Inmate Tattoos and In-Prison and Post-Prison Violent Behavior

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Abstract: Despite more than a century of interest and extensive literature on tattoos and crime, the potential relationship between inmate tattoos and in-prison violence and post-prison recidivism for violent crimes has been largely ignored in prior criminological research. The present study responds to this research void by providing a comprehensive empirical assessment of inmate tattoos and in-prison violence and post-prison recidivism for violent crimes. The study employs a cohort of 79,749 adult inmates in Florida prisons between 1995 and 2001 and follows the cohort both while incarcerated and over a three year post-release period to determine any potential relationship between tattoos and in-prison violence and post-prison recidivism for violent crimes. Among the findings are that inmates with at least one tattoo, and particularly those inmates with numerous tattoos, are more likely to commit in-prison infractions for violent behaviors and post-prison recidivism for violent crimes. The study concludes with a summary and discussion of the findings in relation to theory and policy.

Keywords: Inmates, tattoos, violence, recidivism.

INTRODUCTION

Over the past two decades, the U.S. prison population has increased from approximately 563,000 inmates in 1987 to 1.6 million in December, 2008 (Pew Charitable Trusts 2008; Sabol, West, and Cooper 2009). Each year, approximately 725,000 inmates are released from state and federal prisons (West and Sabol 2009) and recent figures indicate that within three years 67% of these annually released inmates are rearrested for new offenses, 47% are reconvicted and 52% return to prison (Langan and Levin 2002). Additionally, 22.5% of released inmates were re-arrested for a violent crime which accounted for 100,531 violent acts.

Violent behavior is also a common occurrence inside prisons. There were 50,094 incidents of inmates committing violent acts in U.S. prisons in 2000 based on data reported by state and federal correctional agencies (Camp and Camp 2001). However, the actual prevalence of violence among inmates is likely much higher due to the general failure of inmates to report violent victimization over fear of retaliation. Additionally, it is estimated that 4.4% of prison inmates and 3.1% of local jail inmates were victims of sexual assault during the past 12 months of their incarceration or since their entry into incarceration for those having served less than 12 months (Beck, et al. 2010). As these prison population, in-prison violence incidents, and post-prison recidivism for violent crime statistics reveal, there is a clear need to empirically assess the potential indicators of in-prison and post-prison violent behavior.

This article responds to this need for better empirical indicators of in-prison violence and post-prison recidivism for violent crimes. The article begins with a review of the prior literature, and proceeds with a description and discussion of the study’s research questions, data and methods and follows with a presentation of the study’s findings. The article concludes with a summary and discussion of the study’s findings in relation to theory and policy.

PRIOR LITERATURE

The focus of prior studies of prison recidivism can be classified into three general areas, including: 1) inmate demographics, 2) inmate characteristics, and 3) inmate prison and post-prison experiences. While studies of inmate tattoos and in-prison violence and post-prison violent recidivism are few, numerous studies have explored the relationship between tattoos and criminal behavior.

Inmate Demographics and Recidivism

There have been four demographic characteristics of prison inmates identified as predictors of recidivism in prior studies. These include age at release from prison, sex, race, and ethnicity. Concerning age at release, it has been found that younger inmates released from prison are more likely to recidivate and recidivate sooner than older released inmates (Bales
and Mears, 2008; Beck and Shipley, 1987; Kohl, et al. 2008; Kubrin and Stewart 2006). Further, it has been shown that the sex of the inmate is a strong predictor of recidivism regardless of whether recidivism is measured by re-arrest, reconviction, or re-incarceration. Studies show that male inmates are more likely to recidivate than are female inmates (Bales and Mears 2008; Beck and Shipley 1987; Kubrin and Stewart 2006; Langan and Levin 2002). Additionally, race has been consistently found to be a strong predictor of recidivism. Black inmates are significantly more likely to recidivate and to recidivate earlier than are white inmates (Bales and Mears 2008; Beck and Shipley 1987; Kohl et al. 2008; Langan and Levin 2002; Wolfgang, Figlio, and Sellin 1972). Findings related to recidivism differences between Hispanic versus non-Hispanic inmates are mixed and not as conclusive as the findings related to age, sex and gender differences. For example, there is some evidence that suggests Hispanic inmates are somewhat less likely to recidivate compared to non-Hispanics (Langan and Levin 2002; Langan, Schmitt, and Durose 2003). However, other studies report the reverse pattern namely that Hispanics are slightly more likely to recidivate (Anderson, Schumacker, and Anderson 1991; Beck and Shipley 1997) or that there are no differences in recidivism outcomes between Hispanics and non-Hispanics (Kubrin and Stewart 2006).

Education, Offending History, and Recidivism

There have been five inmate characteristics commonly examined in prior recidivism studies. These include educational level and the four criminal history characteristics of instant (current) offense, number of prior felony convictions, number of prior incarcerations, and number of prior supervision violations. A consistent finding has been that less educated prisoners are more likely to recidivate than those with more education (Beck and Shipley 1997; Gendreau, Little, and Goggin 1996; Visher, Lattimore, and Linster 1991). Another common finding is that inmates incarcerated for property offenses are significantly more likely to recidivate than those imprisoned for violent offenses (Beck and Shipley 1997; Kohl et al.; 2008; Langan et al. Visher et al. 1991). Inmates with more prior convictions have been found to be more likely to recidivate as well (Bales and Mears 2008; Beck and Shipley 1987; Putnins 2005; Visher et al. 1991). Further, more prior imprisonments have been associated with a greater likelihood of recidivism (Bales and Mears 2008; Beck and Shipley 1997; Langan and Levin 2002; Putnins 2005), and the number of prior violations during community supervision has also been identified as an important determinant of recidivism (Chiricos et al. 2007; Visher et al. 1991).

Inmate In-Prison and Past Prison Experiences and Recidivism

Prior studies have identified several in-prison and post-prison factors associated with recidivism. These include the inmate’s prison security level, number of months incarcerated, number of prison disciplinary infractions, and whether post-prison supervision is required. Typically prison security level is measured in terms of minimum, medium, or maximum security. Recent studies report inmates assigned to lower security prison levels namely minimum and medium have a reduced likelihood of recidivism (Chen and Shapiro 2007; Kohl et al. 2008). The length of time incarcerated has been examined and has produced inconclusive findings. Some studies have demonstrated that time served is unrelated to recidivism (Beck and Shipley 1987; Langan et al. 2003) while other studies found that the longer time inmates serve in prison, the less likely they are to recidivate (Bales and Mears 2008; Beck and Shipley 1997). In contrast, one study found that the longer inmates are incarcerated, the greater the likelihood of recidivism (Visher et al. 1991). Loughran et al. (2009) also examined length of incarceration and recidivism among juvenile offenders in both residential and non-residential placements and found null effects by employing a “dose-response” method. The impact of the number of disciplinary infractions committed by inmates on recidivism has only recently been included in recidivism studies. Although more research is called for, the preliminary findings suggest that the more disciplinary infractions inmates commit, the more likely they are to recidivate (Bales and Mears 2008; Mears and Bales 2009). Studies examining the impact of post-release supervision upon recidivism have reported that inmates with supervision for some period following release are less likely to recidivate than are those without post-prison supervision (Kubrin and Stewart 2006).

Inmate Tattoos and Recidivism

Notably absent from prior recidivism literature are studies addressing the potential relationship between inmate tattoos and recidivism. A likely reason for the lack of research on tattoos and recidivism is the
difficulty in gaining the necessary data. Only one study was found in our review of the prior literature that directly examined the effect of tattoos on recidivism (Putnins 2002). This study examined 898 juvenile offenders incarcerated in two juvenile correctional facilities in South Australia. The study had a limited set of tattoo measures, namely whether subjects had tattoo(s) or not and whether they regretted getting those tattoos. The study controlled for sex, race, age, and prior drug use while omitting other relevant variables that have been found to be predictive of recidivism, namely inmate factors and experiences relating to before prison circumstances, in-prison experiences, and post-prison conditions as previously discussed. The Putnins’ study tracked the released juvenile inmates over a six-month period to determine whether reconviction occurred rather than conducting the more common two or three year follow-up of most recidivism studies. The findings were that juvenile inmates released from custody with tattoo(s) were significantly more likely to be reconvicted for a new violent offense. However, there were no differences found between tattooed and non-tattooed juvenile inmates in relation to reconviction for any new crime or reconviction for non-violent new offenses.

Another study by Lozano et al. (2010) examined the relationship between tattoos and the risk of recidivism among 207 incarcerated male inmates. A Self-Appraisal Questionnaire (SAQ) (Loza 2005) was used to quantify the risk of recidivism, which included a “72-item true/false, self-report questionnaire that assessed criminal tendencies, antisocial personality disorders, criminal history, alcohol and drug abuse, antisocial associates, and anger” (Lozano et al. 2010: 5). The measures of tattoos were self-reported. Inmates were placed into three groups, namely those with no tattoos (n=52), those with tattoos that contained prison images or were related to prison life (n=81), and those with non-prison tattoos (n=75). A sample of 66 college students with tattoos also completed the SAQ. The results indicate that college students had a significantly lower risk of recidivism than the three prison groups, inmates with prison tattoos had significantly higher recidivism risk scores than those with non-prison tattoos or no tattoos, and there were no significant differences between inmates with non-prison tattoos and no tattoos. The study’s findings suggest a potential relationship between certain types of tattoos and inmate recidivism, however, the study is limited by its use of self-reported tattoo measures and a measure of recidivism that is based upon risk probabilities rather than actual incidents of recidivism.

**TATTOOS AND CRIME**

Since only the Putnins (2002) study was found to directly address the relationship between tattoos and recidivism, a review of the literature addressing tattoos and crime was conducted to determine potential areas and relationships to inform and guide our current study of inmate tattoos and in-prison violence and post-prison recidivism for violent crimes. There have been a number of studies that compare tattoo prevalence between offender and non-offender populations. It has been consistently reported over time and across geographical boundaries that male prisoners possess the highest number of tattoos of any population groups within Western society. Early studies report an average tattoo prevalence for male inmates across studies of about 20% (Goring 1913; Lacassagne 1881; Lombroso 1872; Lombroso 1876) while female offenders were rarely tattooed, with prevalence findings of about one percent (Lombroso 1876; Lombroso and Ferrero 1915). More recent studies, primarily employing data from U.S. state and federal prisons, report an average tattoo prevalence of 52% for adult male prisoners and 42% for adult female inmates (Britt, Panepento, and Wilson 1972; Cardasis, Huth-Books, and Silk 2008; Fox 1976; Haines and Huffman 1958; Howell, Reed, and Roe 1971; Strang et al. 2000). DeMello (1993) conducted a study in California prisons of inmate tattoo prevalence and based upon his findings estimated that more than half of the U.S. male prison population is tattooed.

Tattoo prevalence for the general population within the United States has been fairly stable since 2003. Several surveys have determined the tattoo prevalence for the U.S. population as a whole is about 16% (Anderson 2006; Sever 2003) and about 24% for individuals in the 18-50 age range (Laumann and Derik 2006). Given these findings, it appears that inmates are two to three times more likely to have tattoos than the general U.S. population.

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1The data for this study was obtained from the Florida Department of Corrections (FDC) Offender-Based Information System (OBIS). This database contains detailed information on all offenders sentenced to prison or community supervision including the sentencing information (i.e., the specific offense, date of the offense and sentencing, details of the specific sentence), specific data on all movements in and out of prison, educational level, custody classification, demographic characteristics of inmates; and various prison experiences including disciplinary infractions by date and type of misconduct. Additionally, FDC captures specific data on each tattoo inmates have, including the location and a description of each. FDC has a unique individual identifying number for each offender, allowing one to track offenders over time in and out of the prison in Florida. These data were accessed to build the research dataset for this current study.
RESEARCH QUESTIONS, DATA, AND METHODS

Informed by the prior research documenting the tattoo and crime link, the present study assesses the potential relationship between inmate tattoos and violent behavior while in prison and post-prison recidivism for violent crimes. The following six research questions are addressed. First, do inmates with one or more tattoos have an increased likelihood of committing one or more violent disciplinary infractions while in prison compared to inmates with no tattoos? Second, do inmates with one or more tattoos have an increased likelihood of committing more violent disciplinary infractions in prison compared to inmates with no tattoos? Third, among inmates with one or more tattoos, does having more tattoos increase the likelihood of committing one or more violent disciplinary infractions while in prison? Fourth, among inmates with one or more tattoos, does having more tattoos increase the number of violent disciplinary infractions in prison? Fifth, do inmates with one or more tattoos have an increased likelihood of recidivating for a violent crime compared to inmates with no tattoos? Sixth, do inmates with multiple tattoos have a greater likelihood of recidivating for a violent crime?

The data used in this study were obtained from the Florida Department of Corrections Offender-Based Information System (OBIS). They include information on all offender movements in and out of prison, demographic characteristics, disciplinary actions, and detailed conviction and imprisonment events before and after incarceration. In addition, detailed information on each tattoo that inmates have is entered into OBIS through visual inspection of inmates without clothing by correctional staff during the initial prison reception process, which includes a description of each tattoo and its location on the inmate’s body. A dataset for a cohort of 79,749 inmates released from prison between July 1995 and June 2001 was used in the analysis. Each inmate was tracked post release for a minimum of three years to determine if and when they were convicted of a new felony crime. The date of the new offense that resulted in a felony conviction was used to determine if the recidivism occurred within the follow-up period. Table 1 shows that 10 percent of inmates released from prison were reconvicted for a violent crime within three years. Recidivation is the most commonly used measure of recidivism in other studies (Villettaz, Killias, and Zoder 2006) and results in a focus on more serious offending (Baumer 1997; Davies and Dedel 2006; Langan and Levin 2002; Maltz 1984; Smith and Akers 1993; Wilson 2005).

Independent Variables

Tattooing is the key independent variable of interest and was operationalized in two ways. First, a measure of whether an inmate had one or more tattoos was created. Table 1 displays that 52% of our release cohort were tattooed². This finding is virtually identical to the estimate we calculated via the tattoo prevalence findings from the tattoo-crime literature as well as DeMello’s (1993) estimate, which boosts confidence that this cohort of inmates is tattooed similar to other U.S. adult inmate populations. Second, the number of tattoos was quantified as a continuous measure, which resulted in an average of 1.27 tattoos per inmate and ranged from 0 to 50.

A variable we did not have available that arguably is highly correlated with tattooing is whether inmates are members of a gang. Without this measure, it could be claimed that any empirical link between tattooing and recidivism is a result of the presence of a tattoo being a

Dependent Variables

Two indicators of violent behavior while imprisoned are used in the analysis. First, if inmate’s committed one or more violent disciplinary infractions (assault, battery, sexual offense, etc.). Table 1 shows that 21% of the inmates examined committed at least one violent infraction. Second, the number of violent acts while incarcerated is used and the average is .46. The measure of violent recidivism is defined as whether released inmates were convicted for a new violent felony crime (murder, manslaughter, sexual, robbery, assault, battery, etc.) resulting in a sentence to local jail, state prison, or community supervision any time within three years following their re-entry into the community from prison. The date of the new offense that resulted in a felony conviction was used to determine if the recidivism occurred within the follow-up period. Table 1 shows that 10 percent of inmates released from prison were reconvicted for a violent crime within three years. Recidivation is the most commonly used measure of recidivism in other studies (Villettaz, Killias, and Zoder 2006) and results in a focus on more serious offending (Baumer 1997; Davies and Dedel 2006; Langan and Levin 2002; Maltz 1984; Smith and Akers 1993; Wilson 2005).

²Of the 41,771 inmates released who had one or more tattoos, 1,212 (2.9%) had received a disciplinary infraction for attempting or completing the application of a tattoo to their bodies while they were incarcerated. A comparison of the 1,212 inmates who had a disciplinary infraction for tattooing while incarcerated with the 40,756 inmates who had tattoos prior to incarceration indicates differences in these two groups across some variables, but not others. For example, 49.4% of the in-prison tattooed inmates recidivated compared to 47.8% of the remaining inmates. The percent that were male is essentially the same across the two groups (94.3% vs. 95.2%). Tattooed inmates who had a tattooing disciplinary infraction were significantly more likely to be white (76.6% vs. 48.8%) and Hispanic (10.9% vs. 6.4%), and younger (mean age = 25.9 vs. 30.1). The logistic regression models presented later were run without the 1,212 cases of inmates who had received a tattooing disciplinary infraction while incarcerated and the results were virtually identical. These results are available upon request from the authors.
### Table 1: Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.D.</th>
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<tbody>
<tr>
<td><strong>Dependent Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violent Disciplinary Infractions (0=no, 1=yes)</td>
<td>.21</td>
<td>.41</td>
</tr>
<tr>
<td>Number of Violent Disciplinary Infractions</td>
<td>.46</td>
<td>1.44</td>
</tr>
<tr>
<td>Violent Recidivism Within 3 Years after Prison Release (0=no, 1=yes)</td>
<td>.10</td>
<td>.30</td>
</tr>
<tr>
<td><strong>Independent Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tattoos (0=no, 1=yes)</td>
<td>.52</td>
<td>.50</td>
</tr>
<tr>
<td>Number of Tattoos</td>
<td>1.27</td>
<td>1.84</td>
</tr>
<tr>
<td><strong>Control Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male (0=female, 1=male)</td>
<td>.91</td>
<td>28</td>
</tr>
<tr>
<td>Age at Release</td>
<td>32.20</td>
<td>9.25</td>
</tr>
<tr>
<td>White (0=black or Hispanic, 1 = white)</td>
<td>.38</td>
<td>.48</td>
</tr>
<tr>
<td>Black (0=white, 1=black, non-Hispanic)</td>
<td>.57</td>
<td>.49</td>
</tr>
<tr>
<td>Hispanic (0=no, 1=yes)</td>
<td>.05</td>
<td>.23</td>
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<tr>
<td>Educational Level</td>
<td>7.38</td>
<td>3.22</td>
</tr>
<tr>
<td><strong>Current Offense:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violent (0=no, 1=yes)</td>
<td>.36</td>
<td>.48</td>
</tr>
<tr>
<td>Property (0=no, 1=yes)</td>
<td>.30</td>
<td>.46</td>
</tr>
<tr>
<td>Drug (0=no, 1=yes)</td>
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<td>.44</td>
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<tr>
<td>Other (0=no, 1=yes)</td>
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<tr>
<td>Number of Prior Prison Commitments</td>
<td>.99</td>
<td>1.43</td>
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<tr>
<td>Number of Prior Felony Convictions</td>
<td>8.9</td>
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<tr>
<td>Number of Prior Supervision Violations</td>
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<td>1.39</td>
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<td>Supervision Following Prison Release (0=no, 1=yes)</td>
<td>.37</td>
<td>.48</td>
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<tr>
<td>Number of Months Served in Prison</td>
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<td>25.92</td>
</tr>
<tr>
<td>Minimum Custody Level at Release (0=no, 1=yes)</td>
<td>.53</td>
<td>.50</td>
</tr>
<tr>
<td>Medium Custody Level at Release (0=no, 1=yes)</td>
<td>.32</td>
<td>.47</td>
</tr>
<tr>
<td>High Custody Level at Release</td>
<td>.15</td>
<td>.36</td>
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</table>

N=79,749. Variables used as reference categories in all subsequent tables.

Proxy for gang membership and that this activity is what is impacting higher propensities towards reoffending among inmates released from prison and not the existence of tattoos. Through a personal communication with a Florida Department of Corrections staff person who is in the Security Threat Intelligence Unit in the Central Office, we were able to assess this possibility. As of April 27, 2011, there were 3,801 inmates who had been identified as suspected gang members and 3,825 confirmed gang members in Florida’s prison system. The inmate population figure was not available for that specific day, however, the population was 101,467 on February 28, 2011. Therefore, approximately 3.7% of the inmate population was comprised of suspected gang members and 3.8% confirmed gang members, or 7.5% of the total inmate population. If one assumes an equal proportion of the prison releases in our analysis cohort would be gang members (suspected or confirmed) relative to the active inmate population and that all of them had tattoos, only 7.5% of the 52% cases in our cohort with tattoos would be gang members and only 3.8% would specifically be confirmed gang members. Therefore, we believe that any findings we present indicating a significant tattooing and recidivism link cannot be considered spurious results because of our inability to account for inmate gang membership.

### Control Variables

Several control variables are included in the study’s multivariate models to increase confidence that the
unique effects of the tattoo measures on violent disciplinary infractions in prison and violent recidivism post-release are not biased. The controls include those commonly used in prior studies of the correlates of violent prison infractions (Bales and Miller 2012; Jiang and Fisher-Giorlando 2002; Harer and Steffensmeier 1996) and studies which have found them to be significant predictors of recidivism (Anderson et al. 1991; Bales and Mears 2008; Kubrin and Stewart 2006; Langan and Levin 2002; Uggen 2000). Four demographic characteristics as controls include: sex (male = 1), race (black/non-Hispanic = 1, white non-black/non-Hispanic=0), ethnicity (Hispanic = 1), and age at release, which is measured as a continuous variable in years. Educational proficiency at the time of prison release is based on each inmate’s score on the last Test of Adult Basic Education (TABE) recorded prior to release. The average grade level equivalency among our population of released inmates was 7th grade. The most serious offense which resulted in the incarceration from which the inmates were released was measured using four dummy variables. These included violent, property, drug, and other offense measures, with property crimes used as the reference categories in all of the models employed.

Prior criminal record and involvement in the correctional system are important predictors of in-prison behavior and post-release offending. Three relevant measures that were controlled for include the number of prior prison commitments in Florida, the number of prior felony convictions, and the number of times the released prisoners had previously violated the conditions of community supervision. Whether inmates are under some form of post-release supervision is also measured as a dummy variable. Table 1 shows that 37% of Florida inmates are released to some form of community supervision. This relatively low use of post-prison supervision is a result of the fact that Florida eliminated parole in 1983. There are essentially only two mechanisms of post-prison supervision remaining. First, if the court sentences felons to a “split” prison/supervision sentence, in which upon completion of the prison sentence, the offender is placed on probation or community control (“house arrest”) for a term specified by the court. Second, there is a statutory defined form of post-prison supervision, “conditional release”, which automatically applies to inmates exiting prison who are leaving after their second or more prison term and were sentenced for a violent crime or as a habitual offender. These offenders must serve a term of supervision equal to the amount of time their prison sentence was reduced through gain-time. Two measures related to inmates’ institutional experiences were controlled for in the models. First, the length of time served in prison was measured in months. Second, the custody level upon prison release was quantified through three dummy variables of minimum, medium, and high, with minimum custody used as the reference category.

Analytic Strategy

Binary Logistic Regression analyses are used in the study when the dependent variable was dichotomous, i.e., whether inmates engaged in violence during their prison term and for violent recidivism within three years post-release (Allison 1991; DeMaris 1992; Menard 1995). Negative Binomial Regression was used when the outcome variable of interest was the number of violent disciplinary infractions. Poisson-based regression models such as Negative Binomial Regression are alternative modeling methods to traditional Ordinary Least Squares Regression when the outcome variable is over-dispersed, which is the case in our measure of the number of violent infractions and is recommended by Gardner, Mulvey, and Shaw (1995). Checks for multicollinearity were conducted on all of the logistic and negative binomial models using Ordinary Least Squares Regression and assessing the tolerance statistics for each variable as recommended by Allison (1991) to ensure the coefficients are not unstable. All of the tolerance levels were above .55 and the vast majority exceeded .70, well above the .40 threshold suggestive of a multicollinearity problem (Allison 1991; Menard 1995).

FINDINGS

The findings here are strengthened because of the number of control variables included in the models and the consistency in the reported relationships to recidivism found in prior empirical studies. Model 1, Table 2, includes the entire prison release cohort and shows that male, younger, and black inmates have higher rates of recidivism while there is no Hispanic effect. Inmates who were incarcerated for a violent, drug, or other offense have lower recidivism rates than those released from a term of incarceration for a property crime. Inmates with higher levels of educational proficiency at release were significantly less likely to recidivate. More extensive prior criminal records and involvement in the correctional system as measured by prior prison sentences, felony convictions, and supervision violations result in
significantly higher risks of recidivism. Ex-prisoners who serve longer prison terms are more likely to experience re-entry success while inmates who exhibited higher levels of behavior difficulties while in prison are significantly more likely to recidivate based on their number of disciplinary infractions and custody level at the time of release. Finally, the post-prison experience of being on some form of community supervision was associated with lower levels of recidivism. These findings relating to the effects of the control variables are consistent with those found in the prior recidivism literature previously reviewed.

Table 2 provides models that show the effect of whether inmates who have at least one tattoo are more likely to engage in violent behavior while incarcerated and the number of violent behavior episodes. Model 1 provides the empirical results to answer the first research question concerning whether the presence of at least one tattoo or more increases the likelihood of inmates exhibiting any violent behavior while incarcerated compared to inmates with no tattoos. The model shows that after controlling for a series of covariates, inmates with at least one tattoo have a 24.4% greater odds of committing a violent infraction while incarcerated compared to inmates with no tattoos (beta=.476, p<.001). Model 2 provides empirical evidence relating to the second research question concerning whether inmates with one or more tattoos engage in more violent acts while confined in prison when compared to inmates with no tattoos. It is found that inmates with one or more tattoos are more likely to engage in violence than those with no tattoos (beta=.172, p<.001).

Model 1 in Table 3 presents findings relating to the third research question as to whether having a greater number of tattoos increases the likelihood of inmates committing one or more violent behavior infractions during their imprisonment. It was found that with each increase in the number of tattoos, the odds of inmates committing a violent behavior infraction increases by 1.8% (beta=.017, p<.05). Model 2 in Table 3 addresses the fourth research question as to whether the more

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<tr>
<th>Table 2: Regression Models of the Effect of Tattoos on Violent Disciplinary Infractions (DIs) in Prison</th>
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<tr>
<td><strong>Model 1: Logistic Regression Violent DIs (no, yes)</strong></td>
</tr>
<tr>
<td><strong>Beta</strong></td>
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<tr>
<td>Tattoos</td>
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<tr>
<td>Male</td>
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<tr>
<td>Age at Release</td>
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<tr>
<td>Black</td>
</tr>
<tr>
<td>Hispanic</td>
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<td>Educational Level</td>
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<td>Violent Offense</td>
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<td>Drug Offense</td>
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<td>Other Offense</td>
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<td>Prior Prison Commitments</td>
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<td>Supervision Following Prison</td>
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<td>Months Served in Prison</td>
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<td>Medium Custody Level</td>
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<tr>
<td>Intercept</td>
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<tr>
<td>Model Chi-Square</td>
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<tr>
<td>Nagelkerke R-square</td>
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<td>Number of Cases</td>
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*p<.05, **p<.01, ***p<.001.
tattoos an inmate has is related to an increase in violent behavior infractions while in prison. The model shows that an increasing number of tattoos is significantly related to increasing numbers of violent behavior infractions (beta = .018, p<.001). These findings indicate that not only does increasing the number of tattoos increase the likelihood of a violent behavior infraction, but the more tattoos offenders have the more violent behavior infractions they will commit while in prison.

The last two research questions concern the potential relationship between inmate tattoos and recidivism for a violent crime during the first three years of community re-entry. Research question five addresses whether tattooed inmates have an increased likelihood of engaging in violent acts post-release compared to inmates with no tattoos. The question is addressed in Model 1 of Table 4. It is determined that the presence of one or more tattoos results in a 42.1% greater odds of inmates recidivating for a violent crime within three years after prison release (beta=.351, p<.001). The final research question of whether the presence of multiple tattoos results in a greater likelihood of violent behavior recidivism is addressed in Model 2 of Table 4. It is found that multiple tattoos among released inmates is significantly associated with an increased likelihood of recidivism for violent crimes within three years following prison release (beta=.021, p<.001).

6. SUMMARY AND DISCUSSION

The purpose of this study has been to assess the potential relationship between inmate tattoos, in-prison violent behavior and post-release recidivism for violent crimes. The study tracked a cohort of just under 80,000 inmates throughout the course of their imprisonment and three years following prison release. It was found that inmates with one or more tattoos have an increased likelihood of committing violent disciplinary infractions while in prison compared to inmates with no tattoos. Second, inmates with one or more tattoos commit more violent disciplinary behavior infractions.
Third, among inmates with one or more tattoos, each additional tattoo increased the likelihood of committing a violent disciplinary infraction while in prison. Fourth, among inmates with one or more tattoos, the more tattoos the inmate has, the more violent disciplinary behavior infractions they will commit in prison. Fifth, inmates with one or more tattoos have a much greater likelihood of recidivating for a violent crime than inmates with no tattoos. Sixth, the more tattoos inmates have, the greater their likelihood of recidivating for a violent crime within three years following prison release.

It is important to emphasize that while this study’s purpose was to empirically address the void in the prior literature regarding the potential relationship between inmate tattoos and in-prison violence and post-prison recidivism for violent crimes, the findings raise important theoretical questions. Specifically, what explains the reported strong and consistent relationship between inmate tattoos and in-prison violence and post-prison recidivism for violent crimes? Criminology’s social control theory offers some helpful assistance in the effort to explain this relationship. As argued by Gottfredson and Hirschi (1990), low self control can provide a predisposition for criminal behavior and those individuals with low self control are not only predisposed to criminal behavior but are also more likely to engage in those behaviors “analogous to crime.” It may be that inmates with one or more tattoos are characterized by lower levels of self control as demonstrated by their decision to get tattoos and their increased involvement in violent behavior while in prison and post release. In sum, a social control interpretation of inmate tattoos and violence would argue that tattoos, particularly multiple tattoos, are indicative of risk taking behavior that is further demonstrated by a predisposition to engage in violent behavior in prison and following release from prison.

Another criminological theory frequently employed to interpret recidivism findings is labeling theory and warrants mention here. In their refined version of labeling theory, Link et al. (1989) contend that negative
societal labels and associated stigmatization produce a series of negative consequences for those subject to the negative labels. Among the negative consequences is the closing-off of various conventional opportunities. Perhaps, having tattoos, particularly multiple ones and those not covered by clothing, could result in negative societal reactions that block conventional and law abiding opportunities for released inmates thereby facilitating a greater likelihood for violent as well as other crimes. However, such a theoretical claim is likely weakened given the growing prevalence of tattoos among the general population and what might be described as a “culture of more acceptance” of tattoos. Moreover, labeling does not provide a compelling explanation for the relationship between inmate tattoos and violent prison infractions. As a result, it would seem that social control theory may have the greatest explanatory potential regarding the empirical relationship between inmate tattoos and in-prison and post-prison violence. Clearly, specific social control theory driven empirical tests of the relationship between inmate tattoos and in-prison and post-prison violence could advance our understanding and explanation of this empirical relationship.

It was not within the scope of this study to assess the location and content of inmate tattoos, however, this is an area of future research that would advance the literature in the under studied link between tattooing and in-prison misconduct and recidivism. Also, it was not possible in this study to assess the content of inmate tattoos and their reflection of gang/subcultural affiliations. However, we do not believe the limitation of not having data on the identification of gang involvement among our cohort of inmates has any significant diminutive impact on the empirical relationship established between inmate tattoos and in-prison and post-prison violence. Nonetheless, future studies should more closely examine the gang - inmate tattoo - violence link.

An emerging practice among some inmates in “pushing the limits” in tattooing has been the actual tattooing of the whites of their eyes to a black or other dark color. What this practice of tattooing may suggest or other examples of particular tattoos for future behavior should be of interest in future research. Finally, this paper examines the effect of tattoos on prison violence and recidivism for violent crimes only in terms of whether tattooed inmates are more likely to engage in violent behavior. Future research should investigate the relationship between tattoos and the type and/or seriousness of re-offending including the timing to recidivism. Such research should provide a much better understanding of the role of tattooing on both in-prison and post-prison offending coupled with other inmate characteristics and experiences. Ultimately, it could be that studies of inmate tattoos, prison violence and recidivism, and the events and processes involved in this relationship that are guided by an appropriate theoretical framework employing, for example, social control theory may provide promising empirical and theoretical advances to this important area of criminology and public policy.

Several policy implications are raised from the findings of this study. Tattooed inmates, particularly those with numerous and visible tattoos are at an increased risk for violence during and after prison especially if the inmate is young, black, poorly educated, incarcerated for non-violent offenses, and are incarcerated for the first time. Such individuals, given their increased likelihood of violent behavior, may well benefit from focused in-prison and re-entry supervision and assistance particularly related to continued education, vocational training and employment, as well as voluntary tattoo removal.

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1Specifically, based on figures provided by the Florida Department of Corrections on the number of inmates who are known or suspected gang members, it is estimated that, assuming all confirmed gang members had one or more tattoos, that only 3.8% of the 52% of our cohort with tattoos were known gang members. Additionally, 7.5% of the 52% of our tattooed releases were either suspected on confirmed members of gangs if they all had tattoos.


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