ABSTRACT

Title of Document: AN EXPLORATION OF THE EFFECTS OF
                                            MASTERY, SELF-ESTEEM, AND
                                            RELIGIOSITY ON RECIDIVISM AMONG
                                            EX-PRISONERS

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While prior research has highlighted the importance of social factors for reentry and

recidivism, several criminologists have pointed out that an individual's subjective

perspectives (e.g., cognitions and self-concepts) are often neglected when studying

these processes. This study attempts to address this gap in our understanding of the

effects of subjective perspectives on recidivism by focusing on the impact of mastery,

self-esteem, and religiosity among ex-prisoners reentering the community. This

analysis utilizes data from the Urban Institute's *Returning Home*, a longitudinal study

of prisoners from three major U.S. cities as they return to their communities. This

comprehensive study provides information on both social experiences and the

relevant subjective perspectives both during incarceration and after release. The

current study utilizes a subsample of 740 males and examines three potential effects

for mastery, self-esteem, and religiosity: direct effects, change effects (from prison to

the community), and interaction effects with social stressors after release. Overall,

the findings suggest that religiosity, through change processes and its capacity to buffer social stressors, is an important subjective perspective for male prisoners. More specifically, ex-prisoners who experienced an increase in religiosity from prison to the community were less likely to be reincarcerated. Further, pre-release religiosity moderated the effect of post-release social stressors on reincarceration. In contrast, religiosity had a positive interaction with social stressors to affect illegal drug use after release. Mastery and self-esteem, on the other hand, do not appear to have noteworthy effects on recidivism for this group, nor do changes in these perspectives or their interactions with social stressors impact the likelihood of recidivism. The findings also demonstrate that social stressors have a robust positive effect on reincarceration and illegal drug use among sample members. Theoretical and policy implications are discussed.

AN EXPLORATION OF THE EFFECTS OF MASTERY, SELF-ESTEEM, AND
RELIGIOSITY ON RECIDIVISM AMONG EX-PRISONERS

By

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Dedication

For my Mom and Dad—thank you for every opportunity you have given me.

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Finally, I would like to acknowledge my mentor, Doug Smith. I think of you often, and I will forever draw upon your many academic and life lessons.

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Chapter 1: Introduction

THE PROBLEM OF PRISONER REENTRY

Prisoner reentry is not a new societal problem, but it is an issue that has recently come to the policy and research forefront due to the substantial numbers of men and women being released each year. Between 1980 and 2001, the incarceration rate in state and federal prisons grew by nearly 240 percent in the United States (Blumstein and Beck, 2005)—primarily a consequence of strict sentencing and incarceration policies initiated in the late 1970s and early 1980s (Blumstein and Beck, 1999). One of the major fallouts from this prison boom has been the large numbers of ex-prisoners that must be transitioned back to the community after serving their time. As of 2007, over 700,000 ex-prisoners were released from prison annually (Sabol and Couture, 2008). According to estimations provided by Uggen and his colleagues (2006), at least 14 million ex-felons are unconfined in the community, and at least 9 million have completed their criminal justice sanctions and are under no official supervision.

Generally speaking, ex-prisoners do not have successful reentry experiences. Released prisoners have a high likelihood of reoffending and some present a real threat to public safety. According to a Bureau of Justice Statistics study of 272,111 prisoners released from prison in 1994, 68 percent of releasees were rearrested for a new felony or serious misdemeanor crime within three years following release (Langan and Levin, 2002). Longitudinal research has indicated that risk of reoffending tends to peak within one or two years after release and decline thereafter (Greenberg, 1978; Visher, Lattimore, and Linster, 1991). Furthermore, this group has a significant impact on the nation's

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crime rate. Rosenfeld, Wallman, and Fornango (2005) estimated that between 1994 and 1997, ex-prisoners accounted for 10 to 15 percent of all U.S. arrests, and arrest frequencies for returning prisoners were 30 to 45 times higher than for the general population.

Drug use and abuse is prevalent among prisoners (Mumola and Karberg, 2006), and many ex-prisoners will likely use drugs after release. A national study of federal and state institutional inmates in 1997 showed that 83 percent of all state inmates had used drugs in their lifetime, 57 percent used drugs in the months before the offense, and 52 percent were using drugs at the time of the offense (Mumola, 1999). It is estimated that somewhere between 70 percent and 85 percent of prison inmates are in need of substance abuse treatment (U.S. General Accounting Office, 1991). Further, most will be released to inner-city communities where drugs are prevalent and easy to access (Crum, Lillie-Blanton, and Anthony, 1996). Drug offenders have some of the highest rates of parole violations and reconviction (Harrison, 2001; Langan and Levin, 2002; Spohn and Holleran, 2002). According to Zamble and Quinsey (1997), serious substance abuse is so entangled with repeat offending that the two processes may be "inseparable."

High failure rates among ex-prisoners are not surprising if one accounts for the fact that most have very little human and social capital when they are leaving prison. Likewise, they face a myriad of obstacles with respect to finding employment and housing, re-establishing family ties and support, paying off debts, addressing physical and mental problems, and avoiding negative peer relationships (e.g., Glaser, 1964; Irwin, 1970; Nelson and Trone, 2000; Petersilia, 2003). For instance, without sufficient money or immediate employment, they must depend on family members and friends to meet

basic needs. They may experience conflict with family members and friends related to this dependency. If released on parole, they must meet the conditions of supervision or face a possible return to prison. These requirements often include finding employment, attending counseling, supporting their children, avoiding others on parole – all of which are not necessarily easy tasks for returning prisoners. To complicate matters, Congress and many state legislatures have passed several laws and regulations that restrict ex-prisoners' opportunities in terms of housing, welfare, and employment (Petersilia, 2003). Restrictions on voting rights and other civil privileges further alienate ex-offenders from roles that connect most citizens to conventional society (Uggen and Manza, 2002). These social stressors contribute to a higher likelihood of reoffending upon release.

Besides these structural obstacles, ex-prisoners must deal with issues related to internal impediments and their self-identities. Ex-prisoners tend to experience feelings of loneliness, depression, and disappointment once they return to the community (Irwin, 1970; Ekland-Olson, Supancic, Campbell, and Lenihan, 1983). In many cases, the outside world has changed while they were in prison, and they cannot simply resume life in the community as they once knew it (Irwin, 1970). Many perceive themselves as "outcasts" and "less than the average citizen" (Uggen, Manza, and Behrens, 2004), and some continue to embrace a deviant identity, which was potentially nurtured or even enhanced during incarceration (Visher and Travis, 2003). These negative self-concepts and psychological issues may further inhibit integration into the community.

In short, both subjective and social factors impact an ex-prisoner's reentry experience. To borrow from Le Bel and colleagues (2008), in this paper "subjective" factors refer to an individual's cognitions, attitudes, and beliefs. These constructs are

experienced internally, and reflect how an individual understands and makes sense of the world. "Social" factors, on the other hand, refer to institutions that are external to the individual, such as employment, family, peers, and the community. Importantly, these two categories of factors—subjective and social—are not entirely independent of one another. To illustrate, one may consider the attachment and beliefs elements of Hirschi's (1969) social bonds, which are arguably internal constructs. Although imprecise, this dichotomy represents a useful approach to examine how an ex-prisoner manages the reentry process from both angles.

While empirical research has explored many of the challenging social experiences ex-prisoners encounter when they return to the community (e.g., Glaser, 1964; Petersilia, 2003), very few studies have offered quantitative investigations of ex-prisoners' subjective perspectives and how positive or negative self-concepts may facilitate or hinder the reentry process. The handful of studies that has addressed both psychological and social processes have concluded that subjective factors can distinguish those who are likely to recidivate (e.g., Zamble and Quinsey, 1997; Maruna, 2001; LeBel, Burnett, Maruna, and Bushway, 2008). Furthermore, offending and desistance appear to be the outcomes of a complex interaction between subjective and social factors, and researchers have called for future studies to tease out these effects.

CORRECTIONS AND SUBJECTIVE PERSPECTIVES

How to effectively address prisoners' and ex-prisoners' deficiencies is subject to much debate. Correctional researchers have called for a focus on criminogenic needs (e.g., Gendreau, Little, and Goggin, 1996; Andrews and Bonta, 1998), a broad concept

that includes criminal friends, low educational and vocational achievement, substance abuse and interpersonal skill deficits, as well as cognitive factors, such as anti-social attitudes, poor attitudes toward school or the workplace, and poor decision making, problem solving and self control/self regulation skills. Others have acknowledged that providing offenders with education and vocational skills is an important piece of the correctional experience, but successful outcomes also depend on individual-level changes in thinking, reasoning, empathy, and problem solving (Mackenzie, 2006). For instance, MacKenzie (2006) notes that effective correctional programs focus on individual-level change, whereas ineffective programs frequently focus on developing opportunities, such as education and vocational skills programming. MacKenzie contends that an internal change may be necessary for individuals to take advantage of prosocial opportunities (also see Maruna, 2001; Giordano, Cernkovich, and Rudolph, 2002), and she recommends that reentry programs address individual-level change before providing opportunities.

The notion of changing prisoners' attitudes has long been a goal of correctional rehabilitation (Gibbons, 1999; Task Force on Corrections, 1967), though since the 1970s this approach has largely been pushed aside to accommodate more punitive and deterrence-driven correctional policies (Cullen and Gendreau, 2000).[1] Yet, given our current knowledge of effective programming (Cullen and Gendreau, 2000) and the overwhelming state of the U.S. prison population, exploring ways to work with prisoners'

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[1] Some may argue that deterrence or punishment is a way of changing an offender's psychological functioning, for example, to change a cost-benefit calculus or to engender an 'epiphany' brought on from suffering (e.g. reject a criminal lifestyle that has lead to such misery). However, these approaches did not have personal change in beliefs as an explicit and primary goal. Rather, the main focus was on changing an offender's estimates of risk-returns when facing crime opportunities, incapacitation, and deterring others by example.

thoughts and beliefs to facilitate successful reentry is both warranted and desirable for society at large. Furthermore, as noted by Foglia (2000), changing the way someone thinks is a lot less daunting than trying to change their social environment, biological predispositions, or overhauling economic structures to provide more employment opportunities.

THEORETICAL BACKGROUND

Many of the social and structural issues that prisoners face upon release have been incorporated into theories of persistence of and desistance from offending. Indeed, researchers studying recidivism have suggested these findings be integrated with theories of desistance (e.g., Huebner, Varano, and Bynum, 2007). For instance, Laub and Sampson's (2003) explanation of desistance highlights the importance of turning points in the life course, as related to changes in social bonds. They argue that the development of these bonds, particularly to spouses and employment, result in a regular prosocial routine, informal social control, and perhaps most importantly, social capital. Once offenders experience a turning point and develop an attachment to one of these social institutions, they become invested in something that they do not want to lose and put more effort into sustaining a conventional lifestyle.

Theorists have also emphasized the importance of cognitions and attitudes in the desistance process. Some explain desistance as a process of cognitive change, such as a change in self-concepts or self-identity. For example, Shover (1983, 1985, 1996) attributes desistance from crime to the change of self-identity, such as a shift from concern for self to concern for others or increasing acceptance of conventional values.

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Maruna (2001) contends that in order to successfully maintain abstinence from crime, ex-offenders need to develop a coherent, prosocial identity for themselves. In a sample of 65 ex-convicts, he found that those who desist from crime are more likely to convey a sense of control over their lives and express optimistic attitudes compared with those who persist with their criminal careers. Giordano and colleagues' (2002) work shows that desisters communicate a readiness to change their criminal ways, which is not expressed by people who persist in crime. Further, once offenders are ready to change they are more likely to take advantage of 'hooks', or prosocial factors such as a good job or partner relationship, after release. Eventually, these new roles facilitate the acquisition of prosocial identities to the extent that crime and deviant behaviors are no longer consistent with how the person functions in his or her everyday life. At this point, the individual no longer engages in criminal behavior.

More current research has merged these two primary explanations for desistance—those stressing the importance of social factors and those focusing on subjective factors—to enhance our overall understanding of the process. For example, LeBel and colleagues (2008) examined the relationship between these subjective and social factors in a study of 130 male property offenders followed for up to 10 years after their release from prison. They showed that subjective factors, such as hope and having a positive identity, have both direct and indirect effects on subsequent reincarceration through negative social experiences. Other subjective factors, specifically feeling regretful and stigmatized, have direct effects on reconvictions and reincarceration. This research offers a more comprehensive theoretical understanding and empirical approach to studying desistance, and it also provides a useful framework for studying the

likelihood of recidivism among prisoners returning to the community. Indeed, as MacKenzie (2006) suggested in her assessment of reentry programming, helping ex-prisoners succeed may require addressing both their social needs and their subjective selves—someone who expresses a negative self perspective may be at risk for recidivism regardless of his or her social opportunities.

THIS STUDY

The purpose of this study is to examine how ex-prisoners' subjective perspectives contribute to their likelihood of recidivism. Prior research has suggested that subjective perspectives may have direct effects, indirect effects, or interact with social factors that are related to criminal behavior (e.g., Zamble and Quinsey, 1997; LeBel et al., 2008). In this study, I will examine the extent to which mastery, self-esteem, and religiosity contribute to the likelihood of recidivating after being released from prison, controlling for and in interaction with important social factors. Prior research on offenders has indicated that each of these subjective factors may be important to the recidivism process. For instance, Maruna's (2001) qualitative study of ex-convicts suggests that control over life is an important aspect within the personal narratives of ex-convicts who are desisting from crime and drug use. In addition, researchers have long speculated on the relationship between self-esteem and violent and antisocial behavior (e.g., Baumeister, Smart, and Boden, 1996; Kaplan, 1980), yet we know little about if and how it matters in the process of recidivism among released ex-prisoners. And while religion has been ingrained in U.S. corrections since the late 1800s, little research has examined religiosity among returning prisoners. According to the existing research, religiosity may be

inversely related to offending among ex-prisoners (e.g., Johnson, Larson, and Pitts, 1997; Sumter, 1999).

To explore the hypothesized relationships between subjective factors and recidivism (which are discussed in more detail in Chapter 2), I utilize the Urban Institute's *Returning Home* study data from three major U.S. cities—Houston, Chicago, and Cleveland.[2] These data provide information on a representative sample of prisoners who returned to urban locations in terms of their experiences prior to release and for up to one year in the community after release. Even though society at large is affected by the mass numbers of prisoners returning home each year, reentry is not a randomly distributed phenomenon. The expansion of incarceration in the U.S. has disproportionately affected young, black males (Lynch and Sabol, 1997), and urban areas generally face the brunt of all returns (Lynch and Sabol, 2001). Given these facts, it is especially important to focus on urban samples when exploring outcomes among this population.

The goal of the *Returning Home* study was to provide a comprehensive understanding of the reentry process, examining prisoners' situations just before they were released to the community and how they fared during the reentry experience. The project includes measures from several critical domains of ex-prisoners' lifestyles, including family and partner relationships, in-prison and community-based treatment services and other programming, employment and organization participation, substance use, mental and physical health, peer relationships, and attitudes and beliefs. Prisoners

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[2] The Urban Institute also conducted a pilot study for the Returning Home project in Baltimore, Maryland. Survey instruments were edited after the pilot phase in Maryland and some of the survey questions relevant to the current study were not available for participants in this site.

completed a self-administered survey just prior to release and participated in one-on-one interviews for up to three waves during the first year after their release.[3]

The following study utilized a sample of male prisoners, who were interviewed in prison prior to release, within two months of release to the community, and approximately eight months after release, to examine the effects of mastery, self-esteem, and religiosity on the likelihood of recidivism in the post-release period. There are three primary outcomes in this analysis—self-reported arrest, official reports of reincarceration, and self-reported drug use during the follow-up period. I construct statistical models to examine three types of effects of the subjective perspective on each recidivism measure: 1) direct effects; 2) change effects, which examine whether potential changes in these perspectives predict recidivism; and 3) interaction effects, in which I interact each subjective perspective with a social stressor index. I also estimate separate models for subjective perspectives measured pre-release and those measured during the follow-up period—if these perspectives do change when an individual is moved from confinement to the community, a subjective perspective may impact recidivism when measured at one point but not the other. Importantly, I control for social factors that have established theoretical and empirical relationships with recidivism to provide a more stringent test of the effects of the subjective factors. Overall, this analysis will provide a detailed empirical analysis of how each subjective factor is potentially involved in reentry and recidivism processes.

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[3] The specific number and timing of these interviews varied across states due to logistical and budgetary reasons.

CONTRIBUTIONS OF THIS RESEARCH

The present study seeks to fill the research gap in our understanding of subjective perspectives on the likelihood of recidivism among ex-prisoners. Prior research indicates that reoffending is not inevitable and that offenders eventually refrain from criminal behavior (e.g., Laub and Sampson, 2003). Thus, an important task for researchers is to unpack the recidivism process and to make sense of these findings so that correctional systems can better design and target programming.

It is evident that there is a place for both subjective and social factors in our understanding of recidivism, though our understanding of subjective factors is clearly behind the curve relative to social factors (Maruna, 2001; LeBel et al., 2008). Maruna (2001) notes, "Subjective aspects of human life (emotions, thoughts, motivations, and goals) have largely been neglected in the study of crime, because the data are presumed to be either unscientific or too unwieldy for empirical analysis" (p. 8). The *Returning Home* data provide an opportunity to move beyond this particular issue. The first goal of this study is to establish whether mastery, self-esteem, and religiosity play a measurable role in the recidivism process among ex-prisoners. Then, I will explore these effects further by examining how changes in levels of these perspectives from prison to the community may influence recidivism, and also how they may be moderated by social factors that are important in the recidivism.

In terms of theory, the current study contributes to the criminological literature in several ways. First and foremost, it builds on a relatively weak criminological literature that examines how psychological processes affect recidivism and, by extension, desistance from crime. I follow an analytic strategy similar to that used by LeBel et al.

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(2008) but use a larger and more diverse sample, and I examine different subjective factors. This study also provides a stronger empirical test of subjective factors highlighted in Maruna's (2001) *Making Good*, namely his qualitative findings pertaining to sense of control over life.

Another strength of this research is the use of longitudinal data, which can account for potential changes in the subjective factors over time. Perspectives measured during prison may not significantly predict recidivism, but if these factors change upon release, it is possible the post-release subjective measure will have a significant effect (Foglia, 2000). To this researcher's knowledge, none of the prior criminological studies have examined the effects of changes in mastery, self-esteem, and religiosity on subsequent recidivism; the current study will start to fill this gap in the literature.

This study also addresses the debate of the relative importance of social and subjective factors in the desistance process. According to Laub and Sampson's (2003) perspective, changes in mindsets or cognitions are not necessary or sufficient for offenders to abstain for criminal behavior. On the other hand, Maruna's and Giordano's research suggests that the subjective self is critical to the process. While the period under study (approximately one year) does not provide a strong test in support one way or another for the desistance debate, it nonetheless contributes to our understanding of the role of subjective factors in criminal offending, and whether the factors explored in this study should be considered in discussions of desistance. Further, release from prison may be the start of the desistance process for some, but not others.

Lastly, this research has important implications for correctional policy and practice. If subjective factors matter as much as social factors, practitioners may want to

reorient current in-prison and community-based programs to better address these needs. As noted by MacKenzie (2006), providing employment-related programming to someone who lacks internal resources for change may be fruitless in terms of reducing recidivism. Thus, prison staff may want to flag inmates with negative self-concepts for services or place these prisoners in a group designed to help with the transition from prison. Programming can also be utilized to help offenders gain a better sense of control over their lives or bolster self-efficacy in certain areas so as to heighten one's self-esteem. The potential of religion as a mechanism of social control and to influence behavior in areas of crime policy and rehabilitation has recently received an increasing amount of attention, especially through faith-based programming (Sumter, 2006). The current study will contribute to this line of research to the extent that religiosity predicts outcomes among this sample of incarcerated adult males. All-in-all, this study will provide more insight into prisoners' subjective selves, which can be utilized to inform and enhance prison and probation programming designed to reduce recidivism.

OUTLINE OF RESEARCH

Presentation of this research proceeds as follows: In Chapter 2, I review the relevant empirical and theoretical literature in order to establish the state of existing knowledge and the motivation for the current research. More specifically, I review the literature on mastery, self-esteem, and religiosity, and I propose several hypotheses that further this line of research. Chapter 3 details the data and sample that are employed in this study, discusses the dependent and independent variables, and describes the modeling strategies that will be used. Chapter 4 presents the analytic findings. Finally,

Chapter 5 provides a discussion of these findings, discusses implications of these conclusions, acknowledges limitations to the study, and provides suggestions for future research.

Chapter 2: Literature Review

THE SUBJECTIVE SELF AND RECIDIVISM AMONG EX-PRISONERS

In *Making Good*, Maruna (2001) points out, "there is no great mystery as to *why* a person would choose to avoid crime. The material and personal benefits resulting from most criminal behavior are miniscule, the risks are high, and prisons and jails are generally miserable places to spend one's life…The bigger question is *how* ex-convicts are able to make good in the face of widespread social stigma, limited career opportunities, and social exclusion. Abstaining from crime under these highly criminogenic circumstances requires some explanation" (p. 27). Maruna contends that what is missing from social or maturational explanations of desistance is the individual— social factors must be studied alongside subjective changes in offenders' perspectives to provide a complete picture of the reform process.

Indeed, social explanations have dominated criminology. Prior research has uncovered several social factors that support the process of nonoffending (e.g., Laub and Sampson, 2003; Warr, 2002), but few studies have explored the subjective factors that might facilitate this process (see LeBel et al., 2008; Zamble and Quinsey, 1997; Maruna, 2001). It is not for lack of interest in the field, however. Criminology has a long history in its consideration of the subjective self—moving in, and quickly out of, the mainstream's spotlight over the years. For instance, cognitive explanations first proposed in the 1950s were not consistent with the popular perspectives that emphasized observable behavior (e.g., focusing on social, political, and/or economic status of offenders), and did not receive lasting attention (Foglia, 2000). But several popular

theories, including labeling, rational choice, and general strain theory, have incorporated the effects of an individual's cognitions on the commission of criminal and delinquent acts. In corrections, researchers and practitioners have espoused rehabilitation as a means to change individuals' thinking patterns and personal outlooks, and thus reduce the likelihood of recidivism. But this approach lost momentum in the 1970s when Martinson's (1974) "Nothing Works" report discredited rehabilitation programs, and politicians were demanding action on the steadily rising crime rates. Incapacitation became the predominant correctional paradigm, and the "new penology" focused on the management of incarcerated persons, not correcting their thoughts and behaviors (Feeley and Simon, 1992).

Researchers continue to make the case for a more comprehensive understanding of the individual, however, when studying the reform process among ex-prisoners. For instance, Zamble and Quinsey (1997) contend that recidivism results from an interaction between internal dispositions and external events. They compared recidivists and nonrecidivists on several psychological and social factors in an attempt to develop a model of recidivism based on psychological processes. According to their findings, recidivists had more life problems but fewer coping skills; in turn, this situation created more stress, which tended to lead to crime and substance abuse. In this model, both psychological and social problems contribute to the likelihood of recidivism.

LeBel and colleagues (2008) also explored how subjective factors interact with social/environmental factors to influence the desistance process. Their primary research question asks whether subjective changes trigger objective changes, or just accompany them. These authors empirically tested three possible models: (1) the strong subjective

model, in which one only needs to decide to change and envision a new identity in order to go straight; (2) the strong social model, in which social circumstances matter most; and (3) the combined subjective-social model, in which both factors contribute to the desistance process either independently or by the subjective factors having an indirect effect through the social factors. The third model assumes that the impact of social events depends on the level of the subjective characteristic. It also assumes that mindset is a necessary but not sufficient explanation of success—ex-prisoners must also experience the social events that support the desistance process. Utilizing a prospective study of 130 male property offenders who were followed for 10 years, their analysis supports a 'subjective-social model' in which subjective states measured before release have a direct effect on recidivism as well as indirect effects through their impact on social circumstances experienced after release from prison. These findings, as well as those presented by Zamble and Quinsey (1997), suggest that subjective factors have an important place in corrections and theoretical research, especially when considered in conjunction with social factors.

The current research focuses on three subjective perspectives—mastery, self-esteem, and religiosity—and their relationships with recidivism among ex-prisoners. Religiosity among prisoners has experienced a recent surge of interest in criminology, largely due to the prevalence of faith-based programs both inside prisons and in the community (Sumter, 2006). Research interest in mastery and self-esteem, on the other hand, dates back decades, particularly with regard to the incarceration experience (e.g., Bennett, 1974; Groh and Goldenberg, 1976). Again, when rehabilitation (i.e., changing

individual attitudes and behavior) was no longer the focus of corrections, interest in these constructs was diminished.

This study provides a current look at all three constructs using a contemporary sample to examine whether mastery, self-esteem, and religiosity contribute to our understanding of recidivism among ex-prisoners. Though related, each of these constructs has been treated separately in the theoretical literature. The following sections review these separate literatures to explain why mastery, self-esteem, and religiosity may directly impact ex-prisoners' outcomes. The psychological literature suggests that all three constructs will also moderate the negative effects of social stressors on mental and physical health outcomes; these factors are associated with better coping skills, resilience, and persistence in the face of failure. In the same way, Agnew's (1992) general strain theory can be utilized to explain why these factors may also moderate the negative effects of social stressors on criminal behavior. I discuss this literature, and then the small literature related to individual change in mastery, self-esteem, and religiosity. In the final section, I present the hypotheses driving the subsequent analysis.

MASTERY

A sense of control has been considered an essential part of one's well-being for almost 50 years (e.g., Brehm, 1972; deCharms, 1968; Lefcourt, 1966). Some have even argued that personal control is a basic human need (White, 1959; Phares, 1968); for example, Brehm (1993) contends that "individuals are motivated by a fundamental need to maintain a sense of mastery or control over their environment" (p. 3). Several terms have been utilized to refer to a sense of control— locus of control (Rotter, 1966), mastery

(Pearlin and Schooler, 1978; Pearlin, Menaghan, Lieberman, and Mullen, 1981), and a sense of personal efficacy (Downey and Moen, 1987). But in the study of crime and deviance, locus of control has been the favored term. In the following study, I will use mastery as my primary construct,[4] although I use all of these terms (i.e., locus of control, mastery, and personal control) interchangeably as I review the literatures.

Those with a high sense of mastery feel in control of the forces that importantly affect their lives (Pearlin et al., 1981). In a similar vein, Rotter (1966) defined locus of control as "the degree to which the individual perceives that a reward follows from, or is contingent upon, his own behavior or attributes versus the degree to which he feels the reward is controlled by forces outside of himself and may occur independently of his own actions" (p. 1). In other words, locus of control is the extent to which individuals perceive themselves as responsible and in control of occurrences that are experienced. It is generally specified along a continuum ranging from internal to external; however, in early studies, researchers frequently used a median split to obtain groups called "internals" and "externals."[5] Individuals with an internal locus of control feel that they have control over the events that happen to them, whereas individuals with an external locus feel as though they have little control over what happens to them, and that luck and fate govern most events (Rotter, 1966). Internals are more likely to work for achievements, to tolerate delays in rewards, and to plan for long-term goals, whereas externals are more likely to lower their goals (Rotter, 1966).

Locus of control is generally considered a trait that has been developed and reinforced through numerous interactions with the environment. However, theorists also

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[4] The scale I use to measure mastery was derived from Pearlin and Schooler's (1978) mastery scale.
[5] Rotter (1975) objected to such a distinction, claiming there is no justification for thinking in terms of a typology given that the distributions of scores using his Internal-External Scale were generally normal.

contend that it can change over time. For instance, Caspi (1993) points out that, "performance accomplishments are likely to increase a person's sense of self-efficacy and appraisal of internal control" (p. 366).

Mastery and Criminal Behavior

Generally speaking, research indicates that a higher sense of control is related to less criminal behavior (e.g., Sweet, Little, Wood, and Harrison, 1977; Groh and Goldenberg, 1976); however, the criminological literature has not clearly specified the mechanism driving this relationship. In his qualitative study, Maruna (2001) observed that desisting offenders expressed a strong sense of control over their lives. The ex-convicts described gaining a sense of personal power and recognizing their ability to choose their own destinies. Maruna concluded that "making good" involves taking control over one's life and using that life to contribute, accomplish something, and leave behind a positive legacy; criminal offending is inconsistent with this orientation, and thus avoided. Persistent offenders, on the other hand, expressed little control over their criminal behavior and generally asserted that their life chances have always been doomed. These individuals felt powerless to change things that, in their minds, drove their criminal behaviors (e.g., drug dependence, poverty, a lack of education or skills, or societal prejudice). Maruna (2001) identified two potential mechanisms for this relationship. First, lacking a sense of control may encourage offending by driving individuals to seek situations that reinforce and even enhance his or her sense of self-victimization (also see Caspi and Moffitt, 1995). Recall that Maruna's (2001) persisters generally conveyed that they were allotted a bad hand in life. In this case, getting

arrested, convicted, and sent to prison is consistent with their identity as a victim of society.

The second mechanism identified by Maruna purports that a lack of control may motivate offending in an attempt to regain some control (also see Matza, 1964; Brezina, 2000). A person who feels pushed around by society may experience less stress and loss if he or she is responsible for his or her own failure. Brezina (2000) utilizes a similar argument to explain delinquent behavior among adolescents. According to his hypothesis, delinquent behaviors enable youth to maintain a sense of power in the face of constraints imposed by adults. In this regard, juvenile offending is more or less a symbolic statement of personal independence. As stated, this perspective would not apply to adult offenders, however.

Researchers have conducted several studies examining locus of control among prisoners, focusing largely on the extent to which inmates are affected by their incarceration experience (Goodstein and Wright, 1989; Groh and Goldenberg, 1976; Levenson, 1975; Wright, Holman, Steele, and Silverstein, 1980; Zamble and Quinsey, 1997). Generally speaking, prisoners with a high internal locus of control fare better overall compared to individuals with external orientations, both during prison and after release (Goodstein and Wright, 1989; Groh and Goldenberg, 1976; Levenson, 1975; Sweet et al., 1977; Wright, Holman, Steele, and Silverstein, 1980; Zamble and Porporino, 1988).

Prison environments have obvious implications for sense of control since an individual's freedom is deliberately restricted. It has been suggested that the isolation and disempowerment of the incarceration experience can exacerbate an individual's felt

lack of personal control (Levenson, 1975; Blatier, 2000). For instance, Levenson (1975) found that individuals who had been incarcerated for longer periods were more likely to display an external locus of control. He also found that individuals who are internally oriented are less likely to receive punishment during incarceration.

Prisoners with an internal orientation have more favorable experiences in prison. Wright et al. (1980) found that compared to externals, inmates who perceived themselves as in control of their environment were more motivated toward mastery, more cognitively active in preparing for mastery, and more in control of their environment. Accordingly, individuals with an internal locus of control are more likely to participate in treatment, occupational, and educational opportunities (Groh and Goldenberg, 1976; Pettit, 2006).

There is some support for the relationship between personal control and offending among ex-prisoners. As discussed above, Maruna (2001) found that desisting ex-prisoners conveyed a greater sense of control over their lives than persistent offenders.[6] Sweet et al. (1977) also examined this relationship in a previously incarcerated sample and found that ex-prisoners with a more internal orientation were less likely to recidivate. In a qualitative study of Irish probationers, Healy and O'Donnell (2008) found that few conveyed a sense of control in their lives. Of those who did, most were in reference to overcoming a drug habit. Healy and O'Donnell suggest that "a sense of fatalism arises among chronic offenders who face significant obstacles to reintegration" (p. 34). (Indeed, the issues prisoners face upon release are broad and consequential; these are reviewed below.) All in all, the prior literature suggests that ex-prisoners with a greater

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[6] It is also possible that the process of desisting may increase one's sense of mastery (see Caspi, 1993). None of the empirical studies in this area address the issue of reverse causality.

sense of control, or mastery, have a lower likelihood for recidivism, though very few studies have examined this relationship.

Mastery and Drug Use

The literature predicts a similar negative relationship between levels of mastery and drug use, such that an individual with less perceived control will be more likely to use substances (Bearinger and Blum, 1997; Adalbjarnardottir and Rafnsson, 2001). One could apply the explanations provided above to explicate this relationship among ex-prisoners—if an individual feels that his fate is largely out of his control and that he is doomed to a life of failure (low mastery), he has little to lose by breaking laws and using illicit substances. Indeed, to the extent that drug use is an addiction, the very behavior implies a lack of control (West, 2001). Research on cocaine use also suggests that in the early stages of use, the drug provides users with an increased sense of mastery (Gawin, 1991)—thus drug use may provide at least a temporary sense of control for some users. Besides having a direct relationship, mastery is also considered a coping resource, which buffers the impact of negative influences on drug use (Bearinger and Blum, 1997; Adalbjarnardottir and Rafnsson, 2001). Mastery as a moderator of social stressors is discussed in more detail below.

Very little research has examined the relationship between mastery and drug use among prisoners. Groh and Goldenberg (1976) examined locus of control among 45 adult male prisoners in a Midwestern medium security penal institution. They found that inmates who reported prior drug use were also more likely to report external orientations than those who reported no drug use. As mentioned above, Healy and O'Donnell (2008)

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found that probationers who overcame a drug habit exhibited a greater sense of control over their lives. Maruna (2001) noted that participants in his desistance study who had ceased offending frequently referred to heroin addiction or alcoholism as an "alien force" or a "monkey on one's back" (p.93). These men did not see the drug use as something *they* did, but as something imposed on them, which controlled their actions.

SELF-ESTEEM

Another important element of one's self-concept, self-esteem, is defined as a person's sense of self-worth or having a favorable regard toward oneself (Rosenberg, 1979). Self-esteem encompasses beliefs and emotions, and it can apply to a particular dimension or have a global scope (Rosenberg, Schooler, Schoenbach, and Rosenberg, 1995).   Psychologists usually regard self-esteem as an enduring personality characteristic (trait self-esteem), though normal, short-term variations (state self-esteem) occur. It is derived from two general kinds of evaluative experiences: 1) accomplishment in valued social roles and tasks (sense of competence and confidence), and 2) acceptance in valued social relationships (sense of worth and significance) (Rosenberg, 1979; Leary, Haupt, Strausser, and Chokel, 1998).

Self-esteem impacts an individual's behavior. People tend to behave in ways that maintain or increase positive evaluations of the self (Kaplan, 1975). Individuals may seek to maintain or increase their self-esteem by creating "opportunity structures" or contexts for self-verification (Swann, 1990; Cast and Burke, 2002). A sense of self-esteem is also related to one's self-efficacy (a person's perception of his ability to reach a goal)—those high in self-esteem believe they are capable, efficacious people whose

efforts usually bring success; but those with low self-esteem possess less confidence in

their skills and abilities and maintain relatively low expectations for themselves.[7] In the

same way, people with high self-esteem are also more likely to persist toward a goal after

failing than people with low self-esteem (Shrauger and Sorman, 1977); those with low

self-esteem try to avoid new tasks and give up easily when they do engage in them (Tice,

1993). In the face of rejection, people with low self-esteem tend to react with self-

depreciation and withdrawal (Sommer and Baumeister, 2002).

Self-esteem and Criminal Behavior

Theorists have hypothesized two relationships between self-esteem and

offending—one positing a positive relationship between the two constructs, and the other

a negative relationship. To explain the negative relationship, Rosenberg (1965) utilized a

control framework, arguing that low self-esteem weakens ties to society, thus decreasing

conformity to social norms and increasing delinquency (Hirschi, 1969). According to

problem behavior theory (Jessor and Jessor, 1977), self-esteem is part of a personal belief

structure composed mainly of cognitive regulatory mechanisms that restrains natural

impulses to engage in unlawful behavior.

Kaplan's (1975, 1980) self-enhancement thesis posits that low self-esteem is

associated with delinquency, but that delinquency itself increases self-esteem. Kaplan

hypothesized that adolescents with low self-esteem seek to restore these feelings of

doubt. In the absence of effective conventional options, an individual turns to deviant

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[7] These constructs differ in that if the goal or activity is unimportant to the individual, failure may influence
one's level of self-efficacy but should not affect his or her level of self-esteem (Bandura, 1984). To
illustrate, a person may have low self-efficacy for golfing, but if golf is not very important to that person,
this is unlikely to result in low self-esteem.

behaviors that enhance self-esteem. This self-enhancement is achieved by 1) avoiding

further experiences of failure and rejection when measured against conventional

standards, 2) avoiding recognition of such failure and rejection, and 3) providing a new

set of deviant standards that the person can adopt, achieve, and use as a basis for positive

evaluation. Such adaptations may include crime and drug use (see below). Toch (1992)

utilized a similar theoretical perspective to explain why violent men seek situations in

which their self-worth is challenged. He suggested that violence is used to bolster or

enhance the person's ego in the eyes of himself or of others.

Theorists have also posited a positive relationship between self-esteem and

offending, specifically violent offending and aggression. Baumeister and colleagues

hypothesized that unrealistically high self-esteem, not low self-esteem, contributes to

aggression and violence (Baumeister, Smart, and Boden, 1996; Baumeister, Bushman,

and Campbell, 2000).[8]   More specifically, Baumeister, Bushman, and Campbell (2000)

contend that "aggression is most likely when people with a narcissistically inflated self

view of their own personal superiority encounter someone who explicitly disputes that

opinion" (p. 28). They refer to this experience as 'threatened egoism," in which

aggression is a means of defending a highly favorable view of oneself against someone

who seeks to discredit this view. In his account of inner city youth, Anderson (1999)

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[8] Baumeister and colleagues focus on the characteristics of people with high and low self-esteem.
According to these researchers, people with low self-esteem tend to be confused and uncertain about who
they are, lack confidence of success, are oriented toward avoiding risk and loss, shy, modest, and readily
submit to other people's influence. This characterization is seemingly inconsistent with the image of an
aggressive person, which is generally associated with qualities on the opposite side of the spectrum. In a
review of this literature, Baumeister, Smart, and Boden (1996) found that favorable self-regard is linked to
violence in many different cases of violence. Yet, given that nonviolent people can also have high levels of
self-esteem, it cannot be concluded that high self-esteem causes violence. Baumeister and colleagues
distinguished between narcissism and high self-esteem in criminals. "Narcissism is defined by grandiose
views of personal superiority, an inflated sense of entitlement, low empathy toward others, fantasies of
personal greatness, a belief that ordinary people cannot understand one, and the like (American Psychiatric
Association, 1994; cited in Baumeister et al, 2000: 27).

acknowledges that inner city males' level of self-esteem often relies on the deference of others, so behaving in a violent, threatening way contributes to their status. These males are forced to react in a physical attack, to retaliate after one, or to prevent one in order to maintain this status. In this way, violence is utilized to protect one's self-esteem. Anderson suggests this reaction is largely class-based, such that members of wider society (middle-class) would not experience a loss of self-esteem due to an attack.

Again, this theoretical relationship—the positive relationship between self-esteem and deviant behavior—applies strictly to aggression and violent behaviors. Scheff, Retzinger, and Ryan (1989) argue that while it is easy to draw the link between crimes of passion (violence) and self-esteem, it is less clear how self-esteem is related to property-related offenses and crimes against the public order. According to their theory, self-esteem is closely tied to the emotions of pride and shame—individuals with low self-esteem easily feel ashamed or try to avoid feelings of shame. For these theorists, self-esteem is a summary concept that indicates how well one does overall in managing shame. If these sentiments are poorly managed, shame and humiliation can lead to anger and acting out (crime).

Studies have found that self-esteem is negatively related to delinquency (Donnellan, Trzesniewski, Robins, Moffitt, and Caspi, 2005; Rosenberg, Schooler, and Schoenbach, 1989), sexual offending (Marshall and Barbaree, 1990), violence (Sutherland and Shepherd, 2002), and aggression (Webster and Kirkpatrick, 2006; Donnellan et al., 2005; Oates and Forest, 1985). Other studies have evidenced support for a positive relationship between aggression and self-esteem (e.g., Baumeister, Smart, and Boden, 1996), as well as null findings (e.g., Wells and Rankin, 1983). To some

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extent these divergent findings may be a function of the different conceptualizations of self-esteem (e.g., Baumeister's "threatened egoism") and the methodologies used to examine these variations of the construct.

Several studies have examined self-esteem among prisoner samples. Generally speaking, prisoners have lower levels of self-esteem than normative samples (Gullone, Jones, and Cummins, 2000), and one study suggests that incarcerated individuals have clinically significant problems with self-esteem (Sheridan, 1996). Prison stress is associated with lower levels of self-esteem (Toch, 1982; 1992; Zamble and Porporino, 1988). Indeed, levels of self-esteem in prison depend to a large degree on individual resources and situational circumstances, and thus vary between individuals (Zamble and Porporino, 1988). Oser (2006) compared levels of self-esteem among subgroups of 134 incarcerated males and females. She found that inmates serving time for violent and drug offenses had significantly lower self-esteem compared to those who were incarcerated for other offenses. In addition, prisoners with longer sentence lengths and a greater number of juvenile convictions were more likely to have lower self-esteem. Inmates who participated in psychological counseling and educational programs, on the other hand, had higher self-esteem levels during incarceration.

In studies examining the post-release process, there is evidence for an inverse relationship between self-esteem and offending among ex-prisoners (e.g., Wormith, 1984; Benda, 2001), though these relationships tend to be weak. Bennett (1974) examined self-esteem among 142 inmates just prior to release and found a small but statistically significant positive correlation between pre-release self-esteem and parole

adjustment.[9] Wormith (1984) also found that self-esteem was significantly correlated

with success upon release; however, increased self-esteem during incarceration was

negatively related to post-release success, though only for those who also increased their

identification with criminal others. In a study of 82 first-time incarcerates, Gendreau,

Grant, and Leipciger (1979) found that changes in certain aspects of self-esteem

measured shortly after admission to prison and prior to release were predictive of

recidivism two years after release.

More recent research also provides evidence that self-esteem is related to

recidivism. Maruna (2001) found that desisting ex-prisoners had stronger feelings about

their self-worth than persistent offenders. In a sample of 480 males who had been

imprisoned in a boot camp, Benda (2001) found that nonrecidivists had significantly

higher pre-release levels of self-esteem, self-efficacy, and optimism, relative to those who

violated parole conditions or were rearrested. Hubbard (2006) examined self-esteem in a

sample of 280 felony offenders participating in a community-based Therapeutic

Community program. She found that while self-esteem was not related to recidivism for

the sample as a whole and there was no difference in the effects of self-esteem on

recidivism for men and women, there was a race effect. As levels of self-esteem

increased, the likelihood of arrest for African Americans increased, regardless of gender,

whereas the opposite was true for whites.

Many of the early theories relating self-esteem to deviant behaviors (e.g.,

Rosenberg, 1965; Kaplan, 1980) were focused on juvenile offending, and consequently

much of the research on self-esteem and crime has been conducted with adolescent

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[9] Parole adjustment was measured along a continuum with remaining arrest-free reflecting a successful
adjustment and returning to prison reflecting the high end of failure.

samples. Some researchers have pointed out that self-esteem may have different effects among adolescent and adult samples. Juveniles with high self-esteem may be more likely to participate in criminal behaviors, which are developmentally normative for that age (Moffitt, 1993), whereas adults with high self-esteem may be more likely to participate in legitimate roles of work and family and have lower levels of offending. McIvor, Murray, and Jamieson (2004) suggest that self-esteem levels might not be useful in distinguishing between persisters and desisters at younger ages but might predict persistence at older ages.

Self-esteem and Drug Use

Studies have found that self-esteem is negatively related to substance use among adolescent and adult populations (for a review, see Skager and Kerst, 1989; Kaplan, 1975; Kaplan, Martin, and Robbins, 1982; Kaplan, Martin, and Robbins, 1984). In their theoretical model of drug use among adolescents, Benda and Corwyn (2000) hypothesize that a lowered sense of self-esteem contributes to drug use among individuals as a means of escaping these feelings of low self-esteem. Illicit drug use can increase one's sense of self-esteem while under the influence (Skager and Kerst, 1989). According to Kaplan and Peck (1992; also see Kaplan, 1975), drug abuse facilitates physical avoidance of self-threatening circumstances, and it also facilitates the distortion of one's reality, such that an individual may see things about himself and others as more favorable than they truly are (i.e., bolster one's self-esteem). Currently, there is no empirical research that examines self-esteem and drug use among samples of recently released prisoners. In one

study of prisoners, Oser (2006) found that inmates serving time for drug offenses had significantly lower levels self-esteem than those who were not.

RELIGIOSITY

Religion has had a profound influence on the U.S. correctional system since the late 1800s (Latessa and Allen, 1997; O'Connor, 2004). Early correctional philosophy posited that religion could be utilized to correct criminal behavior—time spent in labor and reflection would equip offenders with the morals needed to avoid criminal ways. Religious groups, such as the Quakers, intended to enter prisons and rehabilitate inmates. Under this philosophy, a major goal of confinement was penance through Bible study and reflection on one's sins. Penitentiaries were originally created as places where offenders could go and atone for their sins (O'Connor, 2004; Sumter and Clear, 2005).

Prisons continue to utilize religious groups to provide services to inmates and ex-prisoners today. Prisons have chapels, employ prison chaplains, and provide faith-based programming (Dammer, 2002; Thomas and Zaitzow, 2006). The intention of faith-based programs is to expose inmates to faith and a belief system that will potentially help them to claim responsibility for their mistakes, to live a moral life, to avoid additional crimes, and to become more compassionate and other-centered (Clear and Sumter, 2002). Prison Fellowship Ministries are among the largest and best known religious organization functioning within prisons. Their programs generally offer Bible studies and prepare prisoners for release (Johnson et al. 1997; Johnson, 2004; Thomas and Zaitzow, 2006). One study reported that 32 percent of sampled inmates were involved in religious activities such as Bible study and church services (Bureau of Justice Statistics, 1993).

Despite the grounded nature of religion in correctional treatment, little empirical research has explored the effects of religious programs and religiosity on offender reform. A substantial empirical literature, however, has contributed to our understanding of the relationship between religiosity and delinquency and deviant behaviors. Religiosity is defined as the extent to which an individual is committed to a particular religion and to its teachings (Johnson, Jang, Larson, and De Li, 2001). It can be distinguished by behavioral, social, doctrinal, and denominational characteristics (Fetzer Institute, 1999). Researchers have established that religiosity is qualitatively different from spirituality, which is concerned with the transcendent, addressing questions related to life's meaning and assuming that there is more to life than what we can see or fully understand (Hill, Pargament, Wood, et al., 2000; Koenig, McCullough, and Larson, 2001; Fernander, Wilson, Staton, and Leukefeld, 2005). Few criminological studies have made this distinction, which might account for some of the variability in the findings discussed below.

Religiosity and Criminal Behavior

Early research exploring the relationship between religion and crime tends to be atheoretical or very limited in theory (Benda, 2002); yet several theoretical perspectives have since been offered to explain the relationship between religiosity and deviant behaviors. Due to the social nature of religion it is not surprising that criminologists have made strong linkages between religiosity and sociological theories, at least when compared with mastery and self-esteem, which are firmly rooted in the psychological literature. Among the most frequently cited theoretical perspectives are social control

(e.g., Johnson, De Li, Larson, and McCullough, 2000; Johnson et al., 2001) and differential association (e.g., Burkett, 1993; Burkett and Warren, 1987; Wright, Caspi, Moffitt, Silva, 1999). Researchers have also utilized rational choice and social capital approaches (Grasmick, Bursik, and Cochran, 1991), and some have generated theoretical hypotheses specific to religion (e.g., Hirschi and Stark, 1969; Burkett, 1980; Burkett and White, 1974).

Hirschi's (1969) social control theory posits that individuals with stronger social bonds are less likely to be delinquent. Hirschi identified four elements of the social bond—attachment, commitment, involvement, and beliefs—each of which separately inhibits delinquency. Specifically, adolescents with high levels of attachment, commitment, involvement, and conventional beliefs are less likely to deviate from society's norms. Although Hirschi did not include religion as one of the conventional social institutions,[10] several researchers have applied it within this perspective (e.g., Johnson et al., 2000, 2001). Put simply, participation in religion is another form of attachment, commitment, and involvement which increases one's stake in conformity. Further, religions encourage the belief that societal norms should be obeyed (Grasmick et al., 1991).

According to Sutherland's (1947) differential association theory, deviance is a learned behavior. From this perspective, religion inhibits crime through both selection and socialization (Burkett, 1993; Wright et al., 1999). In terms of selection, individuals who are committed to religion tend to select peers with similar, conventional beliefs, as opposed to those who are deviant (Burkett and Warren, 1987). With regard to

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[10] In a seminal study, Hirschi and Stark (1969) did not find a significant relationship between religion and delinquency. This study spurred a line of research that continues today. The majority of these findings suggest that, in fact, a significant inverse relationship exists between religiosity and delinquency.

socialization, religious peers alter an individual's religious commitments through positive reinforcement (Burkett and Warren, 1987), which leads to more prosocial behavior.

Others have drawn from deterrence and rational choice theories to explain the relationship between crime and religion. In these cases, religiosity is assumed to affect the expected utility of crime, and thus, its likelihood. Hirschi and Stark's (1969) famous "hellfire" hypothesis predicts that religion deters individual-level criminal behavior through the threat of supernatural sanctions and promotes normative behavior through the promise of supernatural reward. Grasmick and colleagues (1991) posit that shame, based on internalization of religious values, and embarrassment, imposed by others in a religious network, are the religious sanctions that deter subsequent crime. More specifically, individuals who are religious are more likely to experience shame from deviant acts, and individuals who are highly involved with religious groups are more likely to experience embarrassment from deviant acts. In turn, these individuals are less likely to offend.

To the extent that religion provides an offender with resources and networks on which to draw, Coleman's (1988) social capital perspective can also be utilized to explain the relationship between crime and religion. Religious and spiritual groups provide supportive, integrated communities for their members. These groups offer both emotional and tangible support. They also provide social networks, which connect people to other important resources. Indeed, religiously active people tend to report large social networks (Ellison and George, 1994; Bradley, 1995). Given this support, and for fear of losing it, individuals are less likely to exhibit criminal behavior.

Finally, Burkett and colleagues (Burkett, 1980; Burkett and White, 1974) have devised a type-of-crime hypothesis to explain the relationship between religiosity and certain offenses. According to this perspective, religion is a more effective deterrent on nonvictim-oriented crime (e.g., gambling and drug use) than victim-oriented (e.g., person and property crime). These nonvictim offenses are referred to as 'ascetic' offenses, which are illegal behaviors for which there are clear religious proscriptions yet inconsistent societal sanctions (Burkett, 1993). To date, little empirical research has supported this thesis (Tittle and Welch, 1983; Evans, Cullen, Dunaway, and Burton, 1995).

Empirical research suggests that religiosity and religious participation are associated with a lower likelihood of criminal activity (e.g., Baier and Wright, 2001; Johnson et al., 2000). While the majority of the studies examining religion and crime have been conducted with adolescent samples (Johnson, 1987; Benda, 1995; Johnson et al., 2000), a growing body of research provides support for an inverse relationship between religion and offending among the general adult population (Tittle and Welch, 1983; Grasmick et al., 1991; Evans et al., 1995; Baier and Wright, 2001).

An emergent literature has started to examine the potential benefits of religious programs and their implications for inmate prison adjustment and reintegration into the community. Clear and colleagues (2000) conducted interviews and an ethnographic study of prisoners in five states. They found that religion provides inmates with a way to deal with guilt, to find a new way of life, and to deal with loss, especially of freedom (also see Dammer, 2002). It also provides a safe place for retreat, access to outsiders, and facilitates more prosocial inmate networks. According to inmates, faith helps them feel

as though they have greater personal power and it enables them to cope with the pressures associated with prison life (Dammer, 2002). Several studies have found empirical support for the association between religiosity and a positive institutional adjustment (e.g., coping) and a lower occurrence of institutional deviance among prisoners (Clear, Stout, Dammer et al., 1992; Clear and Sumter, 2002; O'Connor and Perreyclear, 2002); although others have produced null findings (Johnson, 1987; Pass, 1999).

Studies examining the post-release adjustment of ex-prisoners and religiosity are also accumulating (Sumter, 1999; Benda, Toombs, and Peacock, 2003; Johnson et al., 1997; Young, Gartner, O'Connor et al., 1995; Johnson, 2004). For instance, Sumter (1999) examined religiosity and recidivism among a subsample of inmates utilized in the Clear et al. (1992) study. She found that a religious-nonreligious dichotomy did not predict recidivism in a six-year follow-up. But she did find that the more offenders were involved in religious activities in prison and the more they believed in a transcendent God, the less likely they were to be rearrested after release from prison. Benda and colleagues (2003) followed a sample of male boot camp inmates for up to five years and found that nonrecidivists reported higher religiosity (a six-item scale that primarily measures practices) than those who recidivated.

Researchers have also examined the effectiveness of prison ministry programs in reducing recidivism (Young et al., 1995; Johnson et al., 1997; Johnson, 2004). These studies utilized a quasi-experimental methodology, comparing recidivism rates of those who participated in programming with those who did not. The findings from these studies indicated that inmates who participated in religious programming were less likely

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to recidivate than non-participants. However, Johnson et al. (1997) and Johnson (2004) found that only inmates who were most active in the program had significantly lower rearrest rates in one-year and eight-year follow-ups, respectively. The authors caution that these findings are not generalizable, however, given the use of a convenience sample of all program participants and lack of random assignment.

Giordano and colleagues (2008) recently examined the role of religiosity in desistance from crime. They examined three waves of interviews spanning more than 20 years for an original sample of 254 male and female delinquent adolescents, who had been incarcerated in a juvenile facility. Regression analysis was utilized to assess whether religiosity impacted the likelihood of a stable pattern of desistance (i.e., no self-reported crime or incarceration experiences) or persistence, or an unstable pattern. They found that neither closeness to God nor church attendance predicted desistance, persistence, or unstable patterns. Nor did they find any significant interactions between these measures and gender, race, or network deviance. However, cross-sectional regression analyses revealed a significant negative effect between both measures of religiosity and self-reported crime net of all controls during one of the follow-ups (but not the other). According to life history narratives conducted with 41 sample members, many felt that spirituality and religion were crucial to their desistance efforts.

Religiosity and Drug Use

A handful of explanations have been offered to explain the relationship between drug use and religiosity. For one, religiosity is thought to inhibit drug use through social control mechanisms (Benda and Toombs, 2002) and social learning theory (Benda, 1997;

Benda and Toombs, 2002; Bahr, Hawk, and Wang, 1993; Jang and Johnson, 2001; Johnson et al., 2000). For instance, Benda and Toombs (2002) contend that "drug use occurs among persons with weak inner controls over natural urges for euphoria induced by use of substances" (p. 159). While these weak controls "allow for" drug use, it is through social learning from other drug users that one becomes motivated to the use of drugs. Religious individuals, they argue, have more conventional peers and social bonds than nonreligious individuals, decreasing their likelihood of illicit drug use (also see Jang and Johnson, 2001; Johnson et al., 2000). Burkett and White's (1974) type-of-crime hypothesis (mentioned above) argues that behaviors that violate ascetic values but are not consistently prohibited by secular agencies, such as drug use, are more likely to be influenced by religion than other secular deviance, such as property and violent crime (also see Burkett, 1993; Evans et al., 1995). This would imply a negative relationship between religiosity and drug use. Bahr, Hawk, and Wang (1993) point out that religious institutions often teach against drug use and offer a social network in which drug use may be considered inappropriate. Through religious activities, individuals establish a social network in which people do not use drugs, which may in turn inhibit future use.

Most of the empirical studies of religiosity and drug use have focused on adolescents (e.g., Benda, Pope, and Kelleher, 2006; Jang and Johnson, 2001; Johnson, Jang, et al., 2001; Nelsen and Rooney, 1982; Corwyn and Benda, 2000) and the general adult population (Chu, 2007; Chitwood, Weiss, and Leukefeld, 2008). Generally speaking, these studies have found an inverse effect of religiosity on drug use (for a review, see Chitwood et al., 2008).

Few studies have examined the relationship between substance abuse and religiosity among prisoner samples. In one study of 661 male prisoners from four Kentucky State correctional facilities, Staton and colleagues (2003) found that religiosity (worship attendance) was related to a lower usage of alcohol, marijuana, amphetamines, and multiple substance use. Yet, they also found that religious well-being was positively related to cocaine use. Using the same sample, Fernander and colleagues (2005) found that inmates who were incarcerated for drug-related convictions were less likely to consider themselves religious. Benda and Toombs (2002) examined religiosity among 326 boot camp participants, ages 15 to 24 years. They found that religiosity has a negative relationship to association with delinquent peers, which, in turn, was related to increased drug use prior to prison.

Importantly, none of these studies have examined illicit drug use among prisoners once they are released from prison. Evidence from drug-addicted populations suggests that religiosity may play a role in the abstinence process. For example, in a study of 432 opioid-addicted patients who attended drug treatment, individuals who were in recovery at a five-year follow-up reported that they had relied upon religion and spirituality (Flynn, Joe, Broome, Simpson, and Brown, 2003). Nearly half (46 percent) of recovering individuals cited religion/spirituality as significant to their behavior change, ranking it second to treatment in importance.

SOCIAL STRESSORS

The literature review of mastery, self-esteem, and religiosity indicates that each factor may play an important role in the reentry process to the extent that releasees with a

higher sense of mastery, self-esteem, and religiosity have more successful outcomes. As mentioned earlier, however, ex-prisoners tend to encounter many social challenges upon release. Briefly stated, they need to find housing and employment; restore partner, family, and peer relationships; pay off debts; obtain identification; find health insurance; and re-establish a place in the community—tasks that do not come easy for returning offenders (e.g., Glaser, 1964; Zamble and Quinsey, 1997; LeBel et al., 2008; Nelson, Dees, and Allen, 1999; Nelson and Trone, 2000; Petersilia, 2003; Visher and Travis, 2003). Some of these issues are also implicated in their parole conditions, increasing the pertinence of these matters and potentially the stress associated with them. The following section briefly reviews some of these potential social stressors in more detail.

Prisoners tend to struggle with their intimate relationships. Research has shown that incarceration weakens relationships with spouses and unmarried partners (Glaser, 1964; La Vigne, Naser, Brooks, and Castro, 2005). The period after release can also be very stressful for ex-prisoners and for their partners; partners may feel overwhelmed by the emotional demands and expectations surrounding the provision of tangible support (Fishman, 1986), again contributing to unstable relationships. Zamble and Quinsey (1997) found that interpersonal conflict with heterosexual partners was a common problem mentioned by recidivists, second only to problems involving substance abuse.

Family members play an important role in helping returning prisoners stay out of trouble with the law. Prisoners who have poor family relationships are more likely to recidivate in the period after their release (Curtis and Schulman, 1984; Fishman, 1986; Glaser, 1964). In the Illinois and Maryland *Returning Home* pre-release prisoner samples, over half reported that family support would be an important factor in helping

them avoid returning to prison (Visher, La Vigne, and Castro, 2003; Visher, La Vigne, and Farrell, 2003). After release, nearly three-quarters of these respondents felt that family support had been an important factor in avoiding prison. Further evidence from the Illinois *Returning Home* study shows that strong family support before prison may reduce the likelihood of recidivism. Respondents who reported more positive family relationships were less likely to be reconvicted, while those with negative family relationships were more likely to be reconvicted or reincarcerated (La Vigne, Visher, and Castro, 2004).

Employment is also a well-established predictor of recidivism among ex-prisoners; released prisoners who are unemployed are more likely to be rearrested and reincarcerated (La Vigne, Visher, and Castro, 2004; Sampson and Laub, 1997; Uggen, 2000). Shover's (1996) qualitative research suggests that it's not just having a job, but having a satisfying job that matters for successful outcomes among former offenders (also see Cusson and Pinsonneault, 1986). A good job also provides ex-prisoners with important social and economic resources (Meisenhelder, 1977). But ex-prisoners often have a difficult time finding employment given that many job opportunities are limited by state and federal laws (Petersilia, 2003: 113-115), and since many employers are not willing to hire people who carry a criminal record (Pager, 2003; Holzer, 1996; Graffam, Shinkfield, and Hardcastle, 2008). Furthermore, many prisoners were unemployed prior to their current incarceration (La Vigne, Visher, and Castro, 2004; Visher, Kachnowski, La Vigne, and Travis, 2004), and these individuals tend to lack work experience and skills that could facilitate their job search. Glaser (1964) found that released prisoners tend to set unrealistic occupational goals and are often disappointed with their prospects

upon release. Most who find jobs rely on families or friends for help or are rehired by former employers—few find jobs on their own (Nelson et al., 1999; Weiman, 2007).

The majority of these prisoners will return to urban areas upon release (Lynch and Sabol, 2001), and for the most part they will return to disordered and disadvantaged communities within these cities (Clear, Rose, Waring, and Scully, 2003). Research estimating the impact of neighborhood-level factors on individual outcomes shows that these effects are moderate and depend on individual characteristics (Iannotta and Ross, 2002). A growing body of research has examined neighborhood-level influences on individual criminal activity (Simcha-Fagan and Schwartz, 1986; Elliott, Wilson, Huizinga, et al., 1996) and recidivism (Bhati, 2001; Kubrin and Stewart, 2006). These studies show that structural features, such as residential stability, rates of organizational participation, and measures of informal and formal social control have either direct or mediated effects on individual criminal activity. Sampson and colleagues (1997) have also shown that a community's collective efficacy, or the extent of mutual trust and shared willingness to intervene for the common good, can affect local crime rates, independent of structural features of the neighborhood. Other social and structural features of the returning prisoners' communities are also likely related to their post-release outcomes. A lack of jobs, high incidence of drug selling, low availability of health and treatment services, among other issues correlated with disadvantage and disorder, may hinder ex-prisoners' transitions (Visher and Travis, 2003), potentially causing more distress and frustration for ex-prisoners.

Zamble and Quinsey (1997) hypothesized that there is a link between coping with stressors and criminal offending. They interviewed prison inmates to examine how they

cope with their prison experiences, as well as their social experiences prior to incarceration. Outside of prison, inmates listed mostly normal life stressors, including conflicts with wives or girlfriends, financial problems, and conflicts with friends. Other common problems included dissatisfaction with current lifestyle, loneliness, depression, alcohol use, and restrictions and pressures from authorities. It was evident in their analysis that these prisoners could not cope effectively with their problems. Even though they tended to deal with situations, it was not in ways that helped to resolve problems or ameliorate the damage from unresolved problems. In many cases, their efforts made difficult situations worse. According to Zamble and Quinsey's findings, subjects who rated lower on their general coping ability on the outside of prison had longer criminal histories—providing indirect support for the notion that poor coping leads to recidivism. In addition, those with the weakest coping skills were most likely to return to prison. They concluded, "Deficits in coping skills are one such set of remediable behaviors linked to offending. However, one would expect that there are some additional determinants that channel the strain from mishandled problems in the direction of criminal acts" (p. 67).

Mastery, Self-Esteem, and Religiosity as Buffers of Social Stressors

Criminological theory suggests that self-esteem, mastery, and religiosity are three subjective factors that may buffer the positive effects of social stressors on criminal behavior. In fact, Agnew's (1985, 1992) general strain theory (GST) predicts these relationships. According to GST, individuals pursue crime and delinquency in response to painful and frustrating social situations, or strain. Delinquency allows an individual to

avoid or alleviate strain and associated negative affects. Crime may result from a broad

range of strains: those resulting from an actual or anticipated (1) failure to achieve

positively valued outcomes; (2) removal of positively valued outcomes; and (3)

imposition of negative or noxious stimuli. Agnew (2001) recently clarified GST by

stating that strains are most conducive to crime when they are perceived as unjust, seen as

high in magnitude, associated with low social control, and create incentive or pressure to

engage in criminal coping. Furthermore, strains are most detrimental when they are

chronic or cluster in a short time period, overwhelming social support and legitimate

coping resources (Agnew, 1992). Generally speaking, ex-prisoners may experience

many stressors when they return to the community, as reviewed above, within a short

time span, suggesting that they will be at an increased risk for criminal behavior during

this time period.

Strain does not inevitably result in crime, however. Instead, the impact of strain

is conditioned by a number of variables, including whether strain is attributed to others,

the extent of an individual's legitimate coping resources, the level of conventional social

support, and an individual's predisposition toward crime. Relevant for the current study,

Agnew argues that those who possess significant cognitive, emotional, and social coping

resources may be better able to cope with strain in a noncriminal manner. For instance,

high self-esteem will buffer the effects of strain, lowering the likelihood that an

individual resorts to criminal coping strategies (Agnew, 1992). In addition, those with

high self-efficacy will be more likely to feel they can cope with strain in a nondelinquent

manner (Agnew and White, 1992).

Research on each of the subjective perspectives also independently suggests that they enhance positive coping in stressful situations—among the general population and among prison inmates. For one, locus of control affects how individuals cope with stress (Lazarus and Folkman, 1984; Rotter, 1966). Krause and Stryker (1984) suggest that internally-oriented individuals are more likely to adjust their coping strategies in a more adaptive manner when faced with stressful stimuli (also see Parkes, 1984). Further, less control is said to lead to a condition labeled "learned helplessness," which is characterized by reduced motivation to respond, cognitive deficits, and emotional difficulties such as depression (Seligman, 1975; MacKenzie and Goodstein, 1986; Billings and Moos, 1982; Mirowsky and Ross, 1990; Pugh, 1994; Reitzel and Harju, 2000).

Self-esteem also promotes self-efficacy, optimism, and resilience (Gutman and Midgley, 2000; Scheier, Botvin, Griffin, and Diaz, 2000). Pearlin and Schooler (1978) theorize self-esteem and mastery as psychological resources that people draw upon to help them withstand threats posed in the environment. When presented with external life strains, individuals with high self-esteem appear to have more cognitive resources at their disposal, which enable them to cope more effectively with unsatisfactory circumstances (also see Cast and Burke, 2002).

Religious involvement also has benefits for those who are in crisis or have social stressors. A growing body of literature suggests that people often turn to religion when coping with stressful events (Mirowsky and Ross, 1990; Ellison, Boardman, Williams, and Jackson, 2001). Religiosity and religious participation are associated with improved psychological well-being (Ellison, 1991; Ellison et al., 2001) and comfort for those

facing difficult life situations, such as family problems, divorce, and unemployment (Ellison et al., 2001; Ellison and Levin, 1998). Ano and Vasconcelles (2005) conducted a meta-analysis of 49 studies to examine the relationship between religious coping and psychological adjustment to stress, and found that forms of religious coping were significantly related to this adjustment. There is some evidence that religiosity or spiritual coping significantly buffers the effects of emotional distress on interpersonal aggression or criminal offending (Piquero and Sealock, 2000; Jang and Johnson, 2003). Piquero and Sealock (2000) found that spiritual, as well as emotional, coping skills significantly buffer the effects of depression on property offending; though they did not find a similar buffer effect for anger on property offending or aggression. In a study using a nationally representative sample of African American adults, Jang and Johnson (2003) found that religiosity significantly buffered the effects of negative emotion on deviance.

CHANGE EFFECTS

According to Foglia (2000), "Being incarcerated…could easily have an impact on how individuals view the world and their place in it" (p. 10-4). Given the unique conditions of incarceration, it is likely that subjective perspectives captured during incarceration will differ from those measured after release. Researchers have cited the importance of examining stability and change in social conditions as they relate to recidivism and desistance (Sampson and Laub, 1993; Laub and Sampson, 2003)—it is also viable that stability and change in subjective perspectives will contribute to our understanding of these processes. These change effects are particularly important to the

notion of rehabilitation—the idea that offenders' self-concepts can change and that this change impacts their likelihood for recidivating. Furthermore, a change in these subjective factors may be indicative of a general willingness or readiness to change. To date, prior research has mostly focused on how *levels* of mastery, self-esteem, and religiosity in prison or after prison affect criminal behavior, not if changes in these perspectives have independent effects.

In their study on prisoner coping, Zamble and Quinsey (1997) examined changes in inmates' behaviors and perceptions during their prison experience. They found that inmates whose perceptions of prison life become relatively more unfavorable after a few months were more likely than others to reoffend after release. Further, those whose thoughts about the future decrease or who become more immersed in prison socialization were also more likely to reoffend. Zamble and Quinsey concluded that the path of adjustment over time in prison is at least partly predictive of recidivism. If perspectives can change within prison, and this change is associated with reoffending, it is likely that similar effects could be found for changes occurring between prison and the community.

In evaluating the effects of personal control, scholars have encouraged others to look beyond issues of internality-externality and consider other dimensions of this attribution, such as stability (Maruna and Copes, 2004). The prison environment is purposively a restrictive environment, which limits the control inmates have over their actions; a sense of mastery could be very different once the prisoner is back in the community. Research findings pertaining to the stability of personal control among prisoners have focused on within-prison changes, not on potential changes that may occur when transitioning from an institution to the community. In a seven-year study of prison

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inmates, Zamble (1992) found that locus of control remained essentially the same (also see Murphy, 1990). On the other hand, Pettit (2006) found that locus of control increased for both male and female inmates who participated in cognitive-behavioral programming. More significant differences may lie in the transition from prison to the community, when ex-prisoners experience their newfound freedom. Those who experience a significant increase may have a lower likelihood for reoffending. On the other hand, prisoners who were accustomed to the structure of prison may experience a loss of control once they return to the community and have to provide for themselves. This sudden lack of control may facilitate criminal behavior (as a means to regain a sense of control or in accord with his identity as a victim of society).

The findings of a recent meta-analysis support the notion that self-esteem is a stable, trait-like construct (Trzesniewski, Donnellan, and Robins, 2003).[11] Yet, Cast and Burke (2002) point out that, like other aspects of the self, although self-esteem is highly stable, it is also responsive to changes in social situations. When these changes include persistent problems in self-verification, self-esteem is likely to decline. In accord with this line of thought, several scholars in self-esteem research have suggested that an individual's self-esteem while incarcerated should differ from that in the real world because of the very different social experiences in these two environments (e.g., Wheeler, 1961; Bennett, 1974; Oser, 2006). Wheeler (1961) suggested that inmates' self-esteem levels may become lower just prior to release, when inmates are starting to compare themselves to the outside world as opposed to other inmates. Himelson (1962; cited in Bennett, 1974) measured self-esteem just before inmates were released from prison and

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[11] However, self-esteem is more stable in some periods of life than in others; stability is low in childhood, increases through adolescence and early adulthood, and then declines during midlife and old age (Robins and Trzesniewski, 2005).

just after release, and found that significant changes had occurred. He suggested that upon leaving prison, ex-prisoners found themselves in competition with other members of society, a very different reference group tan inmates. Bennett (1974) recommended for future research to study how this shift is related to subsequent parole outcomes. There is some empirical support that suggests these changes could have a negative impact on post-release adjustment. As mentioned earlier, Gendreau, Grant, and Leipciger (1979) found that changes in self-esteem during incarceration were predictive of recidivism after release.

None of the studies to date on religiosity and criminal offending among ex-prisoners examines the effects of changes in religiosity over time. Yet, an individual's religiosity may increase or decline when he or she leaves prison. Clear et al. (2000) found that many inmates are involved with religious programming during incarceration as a means for safety, networking to other prisoners, and access to prison resources. It is possible that their religious involvement, and thus sense of religiosity, decreases once they return to their home communities.

THE CURRENT STUDY

While the prior research on mastery, self-esteem, and religiosity has shed light on how these processes impact recidivism among ex-prisoners, it also suffers from many weaknesses. In each case, there are very few studies that focus on ex-prisoners as they reenter their communities. With regard to mastery, most of the quantitative research employing criminal behavior outcomes was conducted over three decades ago (Groh and Goldenberg, 1976; Sweet et al., 1977). But two recent qualitative studies of ex-prisoner

and probationer samples suggest that levels of personal control distinguish between those who continue to commit crimes and those who do not (Maruna, 2001; Healy and O'Donnell, 2008). And given its apparent relationship with coping behaviors (Zamble and Quinsey, 1997), mastery may still have a place in criminology, especially within the reentry literature.

Criminological research on self-esteem was largely written off due to the weak effects found in early research (e.g., Bennett, 1974). Andrews and Bonta (1998), two of the leading researchers in the psychology of crime, classified self-esteem as a noncriminogenic need due to its weak or non-existent relationship with recidivism as reflected in the literature. From their perspective, increasing self-esteem is unlikely to impact future criminal behavior. This conclusion may lack merit, however. For one, more research is needed on the effects of self-esteem among a sample of released prisoners. The literature is not definitive in terms of the potential direct effects of self-esteem on recidivism. While there has been a great deal of research on self-esteem, most of these studies have been conducted with school-aged and college students or in laboratory settings (Baumeister, Campbell, Krueger, and Vohs, 2003). Very few of these studies have been conducted with a criminal population, thus it is unclear exactly how self-esteem may affect recidivism among returning prisoners.

Research on religiosity among prisoners, on the other hand, is a growing field. The few studies that have focused on recidivism outcomes to date suggest that religiosity may be predictive of subsequent criminal behavior among prisoners. More empirical research is warranted on the grounds of these findings and due to the intense interest in faith-based programming (Sumter, 2006).

Further, little to no prior research has examined whether a sense of mastery, self-esteem, and religiosity change from prison to the community. Logic tells us that they will, and it is possible that these changes could enhance or diminish one's risk of reoffending, depending on the direction of change. If positive changes are related to positive outcomes for ex-prisoners, correctional programming could be directed to support and enhance these subjective perspectives.

The purpose of the following study is to explore and estimate the effects of the three subjective beliefs described above—mastery, self-esteem, and religiosity—on the likelihood of recidivism among a sample of released prisoners. Current and past research has provided important insights to the processes of reentry and recidivism at the individual level, but major gaps are apparent in our understanding of the roles subjective perspectives play in these processes. Exploration of the hypotheses presented below should benefit both reentry- and desistance-related research and practice.

The present study also draws from and builds on prior research which has begun to examine the relationships between subjective perspectives and social experiences in the recidivism process (LeBel et al., 2008; Zamble and Quinsey, 1997). This study is conducted under the assumption that both subjective and social mechanisms will contribute to our understanding of recidivism, both independently and through their interactions with one another.

Summary of the Hypotheses

Theoretical and empirical evidence presented in the literature review suggests that higher levels of mastery and religiosity will have negative associations with criminal

behavior among ex-prisoners. Theory is less clear when it comes to levels of self-esteem. On the one hand, some theoretical perspectives have posited that a higher sense of self-esteem should be related to a lower likelihood of criminal behavior (e.g., Rosenberg, 1965, Kaplan, 1980). But according to Baumeister and colleagues (2003), a very high level of self-esteem could have a positive effect for violent behavior. In the following study, I examine the effects of self-esteem on general measures of recidivism (as opposed to crime-specific);[12] thus, I expect to find a negative relationship between self-esteem and offending overall.

> *Hypothesis 1*. Ex-prisoners with higher pre-release and post-release levels of mastery, self-esteem, and religiosity will have a lower likelihood of recidivism as measured by self-reported rearrest, official reincarceration, and self-reported drug use.

Drawing on past empirical findings and theoretical propositions specified by GST (Agnew, 1985, 1992), it is likely that mastery, self-esteem, and religiosity will buffer the negative impact of social stressors on criminal behavior upon release.

> *Hypothesis 2*. Mastery, self-esteem, and religiosity will moderate the positive effect of social stressors (reentry difficulties) on recidivism.

And finally, it is possible, and even likely, that a sense of mastery, self-esteem, and religiosity will change when measured in prison relative to when they are measured in the community. I expect that positive changes in these three perspectives should be associated with a lower likelihood of recidivism.

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[12] The data used in this study does not contain information on offense type for rearrest or reincarceration.

Hypothesis 3. Ex-prisoners who experience an increased sense of mastery, self-esteem, and religiosity from prison to the community will be less likely to recidivate.

The methods and data used to examine these hypotheses are detailed in the next chapter.

Chapter 3: Data and Methods

To examine the research questions outlined in the previous chapter, I utilize data from the Urban Institute's *Returning Home: Understanding the Challenges of Prisoner Reentry,* a multistate longitudinal study that provides systematic information about the process of reintegration among a large sample of former prisoners. The study has been implemented in four locations – Baltimore, Maryland; Chicago, Illinois; Cleveland, Ohio; and Houston, Texas. In each location the researchers conducted a self-administered survey with prisoners prior to release and one-on-one post-release interviews that examine various reentry expectations, needs, and experiences of offenders. The goal of the study was to learn how the individual and his/her peers, family, community, and state policy impact post-prison adjustment.

To achieve the most comprehensive understanding of the reentry process, data was collected to address four key stages – pre-prison,[13] in-prison, post-release transition, and post-release integration. A self-administered survey was conducted with prisoners approximately 30 to 60 days before release.[14] Follow-up interviews were planned for three time frames after release from prison— about 30 to 45 days, 4 to 6 months, and 12 months. However, because the follow-up interviews were not necessarily conducted during the targeted time frames, for the purposes of this study, interviews are consolidated to reflect post-prison circumstances during the first two months and approximately eight months after release (see below).

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[13] In the prison-based survey, respondents were asked to report on their circumstances prior to this incarceration.
[14] Prisoners in Texas were interviewed during the two weeks prior to their release from prison.

DATA OVERVIEW

This study includes ex-prisoners from Chicago, Cleveland, and Houston.[15] Due to variations in the prison systems, Urban Institute researchers pursued slightly different sampling strategies in each location. The following sections describe the sample selection strategies, data collection procedures in each site, and sample bias analyses conducted by Urban Institute researchers.

Chicago. The *Returning Home* Chicago sample included 400 male prisoners who had been in state prisons operated by the Illinois Department of Corrections (IDOC) [16] and returned to the City of Chicago. Prisoners were recruited over a five-month period beginning in October 2002 through the use of a preexisting reentry program known as PreStart. IDOC requires most prisoners to complete this two-week pre-release program, which is designed for groups of 10 to 30 prisoners in a classroom setting. Of those who attended the introductory sessions and agreed to participate in the study, 400 planned to return to Chicago upon release—these participants comprise the respondents in the pre-release sample and were surveyed one to three months prior to release. Post-release interviews were conducted between January 2003 and April 2004. Participants who were reincarcerated during the follow-up period were interviewed while in confinement (this procedure was also employed in Cleveland and Houston). The final samples included interviews with 296 participants followed in the first wave (targeted one to three months after release from prison), 266 sample members in the second wave (targeted four to six months), and 198 respondents for the one-year follow-up interview.

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[15] The Urban Institute conducted a pilot study for the *Returning Home* project in Baltimore, Maryland. Survey instruments were edited after the pilot phase in Maryland and some of the survey questions relevant to the current study were not available for participants in this site.

[16] Prisoners had served time in five male facilities: Stateville, Pinckneyville, Dixon, Logan, and Shawnee. These facilities house a range of security levels and offer a variety of programming.

A comparison of all prisoners who attended an orientation session and participated in the study with those who chose not to participate revealed no significant differences in terms of age, number of prior incarcerations, sentence length, time served, conviction offense, incarceration for a technical violation, and Chicago residence[17] when these factors were tested simultaneously in a regression model. Study participants were somewhat more likely to be African American and released to supervision compared with nonparticipants, and those who attended the orientation session and agreed to participate were more likely to have been housed at a minimum-security level than those who did not attend. The final sample was generally representative of all Chicago-bound releases from state correctional facilities. Compared with Chicago-bound male prisoners released from Illinois prisons in 2001, sample members tended to have more prior incarcerations, were less likely to have been incarcerated for a technical violation, and were more likely housed in a medium-security facility. There were no significant differences with regard to age, race, time served, sentence length, and conviction offense (La Vigne, Visher, and Castro, 2004).

Cleveland. In Ohio, the *Returning Home* study consisted of four waves of data. The first wave entailed a self-administered survey given to 424 male prisoners approximately one month prior to release. Participants were recruited from ten state prisons over a ten-month period, from the end of May 2004 through March 2005. The facilities were selected from the institutions that released a substantial number of male prisoners to the Cleveland area and represent a range of security levels. Prisoners were selected for the study if they had been sentenced to at least one year in prison, and if they

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[17] Prisoners who attended the orientation session included those who would return to other parts of the state. These prisoners were excluded from the study due to the city-bound criteria (Chicago).

were returning to Cleveland. The post-release one-on-one interviews were planned for approximately one month (n = 358), six months (n = 322), and one year after release from prison (n = 294).

Of those who attended a study orientation meeting while in prison, 75 percent agreed to participate in the study. To assess sample representativeness, Urban Institute researchers compared those in the pre-release study sample with all adult male inmates who were released to Cuyahoga County in 2004 (N = 4,872). In a multivariate regression, *Returning Home* respondents were more likely to be housed under medium security at release (48 percent versus 35 percent), less likely to be incarcerated for a drug offense (22 percent versus 39 percent), and more likely to be released to supervision (75 percent versus 49 percent) (Visher, Baer, and Naser, 2006). While these differences are substantial, the authors speculated that they were a function of the study design—the researchers recruited men who had been incarcerated for at least one year and returning to Cleveland, whereas the comparison group comprised all inmates returning to Cuyahoga County, which includes suburban areas as well. It is likely that the *Returning Home* sample consists of slightly more serious offenders based on the sentence length and city-bound limitations, which is consistent with the directions of all three differences.

A total of 260 participants completed all three post-release interviews. According to an analysis conducted by Urban Institute researchers (Visher and Courtney, 2007), attrition bias was not a problem among the Cleveland-based sample. To examine this issue, they compared the reentry experiences (e.g., family support, partner relationship quality, attitudes and beliefs, reintegration difficulties, etc.) for men who completed every interview with those who participated in at least one of the survey waves. These groups

were nearly identical in every domain. Secondly, they created weights using a wide range of measures from the pre-release interviews and analyzed several multivariate models with and without weights; they found very few differences.

Houston. The Texas *Returning Home* study consisted of three sets of interviews with male and female prisoners returning to Houston. Participants were recruited over a seven-month period from the two state prisons to which all prisoners are transferred for processing before release and two state jails that house a large number of inmates returning to the Houston area. Overall, 88 percent of the prisoners who attended a study orientation meeting agreed to participate in the pre-release phase. The pre-release survey was administered to 676 inmates in the week prior to their release (414 men and 262 women). The first wave of post-release interviews were administered approximately two to four months after release (n = 509) and the second wave between eight and ten months after release (n = 378). A third post-release follow-up interview was not completed for Houston respondents.

To assess sample representativeness, Urban Institute researchers compared pre-release sample members with other Texas prisoners released in 2004 and 2005 to Harris County (N = 20,393). These samples showed two statistically significant differences in a multivariate regression—*Returning Home* respondents tended to be older (36 versus 34 years old), and they were less likely to be male (61 percent versus 83 percent)—though this gender difference was a function of the study design (La Vigne and Kachnowski, 2005).[18]

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[18] In the Houston study site, female inmates were purposely oversampled in order to achieve a large enough sample for empirical analysis.

According to an Urban Institute report describing the reentry experiences of 352 Texas prisoners who were interviewed pre-release and at both waves of post-release interviews, there were no significant differences between this subset and the larger sample based on age, time served, or release type. However, respondents to all three waves were less likely to be white and to have committed a drug possession offense, more likely to have been incarcerated for a violent or drug distribution offense, and had served slightly longer prison terms than those who only participated in the first interview (La Vigne, Brooks, and Shollenberger, 2007).

Sample Description

The following analysis employs data collected on 740 male prisoners who had been incarcerated in state prisons and jails from Houston, Chicago, and Cleveland. The original pre-release sample of inmates included 1500 male and female prisoners from each of these three states. The final study sample is based on ex-prisoners having pre-release survey data and two post-release interviews (subsequently referred to as PR1 and PR2, respectively). Recall from the previous descriptions that three post-release follow-up interviews were conducted in Chicago and Cleveland, whereas only two follow-up interviews were conducted with the Houston participants. For the purposes of this analysis, interview data from Follow-up 2 and Follow-up 3 were merged in Chicago and Cleveland and the interview conducted closest to 8 or 9 months after release was selected, which is roughly the timing of the second post-release interview in Houston.

Overall, the final study sample is reduced to 740 respondents for three primary reasons: 1) not all of the respondents were interviewed at each of the three interview

points used in this analysis; 2) there was attrition over the data collection waves; and 3) this analysis only includes males. Interviews with female prisoners were only collected in Houston. Since the multistate data do not include a sample of women from the two other cities, the 262 females in Houston are dropped from this analysis.

Table 1 shows the sample sizes for each site by the study wave. There was considerable attrition in the three subsamples. Of the males who responded to the pre-release survey, 57.8 percent are included in the final study sample in Chicago, 71.9 percent in Cleveland, and 49.3 percent in Houston. Again, the total number of cases utilized in the final analysis is 740, which is 59.8 percent of the original 1238 males. As mentioned earlier, those who were reincarcerated during the follow-up period were interviewed in prison. Overall, 9.1 percent of the sample was interviewed in prison during the follow-up; this percentage does not vary significantly by site.

Table 2 shows the descriptive statistics for the full 1238 males in the original pre-release sample and for the 740 males included in the sample I utilize for the subsequent analysis. For the most part, there are very few significant differences between these two groups. The original sample consists of a smaller share of men returning to Cleveland, and a larger share returning to Houston. There is also a significantly smaller proportion of offenders who were incarcerated for "other" offenses. For the most part, it appears that attrition did not substantially alter the constitution of sample members. Further, according to analyses conducted by researchers at the Urban Institute (described above), the *Returning Home* pre-release sample approximates the state prisoner population released to Chicago, Cleveland, and Houston.

Descriptive statistics for the 740 men and the city subsamples are provided in

Table 3. The average age at release is 36.2 years old for the full sample, and the site-

specific averages range from 34.5 years in Chicago to 37.0 years in Cleveland. All three

subsamples had a high percentage of nonwhite males—97.4 percent in Chicago, 81.3

percent in Cleveland, and 78.9 percent in Houston—which is consistent with the

disproportionate number of minority men incarcerated in prison, especially of those

returning to urban areas (Lynch and Sabol, 1997). The majority of the prisoners spent

most of their prison term in medium and minimum security level units (46.4 and 48.4

percent, respectively). Very few of these inmates spent their prison term in maximum or

some other high-risk security level (5.2 percent). Approximately one-third (32.2 percent)

had spent time in disciplinary confinement or segregation during their prison term,

though this percentage varied significantly by sample location.[19]

VARIABLES

Dependent Variables

There are three recidivism outcomes in this study: 1) self-reported rearrest, 2)

self-reported drug use, and 3) official reincarceration. *Self-reported rearrest* was

obtained during the second follow-up (PR2), which was conducted approximately eight

months after release on average. Participants were asked how many times they had been

arrested since release from prison during each of the follow-up interviews. To measure

whether ex-prisoners had been rearrested during the second follow-up period, the number

of arrests reported at PR1 were subtracted from the number reported during the second

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[19] Neither security level nor disciplinary confinement was significantly related to the recidivism outcomes
according to Chi-square test statistics. In order to preserve statistical power, they will not be included in
any of the multivariate models.

follow-up. The measure used in this analysis is dummy coded, 1 if the respondent was

arrested during the second follow-up and 0 otherwise.

Self-reported drug use was also obtained during the second follow-up interviews

(PR2) with sample members. Participants were asked how often they had used the

following drugs in the last 30 days: marijuana, heroin, cocaine (i.e., powder, crack, rock),

and amphetamines (i.e., bennies, dex, ice, crystal, speed). These items were measured

with a six-point scale ranging from "not at all" to "daily." For the purposes of this

analysis, drug use is a dichotomous variable, coded as 1 if respondents reported using any

illegal substances or had taken illegal drugs by injecting them/shooting them up during

the past 30 days; and it is coded as 0 otherwise.

Finally, the Urban Institute obtained official records for *reincarceration* for the

sample. This measure is dichotomous and coded as 1 if the respondent had a new

reincarceration after the first post-release interview and within one year of release, and 0

if he was not reincarcerated during this time frame.

Table 3 provides descriptive statistics for the dependent variables. Among

participants utilized in the following analysis, about one-fifth (19.3 percent) reported a

new arrest during the second follow-up. This percentage does not vary significantly by

city according to Chi-square statistics.   Overall, 18.1 percent of the ex-prisoners reported

illegal drug use during the follow-up period, and there are significant differences in ex-

prisoners' reports of illegal drug use across the cities. Only 7.8 percent of the Chicago

releasees reported any illegal substance use, whereas almost one-quarter admitted to these

behaviors in Cleveland (21.1 percent) and Houston (25.1 percent). Finally, 14.9 percent

of the respondents were reincarcerated during the follow-up period. Again, there are

significant differences in this outcome by city—26.8 percent of the Chicago respondents were reincarcerated, compared with 11.8 percent of Cleveland respondents and 5.6 percent of Houston respondents.

There are notable variations among these outcomes—some of which could be accounted for in the strengths and weakness in these data sources, as opposed to real differences in offending behaviors. Self-reported data has several weaknesses related to reliability and validity, which may affect empirical findings (Huizinga and Elliott, 1986). Most notably, self-report data are subject to over-reporting and under-reporting. Over-reporting refers to cases in which respondents report more events than actually occurred, whereas under-reporting defines cases in which the respondent reports fewer events. It is possible that respondents in this sample have concealed new arrests. Responses may also reflect memory or telescoping problems (Huizinga and Elliott, 1986), such that respondents do not remember these events or when they occurred. Self-reported drug use poses similar problems (Nelson, Kotranski, Semaan, et al., 1998; Harrison, 1995). Mieczkowski (1990) reviewed the literature on the validity of self-reported drug use in criminal justice settings and concluded that cocaine use was less likely to be accurately reported than marijuana and heroin use (also see Feucht, Stephens, and Walker, 1994; Rosay, Najaka, and Herz, 2007).

Among respondents in this study, recall issues for rearrest are less of a concern than concealment given the relatively short time-frame involved. Also, the follow-up interview instrument utilized a calendar approach to obtain responses about offending and arrest events, which may have improved recall (Scott and Alwin, 1998). And measurement of illegal drug use was limited to the last thirty days. Concealment is a

concern for both rearrest and drug use; although interviewers assured respondents that these answers would remain confidential, participants may have feared that their parole officers would still learn about their illegal behaviors (Nelson et al., 1998).

The use of rearrest as a measure of criminal behavior has some specific limitations. For one, this measure only captures behaviors that are brought to the attention of the police and warrant action—it will miss crimes that were unreported and crimes that did not result in a new arrest (Blumstein, Cohen, Roth, and Visher, 1986). Police may also have contacts with offenders that do not result in an arrest (Black and Reiss, 1970; Worden and Myers, 1999). And this measure might reflect biased policing practices if individuals under surveillance are more visible to police (Maltz, 1984).

Official data, which was used to measure the reincarceration outcome, also suffers from several weaknesses. For one, only crimes that result in an arrest are recorded; and, as mentioned earlier, police behavior could impact this outcome. Second, official records are often criticized for inaccuracy due to human error (e.g., lost records or incorrect data entry). The use of reincarceration is a particularly conservative estimate of recidivism such that not all arrests will result in reincarceration. Offenders may also commit crimes in other municipalities that would not be documented in the source data (Nieves, Draine, and Solomon, 2000). In the current study, variations in the reincarceration outcome across cities could reflect differences in police, court, and/or parole practices. There may also be jurisdictional differences in reporting methods.

An important strength of the current study is the ability to examine the effects of subjective factors on these three variations of recidivism outcomes. Despite their drawbacks, both data sources—self report and official records—have strengths and can

provide valid indicators for data analysis. For one, officially-reported outcomes are not

subject to recall issues and specific dates can be used for analytic purposes. Further,

research has shown that self-reported data can be a valid measure of criminal recidivism

(e.g., Maxfield, Weiler, and Widom, 2000; Nieves, Draine, and Solomon, 2000). Studies

examining prevalence have found a high level of concordance between self-report and

official arrest data (e.g., Huizinga and Elliott, 1986). Although Kirk (2006) found some

significant differences in the correlates of arrest when comparing official and self-

reported outcomes among a youth sample, he also found that key predictors of these

outcomes (e.g., family, peer, and neighborhood effects) operated similarly, leading to the

similar conclusions.

Independent Variables

The subjective measures utilized in this study were measured prior to release and

during the first follow-up interview (PR1), and they were each derived from previously-

validated scales. These scales are described below, and a list of the items included in

each scale and their response sets are available in Appendix A. Descriptive statistics for

the subjective scales, as well as for the other variables described below, are provided in

Table 3. Appendix A also provides information regarding each scale's reliability and the

factor loadings for each item.[20]

Subjective Measures

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[20] Factor loadings were estimated with principal components analysis. Components were restricted to one factor. Mastery measured in prison produced one item with a particularly low factor loading (.201). This item was retained, however, to preserve Pearlin and Schooler's (1978) full scale. Also, removing this item did not substantially affect the scale's reliability (alpha=.795 without this item).

Mastery. Mastery is measured with a nine-item scale derived from Pearlin and Schooler's (1978) mastery scale, which indicates "the extent to which one regards one's life chances as being under one's own control in contrast to being fatalistically ruled" (p. 5). This scale is one of the most widely used and validated scales to measure this construct (Lefcourt, 1991; Pearlin et al., 1981). Respondents reported the extent to which they *agree* or *disagree* with the following items in a four-point Likert rating format: (1) I have little control over the things that happen to me (reverse-coded); (2) what happens to you in the future mostly depends on you; (3) there is little I can do to change many of the important things in my life (reverse-coded); (4) my life has gone out of control (reverse-coded);[21] (5) there is really no way I can solve some of the problems I have (reverse-coded); (6) sometimes I feel like I'm being pushed around in my life (reverse-coded); (7) you can do just about anything you really set your mind to do; (8) I often feel helpless dealing with the problems of life (reverse-coded); and (9) my life seems without meaning (reverse-coded).[22] The scores for each item are averaged, and the final scale ranges from 1 to 4. The items in this scale are coded in a way that higher scores reflect a higher sense of mastery. Although Pearlin and Schooler's (1978) original scale only contained seven of these nine items, the two additional items contribute to the overall reliability of the scale used in this analysis. The Cronbach's alpha for the mastery scale is 0.782 at pre-release and 0.836 during the first follow-up interview.

The average score for the mastery scale measured at pre-release is 3.12 (s.d. = 0.49), and this average score increases to 3.20 (s.d. = 0.52) once prisoners return to their communities during PR1. Although the pre-release scores do not vary by city, there are

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[21] This item is derived from the TCU Desire for Help Scale.
[22] This item was included by the Urban Institute researchers.

significant variations in a sense of mastery by location during PR1: Chicago ex-prisoners report significantly higher levels of mastery (mean = 3.29; s.d. = 0.58) than Cleveland (mean = 3.16; s.d. = 0.48) and Houston respondents (mean = 3.14; s.d. = 0.46).

Self-esteem. Self-esteem is measured with a six-item scale, derived from Rosenberg's (1965) Self-Esteem Scale, one of the most widely used self-esteem scales (Blascovich and Tomaka, 1991). Items in this scale are scored according to a Likert format and measure the extent to which respondents *agree* or *disagree* with the following statements: (1) I have much to be proud of; (2) I feel like a failure (reverse-coded); (3) I wish I had more respect for myself (reverse-coded); (4) I feel I am basically no good (reverse-coded); (5) in general, I am satisfied with myself; and (6) I feel I am unimportant to others (reverse-coded). Item scores are averaged (ranging from 1-4), and high scores on this scale reflect higher levels of self-esteem. The Cronbach's alpha is 0.676 at pre-release and 0.822 during the first follow-up period.

According to the descriptive statistics, the average score on the self-esteem scale measured prior to release is 3.03 (s.d. = 0.52). This average score increases to 3.27 (s.d. = 0.54) during the first follow-up period. The self-esteem scores do not vary by location during the pre-release reporting period, but they do vary significantly across cities during PR1. Once again, ex-prisoners in Chicago report significantly higher levels of self-esteem (mean = 3.39; s.d. = 0.57) relative to ex-prisoners in Cleveland (mean = 3.22; s.d. = 0.52) and Houston (mean = 3.23; s.d. = 0.50).

Religiosity. Religiosity has been operationalized in several ways in prior criminological research (e.g., Johnson et al., 2000; Baier and Wright, 2001). Indicators of religiosity may be grouped into four primary categories – involvement/participation

(i.e., church attendance, prayer, and Bible study), salience (i.e., importance of God in daily life), belief elements (i.e., "hellfire" beliefs), and denominational affiliation.[23] Early studies generally utilized measures indicating religious participation, namely church attendance (Baier and Wright, 2001), whereas more contemporary studies stress the importance of using multiple measures (e.g., Evans et al., 1995), or even multidimensional measures (e.g. Johnson et al., 2000; O'Connor, 2005). Grasmick, Bursik, and Cochran (1991) contend that salience and involvement represent different constructs and should be kept separate in empirical analyses; an individual may attend religious services but not consider religion or God in everyday decision-making (i.e., salience), and vice versa. In contrast, Johnson et al. (2001) defined religiosity as the extent to which an individual is committed to a particular religion and to its teachings— an individual's religious commitment is reflected by both his attitudes and behaviors. For the purposes of this analysis, I include a multidimensional measure of beliefs and practices, which is described below.

Prisoners and ex-prisoners were asked a series of questions regarding personal religiosity that were selected and modified from the Fetzer Institute's Multidimensional Measure of Religiousness and Spirituality (1999). The Fetzer Institute (1999) identified key domains of religiosity/spirituality as essential for studies involving health outcomes: daily spiritual experiences, meaning, values, beliefs, forgiveness, private religious practices, religious/spiritual coping, religious support, religious/spiritual history, commitment, organizational religiousness, religious preference. Two of the questions in

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[23] Evidence concerning the effect of denomination affiliation is sparse (Grasmick, Kinsey, and Cochran, 1991). It is possible that certain religious teachings could proscribe greater adherence to conventional (i.e., noncriminal) behaviors than others. Urban Institute researchers did not collect information on the inmates' religious affiliation, so I could not pursue this line of inquiry in the current study.

the current study refer to private practices; the other four address religious attitudes and beliefs. All six of these measures tend to be highly correlated and are combined into a religiosity scale. These items include: (1) how often do you pray or meditate?; (2) how often do you read the Bible or other religious literature? (3) you find strength in your religion or spirituality; (4) you feel guided by God in the midst of daily activities; (5) your faith helps you know right from wrong; and (6) your spiritual beliefs help define the goals you set for yourself. The response sets for these items are available in Appendix A. Because they are different, the first two items are recoded to reflect a four-point scale. The final scale reflects the average score for the six times, ranging from 1 to 4; higher scores indicate greater religiosity. The Cronbach's alpha is 0.883 for the pre-release responses and 0.822 for the first follow-up period.

Unlike the mastery and self-esteem scales, the average score for the religiosity scale does not change much over time (although there may be significant within-individual differences, which is examined later in the study). The average pre-release religiosity score is 3.18 (s.d. = 0.74). Average scores vary significantly by location, such that prisoners in Chicago (mean = 3.23; s.d. = 0.67) and Houston (mean = 3.27; s.d. = 0.74) have significantly higher scores than Cleveland respondents (mean = 3.09; s.d. = 0.79). Generally speaking, the average scores remain relatively stable through the first follow-up reporting period in all three locations.

Prior research suggests that mastery and self-esteem may be closely related. For instance, Judge and colleagues (2002) found that locus of control[24] and self-esteem are highly correlated and suggested that they be integrated into a higher-order construct in

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[24] Recall that mastery and locus of control are closely related and were used interchangeably in the literature review.

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addition to neuroticism and generalized self-efficacy. However, they also noted that locus of control had the lowest correlations among these factors and suggested that these constructs still be considered separately in research studies since their results suggest that there is some variance unique to each of these traits. In the current study, a factor analysis of all items in the three scales measured in prison and then after release is presented in Appendix B. Generally speaking, with just a couple of exceptions the post-release items load onto three factors by their respective scales. It is apparent that the mastery and self-esteem items share some commonalities, however, particularly among the pre-release items. The religiosity items, on the other hand, load onto one component in each reporting period. Despite the overlap evidenced between the self-esteem and mastery items, these scales will be retained and analyzed separately in the following analysis. As discussed above, both are derived from well-established scales in the psychological literature.

Social Stressors

As discussed in the literature review, ex-prisoners have several social issues to contend with upon release. For this analysis, social stressors are measured using items from several domains collected in the first follow-up interview. Although this interview was conducted relatively soon in the reentry process, research has shown that experiences in the first few months after release are critical for eventual success (e.g., Nelson et al., 1999; Nelson and Trone, 2000; Visher and Travis, 2003).

This study employs a strategy that is similar to the approach utilized by LeBel and colleagues (2008) in their analysis of the effects of social and subjective factors on

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recidivism. They created a summated scale, called "reentry problems," which included

items indicating the existence of a problem in seven primary areas: housing, employment,

finances, relationships (partner/spouse and family), alcohol and drugs, measured 4 to 6

months after release. The measure used in this study, the *social stressor index*, is a six-

item summated scale, consisting of the following domains: family conflict, partner

conflict, unemployed, no identification, living in a disadvantaged neighborhood, and

living with negative influences.[25] The rationale for including most of these indicators is

provided in the literature review (Chapter 2). Some of these domains are measured using

scales—the response sets, reliabilities, and items in these subscales are provided in

Appendix A. The indicators in the social stressors index are converted to z-scores and

then summated to create a social stressor score.[26] Descriptive statistics for each domain

in the social stressor scale are provided in Appendix C, and a short description of each is

provided below.

> *Family conflict* – a scale based on three items measured in a four-point Likert
>
> format, ranging from *strongly disagree* to *strongly agree*. Items for this scale are

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[25] Several other items were considered for inclusion in the social stressor index. First, given the importance of finances as noted in previous research (e.g., Visher and Travis, 2003; Petersilia, 2003), I considered including a variable to reflect whether the ex-prisoner owed debt. When I examined this variable's bivariate relationship with the three recidivism outcomes using the Chi-square statistic, I found that owing debt was negatively related to subsequent arrests and reincarceration events (the relationship between drug use and owing debt was nonsignificant). This relationship is contrary to that predicted in the literature. It is possible that ex-prisoners with debt are more motivated to pursue conventional lifestyles. Second, finding housing was also considered as a potential social stressor, but the majority of the sample had housing lined up prior to release. Third, I examined the possibility of accounting for whether the respondent has a self-reported physical or mental health condition. Many ex-prisoners have special needs, such as physical or mental health conditions that require treatment and medications, and these may cause the ex-prisoners more stress (Petersilia, 2001, 2003). In this sample, having a health issue was negatively related to rearrest and reincarceration—an effect we would not expect if these health conditions were having detrimental consequences for the ex-prisoner—thus, this item was not included in the overall index. Finally, I examined a few variables related to the respondent's relationship with antisocial peers. These variables either did not have enough variability or had substantial missing values, so this item was not created.

[26] A social stressor score was calculated as long as the respondents had complete data for at least four of the six items. Only two respondents were missing data for two items. The rest were missing data for one item or none.

derived from conflict measures in the Family Environment Scale (Moos and Moos, 2002). These items include: (1) you fight a lot with your family members; (2) you often feel like you disappoint your family; and (3) you are criticized a lot by your family. The scale represents an average score for these three items; and higher scores represent more conflict (alpha=.666).

Partner conflict – a scale based on six items, all measured in a four-point Likert format, ranging from *strongly disagree* to *strongly agree*. Items for this scale are derived from conflict measures in the Quality of Relationships Inventory (Pierce, Sarason, and Sarason, 1991). These items include: (1) you often need to work hard to avoid conflict with your partner; (2) your partner wants you to change a lot of things about yourself; (3) you want your partner to change a lot of things about herself; (4) your partner makes you angry a lot; (5) you argue with your partner a lot; and (6) your partner often tries to control or influence your life. The scale represents an average score for these six items; higher scores represent more conflict (alpha = .806). If the respondent did not have a partner, this scale is scored as 0.

Unemployed – a dichotomous variable that indicates whether the respondent was employed at the time of the follow-up interview.

No identification – a dichotomous variable, which indicates whether the respondent had obtained a photo ID since release. Prior research suggests that

obtaining a photo ID is difficult for returning prisoners because they often lack

the documentation needed to get new identification. This is problematic because

a photo ID is necessary for many social purposes, such as securing employment

and financial activities. Prisoners who do not have a photo ID may experience

stress due to the many barriers this situation poses in trying to piece their lives

back together in the community (see Nelson et al., 1999; Nelson and Trone,

2000).

Living in a disadvantaged neighborhood – a scale based on six items, all

measured in a four-point Likert format, ranging from *strongly disagree* to *strongly

agree*. These items include: (1) your neighborhood is a safe place to live

(reverse-coded); (2) it is hard to stay out of trouble in your neighborhood; (3) you

are nervous about seeing certain people in your neighborhood; (4) living in this

neighborhood makes it hard for you to stay out of prison; (5) drug selling is a

major problem in your neighborhood; and (6) you think your neighborhood is a

good place for you to live (reverse-coded). The scale represents an average score

for these six items; and higher scores represent greater disadvantage (alpha=.811).

Living with negative influences – a summated scale, ranging from 1 to 3, which

indicates if the respondent lives with someone who uses illegal drugs, drinks to

get drunk, or has a prison record (each item scored 1 if indicated).

As shown in Table 3, the social stressor index varies significantly by location, with the highest average score reported in Cleveland (mean = 0.27; s.d. = 3.22) and the lowest average score in Chicago (mean = -0.24; s.d. = 2.67). There is considerable variation in these scores according to the standard deviations.

Interaction Terms

I hypothesize that mastery, self-esteem, and religiosity will moderate the effects of social stressors on recidivism. In a preliminary analysis, I created interaction terms by simply multiplying each subjective scale by the social stressor scale. Then, I examined correlations among both predictor variables and their interaction terms. In several cases, these correlations were close to .900 or higher, suggesting problems with multicollinearity if I subsequently included all three terms in one model. To correct for this issue, I mean-center the subjective measures and social stressor index, and then multiply the two new centered variables to create the interaction terms (Aiken and West, 1991). Subtracting a constant prior to multiplying the two terms yields lower correlations between the product term and its components without affecting its substantive interpretations (Jaccard, Turrisi, and Wan, 1990).

Control Variables

The control variables included in the analyses are selected based on prior research. I control for a variety of offender characteristics to increase confidence that the estimated effects on recidivism are unbiased.

City released to is a dummy-coded variable which indicates the city to which the ex-prisoner returns upon release (i.e., Chicago, Cleveland, or Houston). Cleveland is the suppressed category in all analyses. *Age* is the ex-prisoner's age in years (continuous) as of the pre-release interview date. *Race* is a dichotomous variable, indicating whether the participant is nonwhite or white. *Education* is a dummy-coded variable which indicates whether the participant had his high school diploma or GED prior to release from prison. Two-thirds of sample members (67.0 percent) were released from prison with a high school diploma or GED.

Several pre-prison social factors are included in the model to control for the prisoner's propensity to recidivate.[27] *Married pre-prison* is a dichotomous variable which indicates if the inmate was married or living with someone as married when he entered prison. About one-quarter (25.9 percent) of the respondents were married prior to the most recent prison term.

Employed pre-prison is a dichotomous variable which indicates if the inmate was employed in the six months before this incarceration. Overall, 70.9 percent of the sample was employed during this time period.

Illegal drug use pre-prison is a dichotomous variable that indicates if the inmate had used or injected illegal drugs during the six months prior to this prison term. Illegal drugs refer to marijuana, heroin, methadone, cocaine (i.e., powder, crack, and rock), amphetamines (i.e., bennies, dex, ice, crystal, and speed), and/or other illegal drugs. Almost three-quarters of the sample (73.3 percent) used at least one of these drugs during this time period.

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[27] I also considered including variables for whether the prisoner was homeless and whether he had children when he entered prison this term. Neither indicator significantly predicted the recidivism outcomes when the other controls were included in the model, so these variables were dropped for the sake of parsimony.

Quality of family relationships pre-prison is a scale based on eleven items, all measured in a four-point Likert format, ranging from *strongly disagree* to *strongly agree*. It includes items from the emotional support, affectionate support, and positive social interaction subscales in Sherbourne and Stewart's (1991) Medical Outcomes Study Social Support Survey. The respondent reports the extent to which he had someone in his family (1) to count on to listen to you when you needed to talk, (2) to talk to about yourself or your problems, (3) whose advice you really wanted, (4) to share your most private worries and fears with, (5) to turn to for suggestions about how to deal with a personal problem, (6) who understood your problems, (7) to love you and make you feel wanted, (8) to have a good time with, (9) to get together with to relax, (10) to do something enjoyable with, and (11) to spend time with to help you get your mind off things. The scale represents an average score for these eleven items, and higher scores reflect better family relationships before the inmate entered prison (alpha=.964). The average score on this scale, which ranged from 1 to 4, is 3.18 (s.d. = 0.71) for the entire sample.

Criminal history is operationalized as the *number of prior convictions* and *age at first arrest*.[28] Number of prior convictions is censored at six as an upper limit (90th percentile) to account for some extreme outliers. Overall, the respondents had an average

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[28] I also explored the possibility of creating a summated criminal history scale consisting of z-scores for several different indicators of criminal history collected in the pre-release survey. These measures included age at first arrest, spent time in a juvenile correctional facility, number of prior convictions, number of prior prison terms, and number of prior parole and probation revocations. A principal components analysis of these variables revealed two main components—one reflecting the number of prior convictions, prison terms, and parole/probation revocation, and the other indicating age at first arrest and having served time in a juvenile correctional facility. Ultimately, it was decided that the use of number of prior convictions and age at first arrest sufficiently represent each component (i.e., they had the highest loadings), so only these variables would be included separately in the final model.

of 2.57 prior convictions (s.d. = 1.97). The average age at first arrest is 18.5 years old

(s.d. = 7.37).

In addition, I control for *time served* in prison for the respondent's most recent

incarceration (total number of months incarcerated) and the *primary offense type* for this

incarceration. Both items are self-reported, and primary offense type is characterized as

violent, property, drug, and other for the purposes of this analysis.[29] The time served

variable has a positively skewed distribution, so I use the log transformation in the

subsequent regression analyses. According to descriptive statistics, time served in prison

differs significantly across the sites—respondents served an average of 27.47 months in

prison in Chicago, 43.85 months in Cleveland, and 37.40 months in Houston, for an

overall average of 37.02 months, or a little over three years.[30] The primary offense type

also varies substantially across sites. Among those who returned to Chicago and

Houston, the majority of prisoners were convicted of drug offenses (49.5 percent and

48.0 percent, respectively), whereas the majority were convicted of violent offenses in

Cleveland (35.8 percent). The distribution of primary offense type for the entire sample

is 22.3 percent violent offenses, 19.8 percent property offenses, 38.4 percent drug-related,

and 19.5 percent other.

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[29] Violent offenses include assault, robbery, and homicide. Property offenses include burglary, theft, car theft, and fraud/forgery. Drug offenses include both distribution and possession. The "other" category includes weapons offenses, sex offenses, prostitution, and those who checked the other category or multiple categories.
[30] One reason the number of months served in Houston was less than in Cleveland is that Texas has a split system of state prisons and state jails, and the Urban Institute sampled from both. The state jails house lower-level offenders sentenced between 6 months and 2 years; thus, there were inmates in the Houston sample from state jails who might have been incarcerated in county jails in other states. Second, these differences might reflect sentencing variations across the three states. Third, the composition of primary offenses suggests sentence lengths across these cities may be different. For instance, it is possible that Chicago sentences were considerably less than the other two cities because more men had served time for drug offenses in Chicago than for violent offenses, which may carry longer sentences.

Because not all of the respondents are released to parole and close supervision may increase an ex-prisoner's risk for being caught for criminal behavior, a dummy variable is included for whether the respondent was *released to parole supervision*. Almost all of the prisoners are released to parole in Chicago (99.6 percent), compared with approximately three-quarters of the sample in Cleveland (77.4 percent) and half of the sample in Houston (53.9 percent).[31]

Finally, *time at risk* in the community is measured as the number of months between release and the second follow-up interview. If the ex-prisoner is reincarcerated this variable only reflects "street time." The average time at risk is 7.82 months (s.d. = 2.29) through the second follow-up period.

MISSING DATA

Missing data can be problematic for statistical analyses. Table 4 shows the number and percentage of missing data for each variable, which is less than 5 percent in each case. To deal with these missing values, I use listwise deletion to remove cases with any missing data for all of the analyses. This method is most effective when less than 5 percent of the cases have missing data. One of the drawbacks of using listwise deletion is the possibility of losing many cases, and as a result, statistical power. In addition, the cases that drop out of the analysis may bias the results. Given the small amount of data missing for each variable, and the relatively large sample of cases employed in this study, loss of statistical power is less of a concern. To be sure that the use of listwise deletion

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[31] This variation in parole supervision may account somewhat for the differences in reported drug use shown for the dependent variable. If drug testing is a condition of parole for most of these prisoners, it is possible that ex-prisoners in Chicago are more likely to be deterred from subsequent use relative to those in the other cities, since almost all of them are on parole supervision after release and this is not the case in Cleveland or Houston.

would not affect the study's results, sample sizes were assessed for each model to ensure that missing cases were minimal. An examination of the sample sizes for each model showed that each one lost approximately 15 percent of the 740 cases due to the inclusion of variables with missing data.[32] Second, the models were re-estimated using 1) mean imputation for items missing less than 3 percent of data and 2) regression to impute missing values for variables missing more than 3 percent of data using the impute function in Stata. I recalculated both change scores and interaction terms with the new complete variables. The results for each regression model using the imputed values were substantively identical to those obtained using listwise deletion, so the results from the latter approach are reported in the Results chapter.

ANALYTIC STRATEGY

As mentioned earlier, the primary recidivism outcomes in this study are rearrest, illegal drug use, and reincarceration. Given that each of these variables is dichotomous, I use logistic regression for the following analyses. Logistic regression utilizes maximum likelihood estimation after transforming the outcome into a logit variable, which is the natural log of the odds of the outcome occurring or not. Thus, logistic regression estimates the odds of a certain event occurring, and the effects of independent variables are generally explained in terms of odds ratios.

Overview of Analysis

A conceptual model of the overall analysis is presented in Appendix D. For each subjective measure, I estimate a series of models examining their effects on each

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[32] Again, no single item was missing more than 5 percent of data. However, once they were included in one model, several more cases would drop out of the analysis.

recidivism outcome. Due to the high correlation between the mastery and self-esteem variables (see Table 5), and for the sake of enhancing our understanding of each subjective perspective, I estimate separate regressions for each measure. As discussed above, these factors tend to be highly related, so including these variables into one model might complicate interpretation of their effects on recidivism. For all models, one-tailed tests are used where the direction of the relationships have been predicted.

Step 1: Examination of Bivariate Relationships

An initial examination of the relationships between the outcome variables with each subjective factor and all of the control variables is presented with bivariate correlations. The Pearson's r is reported for all relationships. For associations between an interval variable and a dichotomous variable, Pearson's r will be the same value as eta, which is a traditional coefficient of nonlinear correlation.

Step 2: Specify the Baseline Recidivism Models

Before including the subjective factors in the logistic regression models, I estimate baseline models for rearrest, reincarceration, and illegal drug use. These models will provide estimates of the effects for each of the independent variables, which can be used for comparing the subsequent models that include the subjective factors. In addition, I evaluate whether the social stressor index has a significant impact on recidivism prior to including the subjective measures.

Step 3: Specify the Direct Effects Models

In the next set of models, I examine whether pre-release perspectives have significant main effects on recidivism. In an initial model, I include each pre-release subjective factor with all control variables; and in a second model, I add the social

stressor index. It is possible that the subjective measures will be indirectly related to recidivism through the post-release social stressors index, so it is important to estimate their main effects without this variable included first. If I were to only enter the pre-release subjective measure in a model with the social stressor index, and there was an indirect effect, I would potentially be disadvantaging the subjective factor and be led to conclusion that it is unrelated to the outcome.

Next, I estimate a third model to examine the effects of each subjective factor measured during the follow-up on recidivism. As suggested earlier, it is possible that measures gathered during incarceration will not have the same effects as the measures captured after release when the prisoner returns to the community (e.g., Foglia, 2000).

Step 4: Specify the Change Score Models

Before specifying the change score models, I examine whether the subjective measures change over time. For each subjective factor, I examine correlations of prison and PR1 measures. A high correlation between these measures would indicate that (a) individuals do not change much over time or (b) that individuals are changing over time, but in more or less the same way (i.e., everyone is increasing or decreasing to the same extent). A low test-retest correlation would suggest that (a) individuals are changing over time and (b) there are individual differences in the direction of change (i.e., some individuals are increasing in self-esteem and some are decreasing). Next, I conduct paired sample T-tests to determine if individuals experience statistically significant changes in the subjective perspectives over time. Finally, I examine the results from the logistic regression models, which report the effects of the change score for the subjective

factors (PR1 – Prison measures) on recidivism, controlling for the variables specified above.

Step 5: Exploring Moderating Effects

Then I examine whether the subjective factors interact with the social stressors index to impact the likelihood of recidivism. I hypothesize that each subjective factor will moderate, or affect the strength of, the relationship between the social stressors and recidivism. In a series of models, I include the subjective measure, social stressor index, and their interaction term—first for the subjective factor measured in prison and then in a separate model for the subjective factor measured at PR1. Because these variables are centered to account for multicollinearity issues, for these series of models I also enter the subjective and social stressor predictors as centered variables. The findings from these models will indicate whether the effects of ex-prisoners' ratings of social stressors on recidivism are moderated by the subjective perspectives.

Step 6: Specifying the Combined Models

Finally, I estimate models for rearrest, reincarceration, and illegal drug use that include all three subjective factors—mastery, self-esteem, and religiosity—measured prior to release and then separate models for the post-release measures. These models will provide estimates of the effects for each of the subjective perspectives, controlling for the others.

Chapter 4: Results

The following chapter reports the results of the all analyses by each subjective factor—mastery, self-esteem, and religiosity—respectively. For each subjective factor, the main effects models are presented first, followed by the change score models, and then the interactional models for each of the three outcomes. Then I present the results for the models that include all three subjective factors. The final section provides a summary of the findings reported in this chapter.

BIVARIATE RELATIONSHIPS

Table 5 shows the bivariate correlations for all variables. According to this table, getting rearrested during the follow-up period is positively and significantly related to the social stressors index, number of prior convictions, serving time for a drug offense, and time at risk. Getting rearrested is negatively related to age at release, being a high school graduate/having a GED, the quality of family relationships and being married prior to the most recent incarceration, age at first arrest, length of time served, and having served time for an offense classified in the "other" category.

Getting reincarcerated is positively and significantly related to the social stressors index, returning to Chicago, number of prior convictions, having served time for a drug offense or a property offense, being under parole supervision after release, and time at risk. Reincarceration is negatively related to higher levels of self-esteem measured post-

release, returning to Cleveland or Houston, having a job prior to one's most current incarceration, length of time served, and having served time for a violent offense.

Using illegal drugs after release is positively and significantly related to the social stressor index, returning to Houston, using drugs prior to one's most recent incarceration, number of prior convictions, and time at risk. Using illegal drugs is negatively related to a sense of mastery during prison and after release, self-esteem measured during PR1, religiosity measured during PR1, returning to Chicago, age at release, the quality of family relationships, being married, and having a job prior to the baseline incarceration, age at first arrest, length of time served, having served time for an 'other' offense, and being under parole supervision during the follow-up period.

As expected, self-reported rearrest is significantly and positively related to official reincarceration (r=.403). While we might expect this relationship to be stronger, it should not be a perfect relationship since not everyone who is rearrested will also be reincarcerated. Self-reported illegal drug use is also positively and significantly related to rearrest (r=.242) and reincarceration (r=.131).

As mentioned earlier, mastery and self-esteem have high correlations both during (r=.599) and after release from prison (r=.668). Religiosity is also positively related to both in-prison and post-release measures of mastery and self-esteem, although the magnitudes of these relationships are substantially lower than that of mastery and self-esteem. For this reason, these subjective factors are initially analyzed separately in the following analyses. But these measures are also combined in a final set of models so as to estimate each effect when controlling for the other two perspectives.

BASELINE MODELS

An initial model is estimated for each outcome to establish baseline effects for comparison once the subjective measures are included in the models in the subsequent steps, and to establish whether the social stressor index is a significant predictor of each recidivism outcome. Table 6 presents the logistic regression results for all three outcomes. The social stressor index has a positive and significant effect on reincarceration and illegal drug use, suggesting that the more problems ex-prisoners experience after release from prison the more likely they are to be reincarcerated and to use illegal drugs. It is noteworthy that the effect of social stressors on rearrest is not significant.

There are several other notable effects in these models. For one, time at risk has a consistent positive and significant effect across all three models. Thus, the longer ex-prisoners remain in the community, the more likely they will recidivate. Parole supervision is positively and significantly related to reincarceration. These findings may be accounted for by the fact that ex-prisoners on parole are under greater supervision, thus subsequent crimes are more likely to be detected and punished. On the other hand, parole supervision is negatively related to illegal drug use. There are two potential explanations for this result. For one, drug testing is frequently a condition of parole. Lower reports of drug use may indicate that ex-prisoners on parole are deterred from using drugs by these tests for fear of risking a parole violation. It is also possible that parolees fear being caught for their drug use and consequently conceal some or all of their drug use from the study interviewers.

Location is significantly related to all three outcomes, such that ex-prisoners returning to Chicago and Houston are significantly less likely to be rearrested than those in Cleveland. Houston ex-prisoners are also significantly less likely to be reincarcerated than Cleveland ex-prisoners; and Chicago ex-prisoners are significantly less likely to report subsequent illegal drug use than Cleveland ex-prisoners in these models.

Demographic and pre-prison characteristics have mixed effects across the three models. Age at release is only significantly related to subsequent drug use; younger ex-prisoners are more likely to report illegal drug use. Pre-prison employment is only negatively related to reincarceration. Illegal drug use prior to prison has a positive, significant effect on illegal drug use after release, but its effect is not significant for rearrest or reincarceration. It is notable that the magnitude of the effect for prior drug use is large, but second to location (Chicago). Age at first arrest is negatively related to rearrest and illegal drug use, suggesting that those who were younger at their first arrest are more likely to be rearrested and use illegal drugs after release from prison. Race, education, family relationship quality, being married prior to incarceration, and number of prior convictions are not significantly related to any of the outcomes.

The two prison-specific variables are also significantly related to recidivism. Ex-prisoners who served shorter terms are more likely to be rearrested and reincarcerated (net of the age at release). Those who served time for a violent offense are less likely to be reincarcerated than those who served time for a drug-related offense. Ex-prisoners who had served time for "other" offenses are significantly less likely to be rearrested relative to drug offenders. Again, the "other" category includes weapons offenses, sex offenses, prostitution, and those who checked the other category or multiple categories.

Overall, these baseline models yield results that are generally consistent with prior research with similar populations. It is also important to highlight the fact that the social stressors index is significant for two of the three outcomes. With this established, the following analyses provide a strong test for the case of each subjective factor in the study of recidivism among prisoners.

MASTERY

Rearrest

Direct effects. Table 7 displays the results from the logistic regression analyses predicting rearrest for all models including mastery as an independent variable. Model 1 shows that the level of mastery measured just prior to release does not have a significant effect on rearrest, controlling for all other factors. Not surprisingly, the effect of social stressors is not significant when included in the model (Model 2); recall that this effect is also not significant in the baseline model (Table 6). This is also the case in Model 3, which shows the direct effect of mastery measured during PR1 on rearrest. Once again, the effect for mastery is not significant, nor is the effect of social stressors.

Change score effects. The correlation between mastery measured in prison and during PR1 is .340 (Table 5). This moderate magnitude suggests that mastery is not stable through this transition. Table 8 shows the paired sample t-test results for an individual's mastery measured in prison compared with his score post-release. The findings from the t-test also suggest that ex-prisoners experience a significant change in mastery following release. Table 9 shows the distribution of ex-prisoners, categorized by whether they evidenced an increase, decrease, or no change in mastery from prison to the

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community. As shown, 47.5 percent of the ex-prisoners experienced an increase in mastery following release, 41.7 percent showed a decrease, and 10.8 percent showed no change. The table also indicates the percentage of ex-prisoners in each of these categories who are rearrested. A greater percentage of respondents in the 'increased' category are rearrested relative to those who showed a decrease or no change, but these differences are not significantly different according to the Chi-square statistic.

The categorical depiction of change in mastery and rearrest (Table 9) does not account for the degree of change experienced by ex-prisoners. To determine whether the magnitude and direction of change is significantly related to rearrest, I estimate a model using logistic regression, controlling for social stressors and the independent variables specified in Chapter 3. According to the results presented in Table 7 (Model 4), change in mastery from prison to PR1 is not significantly related to rearrest, controlling for all other factors.

Moderating effects. It is also hypothesized that the level of mastery will moderate the effect of social stressors on recidivism—an ex-prisoner with a higher sense of mastery should have more adaptive coping mechanisms and thus mastery will buffer the positive effect of social stressors on rearrest. To examine the interaction of mastery and stressors, an interaction term was created by multiplying each measure centered on its mean. The interaction term is included in the model as a predictor of rearrest, as well as the centered source variables (the same procedure is followed for the inclusion of all subsequent interaction terms). Model 5 shows the interaction effect for mastery measured in prison with social stressors measured during PR1. These results indicate that mastery does not significantly moderate the effect of social stressors on rearrest. Further,

the interaction effect for mastery measured during PR1 with social stressors is also not significant (Model 6).

Reincarceration

Direct effects. The logistic regression results for the effects of mastery on reincarceration are reported in Table 10. According to the results for Model 1, mastery measured in prison is significantly and negatively related to reincarceration, though this effect is marginal (β = -.554, *S.E.* = .316, *Exp(β)* = 0.575, *p* = .080). However, once social stressors are included in the model, mastery measured prior to release does not have a significant effect on reincarceration (Model 2). These findings suggest that mastery has an indirect effect on reincarceration through social stressors. Model 3 shows the effect for mastery measured during PR1. Once again, mastery is significant, though its effect is marginal (β = -.520, *S.E.* = .311, *Exp(β)* = 0.594, *p* = .095). It is also notable that the effect size for social stressors is reduced by 22 percent.

Change score effects. Again, correlation results and the paired samples t-test findings indicate that ex-prisoners experience a significant change in levels of mastery from prison to the community (Table 8). However, according to Table 9, which shows the direction of change by category, this change in mastery is not related to reincarceration according to the Chi-square statistic. Similar percentages of ex-prisoners are reincarcerated regardless of whether they show an increase, decrease, or no change in sense of mastery. But again, these categories do not account for degree of change, and it is possible this magnitude is related to reincarceration. Model 4 in Table 10 shows the logistic regression results for the effect of this change (PR1 level minus the prison level

of mastery) on reincarceration. According to the results in this model, the change in mastery does not have a significant effect.

Moderating effects. Models 5 and 6 in Table 10 show the interaction effects between mastery measured in prison and in the community with social stressors, respectively. According to Model 5, mastery does not significantly interact with social stressors to dampen their effects on reincarceration. Model 6 shows that the effect between mastery and social stressors, both measured during PR1, is also not significant controlling for other factors. Once again, however, post-release mastery is significantly and negatively related to reincarceration, and the magnitude of the direct effect of social stressors is reduced considerably once mastery measured during the same time period is accounted for in the model.

Illegal Drug Use

Direct effects. Table 11 shows the logistic regression results for predicting illegal drug use with the multiple indicators for mastery. According to Models 1 and 2, the level of mastery measured during incarceration does not have a significant effect on illegal drug use during the follow-up, regardless of whether I control for social stressors. Model 3, which shows the effects for all control variables and mastery measured during PR1, also reveals that the effect for mastery is not significant.

Change score effects. Previous analyses indicated that while ex-prisoners experience a significant change in mastery from prison to the community, this change is not related to recidivism. Table 9 shows the percentage of ex-prisoners who used illegal drugs in the post-release period based on whether they increase, decrease, or show no change in mastery. These findings reveal that there is practically no difference in the

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percentage of ex-prisoners who use illegal drugs by this distinction. Model 4 in Table 11 shows the effect for change in mastery from prison to PR1 on illegal drug use using logistic regression analysis and controlling for several factors. Not surprisingly, these results indicate the change in this subjective factor does not have a significant effect on illegal drug use after release from prison.

Moderating effects. Finally, Models 5 and 6 in Table 11 show the effects of interactions between mastery and social stressors on illegal drug use. The results displayed in Model 5 suggest that mastery measured in prison does not significantly interact with social stressors measured during PR1 to reduce their effect on illegal drug use as hypothesized. Mastery measured during PR1 also does not have a significant interaction effect with social stressors (Model 6). Once again, the effects of the control variables are essentially unchanged with the inclusion of these interaction terms.

SELF-ESTEEM

Rearrest

Direct effects. Self-esteem measured both during prison and after release is hypothesized to have a direct negative effect on rearrest. Table 12 shows the logistic regression results for each hypothesized effect. According to Model 1, self-esteem measured in prison does not have a significant effect on rearrest, controlling for all other factors. This is also the case in Model 2, which includes the effect for social stressors. Model 3 indicates that self-esteem measured during PR1 also does not have a significant effect on the likelihood of rearrest.

Change score effects. A change in self-esteem from prison to the community is hypothesized to have an effect on recidivism, such that a more positive change will be related to a lower likelihood for rearrest. The correlation between self-esteem measured during prison and at PR1 is .347, a fairly low correlation, suggesting this construct is not stable from prison to the community. Table 8 shows the results from a paired sample t-test, indicating whether the individuals in this sample experience a significant change in self-esteem from prison to the community. The results of the t-test indicate that, on average, prisoners experience an increase of 0.247 in their self-esteem score, which is significant at the .001 level. According to Table 9, 58.4 percent of sample members show an increase in self-esteem, 26.4 percent a decrease, and 15.2 percent no change.

Table 9 also shows the percentage of ex-prisoners who are rearrested by whether they experienced an increase, decrease, or no change in self-esteem from prison to the community. These results show that there is very little difference in these percentages (the Pearson Chi-square test statistic is not significant). Once again, this table does not reflect the degree of change in self-esteem within individuals, and it is possible that the magnitude of this change may be predictive of recidivism. The findings from the logistic regression analysis presented in Table 12, however, show that a change in self-esteem is not related to the likelihood of rearrest (Model 4).

Moderating effects. Hypotheses presented in Chapter 2 suggested that self-esteem should moderate the effect of social stressors on rearrest. According to Model 5, the inclusion of the interaction term for pre-release self-esteem and PR1 social stressors has little impact on the other effects in the model, and the interaction effect is not significant. Model 6 shows the results for the equation which includes the interaction term between

self-esteem and social stressors measured during PR1. Again, the interaction term is not significant, and there are minimal changes in the magnitude and significance of the other variables' effects.

Reincarceration

Direct effects. The logistic regression results for the effects of self-esteem on reincarceration are presented in Table 13. Contrary to expectations, self-esteem measured in prison (Models 1 and 2) and after release (Model 3) does not have a significant effect on reincarceration, controlling for all other factors. While the betas are in the predicted direction (negative), their effects are not significant. And similar to the effects with mastery, the inclusion of PR1 self-esteem results in a reduction in the magnitude of the effect of social stressors, though it remains significant.

Change score effects. Positive changes in self-esteem from prison to the community are predicted to be related to a lower likelihood of reincarceration. Again, results from a paired samples t-test suggest that the prisoners experienced significant changes in self-esteem during the transition (see Table 8). The results in Table 9 further indicate that changes in self-esteem are related to reincarceration (Pearson Chi-square=6.179; p=.046), although the relationship according to this table suggests a curvilinear effect—ex-prisoners with an increased sense of self-esteem (14.3 percent) and those with a decreased sense of self-esteem (19.5 percent) experience higher rates of reincarceration relative to those who experience no change (9.1 percent). According to

the multivariate results, the overall magnitude in change in self-esteem is not related to the likelihood of reincarceration (Table 13, Model 4).[33]

Moderating effects. Models 5 and 6 in Table 13 show the results for the logistic regression models of reincarceration with the inclusion of the interaction terms for self-esteem and social stressors. The results shown in Model 5 indicate that the interaction effect between pre-release self-esteem and PR1 social stressors is not significant. Model 6 shows that the interaction effect for self-esteem and social stressors, both measured during PR1, is also not significant for reincarceration.

Illegal Drug Use

Direct effects. Table 14 shows the logistic regression results for self-esteem on illegal drug use. Similar to the findings for rearrest and reincarceration, self-esteem measured during prison (Models 1 and 2) and measured during PR1 (Model 2) do not have significant effects on illegal drug use, controlling for all other factors. In these models, location (Chicago) and prior drug use continue to have the largest effects among all predictors. Social stressors also continue to have positive and significant effects on the likelihood of subsequent illegal drug use.

Change score effects. It is predicted that ex-prisoners who gain a higher sense of self-esteem from prison to release will be less likely to use illegal drugs and those who have lower levels of self-esteem from prison to the community will be more likely to use drugs during the follow-up. Although prisoners experience significant changes in self-esteem during the transition (see Table 8 for the paired samples t-test), this change is not

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[33] I re-estimated this model with the change score variable squared to approximate the possible U-shape represented in Table 9. The squared term was not significant in the full logistic regression model.

related to the likelihood of illegal drug use (Table 9). Generally speaking, a smaller

percentage of ex-prisoners who report an increase in self-esteem use illegal drugs (16.9

percent) compared with those who report a decrease (19.3 percent) and no change (20.3

percent), but the Pearson Chi-square statistic is not significant. In accord with these

findings, controlling for all other factors in the logistic regression model, change in self-

esteem is not related to use of illegal drugs (Table 14, Model 4).

Moderating effects. Finally, it is hypothesized that the level of self-esteem

measured both during prison and in the community will moderate the effects of social

stressors on subsequent illegal drug use. According to the results shown in Table 14, the

effect for the interaction between self-esteem measured in prison (Model 5) and during

PR1 (Model 6) with social stressors measured during PR1 is not significantly related to

illegal drug use. These findings are consistent with those shown for the other two

measures of recidivism (rearrest and reincarceration).

RELIGIOSITY

Rearrest

Direct effects. Based on prior research, it is hypothesized that prisoners and ex-

prisoners with higher religiosity will have lower likelihoods for rearrest. Table 15 shows

the logistic regression results for the effects of religiosity on rearrest. According to

Models 1, 2, and 3, neither religiosity measured during prison nor during PR1 have

significant direct effects on rearrest. The inclusion of religiosity has little impact on the

magnitude and significance for the effects of the other independent variables.

Change score effects. It is expected that ex-prisoners who report an increase in religiosity from prison to the community will have a lower likelihood for rearrest. However, the correlation between religiosity measured in prison and during PR1 is moderate-to-high (r = .646), suggesting that a sense of religiosity is fairly stable for respondents from prison to the community. Not surprisingly, the results from the paired sample t-test (Table 8) also indicate that ex-prisoners in this sample do not experience a significant change in religiosity from prison to the community (mean difference = .018, t = .792; p = .429). Nonetheless, Table 9 shows that 42.1 percent of ex-prisoners show an increase in religiosity after prison, whereas 41.0 percent show a decrease and 17.0 percent show no change, regardless of the magnitude of this change.

In terms of rearrest, Table 9 shows that a similar share of respondents are rearrested regardless of whether the ex-prisoners experience a positive, negative, or no change in religiosity (19.8 percent, 17.1 percent, and 20.3 percent, respectively). The Pearson's Chi-square statistic for this relationship is not significant. Logistic regression models are estimated with all of the independent variables and the variable measuring change in religiosity from prison to PR1. Model 4 in Table 15 shows the results for this equation; unsurprisingly, change in religiosity is not related to rearrest. Again, the bivariate correlation and paired sample t-test suggested there is little change in this subjective perspective from prison to the community.

Moderating effects. Like the other subjective perspectives, it is hypothesized that prisoners' levels of religiosity will moderate the effects of social stressors experienced post-release on rearrest. Model 5 in Table 15 shows the results for the logistic regression, which includes the interaction term for in-prison religiosity and post-release

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social stressors. The effect for the interaction term is not significant. Model 6 shows the results for the interaction term when religiosity is measured at PR1. Again, the effect is not significant.

Reincarceration

Direct effects. It is expected that a higher sense of religiosity will be related to a lower likelihood for reincarceration. Table 16 shows the effects from the logistic regression analysis of reincarceration. Model 1 indicates that religiosity measured during prison does not have a significant effect on reincarceration controlling for all other factors. This is also the case when social stressors were included in the model (Model 2). Model 3 shows that the effect for religiosity measured after prison is not significant for reincarceration, though in this case the effect is in the predicted direction (negative). The inclusion of these variables has little impact on the other effects in the model, including that of social stressors.

Change score effects. It is predicted that ex-prisoners who become more religious after release from prison will have a lower likelihood of reincarceration. Recall that the bivariate correlation between religiosity measured before and after release is fairly high (r=.646), and the paired samples t-test did not reflect a significant difference. However, the results in Table 9 suggest that the majority of ex-prisoners experience some level of change upon release. Furthermore, the percentage of ex-prisoners who are reincarcerated during the follow-up shows a decline across those who experience a decrease in religiosity (16.5 percent), those who experience no change (15.4 percent), and those who experience an increase (13.0 percent), although these differences are not statistically significant. However, the results in the logistic regression analysis show that a positive

change in religiosity is marginally associated with a lower likelihood of reincarceration

(β = -.408, *S.E.* = .229, *Exp(β)* = 0.665, *p* = .075), controlling for all other factors (Table

16, Model 4).

Moderating effects. Again, it is expected that the level of religiosity will

moderate the effect of social stressors on reincarceration. The results shown in Model 5

in Table 16 indicate that the interaction between religiosity measured in prison and social

stressors measured during PR1 has a significant effect on the likelihood of reincarceration

(β = -.121, *S.E.* = .062, *Exp(β)* = 0.886, *p* = .051). More specifically, a higher sense of

religiosity in prison buffers the positive effect of social stressors on reincarceration, as

predicted. This is not the case for religiosity measured during PR1; the interaction

between religiosity measured at this time point with social stressors is not significant

(Model 6).

Illegal Drug Use

Direct effects. A final set of analyses for religiosity illustrates its impact on

illegal drug use after prison (Table 17). According to the logistic regression results

presented in Table 17, religiosity measured in prison (Model 1 and Model 2) does not

have a significant effect on subsequent drug use, all else equal. The effect for religiosity

measured after release (Model 3) is also not significant. In these models, the effect of

religiosity is positive for the pre-release measure and negative for the post-release

measure, similar to the findings for reincarceration.

Change score effects. It is again predicted that a greater sense of religiosity after

release will be related to a lower likelihood of illegal drug use in the post-release period.

According to Table 9, ex-prisoners who experience a decrease (18.1 percent) and an increase (19.1 percent) in religiosity are more likely to use illegal drugs than those who report no change (14.0 percent); however, these differences are not statistically significant. Further, the results shown in Model 4 (Table 17) do not show support for this hypothesis; the effect of the change score is not significant for illegal drug use.

Moderating effects. Finally, it is expected that religious beliefs will moderate the effect of social stressors on illegal drug use—ex-prisoners with higher religiosity are expected to have more coping resources and thus have better approaches for dealing with stress, leading to a lower likelihood of turning to illegal drug use. The logistic regression results shown in Table 17 (Model 5) show that religiosity measured during incarceration significantly interacts with social stressors, such that a higher sense of religiosity *increases* the positive effect of social stressors on illegal drug use ($\beta = .103$, *S.E.* = .049, *Exp(β)* = 1.109, $p = .037$). The interaction term for religiosity and social stressors measured during PR1 is not significant (Model 6).

COMBINED MODELS

In the final steps of this analysis, I included all three subjective factors into one equation for each outcome. These models included all control variables, as well as the social stressor index, and separate models were estimated for the subjective measures provided in prison and after release. The results of these models provide an inclusive examination of these three related perspectives.

Table 18 shows the results for the rearrest, reincarceration, and illegal drug use. According to Models 1 and 2, none of the subjective perspectives measured in prison or post release are significantly related to the likelihood of rearrest. This is also the case for reincarceration (Models 3 and 4) and illegal drug use (Models 5 and 6). These findings are not surprising given the results reported from the previous steps in the analysis, and they confirm that notion that these subjective perspectives do not have significant main effects for the recidivism outcomes.[34]

SUMMARY OF SUBJECTIVE FINDINGS

Mastery Findings

Overall, the results from the logistic regression analyses indicate that the levels of mastery measured prior to release and approximately two to three months after release were marginally related to reincarceration among this sample of male ex-prisoners. In the model predicting reincarceration, there was also some evidence of an indirect effect of pre-release mastery through social stressors, such that the effect of mastery was no longer significant once the social stressors index was included in the model. The findings did not support the hypothesis that prisoners who gained a greater sense of control during the follow-up period would be less likely to recidivate; the effects for the change scores were not significant in all three models of recidivism. Finally, the results did not reveal

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[34] Due to the high correlation between mastery and self-esteem, I re-estimated these models such that I included mastery and religiosity in one set of recidivism models, and self-esteem and religiosity in another set of recidivism models. The substantive results were similar to those presented in the analysis reported in this chapter; thus for the sake of parsimony, I only show the results for the models that include all three subjective factors.

any support for the hypotheses that a higher level of mastery, measured both during

prison or after release, would moderate the effect of social stressors on recidivism.

Self-Esteem Findings

The findings for self-esteem also showed that this subjective factor was not

related to recidivism once other important control variables were accounted for in the

regression models. Again, the direct effects models revealed that neither the in-prison

nor post-release measures of self-esteem were significantly related to rearrest,

reincarceration, or illegal drug use assessed approximately eight to nine months after

release from prison. Furthermore, neither the change score nor the interactions with

social stressors showed significant effects on the recidivism outcomes.

Religiosity Findings

The findings for religiosity revealed some evidence in support of the studies'

hypotheses. The main effect for religiosity was not significant for the recidivism

outcomes, regardless of whether it was measured during prison or after release. There

was some support, however, that change in religiosity was related to recidivism, despite

the fact that there was little change experienced by the sample as a whole. Specifically,

ex-prisoners who experienced a positive change in religiosity from prison to the

community were less likely to be reincarcerated during the follow-up period, though this

effect was only marginally significant. Furthermore, there was some support for the

hypotheses that specified moderating effects. For instance, a higher sense of in-prison

religiosity buffered the effect of social stressors on reincarceration during the follow-up.

However, the findings for the drug use outcome revealed a relationship contrary to

expectations—a greater sense of religiosity in prison increased the positive effect of

social stressors on illegal drug use, rather than buffer it. These findings and their

implications are discussed in more detail in Chapter 5.

Combined Model Findings

The final step of this analysis sought to examine the direct effects of the three

subjective measures—mastery, self-esteem, and religiosity—when they were

simultaneously entered into each recidivism model. These findings revealed that when

entered together, none of the pre-release or post-release measures for these subjective

perspectives were significantly related to rearrest, reincarceration, or illegal drug use.

These findings confirm those reported above.

Chapter 5: Conclusions and Discussion

The goal of this study was to examine the role of three subjective factors—mastery, self-esteem, and religiosity—in the recidivism process among recently released male ex-prisoners. Mastery and self-esteem were the focus of prisoner-related research decades ago and has received little attention since. Religiosity among prisoners, on the other hand, is a burgeoning area in criminological research, especially to the extent that it can contribute to prisoners' reform and reentry to society. Faith-based programming is becoming a popular means of supporting prisoners and their transition back to the community (e.g., Sumter, 2006). According to a recent review conducted by the National Institute of Corrections Information Center (2005), 21 state correctional systems and the federal prison system were operating faith-based residential programs or were developing them. But to date, few empirical studies have addressed these types of programs (Mears, Roman, Wolff, and Buck, 2006). Recent research has also suggested that both subjective and social factors play a role in the recidivism (Zamble and Quinsey, 1997) and desistance processes (LeBel et al., 2008), and that future research should consider these relationships in more depth. The current study sought to investigate the effects of mastery, self-esteem, and religiosity within this context.

Besides using a contemporary sample, this study's methods presented many strengths. For one, the longitudinal design included measures of subjective perspectives and social experiences captured in prison and during the reentry process. Having an estimate of each subjective measure both before and after release allowed me to examine whether these subjective perspectives have different effects on the outcome depending on

when they were measured (e.g., perspectives measured in prison may not be as relevant for post-release adjustment as those measured in the community). It also permitted me to examine whether these perspectives changed during this transition, and if so, whether these changes influenced the likelihood that ex-prisoners would recidivate. Secondly, the subjective measures utilized in this study were derived from scales with a strong research base. Rosenberg's (1965) Self-Esteem Scale and Pearlin and Schooler's (1978) Mastery Scale are among the most widely used scales in psychology, and have demonstrated high reliability and validity among a wide range of samples. The Religiosity Scale was derived from an in-depth study of the measurement of religiosity and spirituality conducted by the Fetzer Institute (1999). The scale employed in this study combined items that measure both beliefs and personal practices—a significant improvement over prior research that has relied on single-item measures such as church attendance (Mears et al. 2006; Evans et al., 1995)

The study design also incorporated a diverse sample of male prisoners, who were released to three major U.S. cities. Not only did these men represent many age and racial groups, but they had served various sentence lengths, for different offense types, and in a range of security levels. This diversity increases our confidence that these results are applicable to males in other prisons across the country. The comprehensiveness of the data allowed me to include several pre-prison measures of social and criminal experiences to control for an ex-prisoner's propensity to reoffend after release from prison, which contributed to a more stringent test of the subjective factors. Further, the recidivism outcomes included three principal measures of criminal behavior—rearrest, reincarceration, and illegal drug use. These measures are important indicators of an ex-

prisoner's failure, and learning what factors inhibit these behaviors has important theoretical and practical implications.

To account for the impact of social factors, I created an index measure composed of several social experiences that tend to have negative influences on the prisoner reentry process. Again, ex-prisoners may encounter many social challenges when they return to the community—problems with intimate relationships and family members, finding and keeping employment, paying bills, encountering negative peers, and contending with negative situations that are common in disadvantaged communities (Visher and Travis, 2003; Petersilia, 2003). Before examining the effects of the subjective perspectives on recidivism, the first step in the analysis established whether the social stressor index was related the three outcomes. I found that the social stressors index was significantly related to reincarceration and illegal drug use, but not to rearrest. Thus, ex-prisoners with higher social stressor scores were significantly more likely to be reincarcerated and to report illegal drug use.

Overall, the results showed only weak support for mastery, religiosity, and self-esteem in predicting recidivism among ex-prisoners. The bivariate correlations suggested that none of these measures, including the change score that reflected the differences in these perspectives from prison to release, were significantly related to rearrest. On the other hand, there was a significant and negative bivariate correlation between in-prison self-esteem and reincarceration. Further, in-prison mastery, post-release mastery, post-release self-esteem, and post-release religiosity were each negatively related to illegal drug use. These negative relationships provide some support for the effects predicted in the study's hypotheses.

There has been some qualitative support for a negative relationship between mastery and offending in studies of the desistance process (Maruna, 2001; Healy and O'Donnell, 2008). More specifically, Maruna (2001) has found that desisting offenders express a greater sense of control over their lives compared with persistent offenders in narrative accounts of their experiences. There have been no empirical investigations of this relationship with ex-prisoner samples however, and the current study begins to close this gap in our knowledge. Mastery measured during prison and after release only had a marginally significant negative effect on reincarceration; and it did not distinguish between those who were rearrested or used illegal drugs. There was also some evidence that pre-release mastery may have an indirect effect on reincarceration through social stressors: pre-release mastery had a significant (though marginal) effect on reincarceration, but when the social stressor index was included in the model, pre-release mastery was no longer significant. Again, it is important to reiterate that fact that the effect of pre-release mastery was borderline in significance to begin with and additional research is needed to verify this relationship.

In addition, although ex-prisoners experienced a significant increase in mastery from prison through the first post-release period, this change was not related to any of the recidivism outcomes. Maruna's qualitative findings implied that gaining a sense of control should be related to less offending, but that relationship was not evidenced here. It may be, however, that Maruna's thesis applies to a longer process, and that mastery measured two to three months after release will not reflect his observations.

It is notable that while the majority of ex-prisoners experienced an increase in sense of mastery, a large share also reported a decrease. It is not surprising that almost

half of the sample reported a greater sense of control once they were in the community since they were no longer in a restrictive institutional environment with rules and schedules.[35] Then again, nor is it surprising that many of these men reported a decrease in this subjective perspective. They may experience a lower sense of mastery due to the lack of routine or provision of basic resources as experienced in prison. A comparison of the average social stressor scores for those who increased, decreased, and maintained stable levels of mastery shows the average social stressor score for the 'increase' group was -.47, whereas the 'decrease' group reported a score of .65 (and those who reported no change in mastery reported the lowest score of all groups, -.62). It is possible that these men were overwhelmed by the significant obstacles they faced once they returned to the community, and thus felt less in control of their lives (Healy and O'Donnell, 2008).

The findings for self-esteem also failed to support the hypothesis that higher levels of self-esteem in prison and after release are related to a lower likelihood of recidivism during the post-release period. Interest in prisoners' self-esteem had waned over two decades ago, when research in this area seemed to suggest that self-esteem had little consequence for inmate and ex-prisoner adjustment (Bennett, 1974; Wormith, 1984). Indeed, some studies have also produced null findings (e.g., Wells and Rankin, 1983), causing researchers to question whether self-esteem is a significant predictor of crime (Baumeister et al., 2000; Andrews and Bonta, 1998). But none of these early studies employed a research design that offers the sample size and diversity, variable

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[35] Interestingly, ex-prisoners' sense of mastery after release was significantly higher for those who were under parole supervision relative to those who were not. It is possible that those released to parole obtain more advice and support (i.e., from their parole officers or from other mandated services) during their reentry experience, which may contribute to their sense of control during the process. For instance, parole officers may help ex-prisoners establish achievable, short-term goals that help this group either gain or maintain their sense of mastery relative to those who are forced to deal with the process on their own.

measurement, and follow-up information as exemplified in the *Returning Home* data. Thus, a new look at an old question seemed warranted.

All in all, the findings in this study do not necessarily refute the findings of old: there was no support for a main effect of pre-release or post-release self-esteem on recidivism in the logistic regression models. Self-esteem had a negative bivariate relationship with the social stressor index, suggesting that those with lower self-esteem have more problems to contend with. In terms of change effects, the majority of the sample experienced an increase in self-esteem post-release (58 percent); only one-quarter experienced a decrease. But these offenders who evidenced a decrease also reported substantially greater social stressors (mean = .94) than ex-prisoners who experienced an increase in self-esteem (mean = -.39). Further, those who reported a lower level of self-esteem after release also experienced more failure across all three recidivism measures than those who reported an increase, particularly in terms of reincarceration. Although prisoners experienced a statistically significant increase in self-esteem after release, this change was not related to any of the recidivism outcomes in the multivariate models.

Several theoretical explanations have been offered to explicate the relationship between religiosity and offending, and all of these theories posit a negative relationship. In their review of faith-based programs, Mears et al. (2006) argued that while there are many theories of these relationships, the predominant causal mechanisms are still unknown. Importantly, they noted that faith may have several different effects on crime – the relationship may be direct, indirect, interactional, conditional, threshold, symmetric, nonlinear, and even negative. They encouraged researchers to examine not only whether these different types of relationships exist, but also to focus on *why* these effects may

occur. Again, much of the prior research has investigated direct relationships between religion and crime, but these empirical studies have not been able to tell us conclusively *why* it exists (Mears et al., 2006).

The current study's findings did not provide support for a main effect of pre-release or post-release religiosity on recidivism. Change in religiosity from pre-release to PR1, on the other hand, was significantly related to less reincarceration during the twelve months following release, though this relationship was fairly weak. To better understand this finding, I took a closer look at the data used in this analysis. According to the correlations presented in Table 5, an increase in religiosity was positively related to self-esteem measured at PR1 and time served,[36] and negatively related to returning to Chicago and the quality of family relationships prior to incarceration. This last relationship suggests that ex-prisoners who lack positive family relationships may be more likely to turn to religion after release. Religion and belief in God may provide these ex-prisoners with better coping mechanisms. Religion may also provide social support through churches and other religious institutions. It is possible that these ex-prisoners who became more religious upon their release from prison were also more likely to utilize services provided by religious organizations and to develop new prosocial relationships with members of these organizations. In this way, it is possible that access to social services and supportive relationships provided by these religious institutions accounted for a lower likelihood of reincarceration, and not the change in religious

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[36] Given the relationship between change in religiosity and self-esteem measured at PR1, I re-estimated the change score model for religiosity on reincarceration, including self-esteem at PR1 as an additional predictor. Although the beta estimate was somewhat reduced ($\beta = -.383$), change in religiosity was still significant at the .10 level. Thus, including self-esteem measured at PR1 did not change the substantive conclusions.

beliefs. Or perhaps it is a combination of both of these mechanisms (O'Connor, 2004, 2005). Future research should attempt to distinguish between these effects.

It is also notable that a positive change in religiosity is related to longer prison terms. Again, these ex-prisoners may have fewer social relationships to look to for support once they return to the community; belief and devotion to religion, as well as the social services and relationships provided by religious institutions, could make up for this lack of support. In a preliminary analysis, family support measured in prison was negatively related to a change in religiosity. In addition, a reduction in religiosity was related to living with people other than family members at PR1 and a positive change was related to religious support,[37] suggesting some support for the hypothesis offered above.

On the other hand, it is also possible that change in religiosity is reflecting an ex-prisoner's change in identity. Maruna (2001) contends that desisting offenders experience a transformation in their self-concepts and adopt prosocial identities. Religion could be both a source and validation of this new identity. Likewise, becoming less religious might reflect a rejection of conventional or prosocial institutions. It is possible these ex-prisoners give up on their faith when they are faced with the harsh realities of life on the outside and, in turn, are more prone to crime and deviance. In fact, in a preliminary analysis, a decrease in religiosity from prison to PR1 was significantly correlated with an ex-prisoner's intentions to commit a crime or to use illegal drugs at PR1 (results not shown).

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[37] Religious support is a 4-item scale measuring the extent to which participants *agreed* or *disagreed* with the following items: 1) the church, synagogue, mosque, or other religious institution you attend matters a great deal to you; 2) if you were ill, the people in your church, synagogue, or mosque would be willing to help out; 3) if you had a problem or were faced with a difficult situation, the people in your church, synagogue, or mosque would provide you comfort; and 4) if you needed to know where to get help with a problem you were having, the people in your church, synagogue, or mosque would be willing to help out.

The results provided some support for the tenets of general strain theory. Again, the social stressors index was positively related to reincarceration and illegal drug use, even when several control variables were included in the regression models. According to GST, a greater sense of mastery, self-esteem, and religiosity should buffer the effects of social stressors on offending (Agnew, 1992). Although neither self-esteem nor mastery yielded evidence in support of this proposition, there was a significant and negative interaction between pre-release religiosity and PR1 social stressors on the likelihood of reincarceration.

On the other hand, there was a positive interaction between religiosity and social stressors on illegal drug use after prison. This finding is contrary to the relationships predicted by GST and to the hypothesis specified in this study. Counter explanations have been offered in the literature, however. For instance, Mears and colleagues (2006) have pointed out that faith could be related to crime in negative ways. To the extent that faith causes people to consider their "powerlessness relative to some higher force," faith may encourage offending if the person believes he/she is not responsible for the behavior. One might use religion to justify drug use by claiming it as "God's will." A religious individual facing many social stressors could also feel more compelled to commit crimes if he or she feels rejected or abandoned by God and no longer sees the value in living the "straight life."

Although the interactional hypotheses explored in this analysis were primarily derived from GST, other criminological theories may also be applied to explain these findings. For instance, several of the items in the social stressor index are directly related to one's social bonds (e.g., those related to family, partners, and work). According to

Sampson and Laub's (1993) theory of informal social control, strong social bonds to family members, work, and other institutions in the community inhibit criminal behavior. To the extent that the social stressor index is actually measuring the quality of one's social bonds, it is possible that a greater sense of religiosity is actually buffering the negative impact of poor social bonds on the likelihood of reincarceration.[38] This theory cannot be utilized to explain the positive interaction between religiosity and the index on drug use, however.

With regard to the overall contribution of the three subjective perspectives in our understanding of recidivism among ex-prisoners, it appears that, when considered alongside important social mechanisms, these subjective factors play a minimal direct role in prediction. These findings run contrary to those of LeBel and colleagues (2008) and Zamble and Quinsey (1997), who found independent effects for other subjective factors in this process. But again, with limited samples and data, their methods did not provide as rigorous an empirical test. In the current analysis, while the social stressor index had a fairly consistent positive relationship with the recidivism outcomes, only mastery evidenced a weak effect on one of the recidivism outcomes (reincarceration). Further, only one of the potential nine change relationships yielded support for the hypothesis that a positive change in a subjective perspective would be related to less recidivism. There was evidence that social stressors and subjective perspectives (i.e., religiosity) interact to impact the likelihood of recidivism, however, suggesting both types of factors should be considered when examining this process.

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[38] A stronger test of the social bond hypothesis would entail a social scale that excludes items that are not explicitly related to social bonds (i.e., no identification) and that subsumes more appropriate measures regarding the quality of the bonds.

There were other notable findings in the models estimated for the previous analyses. For one, being under parole supervision was related to an increased likelihood for reincarceration, a lower likelihood for illegal drug use, and had no relationship with rearrest. These findings mirror those obtained in a similar analysis with this sample conducted by the Urban Institute (Yahner, Visher, and Solomon, 2008). But overall, little research has examined the role of parole in terms of its ability to enhance public safety or ease the prisoner's transition process. According to another recent Urban Institute report, among a national sample of released prisoners, parole supervision had little effect on rearrest rates (Solomon, Kachnowski, and Bhati, 2005). Again, a similar finding was obtained in this study, such that parole supervision was unrelated to the likelihood of rearrest among this ex-prisoner sample. On the other hand, parole supervision was related to an *increased* likelihood for recidivism as measured by reincarceration.[39] In their examination of this sample, Yahner, Visher, and Solomon (2008) found that most of these reincarcerations were due to technical violations. Prior research has suggested that ex-prisoners under parole supervision are monitored more closely, and thus, criminal behaviors are more likely to be detected. Further, these individuals must fulfill several conditions of parole, and failure to meet these conditions could result in a parole violation. In turn, parolees are subjected to a greater likelihood of reincarceration due to parole revocations and due to a greater probability of being caught for new crimes. According to Petersilia and Turner (1993), the public safety benefits of these practices are still unclear.

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[39] Some may argue that parole supervision is protecting the public to the extent that ex-prisoners' criminal behaviors are more readily identified and they are more likely to be reincarcerated.

In the current study, parole supervision was also related to a lower likelihood of illegal drug use. In this case, it is not evident from these data whether parole supervision is actually deterring illegal drug use or if the ex-prisoners are underreporting use, perhaps to avoid a violation of their parole conditions. It is also possible that ex-prisoners under parole supervision are more likely to attend drug treatment, and that this service may account for a lower rate of use among parolees relative to those who have no supervision. In any event, these findings suggest more research on the impact of parole is warranted.

I also found large effects for the city indicators in these analyses. Briefly stated, ex-prisoners who returned to Chicago and Houston were significantly less likely to be rearrested than those in Cleveland; ex-prisoners in Houston were less likely to be reincarcerated compared with those in Cleveland; and Chicago ex-prisoners were less likely to report subsequent illegal drug use than Cleveland ex-prisoners in these models. These findings raise the question, what is causing these variations? In fact, there are several potential explanations. For one, it is likely that policing practices vary across these three cities, and may account for variations in the effects of both rearrests and reincarcerations. There are also state-level variations in the laws and parole processes that could also account for these results. Recall that almost all of the ex-prisoners in Chicago were released to parole, whereas three-quarters were in Cleveland and just over half in Houston. As mentioned above, parole supervision could impact criminal behavior and drug use, and potentially account for these effects. These large effects for the city variables also imply that I might find differences in the impacts of the subjective measures by location, especially for a subjective perspective such as religiosity. It is possible that some communities, and even cities, may be more religious than others, and

these environments impact an individual's beliefs. Future research should explore

potential geographical variations in these effects.

POLICY IMPLICATIONS

Of the three subjective perspectives examined in this study, religiosity seems to

offer the most promise as a focus for correctional programming, but again, these findings

were fairly weak and its importance should not be overstated. With this in mind, the

results suggest that providing religious programming during the transition from prison to

the community may be potentially beneficial. Bolstering one's sense of religiosity can

reduce the likelihood of reincarceration, and religious beliefs may help ex-prisoners deal

with social stressors. However, it should be noted that in the case of drug use, this study

found the opposite effect, suggesting it would also be important to provide susceptible

offenders with substance abuse treatment as well.

The findings from this analysis provide some preliminary support for faith-based

programming that focuses on religious beliefs, though again, this policy implication

should be considered with some caution due to the weak nature of the effects. At this

time, there is no formal definition of what constitutes a faith-based program, and it is

apparent that programs which classify themselves as "faith-based" vary in terms of the

models they employ (Mears et al., 2006). In some cases, programming may focus

specifically on prisoners' religious beliefs; in others, the program may be sponsored by a

religious institution, but the services provided are unrelated to religion (Mears et al.,

2006). This study suggests that both a focus on belief systems and other supportive

features of these programs, such as counseling, service access, and training opportunities,

might benefit returning prisoners by reducing the effects of social stressors and likelihood of reincarceration.

The consistent effects of social stressors on recidivism also have implications for correctional programming. Zamble and Porporino (1990) found that prisoners acquire few, if any, general coping skills during incarceration. So those who go to prison with deficiencies will eventually leave unchanged with an elevated risk to recidivate. They point out that it has been assumed that behavioral change in prison will transfer to life on the outside. However, their findings show that most of the problems in prison are the result of conditions unique to that environment (e.g., separation from family), while most of the inmates' problems on the outside are related to their lives in the community. Thus, teaching inmates to cope effectively on the inside may have little impact on their ability to cope well on the outside. They conclude that the most effective treatment would deal directly with problems in the outside world just prior to and after release. The results from the present study also imply that it would be beneficial for correctional programming to focus on social problems that prisoners are likely to encounter once they return to the community.

Many correctional treatment programs continue to be based on the theory that low self-esteem causes crime, and self-esteem enhancement groups continue to be utilized with offenders (Latessa, Cullen, and Gendreau, 2002). This is despite the weak empirical support to date (e.g., Wells and Rankin, 1983), which has caused some to question whether targeting self-esteem is a worthwhile correctional approach (Baumeister et al., 2000; Andrews and Bonta, 1998; Latessa, Cullen, and Gendreau, 2002). These researchers argue that interventions designed to raise self-esteem will produce few

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tangible benefits and may even lead to harmful and unintended consequences (e.g., Baumeister et al., 1996).

The regression results from the current study did not yield a significant relationship between prisoners' levels of self-esteem and the likelihood of recidivating upon release. In short, these findings do not provide support for programs that focus solely on the self-esteem of male prisoners; but nor do they imply that the potential effects of participation would be detrimental. In fact, the bivariate findings support the notion of monitoring prisoners' levels of self-esteem when preparing them for release and for gauging their circumstances once they reside in the community. These correlations suggest that prisoners with higher levels of self-esteem were less likely to be reincarcerated or use illegal drugs. Although these effects were no longer significant once several control variables were included in the regression models, self-esteem could still hold potential value for correctional practice. Some researchers have suggested that self-esteem is correlated with socially significant outcomes—if things are going well, self-esteem is high; but if things in life are bad, then self-esteem is low (e.g., Seligman, 1975). In this case, self-esteem is a consequence and not a cause of positive social adjustment, implying it can be utilized to identify those who are adjusting successfully and those who are not.

According to Maruna (2001), good correctional programming will promote one's sense of self-worth and control by teaching offenders skills, so they can prove to themselves that they can be successful. Maruna also emphasizes the important psychological impact of redemption rituals following successful efforts to transform the self, which appear to enhance one's sense of control (Maruna, 2001: 161). I found some

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evidence to support the notion that a greater sense of mastery is related to less recidivism, though this evidence was limited. Others have also suggested that effective rehabilitation programs are those that generate positive psychological impacts on an individual's abilities to deal with life stressors and problems in a constructive and acceptable manner (e.g., Johnson, 1996). In this respect, mastery and self-esteem may necessarily be a part of prison and post-release programming, but perhaps not the focus.

LIMITATIONS

Although some of the study's hypotheses were supported, most of the effects yielded null findings. To some extent, the lack of significant effects may have been due to inadequacies with the data, sample, and analytic strategy utilized in this analysis. The following limitations should be considered when evaluating the results.

One of the principal limitations of this study was the outcome measures. The weaknesses of self-report and official data have been previously noted, but the primary limitations are reviewed here. For one, prisoners may have concealed or forgotten about any new arrests or illegal drug use. Recall is less of a concern for measurement in this study. For one, illegal drug use only covered behavior within the past 30 days of the interview. The use of a calendar method should have reduced the negative influence of poor recall for rearrests, especially since the follow-up period generally covered a year or less. However, it is still possible that the respondents under- or over-reported some events. Prior research using an adolescent sample has also suggested that black youth are more likely to underreport arrests than white youth (Kirk, 2006). To the extent that these findings are generalizable to adult offenders, racial differences may affect the validity of

this study's results, especially considering the majority of the sample is nonwhite. Although these issues will not affect the third dependent variable, official records of reincarceration, this measure is the most conservative estimate of recidivism of the three outcomes. In this respect, it was not surprising that this outcome had the lowest base rate. A longer follow-up period may have also yielded different results. Again, risk of reoffending among a high risk sample tends to be the highest one to two years after release and then decline thereafter (Visher et al., 1991). Had this follow-up covered at least two full years of release, reincarceration and rearrest would likely have higher base rates, providing more stable estimates for statistical prediction.

In the literature review, it was suggested that the effects of these subjective perspectives could be expected to vary by crime type. For instance, Baumeister and colleagues (2003) have posited that a heightened sense of self-esteem is related to aggression and violent offending. Neither the rearrest nor reincarceration variables in this study included information about the type of offense committed, prohibiting an examination of outcomes by crime type.[40] Another related limitation involves the generality of the rearrest and reincarceration measures. If Baumeister and colleagues are correct and a heightened self-esteem is positively correlated with violent offending, and property and drug offending are negatively related to self-esteem, the effect of a general measure may inevitably be null.[41]

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[40] Respondents provided crime type information for self-reported items on offending behavior. According to these variables, only 1.8 percent (n=13) of the ex-prisoners committed a homicide, assault, or robbery during the follow-up period. This suggests there may not have been enough variability to examine this question even in the relevant data was available.
[41] This is less a concern in the current study since so few participants self-reported violent offending (see footnote 40).

There were also notable variations in the predictors and outcomes across cities, and all sites experienced sizeable attrition through the follow-up. Although a comparison of the original pre-release sample and those used in the current study revealed few disparities, systematic differences emerged between prisoners who were part of the *Returning Home* study compared with cohorts of general prison releases for each city. Notably, sample members in Chicago had more prior incarcerations, were less likely to be incarcerated for the technical violation, and were more likely to be housed in a medium-security facility (La Vigne, Visher, and Castro, 2004). Cleveland sample members were more likely to be housed in medium security, less likely to be incarcerated for a drug offense, and more likely to be released to supervision (Visher, Baer, and Naser, 2006). Finally, Houston sample members tended to be older and less likely to be male, though the latter was largely a function of the study design (La Vigne and Kachnowski, 2005). These differences impact the external validity and generalizability of the results. Replications of the results using samples that employ representative samples and experience minimal attrition would increase the validity of these findings.

Another important limitation of the current study is that it did not include female prisoners. The inclusion of females was beyond the scope of the current work. [42] Excluding female prisoners limits the generalizability of the current sample, but provided a prudent approach given the number of hypotheses explored in the current analysis.

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[42] In a preliminary analysis, I used a similar analytic approach as the one employed in the current study to examine whether females exhibited similar effects for the subjective factors on each of the outcome measures. Due to sample attrition, only 142 participants from the pre-release sample of 262 women could be utilized for the analysis. Preliminary findings suggest that post-release mastery, self-esteem, and religiosity have significant negative effects on rearrest ($p<.05$), controlling for most of the other variables incorporated in the current analysis. Further, pre-release religiosity had a significant negative effect on rearrest and illegal drug use. None of the change score or interaction effects were significant for rearrest, reincarceration, or illegal drug use. More rigorous methods should be utilized to account for sample attrition and missing data before these findings are formally presented.

Nonetheless, prior research suggests that gender differences may exist in these subjective perspectives and in their relationships with recidivism, though this latter research is scarce. Generally speaking, compared with males, females have lower levels of mastery (McGinnies, Nordholm, Ward, and Bhanthumnavin, 1974; Mirowsky and Ross, 1983; Thoits, 1987) and self-esteem (Kling, Hyde, Showers, and Buswell, 1999; Robins and Trzesniewski, 2005), and higher levels of religiosity (Sherkat and Ellison, 1999; Miller and Stark, 2002; Jang and Johnson, 2005). This is true even of prisoners—research has shown that female prisoners have lower levels of personal control (DeWolfe, Jackson, and Winterberger, 1988) and self-esteem (Sheridan, 1996) and higher levels of religiosity than male prisoners (Young et al., 2005). In a single study that has investigated gender differences in religiosity and recidivism, Young et al. (1995) found that women benefitted more than men from participation in a Prison Fellowship program, such that they had significantly lower rearrest rates compared with a matched control sample of women. The paucity of research also applies to self-esteem. Some researchers have suggested that low self-esteem is common among female offenders and point out that few studies have examined the self-esteem-crime relationship among this population (Hubbard, 2006). In addition, studies have also shown that female prisoners tend to have more problems with substance abuse, family functioning, previous abuse and neglect, and personal functioning than male prisoners (e.g., Sheridan, 1996), suggesting there may also be differences in their experiences with social stressors, as well as how they cope with these stressors (see Broidy and Agnew, 1997).

The fact that some of the hypothesized effects were significant despite these limitations is telling and suggests that further exploration of these subjective factors is

warranted. The following section presents suggestions for future research on subjective

factors using correctional populations.

FUTURE RESEARCH

This study and its limitations can be instructive for future research. For one,

future studies should replicate the current analysis using other samples and data. Below,

I offer some specific directions for future research that will be valuable to both the

theoretical and correctional fields.

As mentioned earlier, the literature has suggested a number of ways through

which subjective perspectives may be related to criminal behavior (e.g., direct, indirect,

interactional, conditional, etc.). In the current analysis, the most notable relationships

were those based in change and interactional effects. Future analyses of subjective

perspectives should focus on potential effects that are indirect, interactional, conditional,

threshold, among others (see Mears et al., 2006). There was some evidence in the current

analysis suggesting that mastery has an indirect effect on recidivism. Prior empirical

research has provided support for indirect relationships of other subjective perspectives

on recidivism outcomes as well (e.g., hope and a positive self-identity; LeBel et al.,

2008). For all three measures, it is possible there is a threshold effect, such that very high

levels of mastery, self-esteem (see Baumeister et al., 2003), and religiosity could have

positive (or negative) effects on offending. It is also likely that social experiences will

affect one's level of mastery and self-esteem after release, suggesting statistical models

should examine reciprocal relationships. As noted by Maruna (2001), "An ex-offender

may need to experience some level of personal success in the straight world before they

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realize that they do not need to offend to regain a sense of personal agency" (p. 125). Finally, as evidenced in this analysis and by other researchers (e.g., Baumeister et al., 2003), there may exist potential negative effects of these seemingly positive subjective factors; future research should explore and explain when and why these effects occur.

Generally speaking, researchers should dedicate more focus to providing explanations for the effects of subjective factors on recidivism (Mears et al., 2006). This is especially important with respect to religiosity, which could also have a social component. Indeed, the theoretical explanations provided in the literature review included both beliefs and social components in their mechanisms. The current study found support for a change in religious beliefs over time, yet interpretation of the change effect posed many possible explanations for this finding, as discussed above. Future studies should be structured to rule out competing explanations. Also, as in the case of mastery and self-esteem, if a subjective perspective demonstrates a significant bivariate relationship with the outcome, it would be instructive for researchers to identify other independent variables that may render this subjective variable no longer significant in multivariate regression analyses. Determining what mechanisms account for this effect, or lack thereof, will enhance our understanding of these processes.

It is also possible that subjective states influence the way an individual perceives and experiences social stressors. For instance, someone with a high level of self-esteem may view family or partner conflict as less concerning than someone with low self-esteem. Likewise, an individual with a high sense of mastery may experience less stress related to unemployment than someone with a low sense of mastery, perhaps because he is more confident that he has the ability to eventually secure employment. Future

research should explore one's perceptions of social stressors and how these may differ according to his or her levels of mastery, self-esteem, and religiosity.

In addition, it was beyond the scope of the current study to examine whether the findings hold for different subgroups within prisoner populations, such as those related to age, race, and gender. Prior research has shown that African American prisoners have lower levels of personal control than white prisoners (Lefcourt and Ladwig, 1965). In terms of self-esteem, one study has shown that low self-esteem was related to delinquency for whites and Hispanics, but not Black adolescents (Wells and Rankin, 1983). Hubbard (2006) also found that high self-esteem was a risk factor for recidivism among black men and women, and low self-esteem was a risk factor for white men and women. With regard to religiosity, to the extent that African Americans are more likely to rely on religion as a coping behavior, it is possible religiosity will have stronger interaction effects among African Americans relative to white offenders (Ellison and Taylor, 1996). It is also possible that religiosity would have more beneficial effects for older offenders or female offenders. As noted in the limitations section, future research should incorporate female prisoners to examine whether their subjective perspectives differ from males, and if their perspectives are related to subsequent offending.

Separate analyses by offense type could be important for estimating the relationships between subjective factors and offending in general. For instance, Baumeister and colleagues (2003) have posited a positive relationship between heightened self-esteem and aggressive behavior. Also recall one of the theories of the religion-crime relationship hypothesized that religion deters ascetic offenses, such as drug use, but not violent or property offenses, which are consistently prohibited by

secular agencies (Burkett and White, 1974). Future research should examine violent, property, and drug outcomes separately.

The current work examined three separate recidivism outcomes—all of which raise some concern for the validity of the findings. Other measures of recidivism should be pursued to corroborate these results. Future research should also employ other statistical approaches, such as survival analysis. Given the high failure rate among prisoners, the possibility of keeping them in the community for longer time periods is a desirable result. It would also be constructive to examine the relationship between subjective factors and positive occurrences upon release. For instance, it was previously noted that internally-oriented prisoners are more likely to pursue treatment, educational, and other types of interventions (Groh and Goldenberg, 1976). Researchers could also examine whether these factors are related to more successful family and peer relationships, more involvement with the community, and more positive experiences with employment (e.g., perhaps more religious people have better work ethics).

Longitudinal analyses should examine whether and how these subjective perspectives change while ex-prisoners reside in the community. In the current study, these measures were examined just prior to and just after release from prison.[43] It is likely the impact of incarceration is still quite prevalent on self-concepts just two to three months after release and that these perspectives could change even more as time passes. The current study was appropriate for the sake of studying initial transition period after release prison; future research would add to this literature by examining longer-term processes.

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[43] Although the *Returning Home* study includes measures for mastery, self-esteem, and religiosity during PR2, those who were reincarcerated were either not asked some of these measures or their responses reflect their perspectives in prison.

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Finally, future research should consider the effects of other subjective factors in the recidivism and reentry process among ex-prisoners. LeBel et al. (2008) have established an empirical base for the study of hope, regret, stigma, and a positive self-identity among ex-prisoners. Even with a ten-year follow-up, these perspectives as measured in prison played a positive role in the process of abstaining from crime. The current study builds on the literature related to religiosity, mastery, and self-esteem. It also contributes other ways of examining the effects of subjective perspectives, such as by examining the effect of changes over time and interaction effects with social stressors. Researchers should also investigate other forms of social stressors, and how these strains interact with subjective perspectives. Rather than an index, a focus on specific stressors (e.g., unemployment, partner conflict, etc) would benefit both theory development and correctional practice.

CONCLUSION

This study sought to determine whether and how three subjective perspectives play a role in the reentry and recidivism processes among ex-prisoners. This study suggests that religiosity, through change processes and its capacity to buffer social stressors, is a potentially important subjective perspective for male prisoners. Mastery and self-esteem, on the other hand, do not appear to have notable effects on recidivism for this group, nor do changes in these perspectives or their interactions with social stressors impact the likelihood of recidivism. The findings demonstrated that social stressors play an important role in the recidivism process among male ex-prisoners. While logic tells us this to be true, the empirical findings illustrated their fairly consistent

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detrimental effects. The empirical findings also provide some support for religiosity as a potential mechanism for ex-prisoners to cope with these stressors; though its positive interaction with social stressors on drug use suggests more research on these effects is warranted. In this way, both social and subjective mechanisms are important to consider in reentry and recidivism processes.

TABLE 1
Sample Sizes and for Each Study Site by Data Collection Wave
(Based on the Original Samples)

Wave	Chicago		Cleveland		Houston		Total	
	N	% of Pre-release sample	N	% of Pre-release sample	N	% of Pre-release sample	N	% of Pre-release sample
Pre-release	400	--	424	--	414	--	1238	--
Follow-up 1	296	74.0	358	84.4	307	74.2	961	77.6
Follow-up 2	266	66.5	322	75.9	222	53.6	810	65.4
Follow-up 3	198	49.5	294	69.3	N/A	N/A	492	39.7
Final Study Sample	231	57.8	305	71.9	204	49.3	740	59.8

[a.] The Urban Institute collected data for 262 female prisoners in Houston; these respondents are not reflected in this table.

TABLE 2

Descriptive Statistics for the Original Pre-Release Sample and 740 Study Sample

Variable	Original Sample	Study Sample
Mastery	3.09 (0.50)	3.12 (0.49)
Self-esteem	2.99 (0.53)	3.03 (0.52)
Religiosity	3.17 (0.75)	3.18 (0.74)
City:		
Chicago	32.3%	31.2%
Cleveland*	34.2%	41.2%
Houston*	33.4%	27.6%
Age at release (years)	35.57 (10.07)	36.18 (10.14)
Nonwhite	85.0%	85.6%
High School Graduate/GED	62.4%	67.0%
Pre-Prison:		
Family relationship quality	3.17 (0.73)	3.18 (0.71)
Married	24.0%	25.9%
Employed	69.4%	70.9%
Illegal drug use	72.9%	73.3%
Age at first arrest (years)	18.37 (7.36)	18.52 (7.37)
Number of prior convictions	2.65 (1.99)	2.57 (1.97)
Time served (months)	34.75 (54.07)	37.02 (47.85)
Primary offense type:		
Violent	18.9%	22.3%
Property	22.5%	19.8%
Drug	39.8%	38.4%
Other*	14.1%	19.5%
Prison security level:		
Maximum/high-risk	5.9%	5.2%
Medium	44.8%	46.4%
Minimum	49.0%	48.4%
Disciplinary confinement/ Segregation	29.7%	32.2%
N	1238	740

*2-tailed t-test significant at the 0.05 level.

TABLE 3
Descriptive Statistics for the 740 Male Prisoners by Study Site

Variable	Chicago	Cleveland	Houston	Total
Mastery				
Pre-release	3.13 (0.52)	3.12 (0.49)	3.12 (0.46)	3.12 (0.49)
PR1*	3.29 (0.58)	3.16 (0.48)	3.14 (0.46)	3.20 (0.52)
Self-esteem				
Pre-release	3.05 (0.56)	3.02 (0.51)	3.01 (0.48)	3.03 (0.52)
PR1*	3.39 (0.57)	3.22 (0.52)	3.23 (0.50)	3.27 (0.54)
Religiosity				
Pre-release*	3.23 (0.67)	3.09 (0.79)	3.27 (0.74)	3.18 (0.74)
PR1	3.17 (0.69)	3.16 (0.68)	3.30 (0.69)	3.20 (0.69)
Social stressors	-0.24 (2.67)	0.27 (3.22)	-0.13 (3.09)	0.00 (3.03)
City:				
Chicago	--	--	--	31.2%
Cleveland	--	--	--	41.2%
Houston	--	--	--	27.6%
Age at release (years)*	34.53 (9.62)	37.03 (9.98)	36.79 (10.79)	36.18 (10.14)
Nonwhite*	97.4%	81.3%	78.9%	85.6%
High school graduate/GED*	52.0%	76.3%	70.0%	67.0%
Pre-Prison:				
Family relationship quality	3.24 (0.74)	3.16 (0.67)	3.14 (0.73)	3.18 (0.71)
Married	25.0%	25.2%	28.1%	25.9%
Employed	65.3%	73.6%	72.9%	70.9%
Illegal drug use	70.3%	74.5%	75.0%	73.3%
Age at first arrest (years)*	17.39 (6.88)	18.51 (7.65)	19.82 (7.30)	18.52 (7.37)
Number of prior convictions	2.72 (1.87)	2.57 (2.05)	2.41 (1.95)	2.57 (1.97)
Time served (months)	27.47 (36.13)	43.85 (55.76)	37.40 (44.81)	37.02 (47.85)
Primary offense type:				
Violent*	9.8%	35.8%	15.7%	22.3%
Property*	27.1%	14.0%	20.6%	19.8%
Drug*	49.5%	23.7%	48.0%	38.4%
Other*	13.6%	26.4%	15.7%	19.5%
*Prison security level:**				
Maximum/high-risk	9.0%	4.5%	2.2%	5.2%
Medium	48.0%	55.9%	29.5%	46.4%
Minimum	43.0%	39.7%	68.3%	48.4%
Disciplinary confinement/ Segregation*	37.3%	39.5%	15.8%	32.2%
Parole supervision*	99.6%	77.4%	53.9%	77.8%
Time at risk (months)*	7.71 (2.87)	6.81 (1.70)	9.52 (0.97)	7.82 (2.29)
Outcomes:				
Rearrest	22.6%	18.4%	16.7%	19.3%
Reincarceration*	26.8%	11.8%	5.6%	14.9%
Illegal drug use*	7.8%	21.1%	25.1%	18.1%
N	231	305	204	740

*Percentages or means vary significantly across cities based on Chi-square or ANOVA, respectively (p < .05).

TABLE 4
Missing Data by Variable

Variable	% Missing (N)
Mastery	
Pre-release	0.8% (6)
PR1	0.3% (2)
Self-esteem	
Pre-release	1.2% (9)
PR1	0.4% (3)
Religiosity	
Pre-release	1.2% (9)
PR1	0.1% (1)
Social stressors	0%
Individual Control Variables:	
City released to	0%
Age at release	2.0% (15)
Nonwhite	0.5% (4)
High school graduate/GED	0.8% (6)
Age at first arrest	2.4% (18)
Number of prior convictions	4.1% (30)
Family relationship quality pre-prison	0.3% (2)
Married pre-prison	0.9% (7)
Employed pre-prison	3.1% (23)
Illegal drug use pre-prison	0.7% (5)
Time served	1.5% (11)
Primary offense type	3.1% (23)
Released to parole supervision	0%
Time at risk post-release	1.4% (10)
Outcomes:	
Rearrest	0.4% (3)
Reincarceration	1.2% (9)
Illegal drug use	0.5% (4)
N	740

TABLE 5
Correlation Table for All Variables

	Rearrested	Rein-carcerated	Drug use	Mastery Prison	Mastery PR1	Self-Esteem Prison	Self-Esteem PR1
Rearrested	1						
Reincarcerated	.403(**)	1					
Drug use	.242(**)	.131(**)	1				
Mastery Prison	-.068	-.072	-.087(*)	1			
Mastery PR1	.002	-.033	-.116(**)	.340(**)	1		
Self-Esteem Prison	-.061	-.084(*)	-.050	.599(**)	.258(**)	1	
Self-Esteem PR1	-.037	-.051	-.110(**)	.253(**)	.668(**)	.347(**)	1
Religiosity Prison	-.030	.022	-.070	.211(**)	.056	.205(**)	.102(**)
Religiosity PR1	-.057	-.034	-.093(*)	.190(**)	.077(*)	.190(**)	.201(**)
△ Mastery	.063	.032	-.036	-.544(**)	.604(**)	-.274(**)	.381(**)
△Self-Esteem	.021	.029	-.060	-.290(**)	.371(**)	-.549(**)	.593(**)
△ Religiosity	-.030	-.071	-.021	-.043	.025	-.036	.108(**)
Social Stressors PR1	.108(**)	.126(**)	.219(**)	-.219(**)	-.390(**)	-.155(**)	-.376(**)
Chicago	.057	.228(**)	-.180(**)	.006	.123(**)	.029	.144(**)
Cleveland	-.018	-.074(*)	.066	-.003	-.058	-.008	-.087(*)
Houston	-.039	-.157(**)	.113(**)	-.003	-.064	-.021	-.053
Age at release	-.117(**)	-.068	-.138(**)	-.024	-.063	-.093(*)	-.079(*)
Nonwhite	.015	.016	-.048	.147(**)	.062	.117(**)	.153(**)
HS Grad/GED	-.082(*)	-.042	.001	.154(**)	.064	.096(**)	.013
Family pre-p	-.075(*)	-.071	-.137(**)	.227(**)	.122(**)	.272(**)	.147(**)
Married pre-p	-.076(*)	-.047	-.091(*)	.016	-.039	.016	-.045
Job pre-p	-.029	-.113(**)	-.083(*)	.018	.004	.041	-.035
Drug use pre-p	.013	.051	.171(**)	-.014	-.020	-.073	-.045
Age at first arrest	-.097(**)	-.072	-.150(**)	-.009	-.045	.027	.017
# prior convictions	.111(**)	.143(**)	.087(*)	-.109(**)	-.126(**)	-.248(**)	-.188(**)
Time served	-.139(**)	-.129(**)	-.103(**)	.216(**)	.142(**)	.208(**)	.125(**)
Violent offense	-.042	-.118(**)	-.024	.074(*)	.072	.110(**)	.076(*)
Drug offense	.091(*)	.080(*)	.054	-.013	-.077(*)	-.046	-.092(*)
Property offense	.049	.077(*)	.050	-.095(*)	-.014	-.140(**)	-.018
Other offense	-.117(**)	-.051	-.092(*)	.035	.033	.082(*)	.051
Parole	.005	.116(**)	-.253(**)	.079(*)	.106(**)	.081(*)	.101(**)
Time at risk	.274(**)	.362(**)	.162(**)	.020	.020	-.034	-.035

	Religiosity Prison	Religiosity PR1	△ Mastery	△Self-Esteem	△ Religiosity	Social Stressors PR1	Chicago
Religiosity Prison	1						
Religiosity PR1	.646(**)	1					
△ Mastery	-.125(**)	-.087(*)	1				
△Self-Esteem	-.081(*)	.020	.576(**)	1			
△ Religiosity	-.496(**)	.342(**)	.057	.124(**)	1		
Social Stressors PR1	-.047	-.085(*)	-.166(**)	-.197(**)	-.042	1	
Chicago	.044	-.027	.102(**)	.099(**)	-.087(*)	-.054	1
Cleveland	-.105(**)	-.053	-.044	-.070	.070	.076(*)	-.564(**)
Houston	.070	.086(*)	-.057	-.025	.013	-.027	-.416(**)
Age at release	.133(**)	.172(**)	-.029	.012	.030	-.055	-.110(**)
Nonwhite	.339(**)	.315(**)	-.070	.034	-.058	.030	.225(**)
HS Grad/GED	-.006	.022	-.073	-.073(*)	.031	-.096(**)	.214(**)
Family pre-p	.213(**)	.147(**)	-.089(*)	-.107(**)	-.092(*)	-.143(**)	.059
Married pre-p	.063	.093(*)	-.044	-.045	.028	.092(**)	-.014
Job pre-p	.057	.021	-.010	-.062	-.053	-.044	-.082(*)
Drug use pre-p	.002	-.016	-.008	.026	-.020	.115(**)	-.046
Age at first arrest	.188(**)	.158(**)	-.031	-.005	-.055	-.066	-.103(**)
# prior convictions	-.076(*)	-.069	-.021	.042	.016	.170(**)	.050
Time served	-.002	.085(*)	-.054	-.067	.097(**)	-.287(**)	-.133(**)
Violent offense	-.032	.014	.002	-.026	.052	-.130(**)	-.196(**)
Drug offense	.022	.022	-.056	-.035	-.001	.123(**)	.150(**)
Property offense	-.032	-.052	.064	.102(**)	-.021	.031	.119(**)
Other offense	.039	.010	.003	-.031	-.033	-.045	-.098(**)
Parole	-.009	-.012	.029	.017	-.004	-.210(**)	.352(**)
Time at risk	.050	.011	-.001	.001	-.051	-.003	-.032

	Cleveland	Houston	Age at release	Nonwhite	HS Grad/ GED	Family pre-p	Married pre-p	Job pre-p	Drug use pre-p
Houston	-.517(**)	1							
Age at release	.071	.036	1						
Nonwhite	-.104(**)	-.118(**)	.028	1					
HS Grad/GED	.166(**)	.038	.126(**)	-.131(**)	1				
Family pre-p	-.022	-.037	-.058	.124(**)	-.060	1			
Married pre-p	-.014	.030	.043	.029	.013	.070	1		
Job pre-p	.052	.027	.058	-.090(*)	.186(**)	.005	.072	1	
Drug use pre-p	.022	.023	-.058	.002	.000	-.080(*)	-.017	-.083(*)	1
Age at first arrest	-.001	.108(**)	.381(**)	.032	.091(*)	.050	-.028	.041	-.154(**)
# prior convictions	.000	-.051	.235(**)	-.068	.016	-.124(**)	-.047	-.071	.063
Time served	.120(**)	.005	.190(**)	.039	.152(**)	-.017	.003	-.034	-.075(*)
Violent offense	.274(**)	-.100(**)	-.046	-.002	.121(**)	.028	-.011	.072	.030
Drug offense	-.254(**)	.126(**)	-.028	.080(*)	-.110(**)	.036	-.078(*)	-.126(**)	.120(**)
Property offense	-.122(**)	.012	.015	.004	-.045	-.077(*)	-.028	.003	-.027
Other offense	.147(**)	-.061	.069	-.100(**)	.053	.003	.134(**)	.077(*)	-.151(**)
Parole	-.009	-.355(**)	-.027	.087(*)	-.075(*)	.050	.026	.045	-.137(**)
Time at risk	-.371(**)	.448(**)	-.069	-.041	-.045	-.052	-.001	-.062	.054

	Age at first arrest	# prior con-victions	Time served	Violent offense	Drug offense	Property offense	Other offense	Parole
# prior convictions	-.265(**)	1						
Time served	.021	-.128(**)	1					
Violent offense	-.088(*)	-.118(**)	.342(**)	1				
Drug offense	-.036	.137(**)	-.231(**)	-.423(**)	1			
Property offense	-.032	.132(**)	-.119(**)	-.266(**)	-.392(**)	1		
Other offense	.170(**)	-.179(**)	.045	-.264(**)	-.389(**)	-.245(**)	1	
Parole	-.077(*)	-.078(*)	.233(**)	.176(**)	-.167(**)	-.009	.029	1
Time at risk	.005	.048	-.092(*)	-.129(**)	.168(**)	.006	-.076(*)	-.107(**)

**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).

TABLE 6
Logistic Regression Results for Social Stressors on All Outcomes

Variable	Rearrest (N=629)	Reincarceration (N=632)	Drug Use (N=628)
City (Cleveland suppressed)			
Chicago	-.774 (.341)**	-.122 (.399)	-1.819 (.445)***
Houston	-1.163 (.331)***	-1.878 (.455)***	-.346 (.335)
Age at release	-.016 (.013)	-.007 (.017)	-.036 (.015)**
Nonwhite	.311 (.348)	-.105 (.437)	.394 (.345)
High school graduate/GED	-.386 (.244)	.381 (.325)	-.002 (.272)
Family relationship quality	-.167 (.155)	-.223 (.200)	-.212 (.167)
Married	-.382 (.280)	.001 (.336)	-.456 (.301)
Employed	.169 (.254)	-.741 (.306)**	-.371 (.263)
Illegal drug use	-.358 (.268)	.364 (.353)	1.023 (.384)***
Age at first arrest	-.037 (.022)*	.011 (.024)	-.086 (.028)***
# of prior convictions	.083 (.066)	.113 (.084)	.074 (.070)
Time served (logged)	-.399 (.141)***	-.332 (.173)*	-.029 (.157)
Primary offense (Drug suppressed)			
Violent	.065 (.347)	-.878 (.504)*	-.017 (.362)
Property	.199 (.286)	.430 (.352)	.461 (.320)
Other	-1.042 (.413)**	-.397 (.446)	-.407 (.417)
Parole supervision	.300 (.325)	1.286 (.483)***	-.709 (.312)**
Time at risk (months)	.371 (.055)***	.536 (.067)***	.252 (.067)***
Social stressors	.062 (.041)	.130 (.053)**	.133 (.044)***
Constant	-1.117 (1.019)	-5.382 (1.315)***	-.251 (1.180)

*p<.10, **p<.05, ***p<.01

TABLE 7
Logistic Regression Results for Mastery on Rearrest

Variable	(1) (N=626)	(2) (N=626)	(3) (N=628)	(4) (N=625)	(5) (N=626)	(6) (N=628)
City (Cleveland suppressed)						
Chicago	-.864 (.335)***	-.768 (.341)**	-.784 (.344)**	-.793 (.342)**	-.764 (.341)**	-.739 (.346)**
Houston	-1.235 (.327)***	-1.170 (.331)***	-1.184 (.333)***	-1.184 (.333)***	-1.174 (.331)***	-1.166 (.333)***
Age at release	-.019 (.013)	-.017 (.013)	-.015 (.013)	-.016 (.013)	-.017 (.013)	-.016 (.013)
Nonwhite	.350 (.348)	.336 (.351)	.292 (.348)	.312 (.349)	.339 (.350)	.315 (.349)
High school graduate/GED	-.390 (.248)	-.370 (.248)	-.367 (.245)	-.354 (.247)	-.377 (.249)	-.366 (.246)
Family relationship quality	-.179 (.158)	-.150 (.159)	-.150 (.156)	-.135 (.158)	-.155 (.159)	-.156 (.156)
Married	-.321 (.276)	-.386 (.280)	-.415 (.283)	-.423 (.283)	-.371 (.280)	-.422 (.284)
Employed	.174 (.253)	.182 (.254)	.155 (.254)	.169 (.255)	.166 (.255)	.149 (.255)
Illegal drug use	-.316 (.267)	-.359 (.269)	-.363 (.269)	-.370 (.269)	-.341 (.270)	-.318 (.272)
Age at first arrest	-.035 (.022)	-.036 (.022)	-.036 (.022)	-.035 (.022)	-.036 (.022)	-.035 (.022)
# of prior convictions	.094 (.065)	.083 (.066)	.089 (.066)	.090 (.066)	.089 (.066)	.094 (.067)
Time served (logged)	-.432 (.138)***	-.388 (.142)***	-.400 (.141)***	-.390 (.141)***	-.387 (.142)***	-.406 (.141)***
Primary offense (Drug suppressed)						
Violent	.002 (.344)	.044 (.347)	.048 (.347)	.019 (.347)	.087 (.350)	.112 (.353)
Property	.165 (.285)	.179 (.286)	.159 (.289)	.132 (.290)	.178 (.287)	.179 (.289)
Other	-1.064 (.411)***	-1.054 (.413)**	-1.053 (.414)**	-1.077 (.415)***	-1.074 (.415)***	-1.030 (.414)**
Parole supervision	.261 (.324)	.285 (.325)	.329 (.328)	.322 (.328)	.289 (.325)	.348 (.328)
Time at risk (months)	.369 (.055)***	.370 (.055)***	.370 (.055)***	.366 (.055)***	.371 (.055)***	.372 (.056)***
Social stressors [a]	--	.060 (.041)	.058 (.043)	.060 (.041)	.064 (.041)	.064 (.044)
Mastery (Prison) [a]	-.151 (.245)	-.102 (.248)	--	--	-.152 (.251)	--
Mastery (PR1) [a]	--	--	.021 (.249)	--	--	.012 (.248)
Change in mastery	--	--	--	.108 (.211)	--	--
Mastery (Prison)*Social stressors	--	--	--	--	.090 (.081)	--
Mastery (PR1)*Social stressors	--	--	--	--	--	.099 (.083)
Constant	-.408 (1.092)	-.863 (1.144)	-1.259 (1.249)	-1.247 (1.039)	-1.202 (1.051)	-1.267 (1.026)

*p<.10, **p<.05, ***p<.01
[a]Term centered in the equations with interactions.

Table 8

Paired Sample T-Tests for the Subjective Perspectives Measured During Prison and PR1

Subjective Factor	Difference in Means (PR1-Prison)	Std. Deviation	t	df	Sig. (2-tailed)
Mastery	0.074	.574	3.499	731	.000
Self-esteem	0.247	.603	11.050	727	.000
Religiosity	0.018	.605	0.792	729	.429

Table 9

Percent Recidivated by Categorical Change in Subjective Perspective

	Change from Prison to PR1		
Subjective Factor	Decreased	No Change	Increased
Mastery	41.7% (305)	10.8% (79)	47.5% (348)
Rearrest	18.5%	15.2%	20.7%
Reincarceration	14.9%	12.8%	15.7%
Illegal Drug Use	18.7%	17.7%	17.4%
Self-esteem	26.4% (192)	15.2% (111)	58.4% (425)
Rearrest	20.4%	17.1%	18.9%
Reincarceration [a]	19.5%	9.1%	14.3%
Illegal Drug Use	19.3%	20.7%	16.9%
Religiosity	41.0% (299)	17.0% (134)	42.1% (307)
Rearrest	19.8%	17.1%	20.3%
Reincarceration	16.5%	15.4%	13.0%
Illegal Drug Use	18.1%	14.0%	19.1%

Note: Sample sizes do not total to 740 due to missing data on the subjective factors.
[a]Chi-square statistic is significant at the .05 level.

TABLE 10

Logistic Regression Results for Mastery on Reincarceration

Variable	(1) (N=629)	(2) (N=629)	(3) (N=631)	(4) (N=628)	(5) (N=629)	(6) (N=631)
City (Cleveland suppressed)						
Chicago	-.301 (.388)	-.113 (.399)	-.068 (.400)	-.118 (.399)	-.115 (.400)	-.089 (.402)
Houston	-1.978 (.448)***	-1.881 (.456)***	-1.938 (.457)***	-1.887 (.456)***	-1.876 (.456)***	-1.945 (.458)***
Age at release	-.011 (.017)	-.007 (.017)	-.008 (.017)	-.007 (.017)	-.007 (.017)	-.008 (.017)
Nonwhite	.029 (.429)	-.015 (.440)	-.072 (.436)	-.104 (.438)	-.017 (.440)	-.092 (.438)
High school graduate/GED	.425 (.331)	.473 (.334)	.406 (.327)	.365 (.327)	.474 (.333)	.403 (.327)
Family relationship quality	-.207 (.206)	-.138 (.208)	-.214 (.200)	-.236 (.205)	-.137 (.208)	-.204 (.201)
Married	.136 (.332)	.013 (.336)	.027 (.338)	.010 (.337)	.002 (.339)	.024 (.338)
Employed	-.746 (.303)**	-.750 (.307)**	-.772 (.308)**	-.732 (.306)**	-.742 (.309)**	-.767 (.309)**
Illegal drug use	.476 (.353)	.382 (.356)	.382 (.354)	.362 (.353)	.378 (.357)	.361 (.357)
Age at first arrest	.013 (.024)	.011 (.025)	.008 (.025)	.010 (.024)	.010 (.025)	.007 (.025)
# of prior convictions	.131 (.083)	.103 (.085)	.097 (.084)	.111 (.084)	.102 (.085)	.095 (.084)
Time served (logged)	-.370 (.170)**	-.298 (.174)*	-.340 (.174)*	-.336 (.175)*	-.299 (.174)*	-.333 (.175)*
Primary offense (Drug suppressed)						
Violent	-.975 (.495)**	-.902 (.500)*	-.850 (.508)*	-.878 (.505)*	-.916 (.503)*	-.886 (.512)*
Property	.386 (.351)	.399 (.353)	.519 (.355)	.446 (.357)	.403 (.353)	.516 (.355)
Other	-.430 (.446)	-.405 (.450)	-.357 (.452)	-.390 (.447)	-.402 (.450)	-.368 (.453)
Parole supervision	1.214 (.477)**	1.273 (.485)***	1.249 (.485)***	1.259 (.483)***	1.276 (.485)***	1.235 (.486)**
Time at risk (months)	.541 (.068)***	.544 (.068)***	.557 (.069)***	.536 (.067)***	.544 (.068)***	.557 (.069)***
Social stressors [a]	--	.120 (.053)**	.100 (.056)*	.128 (.054)**	.118 (.054)**	.095 (.057)*
Mastery (Prison) [a]	-.554 (.316)*	-.464 (.319)	--	--	-.439 (.331)	--
Mastery (PR1) [a]	--	--	-.520 (.311)*	--	--	-.515 (.313)*
Change in mastery	--	--	--	-.065 (.272)	--	--
Mastery (Prison)*Social stressors	--	--	--	--	-.029 (.102)	--
Mastery (PR1)*Social stressors	--	--	--	--	--	-.053 (.102)
Constant	-3.623 (1.360)***	-4.471 (1.442)***	-3.839 (1.574)**	-5.269 (1.343)***	-5.902 (1.380)***	-5.499 (1.317)***

*p<.10, **p<.05, ***p<.01

[a]Term centered in the equations with interactions.

TABLE 11
Logistic Regression Results for Mastery on Illegal Drug Use

Variable	(1) (N=625)	(2) (N=625)	(3) (N=627)	(4) (N=624)	(5) (N=625)	(6) (N=627)
City (Cleveland suppressed)						
Chicago	-1.996 (.444)***	-1.809 (.446)***	-1.803 (.447)***	-1.816 (.449)***	-1.809 (.447)***	-1.852 (.451)***
Houston	-.493 (.328)	-.329 (.336)	-.333 (.338)	-.294 (.338)	-.329 (.336)	-.360 (.340)
Age at release	-.037 (.014)**	-.036 (.015)**	-.038 (.015)***	-.037 (.015)**	-.036 (.015)**	-.038 (.015)**
Nonwhite	.470 (.343)	.419 (.349)	.420 (.346)	.404 (.349)	.419 (.349)	.402 (.348)
High school graduate/GED	-.047 (.272)	.012 (.275)	-.026 (.272)	-.044 (.273)	.012 (.275)	-.030 (.273)
Family relationship quality	-.277 (.167)*	-.196 (.171)	-.230 (.168)	-.247 (.170)	-.196 (.172)	-.227 (.169)
Married	-.335 (.297)	-.441 (.301)	-.406 (.300)	-.390 (.300)	-.442 (.301)	-.401 (.300)
Employed	-.367 (.260)	-.375 (.264)	-.359 (.265)	-.371 (.266)	-.374 (.264)	-.360 (.266)
Illegal drug use	1.105 (.385)***	1.028 (.385)***	1.040 (.385)***	1.032 (.385)***	1.028 (.386)***	.995 (.388)***
Age at first arrest	-.085 (.027)***	-.088 (.028)***	-.089 (.028)***	-.089 (.028)***	-.088 (.028)***	-.091 (.028)***
# of prior convictions	.085 (.069)	.071 (.070)	.063 (.071)	.067 (.071)	.071 (.071)	.059 (.071)
Time served (logged)	-.129 (.151)	-.018 (.158)	-.024 (.157)	-.030 (.157)	-.018 (.158)	-.021 (.158)
Primary offense (Drug suppressed)						
Violent	-.082 (.359)	.001 (.363)	.010 (.364)	.030 (.365)	.001 (.366)	-.053 (.367)
Property	.429 (.315)	.475 (.320)	.526 (.322)	.545 (.323)*	.475 (.320)	.518 (.322)
Other	-.401 (.409)	-.361 (.418)	-.387 (.419)	-.370 (.420)	-.360 (.418)	-.384 (.420)
Parole supervision	-.712 (.311)**	-.695 (.313)**	-.754 (.314)**	-.715 (.314)**	-.695 (.313)**	-.787 (.317)**
Time at risk (months)	.263 (.067)***	.258 (.068)***	.257 (.068)***	.255 (.068)***	.258 (.068)***	.259 (.068)***
Social stressors [a]	--	.126 (.044)***	.135 (.046)***	.139 (.045)***	.126 (.044)***	.130 (.046)***
Mastery (Prison) [a]	-.303 (.272)	-.187 (.278)	--	--	-.187 (.286)	--
Mastery (PR1) [a]	--	--	-.142 (.280)	--	--	-.087 (.285)
Change in mastery	--	--	--	.001 (.248)	--	--
Mastery (Prison)*Social stressors	--	--	--	--	-.001 (.082)	--
Mastery (PR1)*Social stressors	--	--	--	--	--	-.101 (.084)
Constant	1.075 (1.247)	.141 (1.311)	.293 (1.446)	-.120 (1.209)	-.444 (1.217)	-.095 (1.197)

*p<.10, **p<.05, ***p<.01
[a]Term centered in the equations with interactions.

TABLE 12
Logistic Regression Results for Self-Esteem on Rearrest

Variable	(1) (N=624)	(2) (N=624)	(3) (N=630)	(4) (N=622)	(5) (N=624)	(6) (N=627)
City (Cleveland suppressed)						
Chicago	-.802 (.337)**	-.674 (.345)*	-.779 (.344)**	-.670 (.346)*	-.663 (.346)*	-.763 (.345)**
Houston	-1.182 (.329)***	-1.094 (.334)***	-1.185 (.332)***	-1.114 (.334)***	-1.082 (.334)***	-1.175 (.332)***
Age at release	-.015 (.013)	-.013 (.013)	-.015 (.013)	-.012 (.013)	-.012 (.013)	-.015 (.013)
Nonwhite	.238 (.347)	.228 (.351)	.293 (.352)	.223 (.349)	.201 (.352)	.314 (.353)
High school graduate/GED	-.448 (.245)*	-.414 (.246)*	-.366 (.246)	-.390 (.246)	-.418 (.247)*	-.357 (.246)
Family relationship quality	-.212 (.160)	-.166 (.163)	-.150 (.156)	-.143 (.159)	-.156 (.163)	-.152 (.156)
Married	-.291 (.277)	-.367 (.281)	-.415 (.283)	-.401 (.283)	-.355 (.281)	-.427 (.284)
Employed	.130 (.254)	.138 (.255)	.154 (.256)	.119 (.256)	.127 (.256)	.160 (.256)
Illegal drug use	-.353 (.267)	-.403 (.270)	-.363 (.268)	-.408 (.270)	-.396 (.270)	-.328 (.271)
Age at first arrest	-.037 (.022)*	-.038 (.022)*	-.036 (.022)	-.038 (.022)*	-.038 (.022)*	-.036 (.022)
# of prior convictions	.088 (.066)	.072 (.068)	.089 (.066)	.076 (.067)	.074 (.068)	.090 (.066)
Time served (logged)	-.469 (.139)***	-.412 (.143)***	-.399 (.141)***	-.412 (.143)***	-.398 (.144)***	-.402 (.141)***
Primary offense (Drug suppressed)						
Violent	.033 (.348)	.087 (.351)	.049 (.348)	.078 (351)	.106 (.351)	.069 (.350)
Property	.154 (.287)	.170 (.288)	.160 (.289)	.134 (.292)	.139 (.291)	.156 (.289)
Other	-1.045 (.410)**	-1.027 (.413)**	-1.048 (.414)**	-1.025 (.413)**	-1.034 (.415)**	-1.018 (.416)**
Parole supervision	.234 (.326)	.257 (.327)	.326 (.327)	.280 (.329)	.276 (.329)	.351 (.329)
Time at risk (months)	.363 (.055)***	.364 (.055)***	.370 (.055)***	.363 (.055)***	.357 (.056)***	.373 (.056)***
Social stressors [a]	--	.070 (.041)*	.057 (.043)	.063 (.043)	.075 (.042)*	.062 (.043)
Self-esteem (Prison) [a]	.067 (.235)	.050 (.236)	--	--	.013 (.240)	--
Self-esteem (PR1) [a]	--	--	.003 (.230)	--	--	-.038 (.235)
Change in self-esteem	--	--	--	-.039 (.191)	--	--
Self-esteem (Prison)*Social stressors	--	--	--	--	.084 (.072)	--
Self-esteem (PR1)*Social stressors	--	--	--	--	--	.064 (.072)
Constant	-.765 (1.143)	-1.146 (1.173)	-1.205 (1.248)	-1.078 (1.040)	-1.029 (1.042)	-1.268 (1.025)

*p<.10, **p<.05, ***p<.01
[a]Term centered in the equations with interactions.

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TABLE 13
Logistic Regression Results for Self-Esteem on Reincarceration

Variable	(1) (N=627)	(2) (N=627)	(3) (N=630)	(4) (N=625)	(5) (N=627)	(6) (N=630)
City (Cleveland suppressed)						
Chicago	-.295 (.390)	-.051 (.405)	-.072 (.403)	-.063 (.406)	-.049 (.405)	-.074 (.403)
Houston	-1.968 (.446)***	-1.834 (.456)***	-1.872 (.455)***	-1.840 (.455)***	-1.834 (.455)***	-1.874 (.456)***
Age at release	-.011 (.017)	-.005 (.017)	-.009 (.017)	-.005 (.017)	-.005 (.018)	-.009 (.017)
Nonwhite	-.049 (.429)	-.099 (.441)	-.053 (.440)	-.130 (.439)	-.102 (.442)	-.058 (.442)
High school graduate/GED	.341 (.324)	.411 (.328)	.397 (.327)	.371 (.325)	.410 (.328)	.394 (.327)
Family relationship quality	-.284 (.206)	-.176 (.211)	-.213 (.201)	-.234 (.206)	-.170 (.212)	-.211 (.202)
Married	.135 (.333)	.012 (.337)	.004 (.337)	.007 (.337)	.020 (.337)	.007 (.338)
Employed	-.738 (.302)**	-.753 (.307)**	-.781 (.310)**	-.737 (.308)**	-.761 (.308)**	-.780 (.310)**
Illegal drug use	.450 (.350)	.340 (.354)	.361 (.354)	.353 (.354)	.341 (.354)	.355 (.357)
Age at first arrest	.011 (.024)	.008 (.025)	.011 (.025)	.009 (.024)	.008 (.025)	.011 (.024)
# of prior convictions	.125 (.084)	.086 (.087)	.105 (.084)	.098 (.086)	.086 (.087)	.105 (.084)
Time served (logged)	-.391 (.169)**	-.297 (.174)*	-.337 (.173)*	-.311 (.175)*	-.290 (.175)*	-.336 (.173)*
Primary offense (Drug suppressed)						
Violent	-.928 (.500)*	-.823 (.505)	-.847 (.506)*	-.821 (.505)	-.810 (.505)	-.849 (.506)*
Property	.415 (.352)	.426 (.355)	.470 (.353)	.457 (.358)	.412 (.357)	.471 (.354)
Other	-.396 (.442)	-.367 (.447)	-.365 (.449)	-.374 (.447)	-.361 (.448)	-.370 (.451)
Parole supervision	1.177 (.474)**	1.221 (.482)**	1.255 (.483)***	1.228 (.483)**	1.227 (.483)**	1.249 (.486)***
Time at risk (months)	.529 (.067)***	.534 (.068)***	.538 (.067)***	.532 (.067)***	.533 (.068)***	.538 (.067)***
Social stressors [a]	--	.137 (.054)**	.115 (.056)**	.137 (.056)**	.140 (.055)***	.115 (.056)**
Self-esteem (Prison) [a]	-.234 (.297)	-.255 (.298)	--	--	-.280 (.306)	--
Self-esteem (PR1) [a]	--	--	-.247 (.286)	--	--	-.235 (.302)
Change in self-esteem	--	--	--	.006 (.240)	--	--
Self-esteem (Prison)*Social stressors	--	--	--	--	.038 (.093)	--
Self-esteem (PR1)*Social stressors	--	--	--	--	--	-.010 (.085)
Constant	-4.034 (1.410)***	-4.784 (1.474)***	-4.553 (1.598)***	-5.330 (1.346)***	-5.595 (1.352)***	-5.356 (1.316)***

*p<.10, **p<.05, ***p<.01
[a]Term centered in the equations with interactions.

TABLE 14
Logistic Regression Results for Self-Esteem on Illegal Drug Use

Variable	(1) (N=623)	(2) (N=623)	(3) (N=626)	(4) (N=621)	(5) (N=623)	(6) (N=626)
City (Cleveland suppressed)						
Chicago	-2.058 (.449)***	-1.832 (.452)***	-1.829 (.450)***	-1.803 (.454)***	-1.833 (.453)***	-1.858 (.452)***
Houston	-.545 (.329)*	-.355 (.339)	-.316 (.336)	-.319 (.340)	-.344 (.339)	-.334 (.338)
Age at release	-.036 (.015)**	-.035 (.015)**	-.038 (.015)**	-.037 (.015)**	-.035 (.015)**	-.039 (.015)***
Nonwhite	.387 (.344)	.348 (.350)	.412 (.349)	.396 (.349)	.329 (.351)	.394 (.350)
High school graduate/GED	-.100 (.271)	-.022 (.274	-.032 (.272)	-.045 (.274)	-.030 (.275)	-.041 (.273)
Family relationship quality	-.363 (.173)**	-.253 (.179)	-.238 (.169)	-.259 (.172)	-.248 (.178)	-.237 (.169)
Married	-.317 (.298)	-.424 (.302)	-.406 (.300)	-.380 (.301)	-.417 (.302)	-.392 (.301)
Employed	-.338 (.261)	-.352 (.265)	-.356 (.265)	-.350 (.267)	-.363 (.266)	-.360 (.265)
Illegal drug use	1.101 (.383)***	1.031 (.385)***	1.035 (.385)***	1.039 (.386)***	1.036 (.385)***	1.009 (.386)***
Age at first arrest	-.081 (.027)***	-.085 (.028)***	-.088 (.028)***	-.088 (.028)***	-.085 (.028)***	-.088 (.028)***
# of prior convictions	.115 (.071)	.094 (.072)	.068 (.071)	.079 (.072)	.095 (.073)	.071 (.071)
Time served (logged)	-.176 (.151)	-.046 (.158)	-.028 (.157)	-.045 (.159)	-.033 (.159)	-.027 (.157)
Primary offense (Drug suppressed)						
Violent	-.119 (.360)	-.012 (.364)	.003 (.365)	.033 (.366)	.006 (.365)	-.016 (.365)
Property	.342 (.318)	.396 (.324)	.524 (.322)	.470 (.326)	.375 (.326)	.534 (.323)*
Other	-.500 (.409)	-.436 (.419)	-.404 (.420)	-.413 (.420)	-.437 (.422)	-.441 (.422)
Parole supervision	-.714 (.311)**	-.711 (.313)**	-.737 (.313)**	-.752 (.314)**	-.693 (.315)**	-.770 (.316)**
Time at risk (months)	.263 (.067)***	.259 (.068)***	.253 (.068)***	.260 (.068)***	.254 (.068)***	.252 (.068)***
Social stressors [a]	--	.131 (.044)***	.143 (.046)***	.133 (.046)***	.135 (.045)***	.138 (.046)***
Self-esteem (Prison) [a]	.216 (.266)	.179 (.270)	--	--	.128 (.276)	--
Self-esteem (PR1) [a]	--	--	.029 (.254)	--	--	.106 (.267)
Change in self-esteem	--	--	--	-.138 (.223)	--	--
Self-esteem (Prison)*Social stressors	--	--	--	--	.063 (.077)	--
Self-esteem (PR1)*Social stressors	--	--	--	--	--	-.070 (.071)
Constant	-.074 (1.313)	-.718 (1.350)	-.220 (1.445)	-.037 (1.212)	-.194 (1.205)	-.048 (1.192)

*p<.10, **p<.05, ***p<.01

[a]Term centered in the equations with interactions.

TABLE 15
Logistic Regression Results for Religiosity on Rearrest

Variable	(1) (N=625)	(2) (N=625)	(3) (N=628)	(4) (N=624)	(5) (N=625)	(6) (N=628)
City (Cleveland suppressed)						
Chicago	-.875 (.334)***	-.769 (.341)**	-.788 (.342)**	-.797 (.344)**	-.763 (.341)**	-.788 (.342)**
Houston	-1.228 (.327)***	-1.155 (.331)***	-1.146 (.331)***	-1.171 (.331)***	-1.147 (.332)***	-1.147 (.332)***
Age at release	-.017 (.013)	-.015 (.013)	-.015 (.013)	-.015 (.013)	-.015 (.013)	-.015 (.013)
Nonwhite	.311 (.359)	.300 (.361)	.416 (.362)	.294 (.350)	.304 (.361)	.416 (.362)
High school graduate/GED	-.408 (.243)*	-.378 (.244)	-.395 (.244)	-.378 (.245)	-.377 (.244)	-.396 (.245)
Family relationship quality	-.205 (.155)	-.167 (.157)	-.141 (.156)	-.175 (.155)	-.164 (.157)	-.142 (.156)
Married	-.317 (.276)	-.389 (.280)	-.369 (.280)	-.390 (.281)	-.389 (.280)	-.369 (.280)
Employed	.164 (.253)	.174 (.254)	.175 (.254)	.163 (.255)	.176 (255)	.175 (.254)
Illegal drug use	-.308 (.266)	-.351 (.268)	-.366 (.268)	-.367 (.268)	-.350 (.269)	-.366 (.268)
Age at first arrest	-.036 (.022)	-.037 (.022)*	-.035 (.022)	-.038 (.022)*	-.037 (.022)*	-.035 (.022)
# of prior convictions	.091 (.065)	.079 (.066)	.078 (.066)	.076 (.066)	.082 (.067)	.078 (.066)
Time served (logged)	-.453 (.137)***	-.403 (.141)***	-.397 (.141)***	-.396 (.141)***	-.403 (.141)***	-.398 (.142)***
Primary offense (Drug suppressed)						
Violent	.032 (.345)	.076 (.347)	.052 (.347)	.070 (.347)	.079 (.347)	.053 (.347)
Property	.180 (.285)	.193 (.286)	.200 (.286)	.196 (.286)	.194 (.286)	.200 (.286)
Other	-1.051 (.410)***	-1.043 (.412)**	-1.088 (.417)***	-1.101 (.419)***	-1.044 (.413)**	-1.086 (.418)***
Parole supervision	.273 (.324)	.299 (.325)	.300 (.326)	.306 (.326)	.301 (.325)	.300 (.326)
Time at risk (months)	.369 (.055)***	.370 (.055)***	.372 (.055)***	.368 (.055)***	.370 (.055)***	.372 (.055)***
Social stressors [a]	--	.063 (.041)	.060 (.041)	.061 (.041)	.064 (.041)	.059 (.041)
Religiosity (Prison) [a]	-.016 (.166)	-.009 (.166)	--	--	-.022 (.169)	--
Religiosity (PR1) [a]	--	--	-.183 (.171)	--	--	-.182 (.173)
Change in religiosity	--	--	--	-.193 (.183)	--	--
Religiosity (Prison)*Social stressors	--	--	--	--	.018 (.046)	--
Religiosity (PR1)*Social stressors	--	--	--	--	--	-.002 (.050)
Constant	-.701 (1.009)	-1.087 (1.045)	-.773 (1.063)	-1.015 (1.020)	-1.145 (1.062)	-1.355 (1.053)

*p<.10, **p<.05, ***p<.01
[a]Term centered in the equations with interactions.

TABLE 16
Logistic Regression Results for Religiosity on Reincarceration

Variable	(1) (N=628)	(2) (N=628)	(3) (N=631)	(4) (N=627)	(5) (N=628)	(6) (N=631)
City (Cleveland suppressed)						
Chicago	-.350 (.390)	-.135 (.402)	-.133 (.399)	-.201 (.408)	-.160 (.404)	-.162 (.400)
Houston	-2.038 (.450)***	-1.922 (.458)***	-1.862 (.455)***	-1.913 (.458)***	-1.971 (.460)***	-1.906 (.457)***
Age at release	-.012 (.017)	-.008 (.017)	-.005 (.017)	-.004 (.017)	-.009 (.017)	-.009 (.018)
Nonwhite	-.183 (.441)	-.222 (.453)	-.048 (.448)	-.115 (.446)	-.194 (.459)	-.038 (.452)
High school graduate/GED	.318 (.322)	.394 (.326)	.385 (.325)	.426 (.329)	.403 (.329)	.344 (.327)
Family relationship quality	-.353 (.200)*	-.259 (.204)	-.209 (.201)	-.240 (.202)	-.309 (.207)	-.223 (.202)
Married	.120 (.333)	-.012 (.337)	.017 (.337)	.038 (.338)	-.006 (.340)	.023 (.340)
Employed	-.766 (.304)**	-.772 (.309)**	-.741 (.306)**	-.805 (.312)***	-.783 (.311)**	-.749 (.308)**
Illegal drug use	.456 (.350)	.357 (.354)	.348 (.353)	.311 (.354)	.345 (.353)	.345 (.352)
Age at first arrest	.010 (.024)	.007 (.025)	.011 (.024)	.007 (.025)	.006 (.024)	.014 (.024)
# of prior convictions	.146 (.083)*	.114 (.085)	.109 (.084)	.106 (.085)	.093 (.087)	.109 (.085)
Time served (logged)	-.411 (.168)**	-.324 (.173)*	-.333 (.173)*	-.325 (.174)*	-.320 (.173)*	-.349 (.173)**
Primary offense (Drug suppressed)						
Violent	-.970 (.501)*	-.873 (.505)*	-.888 (.504)*	-.917 (.508)*	-.893 (.507)*	-.869 (.505)*
Property	.414 (.351)	.424 (.353)	.428 (.352)	.404 (.354)	.430 (.356)	.456 (.355)
Other	-.451 (.444)	-.430 (.449)	-.414 (.448)	-.511 (.457)	-.415 (.449)	-.367 (.449)
Parole supervision	1.221 (.474)***	1.285 (.483)***	1.291 (.484)***	1.313 (.487)***	1.311 (.484)***	1.328 (.488)***
Time at risk (months)	.529 (.067)***	.534 (.067)***	.537 (.067)***	.538 (.068)***	.541 (.068)***	.537 (.067)***
Social stressors [a]	--	.131 (.053)**	.129 (.053)**	.131 (.053)**	.132 (.054)**	.116 (.054)**
Religiosity (Prison) [a]	.229 (.215)	.241 (.218)	--	--	.395 (.239)*	--
Religiosity (PR1) [a]	--	--	-.124 (.211)	--	--	-.048 (.219)
Change in religiosity	--	--	--	-.408 (.229)*	--	--
Religiosity (Prison)*Social stressors	--	--	--	--	-.121 (.062)*	--
Religiosity (PR1)*Social stressors	--	--	--	--	--	-.088 (.065)
Constant	-5.005 (1.306)***	-5.793 (1.374)***	-5.133 (1.375)***	-5.279 (1.318)***	-4.877 (1.346)***	-5.375 (1.351)***

*p<.10, **p<.05, ***p<.01
[a]Term centered in the equations with interactions.

TABLE 17
Logistic Regression Results for Religiosity on Illegal Drug Use

Variable	(1) (N=624)	(2) (N=624)	(3) (N=627)	(4) (N=623)	(5) (N=624)	(6) (N=627)
City (Cleveland suppressed)						
Chicago	-2.007 (.444)***	-1.802 (.447)***	-1.833 (.447)***	-1.835 (.451)***	-1.768 (.449)***	-1.816 (.448)***
Houston	-.513 (.328)	-.331 (.337)	-.347 (.335)	-.339 (.338)	-.288 (.339)	-.302 (.337)
Age at release	-.038 (.015)***	-.038 (.015)**	-.035 (.015)**	-.037 (.015)**	-.038 (.015)**	-.034 (.015)**
Nonwhite	.359 (.355)	.319 (.361)	.441 (.359)	.351 (.347)	.354 (.363)	.490 (.361)
High school graduate/GED	-.098 (.270)	-.018 (.273)	-.006 (.272)	-.024 (.273)	-.022 (.275)	.033 (.273)
Family relationship quality	-.316 (.165)*	-.214 (.170)	-.199 (.169)	-.209 (.168)	-.217 (.172)	-.194 (.170)
Married	-.336 (.298)	-.454 (.302)	-.448 (.301)	-.439 (.303)	-.451 (.303)	-.461 (.302)
Employed	-.371 (.260)	-.376 (.265)	-.366 (.263)	-.377 (.265)	-.356 (.268)	-.365 (.264)
Illegal drug use	1.074 (.383)***	1.007 (.385)***	1.031 (.386)***	1.019 (.386)***	.999 (.386)***	1.010 (.387)***
Age at first arrest	-.086 (.028)***	-.091 (.028)***	-.085 (.028)***	-.091 (.028)***	-.093 (.029)***	-.089 (.028)***
# of prior convictions	.102 (.069)	.086 (.071)	.072 (.070)	.084 (.071)	.101 (.071)	.073 (.070)
Time served (logged)	-.123 (.150)	.004 (.157)	-.027 (.157)	.007 (.158)	.012 (.160)	-.004 (.159)
Primary offense (Drug suppressed)						
Violent	-.176 (.361)	-.079 (.366)	-.033 (.364)	-.097 (.366)	-.057 (.367)	-.050 (.364)
Property	.400 (.315)	.453 (.322)	.452 (.321)	.446 (.321)	.481 (.324)	.453 (.321)
Other	-.452 (.408)	-.401 (.418)	-.416 (.417)	-.426 (.418)	-.364 (.420)	-.440 (.419)
Parole supervision	-.766 (.311)**	-.754 (.313)**	-.712 (.312)**	-.751 (.314)**	-.762 (.317)**	-.716 (.314)**
Time at risk (months)	.256 (.067)***	.254 (.068)***	.253 (.067)***	.254 (.068)***	.255 (.068)***	.257 (.068)***
Social stressors [a]	--	.133 (.044)***	.131 (.044)***	.131 (.044)***	.147 (.045)***	.148 (.045)***
Religiosity (Prison) [a]	.051 (.179)	.065 (.181)	--	--	.001 (.183)	--
Religiosity (PR1) [a]	--	--	-.088 (.194)	--	--	-.169 (.199)
Change in religiosity	--	--	--	-.177 (.203)	--	--
Religiosity (Prison)*Social stressors	--	--	--	--	.103 (.049)**	--
Religiosity (PR1)*Social stressors	--	--	--	--	--	.089 (.055)
Constant	.424 (1.161)	-.354 (1.207)	-.105 (1.219)	-.202 (1.191)	-.237 (1.246)	-.560 (1.226)

*p<.10, **p<.05, ***p<.01
[a]Term centered in the equations with interactions.

TABLE 18
Logistic Regression Results for Subjective Perspectives and Social Stressors on All Outcomes

Variable	Rearrest		Reincarceration		Drug Use	
	Prison (N=619)	PR1 (N=626)	Prison (N=622)	PR1 (N=629)	Prison (N=618)	PR1 (N=625)
City (Cleveland suppressed)						
Chicago	-.673 (.345)*	-.801 (.346)**	-.071 (.410)	-.085 (.403)	-1.810 (.457)***	-1.840 (.453)***
Houston	-1.099 (.335)***	-1.169 (.334)***	-1.899 (.461)***	-1.928 (.458)***	-.329 (.343)	-.348 (.339)
Age at release	-.011 (.014)	-.014 (.014)	-.006 (.018)	-.006 (.018)	-.035 (.015)**	-.036 (.015)**
Nonwhite	.238 (.364)	.394 (.364)	-.164 (.456)	-.027 (.449)	.309 (.367)	.437 (.363)
High school graduate/GED	-.377 (.249)	-.377 (.246)	.497 (.336)	.408 (.327)	-.018 (.278)	-.029 (.272)
Family relationship quality	-.152 (.165)	-.125 (.158)	-.176 (.215)	-.203 (.201)	-.251 (.181)	-.225 (.171)
Married	-.378 (.281)	-.402 (.284)	-.006 (.338)	.045 (.340)	-.390 (.306)	-.390 (.301)
Employed	.152 (.256)	.164 (.256)	-.786 (.312)**	-.762 (.312)**	-.349 (.268)	-.344 (.266)
Illegal drug use	-.377 (.272)	-.371 (.269)	.360 (.358)	.365 (.354)	1.045 (.389)***	1.050 (.387)***
Age at first arrest	-.038 (.022)*	-.035 (.022)	.005 (.025)	.009 (.025)	-.090 (.029)***	-.088 (.028)***
# of prior convictions	.069 (.068)	.084 (.066)	.090 (.089)	.095 (.084)	.109 (.073)	.063 (.071)
Time served (logged)	-.409 (.144)***	-.398 (.141)***	-.267 (.176)	-.339 (.175)**	-.002 (.160)	-.016 (.158)
Primary offense (Drug suppressed)						
Violent	.077 (.351)	.032 (.348)	-.851 (.503)*	-.867 (.510)*	-.077 (.370)	-.026 (.367)
Property	.153 (.288)	.158 (.289)	.410 (.357)	.512 (.355)	.403 (.327)	.505 (.324)
Other	-1.042 (.414)**	-1.100 (.420)***	-.430 (.454)	-.380 (.455)	-.395 (.422)	-.402 (.420)
Parole supervision	.244 (.328)	.328 (.329)	1.227 (.487)**	1.256 (.487)***	-.749 (.318)**	-.758 (.314)**
Time at risk (months)	.366 (.055)***	.371 (.056)***	.540 (.069)***	.559 (.070)***	.273 (.069)***	.262 (.069)***
Social stressors	.067 (.042)	.056 (.044)	.127 (.055)**	.102 (.057)*	.118 (.046)***	.139 (.047)***
Mastery	-.213 (.305)	.005 (.316)	-.508 (.398)	-.566 (.382)	-.435 (.346)	-.256 (.352)
Self-esteem	.155 (.292)	.033 (.295)	-.022 (.376)	.077 (.353)	.418 (.336)	.189 (.324)
Religiosity	-.003 (.172)	-.189 (.173)	.268 (.223)	-.125 (.216)	.056 (.186)	-.090 (.198)
Constant	-.915 (1.204)	-.961 (1.319)	-4.764 (1.527)***	-3.698 (1.674)**	-.454 (1.395)	.169 (1.513)

*p<.10, **p<.05, ***p<.01

Scales

Scale	Response Set	Alphas	Items	Standardized Factor Loading	
				Prison	PR1
Mastery	1=Strongly disagree 2=Disagree 3=Agree 4=Strongly agree	Prison = .782 PR1 = .836	1. I have little control over the things that happen to me. ®	.567	.614
			2. What happens to you in the future mostly depends on you.	.201	.534
			3. There is little I can do to change many of the important things in my life. ®	.617	.620
			4. My life has gone out of control. ®	.622	.721
			5. There is really no way I can solve some of the problems I have. ®	.763	.719
			6. Sometimes I feel like I'm being pushed around in my life. ®	.644	.725
			7. You can do just about anything you really set your mind to do.	.351	.478
			8. I often feel helpless dealing with the problems of life. ®	.760	.748
			9. My life seems without meaning. ®	.764	.774
Self-esteem	1=Strongly disagree 2=Disagree 3=Agree 4=Strongly agree	Prison = .676 PR1 = .822	1. I have much to be proud of.	.550	.709
			2. I feel like a failure. ®	.851	.848
			3. I wish I had more respect for myself. ®	.556	.721
			4. I feel I am basically no good. ®	.790	.773
			5. In general, I am satisfied with	.340	.598

Scale	Response Set	Alphas	Items	Standardized Factor Loading	
				Prison	PR1
			myself.		
			6. I feel I am unimportant to others. ®	.618	.751
Religiosity	0=Not at all 1=Once in a while 2=Once a month 3=A few times a month 4=Once a week 5=A few times a week 6=Daily	Prison = .883 PR1 = .871	1. How often do you pray or meditate?	.720	.691
			2. How often do you read the Bible or other religious literature?	.666	.609
	1=Strongly disagree 2=Disagree 3=Agree 4=Strongly agree		3. You find strength in your religion or spirituality.	.897	.864
			4. You feel guided by God in the midst of daily activities.	.874	.888
			5. Your faith helps you know right from wrong.	.874	.881
			6. Your spiritual beliefs help define the goals you set for yourself.	.868	.912
Family Relationship Quality	1=Strongly disagree 2=Disagree 3=Agree 4=Strongly agree	Pre-prison = .964	1. Someone you could count on to listen to you when you needed to talk.	.820	
			2. Someone to talk to about yourself or your problems.	.892	
			3. Someone whose advice you really	.722	

				Standardized Factor Loading	
Scale	Response Set	Alphas	Items	Prison	PR1
			wanted.		
			4. Someone to share your most private worries and fears with.	.832	
			5. Someone to turn to for suggestions about how to deal with a personal problem.	.883	
			6. Someone who understood your problems.	.819	
			7. Someone to love you and make you feel wanted.	.823	
			8. Someone to have a good time with.	.861	
			9. Someone to get together with to relax.	.877	
			10. Someone to do something enjoyable with.	.855	
			11. Someone to spend time with to help you get your mind off things.	.861	

Social Stressor Items:

Scale	Response Set	Alphas	Items	Prison	PR1
Partner Conflict	1=Strongly disagree 2=Disagree 3=Agree 4=Strongly agree	PR1 = .806	1. You often work to avoid conflict with your [partner].		.676
			2. You want your [partner] to change a lot of things about him/herself.		.447
			3. Your [partner] makes you angry a lot.		.766
			4. You argue with your [partner] a lot.		.845

Scale	Response Set	Alphas	Items	Standardized Factor Loading	
				Prison	PR1
			5. Your [partner] often tries to control or influence your life.		.856
			6. You often need to work hard to avoid conflict with your [partner].		.730
Family Conflict	1=Strongly disagree 2=Disagree 3=Agree 4=Strongly agree	PR1 = .666	1. You fight a lot with your family members.		.764
			2. You often feel like you disappoint your family.		.728
			3. You are criticized a lot by your family.		.838
Neighborhood Disorder	0=Very low 1=Low 2=High 3=Very high	PR1 = .811	1. Your neighborhood is a safe place to live. ®		.801
			2. It is hard to stay out of trouble in your neighborhood.		.722
			3. You are nervous about seeing certain people in your neighborhood.		.555
			4. Living in this neighborhood makes it hard for you to stay out of prison.		.717
			5. Drug selling is a major problem in your neighborhood.		.687
			6. You think your neighborhood is a good place for you to live. ®		.815

® = reverse-coded

APPENDIX B
Principal Components Factor Analyses of the Three Subjective Perspectives Scales, Rotated Component Matrix

	Pre-Release			Post-Release		
	1	2	3	1	2	3
Mastery Items						
I have little control over the things that happen to me.	.544	.075	-.201	.064	-.032	.728
What happens to you in the future mostly depends on you.	.059	.055	.520	.258	.090	.473
There is little I can do to change many of the important things in my life.	.621	.099	-.141	.051	-.035	.771
My life has gone out of control.	.592	.134	.132	.602	.098	.424
There is really no way I can solve some of the problems I have.	.707	.161	.043	.356	-.025	.627
Sometimes I feel like I'm being pushed around in my life.	.641	-.021	-.023	.257	.177	.388
You can do just about anything you really set your mind to do.	.178	.181	.563	.394	-.038	.559
I often feel helpless dealing with the problems of life.	.744	-.016	.091	.488	-.063	.525
My life seems without meaning.	.747	.071	.229	.661	.058	.466
Self-Esteem Items						
I have much to be proud of.	.184	.200	.627	.630	.229	.169
I feel like a failure.	.661	.040	.441	.792	.063	.271
I wish I had more respect for myself.	.455	-.121	.202	.665	.004	.255
I feel I am basically no good.	.706	.058	.254	.686	.105	.296
In general, I am satisfied with myself.	-.025	-.044	.601	.685	.059	-.149
I feel I am unimportant to others.	.572	.139	.139	.646	.086	.283
Religiosity Items						
You find strength in your religion or spirituality.	.032	.869	.197	.110	.850	.037
You feel guided by God in the midst of daily activities.	.023	.849	.196	.162	.872	-.026
Your faith helps you know right from wrong.	.025	.849	.202	.168	.864	-.004
Your spiritual beliefs help define the goals you set for yourself.	.031	.838	.252	.184	.894	-.005
How often do you pray or meditate?	.192	.729	-.131	-.063	.706	.032
How often do you read the Bible or other religious literature?	.115	.692	-.162	-.030	.625	.032

Extraction Method: Principal Component Analysis.
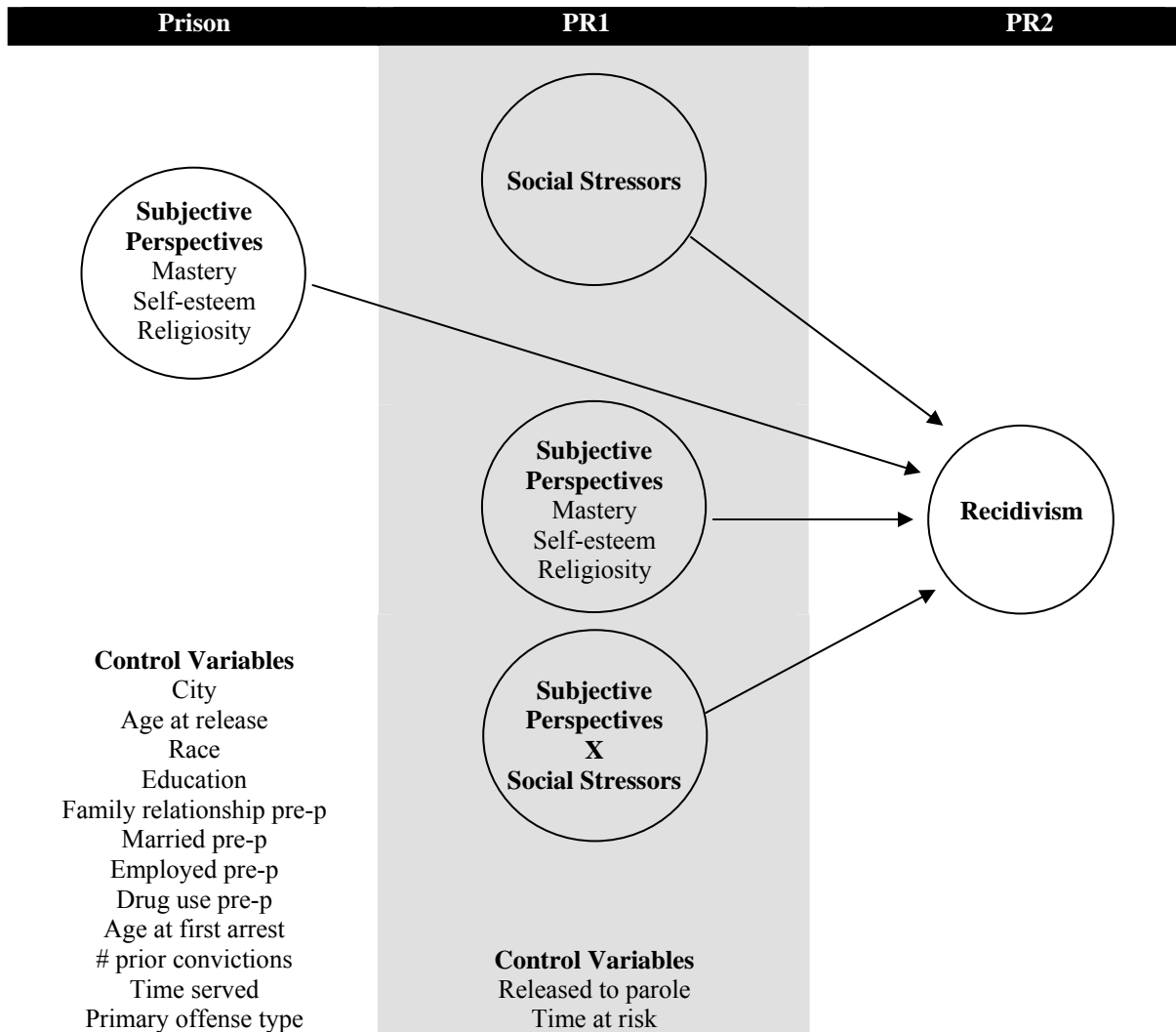Rotation Method: Varimax with Kaiser Normalization.

APPENDIX C

Descriptive Statistics for the Social Stressor Index Items

Item	Chicago	Cleveland	Houston	Total
Family conflict*	1.76 (0.63)	2.06 (0.59)	2.09 (0.68)	1.98 (0.65)
Partner conflict	1.05 (1.14)	1.01 (1.17)	1.11 (1.20)	1.05 (1.17)
Unemployed*	83.5%	69.8%	49.5%	68.5%
No identification	51.3%	52.5%	47.1%	50.6%
Disadvantaged neighborhood	1.99 (0.62)	2.04 (0.61)	1.99 (0.64)	2.01 (0.62)
Lives with negative influences*	0.19 (0.44)	0.42 (0.86)	0.33 (0.61)	0.32 (0.69)
N	231	305	204	740

*Percentages or means vary significantly across cities based on Chi-square or ANOVA, respectively ($p < .05$).

APPENDIX D

Conceptual Model

Prison	PR1	PR2

Social Stressors

Subjective Perspectives
Mastery
Self-esteem
Religiosity

Subjective Perspectives
Mastery
Self-esteem
Religiosity

Recidivism

Control Variables
City
Age at release
Race
Education
Family relationship pre-p
Married pre-p
Employed pre-p
Drug use pre-p
Age at first arrest
prior convictions
Time served
Primary offense type

Subjective Perspectives X Social Stressors

Control Variables
Released to parole
Time at risk

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