering the information needed in order to assess inmate functioning both before and after participation in the Social Skills Day Treatment program.

Procedures

Each eligible participant (see inclusion criteria, above) was identified by a staff member at Brown Creek using records kept at Brown Creek Correctional Institution regarding inmate participation in the Social Skills Day Treatment program. The staff member then located the eligible participants using OPUS; a computer based tracking system used to track movement of inmates throughout the North Carolina Prison system. Staff psychologists at each prison where eligible participants were housed were contacted via telephone to obtain permission to send follow-up interview materials. These staff

psychologists had prior knowledge of the study because the mental health program manager at Brown Creek Correctional Institution had previously explained the project at a required meeting for mental health staff in the North Carolina prison system. Inmates with mental health needs at all North Carolina Department of Corrections institutions meet with a staff psychologist every 30 days for a case management conference, and the follow-up interview served as content for that month's conference. The follow-up interview took approximately 20 minutes to complete, per inmate.

The staff psychologist at each transfer institution scored the inmates on Global Assessment of Functioning, the Clinical Global Impression, and the Brief Psychiatric Rating Scale. The staff psychologist at each institution also administered the follow-up medication knowledge and medication management items, followed by the satisfaction items. Responses were sent to the Mental Health Program Office at Brown Creek Correctional Institution via the Department of Correction's internal transit system ("Bus Mail"). Identifying information was removed from all data taken off the site for analysis, and random subject numbers were assigned.

Some pre-follow-up data was available for comparison through the use of mental health records within Brown Creek Correctional Institution. Information about mental health status at intake into Brown Creek Correctional Institution is contained in these records, but needed to be converted into numerical data. Therefore, once permission was obtained from participating psychologists, another psychologist whom was not personally familiar with participating inmates at Brown Creek Correctional Institution was provided with each participating inmate's information at intake, minus identifying information. He then used that information to score each inmate on the Global Assessment of Functioning

and the Clinical Global Impression. These measures were used to compare functioning at intake to functioning at follow-up. A research assistant administered the medication knowledge items and medication management items prior to training in Phase I of the Social Skills Day Treatment Program, as well as after they have been trained in medication management in Phase I. Inter-rater reliability was calculated for both the medication knowledge and medication management items by taking the number of items the two raters agreed on and dividing by the total number of items being rated.

RESULTS

Demographics

The mean age of the 53 participants (15 white; 38 black) in the study was 37.81 years (SD = 6.99; Range 26-53). All participants had diagnoses of a psychotic disorder. Inmates had participated in the Brown Creek Day Treatment Program for a mean of 8.07months (SD = 4.30, Range = 4-35). The amount of time elapsed between leaving Phase I of the program and follow-up ranged from 0-21 months, with a mean of 10.54 months (SD = 5.87).

Hypothesis 1: Psychiatric Status

Hypothesis 1 predicted that participants would improve in general functioning from pre-admission to Brown Creek to follow-up as measured by the Global Assessment of Functioning as well as the Clinical Global Impression. Table 1 lists the participant's pre-training and follow-up scores for item one of the clinical global impression for severity of illness (CGI1) and the global assessment of functioning (GAF). In addition, Table 1 also lists participant's follow-up scores on item two of the clinical global impression for global

	Participant' s Score					
	Pre-training			Follow-up		
	N	M	SD	N	M	SD
CGI1	42	3.76	1.05	33	2.79	1.50
CGI2				33	4.12	6.76
GAF	42	48.00	14.92	32	63.53	14.18
BPRS				34	36.54	13.26

Table 1. Summary of participant' s scores on general functioning indices, satisfaction with the program, and the Brief Psychiatric Rating Scale (BPRS)

improvement (CGI2), satisfaction items, and Brief Psychiatric Rating Scale. The difference between pre-training and follow-up CGI1 and GAF scores were both analyzed using a paired samples t-test. The results indicated significant differences between the pre-training and follow-up scores on the CGI1, with pre-training scores being higher than post-training, t (31) = 2.87, p = 0.0073. This finding indicated that participants experienced a decrease in the experience of mental illness. In addition, there was also a significant difference between the pre-training and follow-up GAF scores with follow-up scores being higher than pre-training scores, t (30) = 5.02, $p < 0.0001$. This reflects of an increase in overall functioning by the participants of this study. The mean score on the GAF at pre-training indicated that participants were presenting serious impairment in various aspects of their life, but the mean score at follow-up suggested that participants were only experiencing mild difficulty in functioning and reported having some meaningful relationships.

There was no pre-training comparison data for the Brief Psychiatric Rating Scale. However, the number of potential points for a participant to score (indicating the most extremely severe) is 168, and the lowest being 0/NA. The mean score on this scale was approximately 37, indicating a low level of severity for participating inmates—once again providing evidence that functioning at follow-up was relatively high.

Hypothesis 2: Knowledge and Skill Acquisition

The second hypothesis of this study stated that participants would maintain medication-related knowledge and skills as measured by the Medication Knowledge and medication management test items at pre-training, post-training, and follow-up. Inter-rater reliability for scoring on Medication Knowledge items was 93.75%. The difference between pre-

training, post-training, and follow-up scores on Medication Knowledge and Medication Management tests was analyzed using a within-subjects one-way factorial ANOVA. Tables 2 and 3 summarize findings from these analyses. Results indicated that there was a significant difference between assessment time for Medication Knowledge scores, F (1.91, 32.48) = 11.08, $p < 0.001$. Linear contrasts indicated that post-training scores were significantly higher than pre-training scores, F (1, 17) = 23.60, $p < 0.0001$. In addition, follow-up scores were significantly higher than pre-training scores, F (1, 17) = 14.57, p = .001. However, there was no significant difference between post-training and follow-up scores, F (1, 17) = 0.22, $p = 0.82$, indicating that participants retained knowledge of their medication over the course of assessment. Participants learned the material (as evidenced by increased scores at post-training), and maintained this knowledge at follow-up.

A Person' s r was calculated in order to determine if there was a correlation between scores on Medication Knowledge items and the time elapsed between leaving Phase I of the program and follow-up. Scores on Medication Knowledge items and the time elapsed between leaving Phase I of the program and follow-up were not correlated, r (33) = -0.10, $p = 0.58$, indicating that the lapse in time was not related to either a decrease or increase in scores on Medication Knowledge scores.

Inter-rater reliability for scoring the Medication Management items was 91.67%. Results also indicated that there was a significant difference between assessment times for the Medication Management scores, F (12.21, 6.05) = 5.70, $p = 0.05$. Linear contrasts indicated that post-training scores were significantly higher than pre-training scores, F (1, 5) = 20.99, $p = 0.01$. However, follow-up scores were not significantly higher than pre-training scores, F (1, 5) = 0.07, $p = 0.80$. In addition, follow-up scores were not

Participant's Score							
Subtest		Pre-training		Post-training		Follow-up	
	N	M	SD	M	SD	M	SD
Medication Knowledge	18	4.50	1.62	6.61	0.92	6.50	2.15

Within-Subjects Effects

Source	Type III SS	df	MS	F
TIME	50.82	1.91	26.60	11.80**
ERROR	73.18	32.48	2.25	

Within-Subjects Contrasts

Source	Time	Type III SS	df	MS	F
TIME	pre-post	80.22	1	80.22	26.60**
	follow-pre	72.00	1	72.00	14.57**
	post-follow	.22	1	.22	.05
ERROR	post-pre	57.78	17	3.40	
	follow-pre	84.00	17	4.94	
	post-follow	77.78	17	4.58	

Table 2. Summary of participants' scores and analyses for Medication Knowledge items.

Participant's Score							
Subtest		Pre-training		Post-training		Follow-up	
	N	M	SD	M	SD	M	SD
Medication Management	6	8.67	3.56	15.00	6.20	9.17	4.88

Within-Subjects Effects

Source	Type III SS	df	MS	F
TIME	148.78	1.21	122.88	5.70*
ERROR	130.56	6.05	21.56	

Within-Subjects Contrasts

Source	Time	Type III SS	df	MS	F
TIME	pre-post	240.67	1	240.67	20.99**
	follow-pre	1.50	1	1.50	.07
	post-follow	204.17	1	204.17	4.38
ERROR	post-pre	57.33	5	11.46	
	follow-pre	101.50	5	20.30	
	post-follow	232.83	5	46.57	

Table 3. Summary of participants' scores and analyses for Medication Management items.

significantly lower than post-training scores, although this finding approaches significance, F (1, 5) = 4.38, p = .090. These findings may be the result of small sample size. However, the dip in follow-up scores indicates the gains that participants had made had nearly disappeared. Thus, there is evidence for knowledge retention on Medication Knowledge items, but not Medication Management items.

A Person's r was calculated in order to determine if there was a correlation between scores on Medication Management items and the time elapsed between leaving Phase I of the program and follow-up. Scores on Medication Management items and the time elapsed between leaving Phase I of the program and follow-up were not correlated, r (33) = -0.12, p = 0.51.

Hypothesis 3: Satisfaction with the Program

The third hypothesis proposed was that participants would report high levels of satisfaction with the program at Brown Creek. Table 4 lists participant's ratings on satisfaction items contained in the follow-up interview (Range 0-5). Results indicated that participants were pleased overall with the Day Treatment program at Brown Creek. Respondents felt that staff was genuinely interested in how they were doing (M = 4.12, SD = 0.77), and the counselors at the institution were helpful (M = 4.00, SD = 0.98). In addition, participants indicated that their diagnoses had been explained to them in a way that they could understand (M = 4.21, SD = 0.88), and they report having a good understanding of their symptoms (M = 4.06, SD = 0.92). Participants were at Brown Creek Correctional Institution at the time pre-training and post-training assessments were completed, and given the finding that both Medication Knowledge and Medication Management scores improved from pre-training to post-training, there is evidence to

Participant's Rating at Follow-up			
Item Number	N	M (0-5)	SD
S1: Staff interest in participant	34	4.12	0.77
S2: Helpfulness of mental health counselors	34	4.00	0.98
S3: Diagnosis Explained	34	4.21	0.88
S4: Understanding of symptoms	34	4.06	0.92
S5: Mental Health medication helpful	32	3.91	1.06
S6: Getting along better with others	34	3.85	0.89
S7: Mental Health attention when needed	34	3.62	1.13

Table 4. Participant's satisfaction with the Social Skills Day Treatment Program

suggest that the relationship developed between staff and participants facilitated learning. From the inmate's perspective, staff taught them about their illness in a way that they could understand, and this knowledge was retained.

Participants also indicated, although not as strongly, that their mental-health related medication was helpful to them ($M = 3.91$, $SD = 1.06$), reported getting along with inmates better now ($M = 3.85$, $SD = 0.89$), and reported being attended to by Brown Creek mental health staff when having a difficult time ($M = 3.62$, $SD = 1.13$).

Additional Statistical Analyses

A Pearson's r was conducted in order to examine further relationships between each of the variables examined in this research project. There were several significant findings. A strong positive correlation was found between follow-up GAF scores and follow-up Medication Knowledge scores, indicating that as follow-up GAF scores went up so did follow-up Medication Knowledge scores, $r (33) = .47$, $p = .005$. However, although the relationship between follow-up GAF scores and follow-up Medication Management scores was not significant, the same trend was found, $r (33) = .32$, $p = .072$. In addition, there was a negative correlation between follow-up Medication Knowledge scores and the follow-up CGI2 (global improvement), such that as follow-up Medication Knowledge scores increased scores on the follow-up CGI2 decreased (lower scores on CGI2 indicate improvement), $r (33) = -.35$, $p = .045$. However, the relationship between follow-up Medication Management scores and the follow-up CGI2 scores was not significant, $r (33) = -.08$, $p = .65$.

DISCUSSION

The major weakness of this study is the lack of a comparable control group. Currently there is no similar group that is not receiving treatment with which to compare this experimental group. Therefore, it cannot be said with certainty that the gains made by participants were due to only to the Day Treatment Program at Brown Creek Correctional Institution. Other variables could have contributed to these results (i.e., the passage of time, spontaneous recovery, etc.).

However, the three hypotheses proposed in this study were supported. Results provided evidence of an overall increase in functioning by participants, as indicated by an increase in GAF scores and a decrease in scores on item one of the CGI. Participants appeared to able to function in their daily routines at the prison they currently occupied, and were experiencing less severe symptoms of mental illness than when they were admitted to Brown Creek Correctional Institution.

Medication Knowledge and Medication Management scores also indicated the efficacy of the day treatment program at Brown Creek in teaching specific illness-related knowledge and skills. The mean scores for Medication Knowledge increased from pre-training to post-training, and were maintained at follow-up. However, the mean scores for Medication Management increased from pre-training to post-training, but dropped at follow-up in such a way that the mean score at follow-up was not different than that of pre-training. This poses the question, "Why is it that Medication Knowledge is maintained, but Medication Management knowledge and skill seem to disappear?" Perhaps the reason for this finding is that no generalization is required to perform well on Medication Knowledge items, but is required for Medication Management items. Medication Knowledge items only require the participant to provide correct information

about their own medications, where Medication Management items require the participant to apply their knowledge about medication to other situations through the utilization of problem-solving skills.

A second reason that this finding may have occurred is the issue of training involved before administering these questionnaires. Medication Knowledge questions were simple in that the interviewer was only required to ask the questions and record the answers. However, in the Medication Management section, the interviewer (psychologists at the transfer institutions) was required to role-play some of the scenarios presented for the inmate to display the skills learned while in the day treatment program. The researchers that administered medication management items at the pre-training and post-training times had been trained on how to role-play these scenarios with the participants, whereas the interviewers at follow-up had not been trained. The lack of training in test administration may have affected the performance of participants on the Medication Management section of the follow-up interview. In future research, it may be of use to train all interviewers so that reliability could be established.

Explanation for these findings is that Medication Management questions require the participant to apply the information they have learned to novel situations, are lengthier than Medication Knowledge questions, and the section comes after Medication Knowledge in the follow-up questionnaire. Therefore, it may be that inmates had difficulty sustaining attention for this section, leading to lower scores at follow-up administration. This would not have been an issue at either pre-testing or post-testing times because Medication Knowledge questions and Medication Management questions were not given during the same session. Therefore, in future research this should be

taken into consideration. Perhaps counterbalancing the order of the Medication Management questions and the Medication Knowledge questions may help control for attentional confounds.

Medication Management items involve generalization and application of skills rather than just knowledge. Therefore, the environment must support the continued practice and use skills learned in order to maintain the skills acquired. Once participants leave Phase I of the program, it is necessary for them to be able to continue practicing skills such as problem solving in order for the training provided to have long term effects. Without the chance to practice what they have learned over the course of their stay in the Department of Corrections, these individuals would not be able to apply what they have learned upon re-entry into the community.

Interestingly, the amount of time elapsed between leaving Phase I of the program and follow-up was not related to either Medication Knowledge or Medication Management scores. This finding indicates that passage of time was not related to the performance scores on these tests. It was expected that the longer participants had been out of the program, then the lower their scores would be on these two sections but this was not the case. Medication Knowledge scores were maintained from post-training to follow-up, so this lack of relationship between time elapsed since leaving Phase I and follow-up and Medication Knowledge items is not as surprising. However, Medication Management scores were not maintained from post-training to follow-up, and it would seem logical that the time elapsed since leaving Phase I and follow-up would be negatively correlated with Medication Management scores. The reverse was true, so

perhaps the lack of opportunity to apply the skills learned was responsible for the decrease in performance.

The positive relation found between follow-up GAF scores and follow-up Medication Knowledge scores, but not between follow-up GAF scores and follow-up Medication Management scores was notable. It may be that higher functioning at follow-up, as measured by the GAF, is in some way related to higher scores on medication knowledge at follow-up, but not medication management. One potential explanation for this finding is the small sample of follow-up medication management scores available. However, another potential explanation for this could be that those that are higher functioning are also better at providing correct information about their medication. These findings provide some support for the use of medication management with lower functioning individuals, because scores at follow-up on the GAF are not necessarily related to the ability to apply knowledge acquired in social skills training. This issue arises again with regard the significant relationship between follow-up medication knowledge scores and global improvement as measured by the CGI2 item, but not for the follow-up medication management scores. It appears that higher scores on medication knowledge were associated with more global improvement in participants at follow-up, but not for medication management scores. Again, this may be the result of small sample size for follow-up medication management, but could also be further evidence that more global improvement may not be necessary in order to achieve higher medication management scores at follow-up. In order to further clarify the relationships mentioned above, a larger sample size for each the pre-training, post-training, and follow-up

medication management conditions would provide more statistical power to aid in explaining this phenomenon (should it still be present).

Participants in this study report high levels of satisfaction with the day treatment program as well as the staff at Brown Creek. This finding in conjunction with the previous two, suggest that are not only participants learning the information, but their perception of the quality of life they experience while located in the program may also be increasing. If inmates feel supported by and comfortable with the staff at Brown Creek, it is likely that they will participate more fully in the tasks they are asked to do. The harder inmates work in the program, the more they are likely to gain from the experience in terms of knowledge and skill acquisition. This finding supports the claim by Lovell and colleagues (2001) who stated that these sorts of programs have the ability to bridge the gap between the prison staff and inmates. This ability of the staff and the inmates to unite is extremely important in the acquisition of life skills necessary for successful adaptation.

Findings from other research have shown that gains can be made by the severely mentally ill when they take part in highly structured programs that are specific to the issues of that population such as the one at Brown Creek Correctional Institution, and that gains can be maintained for up to two years after leaving the program (Bellack, Turner, Hersen, & Luber, 1984; Huxley, Rendall, & Sederer, 2000; MacKain & Streveler, 1990; Marder et al., 1996). Participants of these programs have been found to be less symptomatic and more easily managed by prison staff after having taken part in these programs (Lovell, Allen, Johnson, & Jemelka, 2001). This study provided even more evidence to support these claims.

Participants in the Brown Creek Social Skills Day Treatment Program appear to be gaining knowledge about their medication and retaining it, increasing in their overall functioning, and seem to be satisfied with what they are learning and the attention they receive from mental health staff. The only shortcoming that is readily apparent is the drop in medication management scores at follow-up. Studies indicate that nearly half of patients fail to adhere to recommendations for long-term treatment, and that the more complex the treatment is, the less likely the patient is to be compliant with treatment. In addition, when the target group is the severely mentally ill, often patients are suspicious, mistrustful, and may have outbursts of anger that predispose them to disregard, and at times, completely reject advice of health care professionals (Brannon& Feist, 2003). Programs like the Social Skills Day Treatment Program at Brown Creek are most beneficial for the severely mentally ill because they are highly structured and simple, thus increasing the probability for treatment compliance. A potential source of continued compliance across time would be booster sessions every couple of months for those who leave the program. Even though this may seem like a difficult endeavor, if the skills they learn while in the program are generalized to life outside of prison, a substantial number of them may not re-offend. Research has shown that with treatment, mentally ill inmates are less likely to re-offend, thus saving the Department of Corrections money in the long-run (Munetz, Grande, & Chambers, 2001).

Research conducted in this area over the last twenty years as well as the current study are beneficial to the North Carolina Department of Corrections, prison staff involved in day treatment programs, as well as many others. The skills taught to inmates were retained even after they left the program, supporting the need for the continuation of

funding for these programs and perhaps even promote the development of other programs within and outside the North Carolina prison system. Unfortunately, at the time of this writing the Social Skills Day Treatment Program at Brown Creek Correctional Institution has been moved to another institution in the North Carolina Department of Correction. Through further research, it may be possible to establish a base of evidence to provide even more support for these programs. It is a terrible disservice to both the inmates as well as the general public to remove programs such as the one at Brown Creek Correctional Institution that truly work. It is imperative to keep in mind that the impact of these findings is not only applicable to the prison setting, but in the private sector as well. Social Skills Training programs can be effective, and it is the responsibility of the research community, the Department of Corrections, private facilities, and others to make sure that they are developed and maintained.

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