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Supermax and Recidivism: An Examination of the Recidivism Covariates Among a Sample of Supermax Ex-Inmates

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Abstract

This study examines the recidivism covariates of 610 released inmates who were confined in a supermax unit in 2004. Follow-up data (an average of 66 months from prison release in 2004) were collected for each inmate to assess the recidivism covariates of those who re-engaged in crime after prison release. The findings show that when compared with ex-supermax inmates who did not recidivate, those who did were younger, more likely to be serving time for a drug offense, and had a history of prior incarcerations and disciplinary infractions while incarcerated. Time to recidivate, however, was significantly predicted by gang membership, length of sentence, and prior substance abuse history. The implications of this research are discussed.

Keywords

supermax, administrative segregation, recidivism

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Introduction

Supermax prisons have become a mainstay in the American correctional landscape. Today anywhere from 25 to 44 states and the Federal Government are operating one or more of these facilities (Pizarro & Narag, 2008). Despite their popularity, the operation of supermax is not without controversy. Placement in these facilities imposes deprivations on inmates that are unique when compared with the overall incarceration experience. One of its defining features is extended isolation, where human contact is limited and inmates spend approximately 23 hr a day in solitary confinement. As a result, some advocates and scholars alike posit that placement in these facilities may result in the deterioration of inmates' mental health, and can pose a greater threat to the safety of the general prison population and communities (Pizarro & Narag, 2008).

Very few studies have examined the actual effect that placement in these institutions have on inmate behavior, or whether it can result in a greater safety threat. The few studies that have examined this issue report that although supermax inmates recidivate at a higher rate than non-supermax inmates, the difference is not as dramatic as some scholars suggest (Mears & Bales, 2009). Interestingly, not all inmates placed in supermax recidivate upon their release into the community (Mears & Bales, 2009). While numerous studies have examined the covariates of recidivism for inmates released from the general prison population, no study to date has examined the released inmates from supermax who do not recidivate. Given the scrutiny these facilities have received by the activist and academic community in recent years, and the fact that confinement in a supermax can affect current prisoner reentry efforts that aim at reducing recidivism, this is an issue that warrants further examination and analyses.

This study seeks to further the knowledge of these controversial facilities by answering the following research question: What variables differentiate supermax ex-inmates who recidivate from those who do not?

Are the covariates of supermax ex-inmate recidivism unique, or do they mirror those set forth by research examining the recidivism of inmates released from the general prison population? In examining this research question, data for 815 inmates who were placed in supermax in a densely populated northeastern state on January 1, 2004, were examined. Specifically, follow-up criminal history data for 610 of the 815 inmates who have since served their court-ordered sentence and have been released into the community were collected post-release from supermax and were analyzed in addition to criminal history prior to incarceration/placement in supermax as well as inmate demographic and social characteristics. The follow-up time in the

community was an average of 5 years (66 months) for each sampled inmate. The findings of this study have implications for re-entry efforts as they provide a clearer picture of the factors that affect the post-release success of inmates placed in such restrictive environments.

Supermax Inmates: What We Know

The National Institute of Corrections (NIC; U.S. Department of Justice, NIC, 1997) defined supermax prisons as "[F]ree-standing facilities, or a distinct unit within a facility, that provides for the management and secure control of inmates who have been officially designated as exhibiting violent or seriously disruptive behavior while incarcerated" (p. 1). Supermax facilities are designed to house problematic inmates (Pizarro & Stenius, 2004). They serve as prisons within prisons and are often utilized with the intention of providing safety to prison personnel and inmates alike.

These facilities have defining characteristics that differentiate them from traditional maximum security prisons. Inmates housed in supermaxes are isolated for 22 to 23 hr a day. They are often devoid of human physical contact other than the occasions when they are escorted out of their cell for showers or recreation, which typically occur on an inmate-to-inmate basis. Systems vary considerably in their criteria for placing and releasing inmates (Mears, 2006). In most jurisdictions, the decision to place an inmate in supermax is made by prison administrators, who are permitted to base their decision on factual evidence or simply the perception that an inmate poses a threat to the orderly operation of the general prison population. Generally, the criteria for release are not published or revealed to prisoners (Riveland, 1999). The amount of time served may depend upon the perceived risk the inmate presents, changes in an inmate's mental health, and the amount of time left on the inmate's sentence (Riveland, 1999).

Some jurisdictions house less than 1% of their inmate population in these facilities (e.g., Pennsylvania), while others house more than 10% of their population (e.g., Mississippi; Mears, 2006). Research that has examined the characteristics of inmates placed in supermax confinement suggests that when compared with the general inmate population these inmates are more likely to (a) have more convictions for violent offenses, (b) have engaged in infractions that are more serious while in prison, (c) are younger, and (d) are serving longer sentences (Lovell, Cloyes, Allen, & Rhodes, 2000). Lovell and colleagues also found that the supermax population is comprised of an array of inmates, including (a) inmates in protective custody, (b) inmates who have difficulty coping with life in prison, (c) inmates who committed rule infractions while in prison, and (d) inmates who are suffering from mental illnesses.

To date, very few studies have examined the effect placement in these institutions has on inmates. Prison administrators assert that administrative segregation is an effective management tool because it serves as a specific and general deterrent within the correctional population (Mears & Castro, 2006). The studies that have examined this issue have not supported this assumption; however, Briggs, Sundt, and Castellano (2003) found that the opening of supermax prisons in Illinois, Arizona, and Minnesota did not reduce the levels of inmate-on-inmate violence. Sundt, Castellano, and Briggs (2008) found similar results in their analyses of Illinois supermax facilities.

Studies that have examined the effect placement in these facilities has on the behavior of inmates once released show mixed results. In the first study examining the effect of supermax on individual inmates, Ward and Werlich (2003) found that only 16% of the 1,020 inmates who served time at the Federal Penitentiary at Marion from 1983 to 1994 returned to administrative segregation after release. They also found that only 3.1% of 520 inmates who served time in Alcatraz were returned to isolation for engaging in disruptive and/or violent behavior. They further report that out of 80 inmates released from Marion to the community (i.e., who completed their court-ordered sentence), less than one-half of them recidivated and thus returned to prison. More recent studies, however, suggest conflicting results. Lovell, Johnson, and Cain (2007) found that a sample of supermax inmates released into the community were more likely to commit a new felony than those who were released from the general prison population. Interestingly, their findings suggest that inmates housed in supermax who were released and spent time in the general prison population prior to the end of their court-ordered sentence did not differ from non-supermax inmates in terms of their recidivism rates. The only differences appeared to be inmates released straight from supermax into the community.

Mears and Bales (2009) also tested the recidivism rates of supermax inmates once released into the community; however, they used more robust measures. Mears and Bales (2009) used propensity-matching scores to create a comparison group for more than 1,000 inmates who were placed in supermax confinement in the state of Florida. When compared with a sample of overall inmates incarcerated in the states, supermax inmates had a recidivism rate of approximately 59%, while non-supermax inmates had a rate of approximately 47%. A more specific analysis comparing supermax inmates with a matched group of inmates who were never housed in supermax but shared similar characteristics found that the differences diminished; however, supermax inmates still recidivated at a higher rate than the non-supermax group, particularly in violent offenses. Interestingly, their results also showed

that length and recent supermax confinement did not affect recidivism. Overall, these findings suggest that simply being placed in a supermax prison (even if it is for only a week) increases the odds of recidivism.

Covariates of Recidivism

A plethora of research have examined the covariates of recidivism among individuals who have served time in the general prison population (see Gendreau, Little, & Goggin, 1996; Nagin, Cullen, & Jonson, 2009, for review). This body of literature suggests that imprisonment alone is a covariate of recidivism and that felony offenders who are sentenced to prison are more likely to recidivate than those who are sentenced to some type of community corrections (Nagin et al., 2009). In addition, variables such as gender, age, offense for which time in prison was served, and prior criminal record are also important covariates of recidivism (Gendreau et al., 1996; Nagin et al., 2009).

Research reports that younger males who had an active criminal career prior to incarceration are more likely to recidivate than older offenders, females, and those who did not have a prior criminal history (Huebner & Berg, 2011; Kurlychek, Brame, & Bushway, 2006). Non-violent offenders are also more likely to recidivate than violent offenders. Langan and Levin (2002) found in their study on the national recidivism rate that individuals convicted for drug offenses were more likely to recidivate within the first 6 months than those convicted for other offenses. They also noted that property offenders had the highest recidivism rates. Individuals with prior criminal histories are also more likely to recidivate that those without one. This finding, however, must be interpreted with caution, as Nagin et al. (2009) indicated; prior criminal history is a covariate of a sentence to confinement in prison. Finally, offender age at time of release is one of the most robust predictors of recidivism. The older the inmate is at the time of release, the less likely he will recidivate (Sampson & Laub, 1993). Criminologists have long debated the reason for this relationship. Some posit that offenders age out and that life circumstances such as marriage and employment contribute to the desistance of older offenders, while others posit that these individuals simply do not have the same opportunity to offend due to their age (Gottfredson & Hirschi, 1990).

Purpose of Study

As indicated above, not every inmate who serves time in a supermax recidivates. According to Mears and Bales (2009), approximately 40% of the supermax inmates in their sample did not commit a new offense upon release

from prison. Given the limited research on this topic, the purpose of this study is to shed further light on Mears and Bales finding. In this study, we examined the covariates of recidivism among a sample of inmates who served time in a supermax unit to uncover whether there are significant variables that are unique to this population. The research question that drives this study is what variables differentiate supermax ex-inmates who recidivate from those who do not?

We hypothesize that similar to studies that have examined the recidivism of inmates released from the general prison population, static factors such as age, prior criminal history, and conviction offense are also important covariates with this group of offenders. That is, we hypothesize the following:

Hypothesis 1: Younger ex-supermax inmates are more likely to recidivate than older inmates, and that when they recidivate, their time to do so is significantly less than older inmates.
Hypothesis 2: Ex-supermax inmates with a prior criminal record are more likely to recidivate, and to recidivate sooner, than those without one.
Hypothesis 3: Ex-supermax inmates whose conviction offense was for a non-violent crime are more likely to recidivate and to recidivate sooner than those convicted for violent crimes.

We also hypothesize that factors unique to supermax inmates may influence their recidivism rate. As indicated in the previous section, supermax inmates are exposed to unique deprivations such as isolation from other individuals and stimuli, which can serve to deteriorate their mental health. These inmates are also more prone to violent/threatening behavior while serving their prison term. Indeed, these inmates are often considered the "worst of the worst" (Pizarro & Narag, 2008). As such, we hypothesize the following:

Hypothesis 4: The more time an inmate spends confined in a supermax, the greater the odds of recidivating; and as days confined in a supermax increase, the amount of time it takes an ex-inmate to recidivate decreases.

Finally, based on the findings of Lovell and colleagues (2007), we also hypothesize that reason for release from supermax and whether the inmate was released to the general prison population or directly into the community has an effect on recidivism rates. Specifically, we hypothesize the following:

Hypothesis 5: Inmates released to the community directly from supermax are more likely to recidivate than those released first to the general prison population and those who served less time confined in a supermax.

Research Design and Methods

Data for this study were obtained from a densely populated northeastern state's Department of Corrections. The DOC housed approximately 20,000 inmates a year. On average, the majority of inmates housed in this DOC are African American (approximately 60%), followed by Caucasians and Latinos (approximately 20%, respectively). The DOC maintains four separate units for inmates who are considered disruptive and a threat to the general prison population; however, it does not refer to these units as supermax. These units are referred to as Administrative Segregation. None of these administrative segregation units are stand-alone facilities; they are units within the secure perimeter of four separate prisons. The majority of these units have been in existence since the late 1980s. The average operational capacity of these units was about 347 offenders per unit. The manner in which these units are operated is consistent with the criteria and definition set forth by the NIC (U.S. Department of Justice, NIC, 1997), and, thus, can be classified as supermax units. Inmates are usually confined to their cells for 22 hr each day; they are allowed a 10-min shower each day, and 5 hr of recreation per week.

Confinement in administrative segregation in this state is highly structured. The sanction is imposed by the Inmate Disciplinary Hearing Officer and then referred to the prison's Institutional Classification Committee (ICC), which reviews the sanction. An inmate can also appeal the initial decision of the hearing officer within 48 hr of the decision. The ICC determines if the sanction is appropriate and within the guidelines and acceptable limits. The Special Administrative Segregation Review Committee (SASRC), a subcommittee of the ICC, reviews all administration segregation sanctions. This committee provides a bi-monthly review status of all inmates assigned to the four ACSU divisions. In this state, the ACSU is a three-level-tiered system. This program is sanctioned to reintegrate inmates back into general population. Specifically, the three levels are as follows:

- Level 1: Program entry level where the activities, privileges, and amenities of the inmate is highly restricted
- Level 2: Activities, possessions, and privileges are less restricted than Level 1.
- Level 3: Activities are less restrictive than Levels 1 and 2 but more restricted than the rules for general population inmates.

All inmates enter administrative segregation at Level 1. Moving to the next level is determined by the SASRC. This is determined by reviewing how compliant the inmate has been with the rules, regulation of the facility, and reviewing additional disciplinary charges, which may have occurred.

The current study used a purposive methodology, drawing on the full sample of 815 inmates who were in administrative segregation on January 1, 2004. A data collection protocol was developed to assess the characteristics of inmates placed in administrative segregation. Specifically, data on behavior prior to placement, while in supermax, and post-supermax were assessed. Three research assistants were trained extensively along with the personnel in the administrative segregation units on the data collection protocol. The 815 inmates' prior and present criminal histories were evaluated, along with disciplinary infractions, offender demographics, offender incarceration information, interventions during incarceration, and the index offense category information. Furthermore, the follow-up time was a full 5 years for each sampled inmate from the date of release. Data were retrieved from inmate classification folders at each facility, computerized criminal histories (rap sheets), an inmate management system, and an offender prison facility-tracking system for each inmate in an administrative segregation unit during the study period. The data collection resulted in 159 variables for each of the 815 inmates.

A data collection instrument helped ensure the researcher assistants were collecting the data in a consistent manner and they cross-coded a number of files. An interrater reliability coefficient was calculated at $r = .89$, representing a high degree of uniformity. Collected data were examined regularly to ensure completeness and were input in a numeric format into SPSS.

Measures

The unit of analyses for this study was 815 inmates who were confined in a supermax unit on January 1, 2004. Of these, approximately 85% (610 inmates) have served their court-ordered sentence and have been released into the community since 2004. Because this study centers on the recidivism of supermax inmates, the analyses were ultimately reduced to examine the *610 inmates* who have been released into the community. The follow-up time in the community was an average of 5 years (66 months) for each sampled inmate from the date of release from prison after 2004. The review period ended on August 31, 2011. On average, these inmates spent 9.3 months isolated in administrative segregation, and served approximately 41 months in prison.

Two *dependent variables* are used: Did the offender recidivate upon release into the community (0 = no; 1 = yes) and Time to Recidivism, which was measured in months. Approximately 81% (493) of the inmates recidivated upon their release. The average time to recidivate was 11.6 months (range = 0-73 months, $SD = 12.4$ months). Of the 493 inmates who recidivated, approximately 68% reoffended within the first 12 months of release

into the community, 25% between 13 and 36 months of release, and 7% between 37 and 73 months upon release.

A series of *independent variables* that represent the inmate's demographic, criminal history, supermax confinement, and behavior post-release were used. Gender was not examined as all the inmates in the sample are male. During the study period, only a handful of females were housed in administrative segregation; therefore, there was not enough variation to justify retention in the sample. *Race/ethnicity* was measured with a series of dummy variables (0 = no; 1 = yes) that represent whether the inmate is African American, Latino, or Other. The majority of this sample, approximately 74%, consisted of African American males, while the next largest group included Latinos (15.4%). African Americans were used as the reference category as they represent the majority of the sample and prior research suggests that African Americans have a higher rate of recidivism (Gendreau et al., 1996; Nagin et al., 2009). Offender age at release was measured as a continuous variable in years. The *average age at release* was 31 years (*SD* = 7.8). The youngest released inmate was 20 years of age and the oldest 61 years of age.

Conviction crime was measured with a series of dummy variables (0 = no; 1 = yes) that illustrate whether the offender was convicted for a violent, narcotics, or other type of offense. The majority of offenses in the other category consist of property offenses. Violent crime was used as the reference category because the majority of offenders (approximately 44%) were serving time for a violent offense, followed by a narcotics offense (approximately 33%), then other (approximately 22%). Similarly, *prior criminal history* was also measured with a series of dummy variables that measured the most serious offense the offender was convicted for prior to the conviction crime. The dummy variable measured whether the most serious previous offense was a violent, narcotics, other, or if the inmate did not have a prior conviction. Violent was used as the reference category as the majority's most serious offense was violence related (approximately 42%). In addition to prior criminal history, *gang memberships* and *prior history of drug and or alcohol abuse* (0 = no; 1 = yes) are also measured. Finally, *prior incarcerations* were measured with a continuous variable. Approximately 22% were classified as gang members while in prison; 86% had a history of drug and/or alcohol abuse prior to incarceration. The inmates in the study had an average of 2 prior incarcerations. This variable ranged from 0 to 26 and has a standard deviation of 9.21.

Consistent with prior research that indicates that supermax inmates are more likely to exhibit problematic behavior that can affect the odds of recidivism, two variables were collected, including the *number of behavior infractions* and *whether the inmate received behavioral/psychological treatment* while in prison (0 = no; 1 = yes). As expected, these inmates appear to have

a history of problematic behavior in prison with an average of slightly more than seven behavioral/disciplinary infractions, and approximately 29% receiving cognitive/behavioral psychological treatment while in prison. Based on the arguments presented by supermax opponents that suggest that prolonged isolation can lead to deterioration of mental health, and thus, more future offending, length of *months housed in supermax* was assessed. Consistent with prior research that suggest that there is a difference in the recidivism rates of inmates who are released directly from supermax into the community when compared with those who were first released into the prison population (Lovell et al., 2007), a dummy variable that reflects whether the *offender was released directly into the community* (0 = no; 1 = yes) was used in the model. Approximately 20% were released directly from administrative segregation. Finally, whether the inmate was released on parole (0 = no; 1 = yes) and the total *months the inmate served in prison for the current offense* were also assessed. Slightly over half of the inmates were released on parole.

Analysis

Independent *t* test was first used to uncover any potential differences between the inmates who recidivated and those who did not. To examine the covariates of recidivism and control for potential intervening variables, two distinct multivariate analytic methods were used when testing each of these dependent variables. Given the dichotomous nature of the first dependent variable (i.e., no recidivism vs. recidivism), logistic regression is the analytic tool utilized to examine the multivariate relationship between the dependent and independent variables (Pampel, 2000). Conversely, ordinary least-squares regression is used in the examination of the continuous sentence length-dependent variable. The model variables were all tested for collinearity, using a variance inflation factor threshold of four (see Menard, 1995), and no evidence of collinearity was found. Model estimates were considered statistically significant at a two-tailed level of $p < .05$.

Findings

Statistically significant differences emerged across the recidivist and non-recidivist groups. The two groups differed based on age at release, conviction crime, prior criminal history, prison involvement, and release conditions. Specifically, inmates who did not recidivate were slightly older (average age = 34 years) than those who did (average age = 30 years). Non-recidivists were also more likely to have a current violent conviction, while supermax inmates were more versatile with a similar rate of violent and narcotics

Table 1. Inmate Characteristics.

Variables	All (*N* = 610)		Recidivist (*n* = 493)		Non-recidivist (*n* = 117)	
Race/ethnicity						
African American	450	73.8%	368	74.6%	82	70.1%***
Latino	94	15.4%	75	15.2%	19	16.2%
Other	66	10.8%	50	10.1%	16	13.7%
Age at release	31.1	*SD* = 7.8	30.5	*SD* = 7.5	33.7	*SD* = 8.8
Drug/alcohol abuse	525	86.1%	426	86.4%	99	84.6%
Gang member	131	21.5%	112	22.7%	19	16.2%
Conviction offense						
Violence	271	44.4%	191	38.7%	80	68.4%
Narcotics	204	33.4%	185	37.5%	19	16.2%
Other	135	22.1%	117	23.7%	18	15.4%
Most serious prior						
Violence	255	41.8%	205	41.6%	50	42.7%***
Narcotics	203	33.3%	172	34.9%	31	26.5%***
Other	122	20.0%	97	19.7%	25	21.4%
None	30	4.9%	19	3.9%	11	9.4%*
No. of prior incarcerations	1.9	*SD* = 2.3	2.12	*SD* = 2.4	1.2	*SD* = 1.6***
Treatment	178	29.2%	130	26.4%	48	41%**
No. of infractions	7.5	*SD* = 9.2	7.63	*SD* = 9.6	7.1	*SD* = 7.3
Supermax months	9.2	*SD* = 8.2	9.0	*SD* = 8.2	10.64	*SD* = 8.1
Release on parole	340	55.7%	262	53.1%	78	66.7%***
Community release	124	20.3%	99	20.1%	25	21.4%
Prison months	41.52	*SD* = 48.3	36.8	*SD* = 41.3	61.8	*SD* = 67.4***

Significant difference between groups *$p < .05$. **$p < .01$. ***$p < .001$.

conviction offenses. Non-recidivists were also less likely to have a prior criminal history and those who had a prior criminal history had less prior incarcerations. Inmates who did not recidivate were also more likely to be released on parole, have served a longer prison sentence, and received behavioral/psychological treatment while incarcerated.

Recidivism multivariate findings. As illustrated in Table 1, there are differences between supermax inmates who recidivate and those who do not. It is important, however, to assess those differences controlling for other relevant factors. Logistic and linear regression was applied to determine which variables help to differentiate between these two groups and time to recidivism As

noted above, the dependent variable in the next analysis is whether the inmate recidivated (0 = no; 1 = yes). Significant variables indicate factors that are more or less likely to be present in the recidivist group.

Three models are used to examine the covariates of conviction (see Table 2). The first model tests the effect of the offender demographic and criminal involvement characteristics. The variables in the model explain .193 of the variance (Nagelkerke R^2). Inmate race/ethnicity, gang membership, and prior criminal history type are not significant covariates of recidivism. Age, conviction crime, and number of prior incarcerations conversely are significant in the expected direction. The younger the inmate upon release from prison, the higher the odds he will recidivate (odds ratio [OR] = 0.923, $p < .001$). Individuals serving time for a narcotic offense (OR = 2.668, $p < .001$) were more likely to recidivate than those convicted for violent offenses. Finally, inmates who had already served a prior prison sentence were more likely to recidivate. Specifically, as the number of incarcerations increased, so did the odds of recidivism (OR = 1.506, $p < .001$).

The second model tests the effect of the potential variables on the behavior while in prison and supermax confinement. The variance explained in this model increased slightly over Model 1 to 21.5%. Age, narcotics conviction crime, and prior incarceration remain significant with some slight variation. Narcotic conviction crime slightly changes, with the significance level decreasing to $p < .01$, and the OR to 2.531. Contrary to Hypothesis 4, length of time segregated in supermax confinement did not reach the expected level of significance. Instead, in prison behavioral/psychological treatment and the number of disciplinary infractions while in prison significantly differentiate the recidivists from the non-recidivists group. Interestingly, the treatment variable has an inverse relationship with recidivism indicating that inmates who received treatment are more likely to recidivate than those who did not (OR = 0.593, $p < .05$). Disciplinary history is significant in the expected direction with the odds of recidivism increasing with every disciplinary infraction (OR = 0.030, $p < .05$).

The third model includes variables that tap into the conditions of the inmate's release into the community. This model further increases the explanation of variance, bringing it to 22.8%. Age, narcotic conviction, prior incarcerations, and number of disciplinary infractions all remained significant with slight changes. Specifically, narcotics conviction decreased in significance to $p < .05$. Interestingly, none of the release variables reached a level of statistical significance.

Time to recidivism multivariate findings. Three models were also used to access time to failure (i.e., recidivism; see Table 3). As mentioned previously, when recidivism occurred, it did so an average of 11 months prior to release. Of the

Table 2. Logistic Regression.

	Model 1			Model 2			Model 3		
Variable	*B*	*SE*	OR	*B*	*SE*	OR	*B*	*SE*	OR
Race/ethnicity									
African American									
Latino	−0.051	0.321	0.950	0.097	0.331	1.102	0.079	0.343	1.083
Other	0.025	0.348	1.025	0.028	0.362	1.028	0.173	0.402	1.189
Age at release	−0.080	0.016	0.923***	−0.086	0.017	0.918***	−0.070	0.021	0.932**
Drug/alcohol Abuse	0.072	0.321	1.075	0.152	0.339	1.164	0.254	0.352	1.290
Gang member	0.376	0.302	1.456	0.338	0.312	1.402	0.383	0.333	1.467
Conviction offense									
Violence									
Narcotics	0.981	0.307	2.668**	0.928	0.316	2.531*	0.702	0.350	2.017*
Other	0.521	0.308	1.683	0.441	0.317	1.555	0.234	0.350	1.263
Most serious prior									
Violence									
Narcotics	0.128	0.282	1.136	0.143	0.290	1.154	0.102	0.309	1.115
Other	−0.060	0.305	0.942	−0.124	0.311	0.883	−0.034	0.337	0.967
None	−0.278	0.461	0.757	−0.429	0.479	0.651	−0.462	0.502	0.630
No. of prior incarcerations	0.409	0.087	1.506***	0.421	0.090	1.523***	0.476	0.103	1.610***
Treatment				−0.523	0.243	0.593*	−0.481	0.260	0.618
No. of infractions				0.030	0.015	1.031*	0.039	0.018	1.040*
Supermax months				0.015	0.014	0.985	−0.015	0.014	0.985
Release on parole							0.482	0.277	0.617
Community release							0.359	0.311	0.698
Prison months							0.003	0.003	0.997
Constant	2.831	0.634	16.963***	3.04	0.685	20.985***	3.019	0.776	20.464***
Nagelkerke R^2		.193			.215			.228	

*$p < .05$. **$p < .01$. ***$p < .001$.

493 inmates who recidivated, the majority (67%) did so within the first year of release. The recidivists were also more likely to reoffend in a narcotic-related offense (approximately 36%) followed by violent offenses (approximately 16%).

Similar to the recidivism models, the first assessed the effect inmate demographic and criminal history variables had on time to recidivate. This model is significant ($p < .01$) and has an R^2 of .060. Age at time of release, whether the inmate was classified as a gang member, and number of prior incarceration significantly co-vary with time to recidivism. As expected, the older the inmate, the longer until he recidivates ($B = 0.287$; $p < .001$). Gang members had shorter failure time ($B = -2.886$; $p < .05$). Finally, as the number of prior incarcerations increased, time to failure decreased ($B = -1.099$; $p < .000$).

The second model examines the effect of offender and incarceration characteristics. The inclusion of incarceration variables slightly increased the R^2 to .074. Age remained statistically significant, and the level of significance decreased in gang membership. Specifically, gang membership was no longer significant at a $p < .05$ level. Number of prior incarcerations and behavioral infractions emerged as significant in the model indicating that the more prior incarcerations ($B = -1.211$; $p < .001$) and behavioral prison infractions ($B = -0.138$; $p < .05$) the less time it took individuals to recidivate.

The third model tested the effect of all the variables on time to recidivate. This model is significant at $p < .001$ level and explains .094 of the variance. Interestingly, age of release, gang membership lost significance once release variables were included in the model. History of drug and/or alcohol abuse increased in significance to $p < .05$ level ($B = -3.243$). Prior incarcerations and behavioral infractions remained significant at the same level and direction. Time served in prison for the current conviction appears to take the place of age, with the more time served in prison for the current offense, the longer the failure time ($B = 0.051$; $p < .01$). Indirectly, this may be related to age as the longer time the inmate serves confined in prison, the older in age he will be upon release.

Discussion and Conclusion

The advent of the modern day "supermax prison" has brought with it a lot of debate among academics and practitioners alike. On one side, one group asserts that supermaxes are beneficial because they contribute to the safety of prisons due to their deterrent effect (Pizarro & Narag, 2008). On the other hand, some argue that these institutions are a form of "cruel and unusual punishment" and that placement in them can diminish an inmate's mental

Table 3. Linear Regression.

	Model 1		Model 2		Model 3	
Variable	*B*	*SE*	*B*	*SE*	*B*	*SE*
Race/ethnicity						
African American						
Latino	−0.269	1.575	−0.100	1.542	0.229	1.531
Other	−1.052	1.911	−0.293	1.900	0.033	1.886
Age at release	0.287	0.089**	0.289	0.087**	0.129	0.098
Drug/alcohol abuse	−2.132	1.637*	−2.995	1.631	−3.243	1.605*
Gang member	−2.886	1.371	−2.273	1.345	−2.196	1.338
Conviction offense						
Violence						
Narcotics	−0.238	1.403	−0.167	1.400	1.240	1.473
Other	−1.150	1.515	−1.214	1.507	0.261	1.555
Most serious prior						
Violence						
Narcotics	−0.337	1.352	−.183	1.327	−.187	1.317
Other	1.595	1.534	2.012	1.499	2.045	1.482
None	0.281	3.014	2.145	2.987	−4.860	3.035
No. of prior incarcerations	−1.099	0.278***	−1.211	0.278***	−1.114	0.275***
Treatment			0.534	1.274	0.808	1.269
No. of infractions			−0.138	0.059*	−0.173	0.061*
Supermax months			−0.025	0.068	0.033	0.069
Release on parole					0.261	1.166
Community release					0.042	1.469
Prison months					0.051	0.017**
Constant	8.095	3.321*	9.705	3.347*	12.087	3.368***
R^2	.060		.074		.094	

*$p < .05$. **$p < .01$. ***$p < .001$.

health. These scholars posit that supermax institutions present a threat to society due to their potential detrimental effect on inmates' mental health, and that most of the inmates housed within their walls are one day going to be released back into society (Pizarro & Narag, 2008). Despite the current debate, very few studies have examined the recidivism rates and patterns of supermax inmates released into the community, and whether they pose a greater threat to society.

This study examined the covariates of recidivism among a sample of inmates who served time in a supermax unit, with the purpose of determining

whether there are significant variables that are unique to this population. This study centered on the following research question: What are the covariates of recidivism among supermax ex-inmates? With limited exceptions, very few studies have examined the effect placement in these institutions has on inmates. Our hypotheses received only partial support. While younger ex-supermax inmates are more likely to recidivate than older inmates, age did not have an effect on time to recidivate. A similar pattern emerged with prior convictions and non-violent offenders. Interestingly, the hypotheses focusing on supermax confinement did not receive support suggesting that supermax units may not lead to more future crime among those released from those institutions.

As the results of this analysis indicate, and as general criminological research continually demonstrates, many of the same variables that are contributors to general recidivism hold true for inmates who have spent time in supermax. Specifically, inmates who recidivate upon release from an administrative segregation period are statistically younger, more likely to have a drug conviction, have a prior correctional history, and have disciplinary charges while incarcerated. In other words, the offenders are young, drug offenders who have broken both the law while on the street and have broken the prison rules. When the analyses turned toward the amount of time it took to fail or recidivate, offenders released from administrative segregation had shorter time to recidivate if they were gang members, served shorter sentences, and had a history of drug or alcohol abuse. Interestingly, these findings suggest that placement in supermax does not create unique challenges that result in recidivism. This finding is contrary to some of the arguments of supermax opponents, which suggest that placement in these institutions pose unique deprivations on inmates that can result in their future recidivism, thus endangering society as it appears that supermax inmates share the same recidivism covariates as of those inmates released from the general prison population.

There are several implications that can be drawn from this research of supermax offenders in this northeast state. These contributors of recidivism should be further analyzed for the inmates who have served time in these units. While in supermax, in this particular state, most inmates are not afforded re-entry programming. With some of these offenders being released directly to the community, it is almost certain they will recidivate and return to prison. The corrections department in this state should consider offering re-entry efforts to inmates in these units. As many of the same contributors of recidivism also apply to supermax inmates as general population inmates, an extension of existing re-entry programs would be a logical effort.

The majority of offenders serving time in our states' prisons will be released back into the communities from which they came. Our findings

suggest that similar to inmates who served their time in the general prison population, supermax inmates released to parole supervision should have targeted efforts for drug and alcohol addictions and younger offenders should be steered toward re-enlistment in school programming. The goal of corrections is to rehabilitate offenders, even those considered the "worst of the worst"; however, correctional programs and treatment alone cannot cure society's ills. Communities and community leaders must also take responsibility as offenders transition back into the community.

To our knowledge, this is the first study to date to assess the covariates of recidivism among a sample of supermax inmates. Our findings appear to contradict some of the major arguments presented by supermax opponents as they suggest that the recidivism covariates of supermax inmates are the same as those of inmates housed in the general prison population. As such, this issue needs to be further explored. Future research should access the generalizability of the findings presented here in other DOCs. Given that these institutions appear to have become a fixture in the U.S. Correctional landscape, it is imperative to gain an understanding of their potential effect.

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