

Optimism and Inmates: Uncharted Territory

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By

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DEDICATION

This dissertation is dedicated to my husband, Jarred, who has supported me in all ways throughout this process and to my son Walter, whom I love very much. I would also like to express my gratitude to my parents, Ron and Carole Walter, who have been supportive throughout my graduate career.

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ABSTRACT

OPTIMISM AND INMATES: UNCHARTED TERRITORY

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National statistics indicate that the rate of incarceration is rising (Bureau of Justice Statistics, 2006). A high percentage of these inmates exhibit mental health issues and substance dependence upon entry into correctional facilities. As 95% of inmates are released back into the community, the period of incarceration is an optimal time to address inmates' mental illness and substance dependence. It is important that research investigate mutable psychological variables to develop effective interventions that may help offenders upon release. One such promising variable is optimism. Research with community samples indicate that optimism, the expectation that good, rather than bad things will happen, is related to positive mood, perseverance in the face of adversity, and better mental and physical health (Carver & Scheier, 2002). Current research has found evidence that it is possible to help individuals increase their level of optimism. Given the positive outcomes routinely associated with high optimism, fostering optimism may be beneficial in the inmate population. However, before implementing interventions

designed to increase optimism, it is important to understand how this variable operates in an inmate population. Drawing on data from an ongoing longitudinal study, the present research study examined the relationship between optimism and several variables of interest in a sample of 523 inmates housed in an urban jail. Participants completed measures of theoretical and clinical interest upon entry to the jail (Time 1), upon release or transfer from the jail (Time 2, n = 268), and one-year post-release (Time 3, n=244). Direct effects were examined between optimism and treatment seeking, changes in mental health, negative behaviors one-year post-release, and positive behaviors one-year post-release. There was a significant inverse relationship between optimism and negative post-release outcomes (recidivism and drug use). All other relationships were non-significant. In addition to direct effects, alternative models were tested. There was no evidence of a curvilinear nature between optimism and the outcome variables.

Psychopathy significantly moderated the relationship between optimism and self-reported treatment seeking and the relationship between optimism and positive post-release; stability in housing and employment. Examination of the nature of the interaction indicated that for low psychopaths, optimism was associated with treatment participation, living in more places during the first year following release, and shorter length of employment. However, for high psychopaths, optimism was related to lower levels of treatment participation, living in fewer places, and longer length of employment.

INTRODUCTION

In the United States, there is a large inmate population and it has been consistently growing. The United States has over 2.2 million prisoners housed in the nation's prisons and jails (Bureau of Justice Statistics, 2007). Since 1995 the State inmate population has grown an average of 3.1% per year, while the Federal inmate population has grown an average of 7.4% per year (Bureau of Justice Statistics, 2006b). Inmates making up this increase are repeat offenders, as well as first time offenders.

Recent research findings portray not only a growing inmate population, but a population with mental health needs. It is estimated that more than 50% of incarcerated individuals experience significant symptoms of mental illness ranging from serious mental illness (i.e. schizophrenia, bipolar disorder, major depression) to personality disorders (antisocial, borderline) to drug and alcohol abuse/dependence (Bureau of Justice Statistics, 2006a). Those in need of mental health services rarely receive treatment, as only 34% of state prisoners, 24% of Federal prisoners and 17% of jail inmates reported receiving mental health treatment, primarily medication, during incarceration (Bureau of Justice Statistics, 2006a). These estimates suggest that a considerable number of inmates in need of mental health services receive minimal to no treatment during incarceration.

Rehabilitating inmates during incarceration is important because while some ex-offenders return to the community and live their lives as law-abiding citizens, the majority commit new crimes after their release. In 1994, 67.5% of released offenders were rearrested within three years (Bureau of Justice Statistics, 2002). Since an estimated 95% of prisoners are released into the community upon completing their sentence (Petersilia, 2003), the increase in prison population will mean that more offenders will be released into the community each year, many of whom will re-offend. Re-offense affects the inmate, his or her family, victims of crimes and their families, and society in general as the cost of incarceration is substantial (Bureau of Justice Statistics, 2004; Western Interstate Commission for Higher Education, 2002). Addressing prisoner re-entry is clearly an area in need of attention.

Re-entry is a complex problem that is a hot topic both in the criminal justice field and in public policy. Psychologists have much to add to this debate because of their interest in cognitive and emotional factors that are amenable to change. Previous correctional research has shed light on environmental and demographic factors that are predictors of recidivism. These historical factors include such variables as age at first offense, elementary school misconduct, criminal versatility, and history of substance abuse. These variables are important because they help to develop prevention programs. Although important for prevention purposes, these historical factors are of limited practical interest because they cannot be changed for the 2.2 million individuals already incarcerated. A critical question is whether there are more malleable psychological factors that can be targeted in those currently incarcerated.

One psychological factor that may hold promise as a target for intervention is optimism. In community samples optimism has been linked to positive outcomes in the face of negative life stressors and challenges. Optimism has been related to positive mood, good morale, perseverance in the face of adversity, popularity with peers, freedom from trauma, and increased longevity (Peterson & Steen, 2002). Furthermore, optimism is changeable and interventions, as discussed later, have been developed to increase levels of optimism. In short, optimism may be a malleable protective factor.

Although there is extensive literature investigating optimism in the general community, there is limited information on how optimism functions in an inmate population, as only two studies have investigated optimism in inmate samples (Allan & Giles, 2008; van Harreveld, Pligt, Claassen, & Dijk, 2007). Because optimism is related to fewer mental and physical health problems, utilization of more effective coping strategies, and larger support networks (Ai & Park, 2005; Aspinwall & Taylor, 1992; Brissette, Scheier & Carver, 2002; Scheier, Carver & Bridges, 1994), the lack of research examining optimism in the inmate population is a significant gap in the literature.

Optimists exhibit better psychological health than pessimists in stressful situations and there is little question that incarceration is a stressful experience. Many correctional facilities are characterized by overcrowding, violent and aggressive behaviors between inmates, and long periods of confinement to cell blocks. Inmates also experience non-environmental stressors during incarceration, which include separation from families, worry and anxiety about their children's welfare, and loss of control over their lives (Fogel, 1993). In addition to the stress of incarceration, about half of all jail inmates are

waiting to receive their sentence or waiting for the start of their trial. Stress continues even after incarceration as being released from jail or prison is another major life transition. If optimism provides a protective relationship then it may prove to be a useful variable for interventions in the inmate population.

Understanding Optimism

Optimism has been defined as the expectation of positive outcomes and confidence in future success (Domino & Conway, 2001; Scheier & Carver 1985). This definition highlights a general characteristic to expect positive outcomes, in part because of one's expectation that he or she can control outcomes and also in part because of one's expectation that good things will occur. Because optimists believe that they have some control over future outcomes they are more likely to persist in the face of adversity. Conversely, pessimists are likely to give up, believing that nothing they do will have any effect on future outcomes.

Constructs such as hope and self-efficacy are related to optimism, yet they represent distinct constructs. Hope has been defined as a cognitive schema focusing on goal attainment (Snyder, Sympson, Michael & Cheavens; 2001). Hope is distinct from optimism because it is related to expectations in a specific situation, as opposed to optimism which is related to global expectations. Additionally, hope affords less personal control (Bruininks & Malle, 2005). Self-efficacy refers to belief in one's ability to perform a specific behavior (Bandura, 1977, 1982). Self-efficacy is situation-specific, not global. An additional distinction is the focus of self-efficacy is feelings and beliefs about

one's capabilities; whereas the focus of optimism is a general expectation about positive outcomes whether or not owing to one's effort or control (Sheier & Carver, 1992).

Community research has found positive relationships between optimism and physical health. In longitudinal studies, optimism has been prospectively correlated with outcomes such as decreased likelihood of becoming ill, reduced severity and length of illness, and faster and more complete recovery following surgery (Carver & Scheier, 2002; Peterson & Bossio, 2001; Scheier & Carver, 1985; 1987; Scheier et al., 1989). In a study conducted with women diagnosed with early-stage breast cancer, optimism predicted lower levels of distress initially and one year following surgery (Carver et al., 1993). In addition to positive outcomes in the face of serious medical diagnoses, optimism has also been related to general physical health. For example, in a sample of college students, Scheier and Carver (1985; 1987) found that optimism and self-reported physical health symptoms were negatively correlated at Time 1. Importantly, optimism at Time 1 continued to demonstrate a negative relationship to physical health symptoms four weeks later.

As well as being positively related to physical health, optimism has been routinely associated with psychological health. In a longitudinal study of women in the last trimester of their pregnancy, researchers found that optimism assessed while pregnant was positively related to lower levels of depression postpartum, even when controlling for previous levels of depression (Carver & Gaines, 1987). In a longitudinal study of men undergoing and recovering from artery bypass surgery, optimists reported more happiness, relief, and satisfaction with their medical care one week after surgery (Scheier

et al., 1989). Optimists continued to demonstrate psychological health at six months and five years post-surgery; reporting a better quality of life and greater well-being.

Development of Optimism

Research has explored the relationship between optimism and various outcomes, but little empirical research has investigated how optimism develops. It appears that optimism develops through a combination of genetic and environmental factors (Gillham & Reivich, 2004; Seligman et al., 1995; Vaughan, 2000). While there is some indication of a genetic predisposition for optimism, it fails to fully explain how optimism develops. Additionally, researchers have explored and identified several promising environmental factors that may influence the development of optimism: history of negative events, parenting, and teacher feedback (Gillham & Reivich, 2004). First, children who experience negative events in childhood, such as abuse, are more likely to demonstrate a pessimistic, rather than optimistic explanatory style. Second, parents appear to increase their child's development of optimism by modeling optimistic beliefs and behaviors when facing adversity in their own lives. Parents can also promote optimism by helping their children build skills and develop beliefs in their ability to face challenges. Furthermore, attachment appears to influence level of optimism as children with secure attachments are more likely to demonstrate higher levels of optimism (Carver & Scheier, 2002). Third, teachers, through their feedback regarding failures and successes, can also influence how a child's level of optimism develops.

Theories of How Optimism Operates

Optimism, which develops from genetic and environmental factors, has been consistently associated with positive physical and psychological health. But how does optimism help optimistic individuals? One way is that optimistic individuals are more persistent and effective than pessimistic individuals in choosing and maintaining appropriate goal-directed behaviors because of the positive expectations that optimists hold (Scheier et al, 1985; 2001). Specifically, the expectancy for positive outcomes propels optimists to face adverse events head-on and do what they can to improve the situation. Additionally, optimists scan their environment for potential threats and act on those that are meaningful. It is theorized that optimists are more likely to productively deal with negative stressors and major life transitions as a result of engaging in more effective and adaptive coping styles. Findings from research with cancer patients indicate that optimists address stressors by reframing negative situations, scan the environment looking for information to apply to their situation, plan and expect recovery, and implement goals that will help them to achieve recovery (Carver et al., 1993; Carver& Scheier, 2002).

Similarly, Aspinwall, Richter and Hoffman (2001) have offered three explanations for the way optimism may work. First, optimists are likely to utilize adaptive coping strategies. Second, optimists are better able to distinguish controllable situations from uncontrollable situations and are more likely to demonstrate acceptance in the face of events that they cannot control. Finally, optimists demonstrate more flexible and adaptive thinking than pessimists. Optimists pay more attention to the most useful information available and show evidence of greater flexibility in their thinking.

Aspinwall et al. (2001) posit that optimists' ability to be open to new information allows them to better process information in their environment and respond accordingly.

Similar to the above theories that emphasize optimists' flexibility in adverse situations, the broaden-and-build theory (Fredrickson, 2001 & 2003) emphasizes the ability to expand one's cognitions and behaviors. According to the broaden-and-build theory, positive emotions broaden an individual's mindset. By broadening one's mindset, one is better able to look at the big picture, becoming creative and flexible in one's thinking. This broadening gives the individual the advantage of being better able to adjust his or her response so that it corresponds appropriately to the current situation. While positive emotions are short-term states, the benefits of positive emotions can have enduring positive effects on an individual's mental health.

These theories have been tested individually and have validated in samples from the general community (Aspinwall et al, 2001; Carver et al., 2002; Fredrickson, 2001; Scheier et al., 2001). Yet, it is unknown whether optimism in an incarcerated sample serves the same adaptive functions. This study examined this issue. To date only two articles are known to address optimism in an inmate population (Allan & Giles, 2008; van Harreveld, Pligt, Claassen, & Dijk, 2007). In 2007, van Harreveld et al., with a sample of 30 male inmates from the Netherlands, found that optimism was inversely related to concurrent self-reports of mental and physical health, a finding consistent with optimism and research in the general community. Allan and Giles (2008) investigated the psychometric properties of a widely used measure of optimism and found that means and standard deviations for Australian male prisoners were similar to those in the community.

researchers have yet to replicate this finding with female inmates, with larger samples of inmates, or in samples of inmates incarcerated in the United States correctional system, and none have examined inmates' optimism and longitudinal outcomes.

Changing Optimism

It has been proposed that optimism, which develops in childhood, is a relatively stable personality trait (Peterson, 2000; Scheier & Carver, 1992). However, research indicates that individuals can learn to be optimistic (Carver & Scheier, 2002; Gillham & Reivich, 2004). There are several interventions that can help individuals increase their level of optimism. Cognitive Behavioral Therapy (CBT) has long been thought to increase optimism because the general goal of CBT was consistent with the idea that helping individuals to change their negative thought patterns would foster optimism. In CBT individuals learn to identify and evaluate their negative thinking patterns. In addition to identifying and evaluating negative thoughts, individuals learn to generate more realistic and optimistic thoughts and beliefs. As well as CBT, therapies that teach individuals to set and reach realistic goals also appear to be related to increased level of optimism (Carver & Scheier, 2002). The idea of increasing one's level of optimism has become a popular topic and several self-help books have been written to instruct the general public on how to increase one's level of optimism (Seligman, 1998; Vaughan, 2000). While interventions can increase one's level of optimism, it is unclear how much

change there can be, how permanent the change in optimism is and whether optimism generated through therapy has the same beneficial effects as “natural” optimism.

Examining Direct Effects

Given that optimism is related to positive psychological health, it could be argued that it is important to foster optimism in the incarcerated population as inmates have high rates of mental illness (Teplin, 1990; Steadman, Fabisiak, Dvoskin, & Holohean, 1987; Bureau of Justice Statistics, 2006a). However, before implementing interventions to foster optimism, it is important to understand the role of optimism in an inmate sample and whether it functions similarly in both the general community and inmate population.

Treatment Seeking

The current study examined the relationship between optimism and seeking psychological treatment. It is expected that optimism will be positively related to seeking person-appropriate treatment. Because optimists are more likely to face threats head-on and do what they can to improve the situation, it is expected that they will seek treatment appropriate to their needs.

The rates of mental illness are high in inmate samples. A recent survey conducted by the Bureau of Justice Statistics (2006a) found that more than half of all prison and jail inmates, 56% of state prisoners, 45% of federal prisoners and 64% of local jail inmates, had mental health issues. Most inmates in need do not receive treatment. According to the Bureau of Justice Statistics (2006a) of those inmates with mental health problems approximately one third of state prisoners, one fourth of federal prisoners and one sixth of jail inmates received mental health treatment while incarcerated.

While no study is known to explore the relationship between optimism and treatment seeking, one study investigated the relationship between treatment seeking and a variable similar to optimism; hope (Jackson, Wernicke & Haaga, 2003). Jackson et al. (2003) assessed treatment seeking in a sample of inmates who reported a substance abuse history and were given the opportunity to participate in an intensive residential drug abuse treatment programs. They found that inmates lower in hope were more likely to seek treatment than those higher in hope.

Changes in Psychological Health

In longitudinal studies optimism has been prospectively correlated with outcomes such as lower levels of psychological symptoms and higher levels of satisfaction with life following adverse life events (Carver et al, 1993; Carver & Scheier, 2002; Scheier & Carver, 1985; 1987; Scheier et al., 1989). It is anticipated that, similar to findings in the general community, optimism will be associated with improvements in symptoms of depression and anxiety among inmates over the course of incarceration.

Classic Criminology Outcomes

Returning to the community following incarceration can be stressful as ex-offenders attempt to re-adapt to familial roles, employment, and environmental stressors (Petersilia, 2003). Extrapolating from the literature described above regarding optimists ability to more effectively cope with the challenge of negative stressors, optimistic inmates may adjust better to life stressors upon release from jail. This better adjustment in transitioning to the community and handling stressors may in turn be associated with a reduced likelihood of recidivism.

Positive Post-Release Outcomes

Virtually all research with offender samples focuses on negative outcomes. Specifically, what is the offender doing wrong? This is an important question, but it ignores a large portion of variance in inmate adjustment. What is the person doing well or what is the individual doing to become a successful, contributing member of society? An important component of this study is the focus on positive post-release outcomes. Examples of post-release adjustment include establishing and maintaining stable housing and employment, furthering one's education and utilizing available social support.

Focusing on only negative outcomes does not provide tools for helping people to thrive and flourish. The broaden-and-build theory (Fredrickson, 2001 & 2003), described above, provides a new and unique direction from which to investigate the importance of positive outcomes in the lives of offenders.

Literature has examined the relationship between optimism and physical health and psychological symptoms in community samples. What is important with the inmate population is how ex-offenders function in the real world. Determining what ex-offenders are doing to contribute to their communities is as important as examining what is being taken away from the communities through criminal activity. Examining the association between optimism and post-release success allows an opportunity to look at real world positive outcomes in a context where it is too common a practice to focus exclusively on the negative outcome variable of recidivism. Post-release success represents an additional source of variance theoretically relevant to optimism, and practically relevant to society.

Examining Alternative Models

Is Being Optimistic Always Better?

Too much optimism may not always be a good thing. Some people may display unrealistic optimism, demonstrating an expectancy for positive outcomes but failing to engage in behaviors to maximize their chance for positive outcomes. Clinicians have long observed some of these characteristics among psychopaths and as such the problem of unrealistic optimism may be especially salient. Psychopathy is characterized by problems in the areas of interpersonal functioning, affective experience, and socially deviant behaviors. Although it is estimated that only 1% of the general population is psychopathic, the prevalence rates are much higher in the inmate population, ranging from 15 to 25% (Hare, 1993). Numerous studies have found that psychopathy is a major predictor of criminal behavior and general recidivism, as well as violent recidivism and institutional misconduct (Edens, 2006; Hemphill, Hare, & Wong, 1998; Skeem, Poythress, Edens, 2003).

In general, optimism is expected to be related to physical and psychological health. However, it has been posited that for certain individuals optimism may be more detrimental than beneficial (Colvin, Block & Funder, 1995; Schneider, 2001; Tennen & Affleck, 1987). This detrimental form of optimism is referred to as unrealistic optimism. Unrealistic optimism has been defined as a form of self-deception where an individual convinces him or herself that things are different from what they actually are, such as believing that he or she is unlikely to suffer future adverse events. Weinstein (1980) found that people tend to believe that they are more likely than peers to experience

positive events and less likely to experience negative events. Additionally, Weinstein (1980) found that unrealistic optimism was related to underestimating personal risk, resulting in a lack of engagement in preventive behaviors. Unrealistic optimism is theorized to operate by decreasing motivation to engage in protective behaviors, ignoring limitations and a failure to make long-term goals (Davidson & Prkachin, 1997; Schneider, 2001).

Psychopaths often have unrealistic goals and expectations for the future and a strong sense of entitlement for positive outcomes, both of which overlap with generally accepted characteristics of unrealistic optimism (Schneider, 2001). It is hypothesized that psychopaths may score higher on optimism, thus appearing to be optimists on self-report measures, but this optimism is unrealistic. Because of this, psychopathy may moderate the relationship between optimism and treatment seeking, such that individuals high in optimism and high in psychopathy would be less likely to seek treatment.

Curvilinear Relationship

One question is whether there is a critical level of optimism beyond which it is associated with negative, rather than positive, outcomes. Generally, it has been argued that optimism is related to positive outcomes, such as better mental health (Carver & Scheier, 2000; Taylor & Brown, 1988; 1994). However, it has also been posited that higher optimism is not always optimal. Research suggests that individuals may overestimate the probability that they will experience positive events (Markus and Nurius, 1986; Perloff, 1983). As a result of this bias, it is possible that there is a critical level at which higher levels of optimism becomes associated with negative, rather than

positive outcomes. While few research studies have investigated a nonlinear relationship, there is some evidence that higher levels of optimism is associated with negative outcomes: lower levels of exercise (Davidson & Prkachin, 1997), increased levels of depression (Devine et al., 2000), and poor coping in a sample of patients diagnosed with multiple sclerosis (de Ridder, Schreurs & Bensing, 2000). However, there are mixed findings. For example, Devine et al. (2000) found that moderate levels of optimism were associated with higher reports of depression than either low or high optimism levels (Devine et al., 2000). The curvilinear relationship is not often examined and, when examined, results do not indicate a clear curvilinear nature.

To date no study is known that investigates a curvilinear relationship between optimism and treatment seeking. There are two reasons to expect that the relationship between optimism and treatment seeking might be curvilinear. First, optimists utilize problem-focused coping when facing a challenge. It is possible that individuals high in optimism are not in need of treatment because they already possess effective strategies to cope with problems in their life. Second, optimists may view themselves as being able to handle the problem or issues on their own and as a result do not seek treatment.

Hypotheses

The following research questions were examined in the current study:

1. Is optimism related to treatment seeking?

Hypothesis: It was hypothesized that there would be a positive relationship between optimism upon entry to the jail and seeking psychological treatment (psychoeducational,

drug and alcohol and support groups) during incarceration; particularly for those who were in need of mental health services.

2. Does optimism predict changes in psychological health?

Hypothesis: It was hypothesized that optimism would be related to a decrease in depression and anxiety symptoms over the period of incarceration.

3. Is optimism related to classic criminology outcomes?

Hypothesis: It was hypothesized that optimism would be negatively related to classic one-year post-release outcomes, assessed by number of different arrests, number of different undetected offenses and number of different drugs used.

4. Is optimism related to positive post-release outcomes?

Hypothesis: It was hypothesized that optimism would be positively related to engagement in positive post-release behaviors, assessed by stable housing and length of employment.

5. Does psychopathy moderate the relationship between optimism and above variables?

Hypothesis: It was hypothesized that psychopathy would moderate the relationship between optimism and the above variables. For individuals high in psychopathy those with higher levels of optimism would be less likely to participate in treatment or engage in positive behaviors and more likely to engage in negative post-release behaviors.

6. Does unrealistic optimism moderate the relationship between optimism and the above variables?

Hypothesis: It was hypothesized that unrealistic optimism would moderate the relationship between optimism and the above variables. For individuals high in unrealistic optimism those with higher levels of optimism would be less likely to

participate in treatment or engage in positive behaviors and more likely to engage in negative post-release behaviors.

METHOD

Participants and Procedures

Participants for this research were drawn from an existing NIDA funded project, the GMU Inmate Study. The sample consisted of 523 male and female inmates at an urban Adult Detention Center who agreed to participate in a large-scale recidivism study (see Tangney et al, 2007). Three hundred and sixty-three participants (69.4%) were male and 160 (30.6%) female. The ages of the participants ranged from 18 to 69 ($M = 32$, $SD = 10$). The racial/ethnic background of the participants was 44.6% African American, 35.9% Caucasian, 9.3% Mexican American/Hispanic, 2.9% Asian/Pacific Islander, 7.3% Other/Mixed. The number of days participants were incarcerated ranged from 12 days to 1710 days ($M = 307.25$, $SD = 314.81$).

Inmates were eligible to participate if they (1) were either (a) sentenced to a term of 4 months or more, or (b) arrested and held without bond or on total bond of at least \$7,000; (2) were initially assigned to the jail's medium or maximum security "general population" (e.g., not in solitary confinement or forensics), and (3) had sufficient language proficiency to complete study protocols in English or Spanish. Shortly after assignment to the general population, eligible inmates were presented with a description of the study and were asked to participate, with assurance of the voluntary and confidential nature of the project.

Time 1 consisted of four, face-to-face individual sessions conducted in private rooms by extensively trained and supervised research assistants. Relevant measures administered during the first three sessions included: the Values in Action Questionnaire (Peterson & Seligman, 2001) and the Personality Assessment Inventory (PAI; Morey, 1991). Session four consisted of an in-depth semi-structured interview focusing on the participant's social history (e.g., family history, educational history, relationship history, history of antisocial behaviors, etc.) the nature and circumstances surrounding the instant offense (or alleged offense), and the participant's perceptions of the consequences of the offense (or his/her related behavior) for others. Based on the interview and collaborative information each participant's level of psychopathy was scored by trained clinicians using the Psychopathy Checklist: Screening Version (PCL:SV; Hare, Cox & Hare, 1995). Because of attrition during Time 1, often related to participant's bonding out of the jail, 467 participants (332 male, 135 female) have PCL:SV scores. Participants received an \$18 dollar honorarium upon completion of this first wave of data collection.

Time 2 consisted of a 2-3 hour interview which took place prior to the participant's release into the community. Relevant measures to this study included psychological symptomatology and program/treatment involvement. Participants received a \$25 honorarium for completion of this second wave of data collection. To be eligible for a follow-up assessment upon release or transfer from the facility (Time 2) participants needed to have been incarcerated for at least 6 weeks. Of the 523 inmates in the study at Time 1, 268 were re-interviewed at Time 2 (186 male, 82 female). Attrition at Time 2 was primarily due to unanticipated transfer to another correctional facility or

unanticipated release to the community. There were no mean differences in Time 1 optimism between participants who completed the Time 2 assessment ($M=3.80$, $SD=0.78$) and participants who did not complete the Time 2 assessment ($M=3.88$, $SD=.76$) ($t=1.20$, $p>.05$).

Time 3 data collection occurred one year post-release. Data were collected during a telephone or face-to-face interview. If a participant was re-incarcerated, a face-to-face interview was conducted at the correctional facility where the participant was being held. Participants were asked about their housing and employment in the year following release. Participants were also asked to report the different types of drug used in the year post-release and the number of different types of arrests and undetected criminal activities they had engaged in during that time. The confidentiality of the data was emphasized and participants were reminded not to include any incriminating information regarding the specific time or place of any offense to further protect themselves. A \$50 honorarium was paid for participation at 1 year post-release. Complete data was available for 244 participants (178 male, 66 female). There were no mean differences in Time 1 optimism between participants who completed the Time 3 assessment ($M=3.78$, $SD=0.81$) and participants who did not complete the Time 3 assessment ($M=3.90$, $SD=.73$) ($t=1.70$, $p>.05$).

Measures

Table 1 provides basic descriptive information on variables used in the study.

Time 1: Entry to Jail

Optimism

Optimism was assessed using an abbreviated version of the Values in Action - Inventory of Strengths scale (VIA; Peterson & Seligman, 2001). To assess optimism, the hope/optimism scale was modified to 4 items. Items that appeared to assess entitlement and superiority, e.g. "I always expect the best," were dropped from the current scale in order to achieve a measure of dispositional optimism. Items retained were: "I always look on the bright side"; "I can always find the positive in what seems negative to others"; "Despite challenges, I always remain hopeful about the future"; and "If I feel down, I always think about what is good in my life." Participants responded on a 5-point Likert scale from 1 "not at all like me" to 5 "very much like me." The revised optimism scale demonstrated a fair level of reliability ($\alpha = .74$).

Psychopathy

The Psychopathy Checklist – Screening Version (PCL-SV; Hare, Cox, & Hare, 1995) was used to measure psychopathy. Completion of this measure requires conducting in-depth interviews with participants covering (1) nature and circumstances surrounding instant (or alleged) offense; (2) the inmate's perceptions of the consequences of the offense (of his/her related behavior) for others (e.g. what were the consequences? When did he/she become aware of them? How did this awareness affect his/her feelings?), and (3) background information concerning the inmate's occupational, academic, and social/interpersonal functioning up to the time of the instant offense. This information, along with official criminal records, were used by trained clinicians to code the PCL:SV, which provides a total psychopathy score. Total scores on the PCL: SV range from 0 to 24 with scores of 18 and above being indicative of psychopathy. Single

measure intra-class correlation, using a one-way random effects model, was .87 for PCL:SV scores, showing a high degree of inter-rater reliability.

Markers of Unrealistic Optimism

No measure of unrealistic optimism was administered as part of data collection. However, two items from the PCL:SV (Grandiosity and Lack of Realistic Goals) are characteristics which are consistent with the operational definition of unrealistic optimism. To create an unrealistic optimism variable, the values of the two markers of unrealistic optimism were summed.

Mental Health

A treatment need variable was calculated using data assessing mental health and substance dependence. Mental health was assessed using the Personality Assessment Inventory (PAI; Morey, 1991), a 344 item self-report measure designed to assess a variety of personality traits as well as symptoms associated with mental illness and personality disorders. The items are rated on a 4-point likert scale (“False,” “Slightly True,” “Mainly True,” and “Very True”). Of specific interest in this paper were the clinical scales associated with mental health problems: Anxiety, Anxiety Related Disorders, Depression, Antisocial, Borderline Features, Mania, Somatic Complaints, Paranoia, and Schizophrenia. In the current study, data indicated high reliability for continuous scales assessing substance dependence (alphas above .80). Research has found that the PAI is a valid assessment tool with offenders (Morey & Boggs, 2004).

Data on drug and alcohol dependence was assessed using Simpson and Knight’s (1998) Texas Christian University: Correctional Residential Treatment Form, Initial

Assessment (TCU-CRTF). Four substance dependence scales were created to assess dependency on alcohol, marijuana, opiates, and cocaine, in the year prior to incarceration. Item responses ranged from 0 “never” to 4 “7 or more times.” Each scale was composed of items that assess each of the DSM-IV (American Psychiatric Association, 1994) substance dependence domains (e.g., for the domain of tolerance participants answered the question, “How often did you find that your usual number of drinks had much less effect on you or that you had to drink more in order to get the effect you wanted?”). For domains with multiple items, responses were averaged and a total score was computed by taking the mean across substance dependence DSM-IV domains. In the current study, data indicated high reliability for continuous scales assessing substance dependence (alphas above .84).

A dichotomous variable of need for psychological treatment was created by classifying those participants who at Time 1 scored in the clinical range, *T* score of 70 or above, on any of nine clinical PAI scales at Time 1 (Anxiety, Anxiety Related Disorders, Depression, Antisocial, Borderline Features, Mania, Somatic Complaints, Paranoia, Schizophrenia) or who endorsed items indicating the presence of substance dependence on the TCU dependence scales (Alcohol Dependence, Marijuana Dependence, Cocaine Dependence and Opiate Dependence) as in need of mental health treatment.

Time 2: Release into Community

Official Records of Treatment Request

Treatment requests in jail-based programs and services over the course of incarceration were collected from official records in the Sheriff’s Inmate Programs

database (SIP). An orientation to programs and services at the jail is offered to all inmates in the general population. Inmates are then permitted to submit requests for programs. Participants were coded 0 “no” or 1 “yes” depending on whether or not they requested treatment in any of three domains that encompass mental health treatment: Psycho-educational programs (e.g. violence intervention, anger management, parenting skills); Drug and Alcohol programs including (e.g. Alcoholics Anonymous, Narcotics Anonymous, and treatment community model programs); Support programs (e.g. inmate support groups, and process groups).

Self-Report of Treatment Participation

At Time 2 participants were asked if they participated in mental health programs (psycho-educational, drug/alcohol, or support groups) during incarceration. Participants were coded 0 “no” or 1 “yes” depending on whether or not they requested treatment in any of three domains that encompass mental health treatment: Psycho-educational programs (e.g. violence intervention, anger management, parenting skills); Drug and Alcohol programs including (e.g. Alcoholics Anonymous, Narcotics Anonymous, and treatment community model programs); Support programs (e.g. inmate support groups, and process groups).

Mental Health

To assess change in symptoms of depression and anxiety, the PAI was re-administered at Time 2. Difference scores for depression and anxiety symptoms were created by subtracting Time 1 scores from Time 2 scores. To determine if the mental

health concerns endorsed changed from arrival at the jail (Time 1) to release or transfer (Time 2), paired *t*-tests were conducted on each variable.

Time 3: One Year Post-Release

Recidivism

Participants were asked to provide information about the number of different types of offenses they were arrested for in the year after they were released. Inmates also reported the number of different types of undetected offenses they committed in the year after they were released into the community.

Post-Release Drug Use

Participants were asked about the number of different types of drugs that they used in the year following their release. Specifically, participants reported the number of different drugs used during the year following their release into the community on a scale of 0-8 on the TCU-CRTF (0 “never” to 8 “more than once a day”). The number of different types of drugs used was summed for each participant.

Positive Behaviors Post-Release

Positive post release behaviors were measured by asking participants for information about housing and employment during the year following release. Questions related to housing included who they were living or staying with most of the time in the year following release (e.g. parent, spouse, friends, alone, etc.) and how many places they lived in the year following release. To assess employment, participants were asked about the longest length (months) of employment during the year following release.

Table 1

Descriptive Statistics of Study Variables						
Variable	Mean	SD	n of items	Possible Range	Observed Range	Alpha
Time 1 Variables						
T1 Optimism (total sample)	3.85	.77	4	1-5	1.25-5	.74
T1 Optimism (T2 completed)	3.86	.77	4	1-5	1.25-5	.74
T1 Optimism (T3 completed)	3.78	.81	4	1-5	1.25-5	.73
Total Psychopathy	12.19	4.90	12	1-24	1-24	.80
Unrealistic Optimism	1.58	1.13	2	0-4	0-4	.34
Depression	58.14	13.07	24	35-111	35-107	.89
Anxiety	55.38	11.38	24	34-103	34-100	.89
Official Record Treatment	.64	.48	3	0-1	0-1	-
Time 2 Variables						
Depression	54.98	11.90	24	35-111	35-95	.73
Anxiety	53.47	10.45	24	34-103	35-89	.88
Self-Report Treatment	.60	.49	3	0-1	0-1	-
Time 3 Variables						
Number of Arrests	.64	.91	17	-	0-5	-
Number of Undetected Offenses	1.11	1.47	17	-	0-9	-
Number of Drugs Used	1.01	1.33	6	0-6	0-6	-
Number of Places Lived	.71	1.30	1	-	0-13	-
Longest Length of Employment	6.56	4.32	1	0-12	0-12	-

RESULTS

Data Analysis Plan

Before exploring the nature of optimism in an inmate sample, preliminary analyses were conducted to determine if optimism in an inmate sample has similar concurrent correlates as optimism in the general community.

Optimism and Treatment Seeking

The next series of statistical analyses examined the relationship between optimism and treatment seeking. First, I examined the direct relationship between optimism at Time 1 and official records of treatment seeking for the full sample and for a subset of the sample identified as in need of treatment by computing correlations. As described above, the subsample was created by identifying inmates who reported mental illness or substance dependence in the clinical range.

I then examined psychopathy and psychopathy markers of unrealistic optimism as potential moderators of the relationship between optimism and official records of treatment seeking. To examine the extent to which each variable moderates the relationship between optimism and official records of treatment seeking, a hierarchical logistic regression was conducted. Optimism was entered into Step 1, the moderator variable was entered on the second step and the interaction between the two was entered on the final step. Results from the final model are presented in table format.

I then examine an alternative, non-linear model of the optimism/treatment seeking relationship. Curvilinear effects were tested by introducing a quadratic variable (optimism squared) as the independent variable and official reports of treatment seeking as the dependent variable. Optimism was entered into Step 1 of the model and the quadratic variable was entered at Step 2.

Parallel analyses were conducted to explore the relationship between optimism at Time 1 and self-report records of treatment participation.

Optimism and Changes in Mental Health

In order to examine the relationship between optimism and changes in mental health symptoms, difference scores for depression and anxiety symptoms were created by subtracting Time 1 scores from Time 2 scores. The difference score was then regressed on Time 1 optimism.

Optimism and Post-Release Outcomes

The final analyses examined the relationship between optimism and post-release outcomes: negative post-release behaviors (recidivism, undetected offenses, and drug use) and positive post-release behaviors (housing stability, length of employment). The direct relationship between optimism and each post-release variable were examined using bivariate correlations.

I then examined psychopathy and psychopathy markers of unrealistic optimism as potential moderators of the relationship between optimism and post-release outcomes. These potential moderators were examined using a multiple regression. Optimism was

entered on the first step, the moderating variable entered on the second step and the interaction entered on the final step.

Preliminary Data Analyses

Before undertaking the main analyses where I examine the relationship of optimism to other variables prospectively, preliminary analyses were conducted on a sample of 523 participants to determine if optimism in an incarcerated sample has similar concurrent correlates as optimism in the general community. Consistent with general community findings, optimism in this inmate sample was significantly negatively related to PAI Anxiety ($r = -0.36$, $p < .001$), as well as PAI Depression ($r = -0.46$, $p < .001$). Optimism was also negatively correlated with physical health complaints (Heigel, Stuewig, & Tangney, 2009) and with perceived lack of social support ($r = -0.30$, $p < .001$). Additionally, optimism was significantly positively related to character strengths (judgment, integrity, kindness, gratitude, spirituality and forgiveness specifically) with correlations ranging from .46 to .65. Overall, results indicate that the higher the inmate's optimism, the fewer mental and physical health concerns, consistent with findings from the general community.

The intercorrelations among study variables are presented in Table 2.

Table 2
Intercorrelations between optimism and study variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 T1 Optimism	-														
2 Official Records Treatment Seeking	-0.03	-													
3 Self-Report Treatment Seeking	-0.07	0.38 **	-												
4 Psychopathy	-0.10 *	0.02	0.02	-											
5 Unrealistic Optimism	0.04	-0.01	-0.08	0.72 **	-										
6 T1 Depression	-0.46 **	0.06	0.20 *	0.06	-0.10 *	-									
7 T2 Depression	-0.45 **	0.06	0.10	0.09	0.00	0.77 **	-								
8 T1 Anxiety	-0.36 **	0.09	0.21 *	0.06	-0.08	0.75 **	0.61 **	-							
9 T2 Anxiety	-0.36 **	0.09	0.19 *	0.12	0.01	0.66 **	0.83 **	0.75 **	-						
10 Different Arrests	-0.10	-0.01	-0.03	0.20 *	-0.02	0.11	0.12	0.80	0.10	-					
11 Different Offenses	-0.20 *	-0.06	-0.05	0.29 **	0.10	0.14 *	0.22 *	0.15 *	0.20 *	0.42 **	-				
12 Different Drugs Used	-0.19 *	-0.10	-0.05	0.29 **	0.11	0.17 *	0.09	0.17 *	0.20 *	0.33 **	0.64 **	-			
13 How Many Places Lived	-0.04	0.09	0.16	0.02	0.00	0.13 *	-0.02	0.09	-0.10	0.08	0.06	0.12	-		
14 Longest Employment	0.10	-0.11	-0.12	-0.12	-0.10	-0.22 *	-0.14	-0.25	-0.13	-0.13 *	-0.13 *	-0.09	-0.20 *	-	
15 T1 Positive Impression Management	0.37 **	-0.12 *	-0.22 **	-0.26 **	-0.09	-0.52 **	-0.45 **	-0.57 **	-0.47 **	-0.18 *	-0.25 **	-0.29 **	-0.12	0.12	-

**p < .001, * p < .05

Optimism at Time 1 and Official Records of Treatment Request

Direct Effects

According to official jail records, more than half (60.8%) of participants requested psychological treatment during the period of incarceration. For the full sample ($n=523$), the mean level of optimism in those who sought treatment ($M=3.85$, $SD=0.79$) was not statistically different from those who did not request treatment ($M=3.86$, $SD=0.75$), ($t(521)=0.07$, $p > .05$). For the subsample restricted to inmates in need of treatment ($n=372$) a bivariate correlation was calculated and Time 1 optimism was not significantly correlated with official records of treatment seeking ($r = 0.02$, $p > .05$).

Moderators

Two variables were examined as potential moderators of the relationship between Time 1 optimism (beginning of incarceration) and official records of treatment seeking during incarceration: psychopathy and markers of unrealistic optimism. Due to the clinical characteristics of psychopaths, it was hypothesized that for individuals high in psychopathy, optimism would be negatively related to treatment seeking; whereas for those low in psychopathy, optimism would be positively related to treatment seeking. To test this, a hierarchical logistic regression was conducted. A summary of the hierarchical logistic regression analysis for the full sample is shown in Table 1. Optimism was entered into Step 1 of the model and was non-significant. In Step 2, the total psychopathy score was entered into the model and was non-significant. In Step 3, the interaction between optimism and psychopathy was entered and was non-significant. A parallel hierarchical

logistic regression was conducted using the in need of treatment subset; as in the full sample, the interaction was non-significant (Table 3).

While total psychopathy does not moderate the relationship between optimism and official records of treatment request, psychopathy markers of unrealistic optimism may. These markers, grandiosity and lack of realistic goals, overlap with the generally accepted definition of unrealistic optimism. Analyses revealed no relationship between optimism and unrealistic optimism, indicating that the variables are assessing unique variance. A hierarchical logistic regression was conducted and none of the variables were significantly related to treatment seeking for the full sample or in need subset (Table 4).

Table 3

Results of logistic regression evaluating psychopathy as a moderator between optimism and official records of treatment seeking

	B	SE-B	OR (95% CI)
Full Sample: n=467			
Optimism	-0.04	0.13	0.96 (.75-1.24)
Total Psychopathy	0.01	0.02	1.01 (.97-1.05)
Optimism*Total Psychopathy	0.01	0.03	1.01 (.96-1.06)
In Need of Treatment Subset: n=352			
Optimism	0.04	0.15	1.04 (.78-1.38)
Total Psychopathy	-0.03	0.03	0.97 (.92-1.02)
Optimism*Total Psychopathy	-0.02	0.03	0.98 (.92-1.04)

Table 4

Results of logistic regression evaluating markers of unrealistic optimism as a moderator between optimism and official records of treatment seeking

	B	SE-B	OR (95% CI)
Full Sample: n=467			
Optimism	-0.04	0.13	0.96 (.75-1.23)
Unrealistic Optimism	-0.03	0.09	0.97 (.82-1.15)
Optimism*Unrealistic Optimism	0.17	0.12	1.19 (.93-1.51)
In Need of Treatment Subset: n=352			
Optimism	0.05	0.15	1.05 (.79-1.39)
Unrealistic Optimism	-0.13	0.11	0.88 (.71-1.08)
Optimism*Unrealistic Optimism	0.10	0.14	1.10 (.83-1.45)

Alternative Model: Curvilinear Relationship

An alternative hypothesis regarding the optimism/treatment seeking relationship is that the relationship is curvilinear, not linear. Because optimists may find alternative avenues to address problems besides formal treatment seeking, it was hypothesized that there would be an inverted-U relationship and moderate optimists would be more likely to seek treatment than low or high optimists. Curvilinear effects were tested by introducing a quadratic variable (optimism squared) as the independent variable and official records of treatment seeking as the dependent variable. Optimism was entered into Step 1 of the model and the quadratic variable was entered at Step 2. The addition of

the quadratic term was not significant in the full sample, indicating that a curvilinear relationship does not better explain the relationship between optimism and official records of treatment seeking. A summary of the logistic regression analysis is shown in Table 5. Parallel analyses were conducted for the in need subsample and no curvilinear relationship was found.

Table 5

Results of logistic regression evaluating curvilinear relationship between optimism and official records of treatment seeking

	B	SE-B	OR (95% CI)
Full Sample: n=523			
Optimism	0.03	0.13	1.03 (.80-1.32)
Optimism ²	0.11	0.12	1.12 (.88-1.42)
In Need of Treatment Subset: n=372			
Optimism	0.08	0.15	1.08 (.81-1.45)
Optimism ²	0.04	0.14	1.04 (.79-1.38)

Optimism at Time 1 and Self-Report of Treatment Participation

Direct Effects

A second, self-reported treatment participation variable was also examined. A subset (n=268) were interviewed at Time 2 (prior to release into community) and asked about their actual participation in treatment programs during their incarceration. More than half (60.2%) of participants reported participating in psychological treatment during

incarceration. For the full sample, the mean level of optimism in those who participated in psychological treatment ($M=3.82$, $SD=0.81$) was not statistically different from those who did not participate ($M=3.92$, $SD=0.72$), ($t(266)=1.14$, $p>.05$). For the subsample restricted to those in need of treatment ($n=202$), a bivariate correlation was calculated, Time 1 optimism was not significantly correlated with self-report of treatment participation during incarceration ($r = -.05$, $p > .05$).

Moderators

Psychopathy and markers of unrealistic optimism were examined as potential moderators of the relationship between Time 1 optimism and self-reported treatment participation. There were no main effects, but the interaction of optimism and psychopathy was significant (Table 6). To examine the nature of this interaction, bivariate correlations were computed between optimism and treatment participation for psychopaths (PCL:SV score of 18 or higher) and non-psychopaths (PCL:SV score of 17 or lower). There was a significant negative relationship between optimism and treatment participation for those high in psychopathy ($r= -0.32$, $p<.05$). Among psychopaths, those with higher levels of optimism were less likely to participate in treatment than those low in optimism. There was no relationship between optimism and treatment participation among individuals low in psychopathy ($r= -0.03$, $p>.05$). There were no main effects, but the interaction was significant when the sample was restricted to those in need of treatment (Table 6) and examination of the interaction revealed comparable findings as the full sample. There was a negative relationship between optimism and treatment participation for those high in psychopathy ($r= -0.27$, $p>.05$) and no relationship between

optimism and treatment participation among individuals low in psychopathy ($r = -0.01$, $p > .05$).

Table 6

Results of logistic regression evaluating psychopathy as a moderator between optimism and self-reported treatment participation

	B	SE-B	OR (95% CI)
Full Sample: n=260			
Optimism	-0.21	0.17	0.81 (.58-1.14)
Total Psychopathy	0.03	0.03	1.00 (.95-1.06)
Optimism*Total Psychopathy	-0.08	0.04	0.93* (.87-.99)
In Need of Treatment Subset: n=195			
Optimism	-0.14	0.20	0.87 (.59-1.29)
Total Psychopathy	-0.02	0.04	0.98 (.91-1.05)
Optimism*Total Psychopathy	-0.10	0.04	0.90* (.83-.99)

* $p < .05$

Psychopathy markers of unrealistic optimism were also investigated as a moderator of the relationship between Time 1 optimism and self-reported treatment participation during incarceration. A hierarchical logistic regression was conducted and none of the variables were significantly related to treatment seeking (Table 7). The interaction was not significant for the in need of treatment subset either (Table 7).

Table 7

Results of logistic regression evaluating markers of unrealistic optimism as a moderator between optimism and self-reported treatment participation

	B	SE-B	OR (95% CI)
Full Sample: n=260			
Optimism	-0.21	0.17	0.81 (.59-1.12)
Unrealistic Optimism	-0.14	0.12	0.87 (.69-1.09)
Optimism*Unrealistic Optimism	-0.05	0.16	0.95 (.70-1.30)
In Need of Treatment Subset: n=195			
Optimism	-0.13	0.19	0.88 (.60-1.28)
Unrealistic Optimism	-0.16	0.14	0.85 (.65-1.11)
Optimism*Unrealistic Optimism	-0.03	0.19	0.97 (.68-1.41)

Alternative Model: Curvilinear Relationship

Curvilinear effects were tested by introducing a quadratic variable (optimism squared) as the independent variable and self-reported treatment participation as the dependent variable. Optimism was entered into Step 1 of the model and the quadratic variable was entered at Step 2. The addition of the quadratic term was not significant, indicating that a curvilinear relationship does not better explain the relationship between optimism and self-reported treatment participation. A summary of the logistic regression analysis is shown in Table 8. No curvilinear relationship was found in the in need of treatment subset either.

Table 8

Results of logistic regression evaluating curvilinear relationship between optimism and self-reported treatment participation

	B	SE-B	OR (95% CI)
Full Sample: n=268			
Optimism	-0.13	0.18	0.88 (.62-1.24)
Optimism ²	0.18	0.18	1.20 (.85-1.70)
In Need of Treatment Subset: n=202			
Optimism	-0.05	0.21	0.96 (.63-1.44)
Optimism ²	0.24	0.21	1.27 (.84-1.92)

Optimism at Time 1 and Changes in Mental Health

There was a significant positive relationship between Time 1 Depression and Time 2 Depression ($r=0.77, p<.001$). There was also a significant positive relationship between Time 1 Anxiety and Time 2 Anxiety ($r=0.75, p<.001$). In order to determine if optimism at Time 1 predicted individual differences in changes in mental health during incarceration difference scores for depression and anxiety symptoms were created by subtracting Time 1 scores from Time 2 scores. The difference score was then regressed on Time 1 optimism. Optimism was not significantly related to changes in depression ($\beta=0.89, p > .05$) nor to changes in anxiety ($\beta=0.28, p > .05$).

Optimism at Time 1 and Negative Post-Release Outcomes

Direct Effects

Three negative one-year post-release outcomes were examined: number of different offenses arrested for, number of different undetected offenses committed, and number of different types of drugs used. Optimism was not significantly correlated with number of different offenses arrested for during the first year following release into the community ($r = -.10, p > .05$). However, Time 1 optimism was significantly negatively correlated with number of different undetected offenses in the year following release into the community ($r = -.20, p < .01$) and with the number of different drugs used in the year following release ($r = -.19, p < .01$).

Moderators

To determine if psychopathy moderates the relationship between optimism and the three negative post-release outcomes a series of multiple regressions were conducted. A summary of the multiple regression analyses is shown in Tables 9-11. While there was main effect for psychopathy, the interaction was not significant for any of the negative post-release outcomes.

Table 9

Results of multiple regression evaluating psychopathy as a moderator between optimism and number of arrests 1-year post-release

	R ²	Change in R ²	B	SE-B	β
Step 1:	0.01	0.01			
Optimism			-0.12	0.07	-0.10
Step 2:	0.05	0.04**			
Optimism			-0.10	0.07	-0.09
Total Psychopathy			0.04	0.01	0.20*
Step 3:	0.05	0.00			
Optimism			-0.10	0.07	-0.09
Total Psychopathy			0.04	0.01	0.20*
Optimism x Psychopathy			0.00	0.01	0.01

** $p < .001$, * $p < .05$, $n=265$

Table 10

Results of multiple regression evaluating psychopathy as a moderator between optimism and number of undetected criminal offenses 1-year post-release

	R ²	Change in R ²	B	SE-B	β
Step 1:	0.04	0.04**			
Optimism			-0.37	0.11	-0.21**
Step 2:	0.12	0.08**			
Optimism			-0.33	0.11	-0.18*
Total Psychopathy			0.08	0.02	0.28**
Step 3:	0.12	0.00			
Optimism			-0.34	0.11	-0.19*
Total Psychopathy			0.08	0.02	0.28**
Optimism x Psychopathy			0.02	0.02	0.05

** $p < .001$, * $p < .05$, n=263

Table 11

Results of multiple regression evaluating psychopathy as a moderator between optimism and number of different drugs used 1-year post-release

	R ²	Change in R ²	B	SE-B	β
Step 1:	0.04	0.04*			
Optimism			-0.31	0.10	-0.19*
Step 2:	0.11	0.08**			
Optimism			-0.28	0.10	-0.17*
Total Psychopathy			0.08	0.02	0.28**
Step 3:	0.11	0.00			
Optimism			-0.28	0.10	-0.17*
Total Psychopathy			0.08	0.02	0.28**
Optimism x Psychopathy			0.01	0.02	0.04

** $p < .001$, * $p < .05$, $n=264$

Another series of multiple regressions was conducted to determine if markers of unrealistic optimism moderated the relationship between optimism and the three negative post-release outcomes. A summary of the multiple regression analyses is shown in Tables 12-14. None of the interactions were significant.

Table 12

Results of multiple regression evaluating markers of unrealistic optimism as a moderator between optimism and number of arrests 1-year post-release

	R ²	Change in R ²	B	SE-B	β
Step 1:	0.01	0.01			
Optimism			-0.12	0.07	-0.10
Step 2:	0.01	0.00			
Optimism			-0.12	0.07	-0.10
Unrealistic Optimism			-0.01	0.05	0.01
Step 3:	0.01	0.00			
Optimism			-0.12	0.07	-0.10
Unrealistic Optimism			-0.01	0.05	0.01
Optimism x Unreal. Opt.			0.02	0.07	0.02

n=265

Table 13

Results of multiple regression evaluating markers of unrealistic optimism as a moderator between optimism and number of undetected criminal offenses 1-year post-release

	R ²	Change in R ²	B	SE-B	β
Step 1:	0.04	0.04**			
Optimism			-0.37	0.11	-0.21**
Step 2:	0.05	0.01			
Optimism			-0.39	0.11	-0.21**
Unrealistic Optimism			0.14	0.08	0.11
Step 3:	0.06	0.01			
Optimism			-0.39	0.11	-0.21**
Unrealistic Optimism			0.13	0.08	0.10
Optimism x Unreal. Opt.			0.13	0.10	0.08

** $p < .001$, n=263

Table 14

Results of multiple regression evaluating markers of unrealistic optimism as a moderator between optimism and number of different drugs used 1-year post-release

	R ²	Change in R ²	B	SE-B	β
Step 1:	0.04	0.04*			
Optimism			-0.31	0.10	-0.19*
Step 2:	0.05	0.01*			
Optimism			-0.32	0.10	-0.20*
Unrealistic Optimism			0.14	0.07	0.12
Step 3:	0.05	0.01			
Optimism			-0.33	0.10	-0.20*
Unrealistic Optimism			0.13	0.07	0.11
Optimism x Unreal. Opt.			0.11	0.09	0.07

* $p < .05$, $n=264$

Optimism at Time 1 and Positive Post-Release Outcomes

Direct Effects

Two positive post-release outcomes were examined: number of different places lived and longest length of employment. The number of different places lived in the first year following release was used as a marker of housing stability. Because the fewer number of places is indicative of stable housing, a negative relationship was hypothesized. Time 1 optimism was not significantly correlated with number of different places lived in the year following release into the community ($r = -.03$, $p > .05$). Similarly

Time 1 optimism was not significantly correlated with longest length of employment in the first year since release ($r = .10, p > .05$).

Moderators

To determine if psychopathy moderates the relationship between optimism and either positive post-release outcome, multiple regressions were conducted. Psychopathy significantly moderated the relationship between optimism and the number of different places lived (Table 15). This interaction is plotted (Figure 1) according to recommendations by Aiken and West (1991). Examination of the nature of the interaction indicated that for low psychopaths, optimism was associated with living in more places during the first year following release. However, for high psychopaths, optimism was related to living in fewer places. Psychopathy also moderated the relationship between optimism and longest length of employment (Table 16). Further examination of the nature of the interaction indicated that for low psychopaths, there was no relationship between optimism and length of employment. However, for high psychopaths, higher optimism was associated with longer length of employment. (See Figure 2).

Table 15

Results of multiple regression evaluating psychopathy as a moderator between optimism and number of different places lived 1-year post-release

	R ²	Change in R ²	B	SE-B	β
Step 1:	0.00	0.00			
Optimism			-0.05	0.10	-0.03
Step 2:	0.00	0.00			
Optimism			-0.05	0.10	-0.03
Total Psychopathy			0.01	0.02	0.02
Step 3:	0.02	0.02*			
Optimism			-0.05	0.10	-0.03
Total Psychopathy			0.00	0.02	0.02
Optimism x Psychopathy			-0.05	0.02	0.15*

* $p < .05$, $n=244$

Figure 1

Psychopathy as a moderator between optimism and number of different places lived

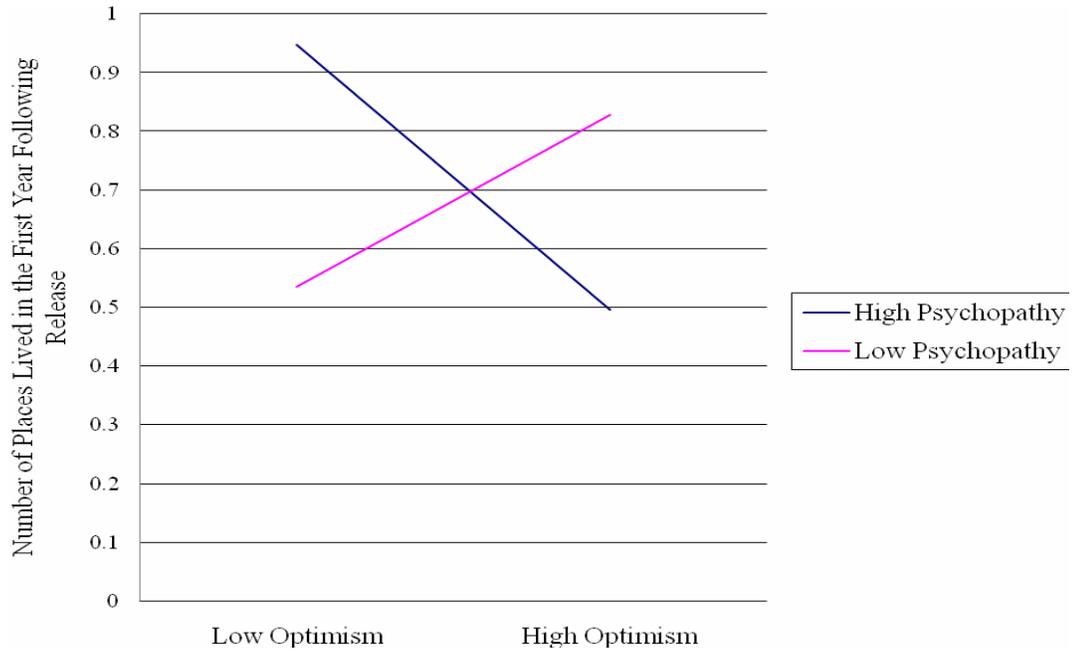


Table 16

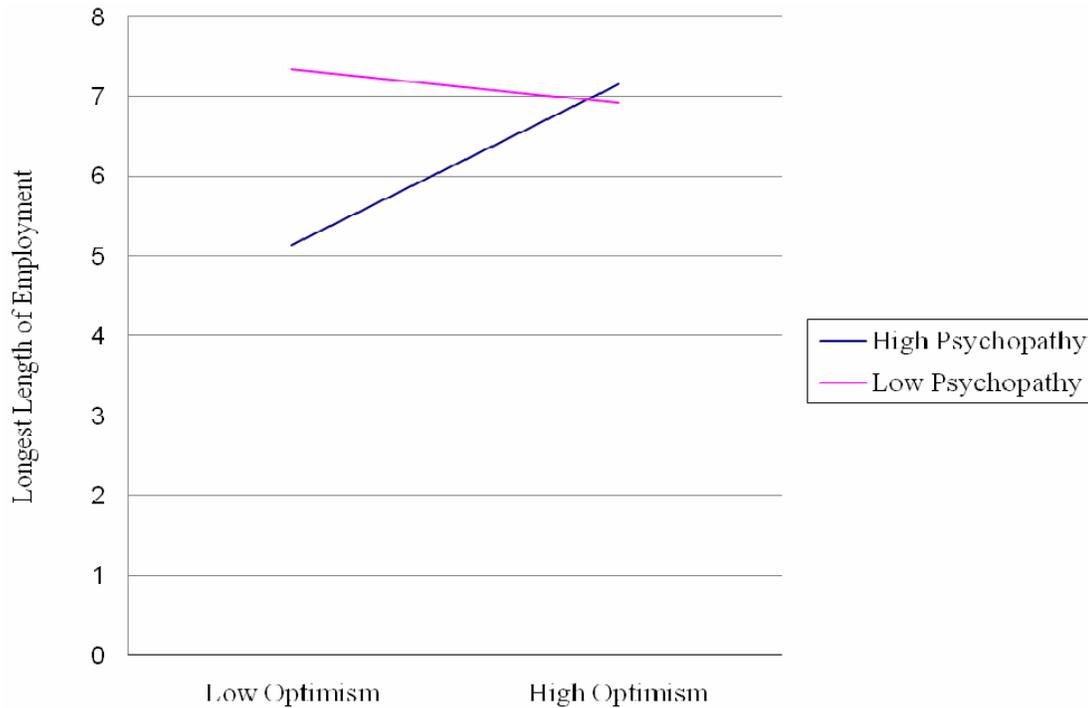
Results of multiple regression evaluating psychopathy as a moderator between optimism and longest length of employment 1-year post-release

	R ²	Change in R ²	B	SE-B	β
Step 1:	0.01	0.01			
Optimism			-0.53	0.34	-0.10
Step 2:	0.02	0.01			
Optimism			0.50	0.34	0.10
Total Psychopathy			-0.10	0.06	-0.12
Step 3:	0.05	0.02*			
Optimism			0.50	0.34	0.17
Total Psychopathy			-0.10	0.06	0.28
Optimism x Psychopathy			0.15	0.07	0.04*

* $p < .05$, $n=244$

Figure 2

Psychopathy as a moderator between optimism and longest length of employment 1-year post-release



Another series of multiple regressions was conducted to determine if markers of unrealistic optimism moderated the relationship between optimism and either positive post-release outcome. Paralleling the moderation results involving total psychopathy score, psychopathy markers of unrealistic optimism moderated the relationship between optimism and number of different places lived in the year following release (Table 17). The interaction, which is plotted (see Figure 3) according to recommendations by Aiken and West (1991), indicated that among inmates low in unrealistic optimism, optimism was associated with living in more places in the year following release. However, for high unrealistic optimism, optimism was associated with living in fewer places in the

year following release. Unrealistic optimism also moderated the relationship between optimism and the longest length of employment in the year following release into the community (Table 18). Further examination of the nature of this interaction (see Figure 4) indicated that for low unrealistic optimism, optimism was associated with a shorter length of employment. However, for high unrealistic optimism, higher optimism was associated with longer length of employment.

Table 17

Results of multiple regression evaluating markers of unrealistic optimism as a moderator between optimism and number of different places lived 1-year post-release

	R ²	Change in R ²	B	SE-B	β
Step 1:	0.00	0.00			
Optimism			-0.05	0.10	-0.03
Step 2:	0.00	0.00			
Optimism			-0.05	0.10	-0.03
Unrealistic Optimism			0.01	0.07	0.00
Step 3:	0.02	0.02*			
Optimism			-0.05	0.10	-0.03
Unrealistic Optimism			0.03	0.07	0.03
Optimism x Unreal. Opt.			-0.21	0.10	-0.14*

* $p < .05$, $n=244$

Figure 3

Unrealistic optimism as moderator between optimism and number of different places lived

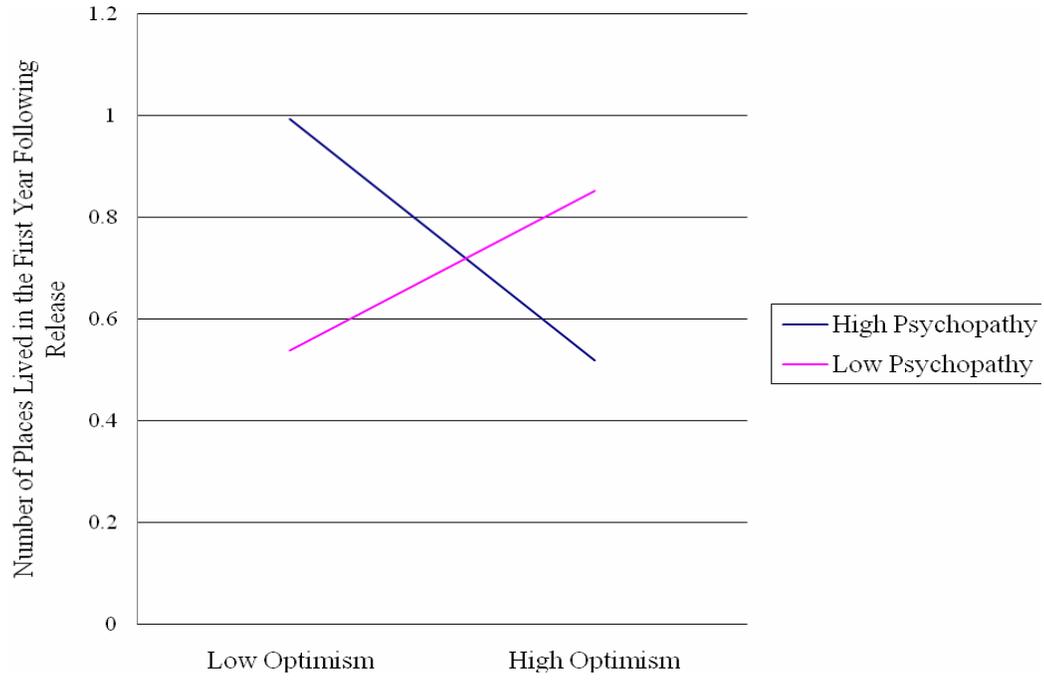


Table 18

Results of multiple regression evaluating markers of unrealistic optimism as a moderator between optimism and longest length of employment 1-year post-release

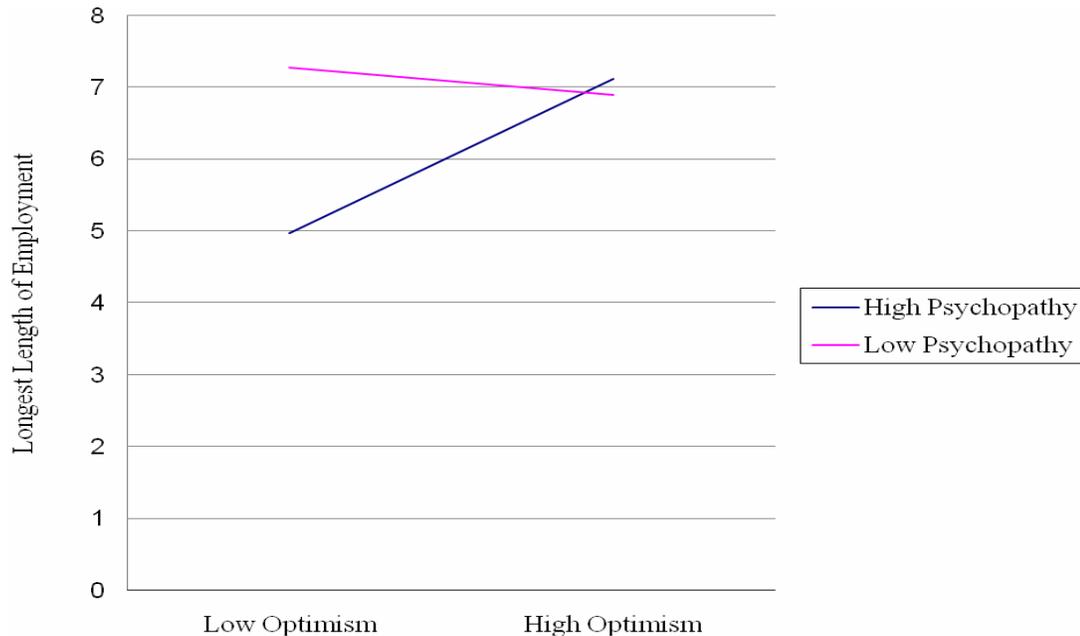
	R ²	Change in R ²	B	SE-B	β
Step 1:	0.01	0.01			
Optimism			0.53	0.34	0.10
Step 2:	0.02	0.01			
Optimism			0.57	0.34	0.11
Unrealistic Optimism			-0.39	0.24	-0.11
Step 3:	0.04	0.02*			
Optimism			0.55	0.34	0.10
Unrealistic Optimism			-0.45	0.24	-0.12
Optimism x Unreal. Opt.			0.67	0.32	0.14*

* $p < .05$, $n=244$

Figure 4

Unrealistic optimism as moderator between optimism and longest length of employment

1-year post-release



Further Examination of Moderators: Factor 1 vs Factor 2 Psychopathy

Post-hoc data analyses were conducted to further examine how psychopathy and unrealistic optimism moderate the relationship between optimism and positive post-release outcomes. Psychopathy, as assessed on the PCL:SV, is comprised of two factors. Factor 1 characteristics reflect interpersonal and affective attributes such as callousness, selfishness, and conning and manipulative behaviors; whereas Factor 2 characteristics reflect social deviance attributes such as parasitic lifestyle and criminal behavior (Hare, 1991; Skeem et al, 2003). It was hypothesized that Factor 1 characteristics may help psychopaths to maintain post-release stability because these individuals are engaging and charming and are thus better able manipulate others around them. Verona et al. (2001)

found that Factor 1 was positively correlated with achievement and pursuing satisfaction through dominance. Post-hoc analyses were conducted to explore whether Factor 1 was driving the moderation. This was not the case, as both Factor 1 and Factor 2 were significant moderators of the relationship between optimism and number of places lived ($\beta = -.14, p < .05$; $\beta = -.13, p < .05$ respectively) and significant moderators of the relationship between optimism and longest length of employment ($\beta = .14, p < .05$; $\beta = .13, p < .05$ respectively).

Further Examination of Moderators: Post-Release Living Situation

Another post-hoc analysis examined who individuals were living with post-release. It was predicted that high psychopaths would be more likely to be living with others, engaging in a parasitic lifestyle. To investigate this, ten participants were identified in each quadrant (low psychopathy/low optimism; low psychopathy/high optimism; high psychopathy/low optimism; high psychopathy/high optimism). When living arrangements were compared, individuals high in psychopathy and high in optimism were no more likely to report living with others than individuals in the other groups (at least 75% of inmates in each group reported living with partner or parents).

DISCUSSION

In community samples, optimism has been linked to positive outcomes in the face of negative life events, perseverance in the face of adversity, positive mood, and good health. While optimism has been identified as a positive factor in community samples, it is unclear how it functions in an incarcerated population. This longitudinal study examined the relationship between optimism upon entry into the jail and four domains: treatment seeking during incarceration, change in psychological health during incarceration, post-release re-offense, and positive post-release outcomes.

Direct Effects

Optimism at Time 1 and Subsequent Treatment Seeking

This is the first study known to have investigated the relationship between optimism and treatment seeking in a correctional setting or in the general community. There was no direct relationship between optimism at Time 1 (entry into the jail) and either measure of subsequent treatment during incarceration (official records of treatment seeking and self-report of treatment participation). Additionally, when the sample was restricted to include only those in need of psychological treatment, there was no direct relationship between optimism and subsequent treatment seeking.

It is possible that individuals higher in optimism find other ways to address problems in their lives besides seeking formal treatment. Possibilities include reading

self-help books borrowed from the library, consulting with family or friends about how best to solve problems, or seeking religious guidance. Any of these may help an individual address a problem in a less formal manner. Because the measures of treatment were restricted to formal treatment offered at the jail, the use of alternative informal help seeking approaches was not captured.

In addition to informal help seeking, several other factors may have obscured the relationship between optimism and subsequent treatment seeking. Optimistic inmates in need of treatment may have been motivated to engage in treatment, but there are many potential barriers to treatment in a correctional facility. A study of barriers to mental health and substance dependence treatment in this sample (Reinsmith-Meyer, 2008) found that inmates who were identified as in need of treatment reported a variety of reasons for not participating in treatment while incarcerated. One barrier was fear of being stigmatized by other inmates or by correctional staff because of a mental health problem. Reinsmith-Meyer (2008) found that individuals with mental illness (e.g. depression, anxiety) but no substance dependence were more likely to endorse stigma as a reason for not participating in treatment.

A second and particularly important barrier is a lack of appropriate treatment. Inmates with substance dependence problems at this particular jail had many options for treatment, such as AA, NA, Intensive Addictions Program, and Substance Abuse Psychoeducation. On the other hand, inmates with mental illnesses had limited options. There were few mental illness-specific treatment options available to inmates at the jail where the data were collected (Reinsmith-Meyer, 2008). This means that depending on

an inmate's individual needs, there may be more or less relevant programming available. A third and related barrier is concern about treatment efficacy, the belief that the program would not be helpful.

Treatment seeking is a complex process (Farberman, 1997; Mackenzie et al., 2006; Stefl & Prospero, 1985) and investigating a direct effect between optimism and treatment seeking may be over-simplifying this complex issue. It is more likely that treatment seeking is a multi-faceted construct and future research should investigate a model which includes other variables such as mental health stigma, belief that mental health services are helpful, and support from family and friends. Additionally, unique factors in jail or prison, such as a fear of being seen as "weak" due to a mental health problem may influence an inmate's likelihood of seeking treatment.

Optimism at Time 1 and Changes in Psychological Health during Incarceration

Research in the community has found a positive relationship between optimism and subsequent psychological health in longitudinal studies (Carver et al, 1993; Carver & Gaines, 1987; Scheier et al., 1989) but only one study was found to investigate the relationship between initial optimism and change in depression (Brissette et al., 2002). This study found that, among college freshmen, optimism was related to smaller increases in depression over the first semester of college. One explanation for this association is that optimists cope more effectively with life stressors. Another explanation comes from the social support literature. Research suggests that social support can positively influence psychological health and there is evidence that optimists report more social supports than pessimists.

In the current study, it was hypothesized that optimism upon entry to the jail would be related to a decrease in symptoms of either depression or anxiety because optimists cope more effectively with their stressors than do pessimists. Consistent with research in the general community, analyses revealed a significant negative relationship between concurrent measurement of inmates' optimism and symptoms of depression and anxiety. However, optimism upon entry to the jail failed to predict change in symptoms of either depression or anxiety during incarceration. One explanation for failing to find a relationship between Time 1 optimism and changes in psychological health during incarceration is that inmates may have experienced an increase in symptoms of depression and anxiety upon entering the jail (Time 1) and symptoms decreased naturally as inmates adjusted to their incarceration.

Optimism at Time 1 and Negative Post-Release Outcomes

There was a negative relationship between optimism at Time 1 and negative outcomes one year upon release into the community. Specifically, there was a significant negative relationship between baseline optimism and number of different undetected offenses and number of different drugs used post-release. An analogous, though non-significant, negative relationship between optimism and number of different arrests was observed.

Results indicate that individuals high in optimism are less likely to later engage in illegal behaviors. Returning to the community following incarceration is stressful as ex-inmates attempt to re-adapt to familial roles, and face employment and environmental stressors (Petersilia, 2003). Optimists, who have more effective coping and problem-

Optimism at Time 1 and Positive Post-Release Outcomes

Virtually all research with offender samples focuses on negative outcomes, such as recidivism or drug use after release. Even studies examining jail or prison-based treatment effectiveness measure treatment success based on reduction in recidivism and other negative outcomes (Landenberger & Lipsey, 2005; Pearson et al., 2002; Wilson et al., 2005). But this focus fails to take into account positive behaviors ex-offenders may be engaging in after release. An important component of this study was the focus on positive post-release outcomes. Although there was a direct relationship between optimism at Time 1 and negative post-release outcomes, there was no relationship between optimism and positive post-release outcomes (stable housing and employment). One explanation for why there was no significant relationship between optimism and positive post-release outcomes is that changing housing or employment may have been beneficial for inmates. Optimists, by developing plans to address problems, may have been more likely to set-up housing and employment prior to their release into the community. This initial housing and employment may have met a short-term need, but during the year following release the optimist worked to obtain better housing (i.e. more living space, safer location, etc.) and better employment (i.e. higher pay, better hours, benefits, etc.).

Alternative Models

Optimism at Time 1 and Subsequent Treatment Seeking

An alternative, non-linear relationship was also explored and found to be non-significant. Theorists have posited that extremely high and extremely low optimism may be unhealthy and that the optimal level of optimism is in the mid-range (Markus and Nurius, 1986; Perloff, 1983). This alternative model is based on the belief that individuals with high levels of optimism exhibit unrealistic positive self-evaluations and exaggerated perceptions regarding control over their environment. As a result of these beliefs, there may be a critical level of optimism beyond which it is associated with negative, rather than positive, outcomes.

The existence of a curvilinear relationship has only recently begun to be investigated with community samples and results are inconsistent. Some studies have found that high levels of optimism are associated with negative outcomes, such as lower levels of exercise (Davidson & Prkachin, 1997), not using task-oriented coping (de Ridder, Schreurs & Bensing, 2000), and increased depression in non-HIV infected African American women (Devine et al., 2000). In contrast, Devine et al. (2000) found that low and high levels of optimism were associated with fewer depressive symptoms than moderate levels of optimism in HIV-infected African American women. The current study, unique in examining treatment seeking, found no evidence of a curvilinear effect for optimism.

Two other potential moderators of the relationship between optimism upon entry to the jail and subsequent treatment seeking were also examined: total psychopathy and psychopathy markers of unrealistic optimism. It was hypothesized that for psychopaths, optimism would be negatively related to treatment seeking. This hypothesis was based on

the assumption that these individuals would not address problems, would believe they can resolve problems on their own, or that they would not even acknowledge problems. Consistent with the hypothesis, psychopathy significantly moderated the relationship between optimism and self-reported treatment participation. There was a negative relationship between optimism and treatment seeking for those high in psychopathy, but no relationship between optimism and treatment seeking among those low in psychopathy. Unrealistic optimism, while not significant, exhibited a similar pattern. No such effect was found for official records.

An explanation for why inmates higher in psychopathy and optimism were less likely to seek treatment is the interpersonal, affective, and behavioral symptoms characteristic of psychopaths. Interpersonally, psychopaths may not even acknowledge having a problem to address due to their grandiosity and egocentricity. Affectively, psychopaths have difficulty forming significant relationships with others or establishing long-term goals, both of which are important to engaging in and continuing treatment. Behaviorally, psychopaths may not follow-through on treatment because they are impulsive and sensation-seeking. Given this, psychopaths, who also have high optimism, may not recognize problems and even if they recognize a problem, they may overestimate their ability to address the problem through informal avenues.

Optimism at Time 1 and Negative Post-Release Outcomes

Two potential moderators of the relationship between optimism and the classic criminology outcomes were examined (psychopathy and psychopathy markers of unrealistic optimism). Neither variable was a significant moderator. However, there were

several main effects. Optimism was significantly negatively related to the number of undetected offenses and number of different drugs used. Psychopathy was significantly positively related to number of arrests, number of undetected offenses and number of different drugs used in the year following release.

Optimism at Time 1 and Positive Post-Release Outcomes

While there was no direct relationship between optimism upon entry to the jail and positive post-release outcomes, psychopathy and psychopathy markers of unrealistic optimism were significant moderators of the relationship between optimism and both positive post-release outcomes. Further exploration of the interaction revealed that, among those low in psychopathy, optimism was associated with more places lived and shorter periods of employment. In contrast, among those higher in psychopathy, optimism was associated with fewer places lived and longer periods of employment. These results were contrary to the original hypotheses, and indicate these “optimistic psychopaths” are somehow better able to remain in the same housing location and at the same job.

Post-hoc data analyses revealed that this moderation effect was not driven by Factor 1 attributes, as both Factor 1 and Factor 2 were significant moderators, having comparable betas. Another post-hoc analysis examined who participants were living with post-release. When compared to other extremes (low psychopathy/low optimism; low psychopathy/high optimism; high psychopathy/low optimism) individuals high in psychopathy and high in optimism were not more likely to report living with others.

The Psychopathy/Optimism Interaction: What Does it Mean?

On the surface, the finding that “optimistic” psychopaths have more stable jobs and housing, yet are less likely to seek treatment may seem contradictory. However, these findings may each arise from a general pattern of glibness, superficial charm, manipulation, and parasitic living. Recall that optimists have an expectation for positive outcomes and confidence in future success (Domino & Conway, 2001; Scheier & Carver 1985). The interaction between optimism and psychopathy may hyper-exaggerate characteristics of both domains. Optimistic psychopaths have confidence in their future success and do not see any problems in themselves – hence no treatment seeking. After release from jail, the optimistic psychopath lives with others, and when problems arise in the living situation, he or she may use charm and manipulation to smooth things over, maintaining the living arrangement. In contrast, individuals low in psychopathy may not be able to talk their way into long term living situations, may find it necessary to move from one friend or family members’s house to another, and may even find themselves on the street –.

Moreover, the psychopath’s ability to use charm to con or manipulate others may help the optimistic psychopath to maintain stable employment. These individuals may appear successful for awhile, but their psychopathic nature is apt to catch up with them, indicated by the strong link between psychopathy, undetected crime, and official recidivism.

This theory may identify a specific type of “successful” psychopath. The concept of a “successful” psychopath has captured the interest of researchers, clinicians, and the

general public (Babiak & Hare, 2007; Hall & Benning, 2006; Widom, 1977). The general definition of a successful psychopath is someone who demonstrates psychopathic characteristics, but looks “normal” and does not engage in serious antisocial behavior. Because participants in the current study have been incarcerated and results indicated a main effect between psychopathy and recidivism, it could be argued that they would not fit the accepted definition of a “successful psychopath”, but may indeed be a variant of successful psychopathy. Consistent with the theory of the “optimistic psychopath,” successful psychopaths violate social norms and the rights of others, but use charm and manipulation to advance themselves personally and professionally. Lykken (1995) posited that certain psychopathic traits, such as grandiosity, charm, and fearlessness may be valuable characteristics to possess, particularly in professions such as law or business.

An alternative explanation is that self reports at Time 3 by individuals higher in psychopathy were more colored by social desirability biases. However, this is unlikely as psychopathy and positive impression management (assessed at Time 1) were negatively correlated. As psychopathy increased positive impression management decreased. In addition, length of employment and number of residences in the year post-release seem much less prone to social desirability biases than other outcomes, such as detected and undetected felonies.

Limitations

There are several limitations to this study. One limitation is related to measurement. Optimism, as assessed in this study, was derived from the VIA hope/optimism scale. The measure was modified to include only those items that were

consistent with the operational definition of optimism. Additionally, unrealistic optimism was measured by selecting two items that were consistent with the operational definition of unrealistic optimism. While care was taken to ensure that items selected for each scale were consistent with theory and operational definitions of both optimism and unrealistic optimism, these were not widely used, empirically validated measures drawn from the mainstream measurement literature.

Another limitation is that much of the data analyzed (optimism, self-report treatment participation, mental health symptoms, and post-release outcomes) were self-report measures and are subject to response distortion. Attempts were made to include objective measures when possible (e.g., official jail records of treatment seeking and the clinician rated PCL:SV). Regarding concerns about self-reported criminal behavior, empirical studies suggest that, provided in the context of confidential research, self-reported criminal behavior is reliable and demonstrates high criterion validity (Horney & Marshall, 1992; Huizinga & Elliot, 1986). Moreover, analyses revealed that positive impression management did not seem to be a factor.

Another limitation is the generalizability of the results beyond jail inmates charged with felonies in an urban setting, and the use of a single correctional facility. Treatment programs vary across various correctional facilities. For example, prisons offer more treatment options than jails and, among all types of facilities, treatment seeking is dependent on what treatment is available. Replication of these results is necessary to determine whether these findings apply to individuals in different types of

facilities, such as other jails, and state or federal prisons, and to individuals charged with less serious offenses.

Future Research

Additional research is necessary in order to better understand how optimism functions in the inmate population. Future studies can further examine the direct relationship between optimism and treatment seeking. For example, one direction would be to examine how other variables such as mental health stigma, belief about program efficacy, and support from others moderate the relationship between optimism and treatment seeking. Future research can also examine the relationship between optimism and post-release outcomes. For example, researchers could examine whether coping mediates the relationship between optimism and negative post-release outcomes. Another area for future research would be to measure and test out the hypothesis that optimists' housing and job changes are related to obtaining better housing and employment.

Future study is necessary to further explore the interaction between optimism and psychopathy. Indicators of unrealistic optimism did not drive the relationship and post-hoc analyses revealed that the interaction was not driven by exclusively by Factor 1 or Factor 2 traits, but rather by both. Rather than reflecting unrealistic optimism, the active component of psychopathy may be in the realm of social skills. Research has found that psychopaths have deficient emotion processing/emotion competence (Blair, Mitchell & Blair, 2005; Hastings, Tangney & Stuewig, 2008; Malterer, Glass & Newman, 2008). However, the type of social skill which may drive the interaction between optimism and

psychopathy is different than simply attending to and recognizing emotion. Future research should investigate a particular kind of social skill; skills to charm, manipulate, and deceive others for one's own gratification.

A second direction is to obtain detailed information about employment during the first year post-release. Additional information would include job title, job responsibilities, and reporting any promotions or raises. With this information, it would be possible to determine if there is a difference in the type of job or job responsibilities. For example, those higher in psychopathy may have permanent full-time jobs whereas those lower in psychopathy may have seasonal full-time jobs (i.e. construction). Examining differences in promotions and raises may show that optimistic psychopaths are more likely to move-up in their jobs. A similar line of investigation could assess living arrangements in a more sensitive manner than was possible in this study.

Clinical Implications

Findings from this study suggest that optimism is a valid and informative variable in an inmate population, just as it is in the general community. Research in the general community has repeatedly found that optimism is related to positive outcomes. And it appears that optimism can be fostered through treatments that target negative cognitions, increase positive cognitions, and teach individuals to set and reach realistic goals (Carver & Scheier, 2002; Gillham & Reivich, 2004). When compared to natural optimists, this fostered optimism is similarly related to various outcomes. Psychological factors, such as optimism, should interest clinicians and researchers alike as it provides a potential point of intervention.

Therapeutic techniques aimed at fostering optimism work by increasing positive cognitions and self-statements. Given the literature on optimism in the general community and the findings to date with inmates, optimism building strategies may be beneficial additions to current jail or prison-based interventions. Specific strategies used to foster optimism include identifying self-defeating beliefs when faced with a challenge, evaluating the accuracy of the beliefs, and once the dysfunctional beliefs are discounted, replacing them with more constructive and accurate beliefs (Schulman, 1999).

While fostering optimism in treatment may be helpful for some individuals, fostering optimism may not be advisable across the board. Given the interaction between optimism and psychopathy and the research on treatment with psychopaths, it is unclear the effect of including psychopaths into programs designed to increase optimism. It is important that future research continue to explore the role of optimism in an inmate population and the mechanisms underlying the relationship between optimism and its associated outcomes.

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