JOURNAL OF CRIME AND JUSTICE
2021, VOL. 44, NO. 1, 49–65
https://doi.org/10.1080/0735648X.2020.1772095

Routledge
Taylor & Francis Group

Gang affiliation, restrictive housing, and institutional misconduct: does disciplinary segregation suppress or intensify gang member rule violations?

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ABSTRACT

Prison officials often place gang affiliates in restrictive housing, yet little is known about what effect this experience has on their subsequent behavior. Two competing hypotheses on the impact of time spent in restrictive housing has on gang affiliates' post-segregation behavior are conceptualized. The gang suppression hypothesis argues that isolating gang affiliates from their gang for a longer period leads to improvements in behavior when released. In contrast, the gang intensifying hypothesis argues that a longer period of separation leads to detriments in one's behavior. This study tests these competing hypotheses by examining the average impact of disciplinary segregation and the number of weeks spent in this setting on the subsequent institutional behavior of gang- and non-gang-affiliated inmates in a large Midwestern State Department of Corrections. The results of this initial test do not support either hypothesis as time in disciplinary segregation was not associated with likelihood of subsequent rule violations in the sample. Research and policy implications of these findings are discussed.

ARTICLE HISTORY
Received 30 January 2020
Accepted 5 May 2020

KEYWORDS
Gang-affiliated inmates; restrictive housing; institutional misconduct

It is well known that inmates who affiliate with gangs disproportionally participate in violence and other forms of disruption in jails and prisons (Pyrooz and Decker 2019; Pyrooz et al. 2016; Skarbek 2014). One potential strategy for ensuring safety and security within these facilities, therefore, is to isolate gang affiliates in restrictive housing settings (Pyrooz and Mitchell 2019; Winterdyk and Ruddell 2010). This practice, which is often referred to as solitary confinement, segregation, and supermax custody, typically entails isolation in a windowless single-bunk cell for 20 or more hours per day (Butler and Steiner 2017; Cochran et al. 2018). Correctional administrators describe using restrictive housing for three distinctive purposes, including to punish inmates for violating institutional rules (i.e., disciplinary segregation), to protect inmates from harm (i.e., protective custody), and to prevent disorder in the general offender population (i.e., administrative segregation) (Butler, Griffin, and Johnson 2013; Mears 2016). These authorities often justify such use on the assumption that this type of housing deters future inmate misbehavior, protects vulnerable inmates, and promotes system wide institutional order through the incapacitation of noncompliant inmates (Mears and Castro 2006; Pizarro, Zgoba, and Haugebrook 2014).

Despite its long history and widespread use in the United States, some scholars and advocates have raised concerns that restrictive housing is unconstitutional and further causes its inhabitants to suffer serious psychological damage (Haney 2018a, 2018b). Indeed, an extensive amount of scholarship focuses on examining the mental health effects of restrictive housing and on challenging the

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ethics or constitutionality of its use (Gendreau and Labrecque 2018; Haney and Lynch 1997; Morgan et al. 2016; Scharff-Smith 2006). What remains understudied, however, is the impact of restrictive housing on criminal behavior outcomes (Garcia 2016; Labrecque and Smith 2013; Mears 2013). In other words, the empirical and theoretical research on the effect of restrictive housing on measures of institutional misconduct, prison order, and post-release recidivism is in short supply (Labrecque and Smith 2018; Steiner and Cain 2016), and the literature on the effect of this housing on gang-affiliated inmates specifically is even more scant (Pyrooz 2016).

The current study seeks to heed the call to advance knowledge of the effect of restrictive housing – specifically in the form of short-term restrictive housing used for disciplinary purposes – on the subsequent institutional behavior of gang-affiliated and non-gang-affiliated inmates. In doing so, we conceptualize two potential hypotheses related to the influence of time spent in restrictive housing on subsequent behavior of gang affiliates. The first hypothesis, what we term the gang suppression hypothesis, is grounded in deterrence theory and proposes that longer isolation of gang-affiliated inmates in restrictive housing settings will lead to improvements in misconduct behavior once returned to the general population. The second hypothesis, what we term the gang intensifying hypothesis, is grounded in defiance, strain, and labeling theory and proposes that longer separation of gang-affiliated inmates in such housing will lead to detriments in misconduct behavior once returned to the general population.

Managing gang-affiliated inmates in custody

Correctional administrators are responsible for ensuring safety, order, and control in jails and prisons. One group of inmates that is especially difficult for officials to manage in these environments are those who affiliate with gangs (e.g., gang leaders, gang members, gang associates; Pyrooz et al. 2016; Skarbek 2014). Gang-affiliated inmates are more likely than non-affiliated inmates to participate in a wide variety of institutional rule violations, including failing to comply with rehabilitative programming (Sheldon 1991), distributing drugs and other prohibited items (Fischer 2002; Fleisher and Decker 2001), engaging in acts of violence (DeLisi et al. 2012; Gaes et al. 2002; Griffin and Hepburn 2006; Worrall and Morris 2012), and promoting the escalation of disturbances and riots (Useem and Reisig 1999). As such, correctional authorities want to know the best methods for dealing with this problematic and dangerous subgroup of inmates.

One strategy for improving institutional safety and order in prisons is the use of restrictive housing (Knox 2012; Mears and Castro 2006). The rationale for this concentrated approach is that by containing violent and dangerous inmates into a tightly controlled environment, these offenders will have less opportunity to harm others or disrupt order in the general population (see Shalev 2009). It should not come as a surprise, then, that gang-affiliated inmates are overrepresented in restrictive housing (Labrecque 2018). For instance, it has been documented that while gang affiliates only make up approximately 15% of prison populations, they account for over one-third of the inmates placed into restrictive housing custody (Pyrooz and Mitchell 2019).

Correctional administrators often justify the use of restrictive housing on the belief that it improves institutional security and deters noncompliant behavior (see Mears 2008; Mears and Castro 2006; Pizarro and Stenius 2004). Yet others disagree with these tenets, arguing that restrictive housing causes psychological damage and makes inmates more likely to engage in disruptive behavior upon release from the setting (Lovell, Johnson, and Cain 2007; Toch and Kupers 2007). In spite of the fact that the use of restrictive housing has expanded exponentially in the United States since the 1980s (Frost and Monteiro 2016), there is a notable lack of research on its impact on criminal behavior outcomes (Labrecque and Smith 2013; Mears 2013). What the field needs, then, is more research on the effect of restrictive housing on institutional adjustment generally and on gang-affiliated inmates more specifically.

The focus on gang-affiliated inmates is of significant scholarly and practical relevance due to their overrepresentation in institutional misbehavior. As such, it is of interest to correctional policymakers and practitioners to determine the tools and methods that can help hinder the problematic behavior of gang affiliates. The behavior of gang-affiliated inmates, of course, is complicated. Compared to non-gang affiliates, the behavior of gang-affiliated inmates is entrenched within a broader network of group processes. As a result of such processes, gang-affiliated inmates face group pressures that likely facilitate institutional misbehavior and violence among individuals (McGloin and Collins 2015; Pyrooz and Decker 2019). Just by being gang affiliated, an inmate is presented with more opportunities for misconduct, is part of a larger collective of individuals, has a sense of social status, and embraces a unique set of norms and values that may not be held by non-gang-affiliated inmates (i.e., intra-gang processes). At the same time, gang affiliated inmates also face constant competition with and external threats of violence from other gangs (i.e., inter-gang processes). Furthermore, an inmate's involvement in this group process results in a double-edged sword, where their gang affiliation not only increases their likelihood of being involved in misconduct behavior, but also their likelihood of being victimized (Pyrooz, Moule, and Decker 2014).

Due to the group process of gang affiliation, there is reason to believe that gang-affiliated inmates might be differentially affected by the experience of isolated confinement compared to their non-gang affiliated counterparts. Specifically, compared to non-gang-affiliates, gang affiliates are provided with a greater opportunity to engage in misconduct behavior upon release from isolated confinement. Therefore, on the one hand, if restrictive housing happens to incubate feelings of resentment and defiance, it would be expected that gang affiliated inmates would have an easier time acting upon their new additional motivations for defiance upon release. On the other hand, if restrictive housing happens to work as a deterrent, it would be expected that gang affiliated inmates would have an easier time realizing the dangers and harsh reality of being affiliated with a gang which would weaken their embeddedness and decrease their overall motivations of noncompliance upon release.

In either scenario, it would be expected that the longer one spends in restrictive housing, the greater the influence on subsequent misconduct behavior (i.e., more defiance and more motivation for misconduct or lessened gang embeddedness and less motivation for misconduct). Therefore, to the extent the duration of time spent in restrictive housing influences the motivations of group process, outcomes for gang-affiliated inmate that are unique compared to non-gang-affiliated inmates who do not share such motivations may occur. As such, we conceptualize two potential hypotheses on the impact of the length of time spent in this type of housing on gang-affiliated inmates. First, in what we term as the gang suppression hypothesis, a longer stay in restrictive housing is expected to deter subsequent misbehavior because isolation removes inmates from the negative influence of gangs and decreases their overall motivation to engage in misbehavior. Alternatively, in what we call the gang intensifying hypothesis, a longer stay in restrictive housing is expected to exacerbate misconduct behavior because isolation generates more defiance towards the institution which consequently increases their motivation to engage in gang misbehavior once released.

Competing views of restrictive housing

In general, there are two dominant views that are at odds with one another on what effect restrictive housing will have on the inmates exposed to its conditions (Labrecque and Mears 2019). One view, often held by prison administration and staff, contends that the practice of restrictive housing is an effective strategy for increasing the overall safety, order, and control of a prison (Mears and Reisig 2006). This perspective if often justified by the philosophies of incapacitation and deterrence (King 1999; Mears 2016; Pizarro, Stenius, and Pratt 2006). Specifically, it is assumed that the mere removal of problematic inmates will improve the functioning of the prison system (i.e., an incapacitation effect) and that the punishment of

restrictive housing will teach inmates that engagement in misconduct behavior is not worth it given the pains associated with the experience (i.e., a deterrent effect).

The gang suppression hypothesis is an expectation that would most likely be held by those in favor of this view of restrictive housing. As such, the hypothesis proposes that longer periods in isolated confinement are an especially effective deterrent of criminal behavior for gang-affiliated inmates. Time spent in isolation – and hence away from the gang – would be expected to provide enough punishment for gang affiliates that they would begin to reflect upon the negative consequences of participating in gang activities and recognize that the experience of the punishment outweighs the benefits of gang affiliation. In this way, restrictive housing may serve as a turning point that triggers the process of disengagement from a gang and be the formative event of gang de-identification (Bubolz and Simi 2015). It is through this process that restrictive housing serves as a gang suppressor, which provides incentive for affiliates to decrease their embeddedness and potentially sever ties with their gangs and to further comply with institutional rules. As a result, this position hypothesizes that the longer a gang affiliate spends in restrictive housing, the less likely they will be to engage in institutional misconduct when returned back into the general inmate population.

The second dominant view on the effect of restrictive housing, often held by the critics of the practice, contends that restrictive housing is psychologically damaging and increases criminogenic risk (Haney 2012; Labrecque and Mears 2019). The heightening of one's propensity for misbehavior may arise from myriad pathways, including those expected by some major criminological theories (e.g., labeling, strain, and social bonds). For instance, the harsh conditions associated with restrictive housing may increase the deprivations, strains, and frustrations – the 'pains of imprisonment' – experienced by an inmate which may give rise to a greater sense of defiance which ultimately manifest into worsened behavior upon reinstatement into the general population.

The gang intensifying hypothesis is an expectation that would most likely be held by those in favor of this view of restrictive housing. As such, the hypothesis proposes that longer periods in isolated confinement are an incubator for criminal behavior among gang-affiliated inmates. According to this perspective, time spent in segregation serves as a motivator for gang-affiliated inmates to strengthen their ties the gang when returned back into the general inmate population. Given the elements of group process tied to gang affiliation, gang affiliates may develop heightened feelings of angst toward the institution upon placement into restrictive housing. In particular, gang affiliates may perceive such consequences as unfair, unreasonable, or unjust. These perceptions may then result in enhanced feelings of resentment and defiance. This view, therefore, anticipates that gang affiliates will become more defiant upon released from restrictive housing and such defiance will create pressures for them to amplify their engagement in gang activities, including violence and other forms of antisocial behavior. As a result, this position hypothesizes that the longer a gang affiliate spends in restrictive housing, the more likely they will be to engage in institutional misconduct when returned back into the general inmate population.

It should be noted, however, that a third view of the effects of restrictive housing also appears in the literature. This view contends that restrictive housing has a minimal lasting effect on behavioral outcomes (Irwin and Cressey 1962; Thomas and Foster 1973; Zamble and Porporino 1990). Instead, it is held that inmates possess preexisting characteristics or factors (e.g., age, gang affiliation, mental illness, risk level) that influence the likelihood of manifesting problematic behavior in the first place and which may then lead to an inmate being placed in restrictive housing. Therefore, according to this view, any favorable or adverse outcomes associated with restrictive housing are the direct result of underlying individual differences between inmates and not a direct effect of being exposed to restrictive housing in and of itself. In other words, this view would expect restrictive housing to have a null or negligible effect on an inmate's behavior upon return to the general inmate population.

Restrictive housing and criminal behavior outcomes

There is a limited amount of scholarship that has looked into the effect of restrictive housing on criminal behavior outcomes such as institutional misconduct, prison safety and control, and post-release recidivism (Labrecque and Smith 2018; Steiner and Cain 2016). Moreover, studies looking into these outcomes as they pertain to gang affiliates are nearly nonexistent (Pyrooz 2016). Survey results, however, indicate that prison officials view the placement of gang-affiliated inmates in restrictive housing as an effective strategy for maintaining institutional safety and order (Mears and Castro 2006; Winterdyk and Ruddell 2010) and there appears to be some support for this argument found in the literature. A study in the Texas state prison system, for example, has demonstrated a drastic drop in the number of assaults and homicides following the lockdown of all known gang-affiliated inmates (Ralph and Marquart 1991; see also Austin et al. 1998; but see Mears 2005). Further studies on this population, indicated an increase in inmates' perception of safety in the general population following this massive lockdown (Crouch and Marquart 1990). Similarly, a study in the Arizona Department of Corrections has described reductions on a number of institutional behavioral outcomes, including drug, threat, assault, and riot violations, following the placement of gang members into restrictive housing custody (Fischer 2002). Thus, the available literature provides some support towards the utility of using restrictive housing on gang affiliates to improve the overall safety, control, and order of a prison. These studies, however, only speak to the possible aggregate-level incapacitation effects of removing gang affiliates. In other words, less remains known about the individual-level behaviors of these inmates when they return to the general inmate population.

When extending the scope of the empirical research to all inmates, the findings generally indicate the setting has a mixed effect on measures of violence and disorder at the aggregate-level (Briggs, Sundt, and Castellano 2003; Huebner 2003; Steiner 2009; Useem and Piehl 2006; Wooldredge and Steiner 2015); a null effect on post-release recidivism outcomes (Butler et al. 2017; Clark and Duwe 2019; Pizarro, Zgoba, and Haugebrook 2014), with the exception of an increase for violent crimes (Mears and Bales 2009) and among inmates released directly into the community (Lovell, Johnson, and Cain 2007); and a null effect on indicators of rule violations (Labrecque and Smith 2019a; Lucas and Jones 2019; Morris 2016). There is reason, however, to suspect that this practice may affect certain subgroups of offenders differently (e.g., mentally ill, youth, racial minorities; see Mears 2016) which may explain the mixed results found in the studies with samples comprising all prisoners. For instance, we are not aware of any individual-level empirical evaluation that assess whether restrictive housing has an impact on the criminal behavior of inmates who affiliate with gangs. What effect restrictive housing has on the subsequent institutional behavior of gang-affiliated inmates, therefore, remains an important and open empirical question.

Current study

As it has been highlighted by Pyrooz and Mitchell (2019), 'Our knowledge of the relationship between gang affiliation and restrictive housing remains woefully inadequate' (p. 7). Theory and research, however, suggest the existence of a link between both gang affiliation and institutional misconduct as well as gang affiliation and restrictive housing. Therefore, given the over involvement of gang affiliates in institutional misconduct and the fact that corrections officials rely on restrictive housing to deter further misbehavior, it is important to determine what influence – if any – this practice has on the subsequent behavior of gang-affiliated inmates. At the present time, this is open area of inquiry. It remains uncertain whether a longer duration spent in restrictive housing has either a gang suppression or gang intensifying effect among gang affiliates. The aim of this study is to address this gap in knowledge by evaluating the impact of restrictive housing, specifically in the form of time spent in disciplinary segregation, on subsequent institutional behavior among all inmates and specifically those with gang affiliation status. In so doing, we test three overarching null hypotheses:

H_1: *The number of weeks spent in disciplinary segregation, on average, has no association with being found guilty of an institutional rule violation after returning to the general inmate population among all inmates.*

H_2: *Gang-affiliated inmates, on average, are no more likely than non-gang-affiliated inmates to be found guilty of an institutional rule violation upon return to the general inmate population from disciplinary segregation.*

H_3: *The number of weeks spent in disciplinary segregation, on average, has no significant association with being found guilty of an institutional rule violation upon return to the general inmate population conditional of gang-affiliation status.*

Method

Data

This study uses official data obtained from an adult Midwestern State Department of Corrections (DOC). The initial database includes all inmates who were admitted into DOC custody between 1 July 2007 and 30 June 2010 (N = 69,149). We procured institutional information on these cases through 31 December 2012. This evaluation treated all unique individuals as a single case regardless if they were admitted multiple times during the observation period. We restricted our investigation to only male inmates who spent at least one consecutive year in DOC custody and who had served time in disciplinary segregation during the observation time frame. Female inmates were excluded from the study because the DOC identified only 22 female inmates as being gang affiliated. Additionally, we excluded inmates who were released from DOC custody within six months of release from an initial stay in disciplinary segregation in order to allow a sufficient time at risk in the general inmate population. In addition to these data restrictions, we removed 25 cases from the analytical sample due to missing values on at least one variable of interest. Altogether, this led to a total analytical sample size of 11,936 inmates.

Measures

The DOC collects and maintains an assortment of data points pertinent to the current investigation. This includes not only demographic and criminal history measures but also information about placements in disciplinary segregation and records of institutional adjustment. Table 1 presents the descriptive statistics for all of the variables included in our analyses.

The dependent variable in this study is post-disciplinary segregation institutional misconduct. Consistent with Steiner and Wooldredge's (2013) recommendation and prior research, this study separates institutional misconduct into three categories, including *violent* (e.g., physical assaults*), nonviolent* (e.g., property offenses, security offenses), and *drug violations* (e.g., possession of drugs and/or alcohol). Gang-affiliated inmates have been shown to be overrepresented as violators of various intuitional rules (e.g., violence, contraband and drug markets, common disruption). It is possible, however, that restrictive housing could have a substantive impact on only one category but not another. Therefore, separately analyzing all three outcomes provides a better opportunity to present a clearer picture of the possible link between restrictive housing and subsequent institutional misconduct. A dichotomous measure was used to indicate whether an inmate had any record of a being found guilty of violating the DOC's inmate rules of conduct within six months following their first stay in disciplinary segregation. We operationalized each of the three types of misconduct where 1 = *yes* and 0 = *no*.

The main independent variables of interest in the study are *gang affiliation status* and the *time spent in disciplinary segregation confinement*. We categorized an inmate as a gang affiliate

Table 1. Descriptive statistics for the gang- and non-gang affiliated inmates.

	Gang affiliates (N = 3,886)		Non-gang affiliates (N = 8,050)		Full sample (N = 11,936)	
	Mean [Proportion]	*SD*	Mean [Proportion]	*SD*	Mean [Proportion]	*SD*
Dependent variables						
Violent misconduct***	[.257]	–	[.151]	–	[.186]	–
Nonviolent misconduct***	[.472]	–	[.373]	–	[.405]	–
Drug misconduct***	[.103]	–	[.068]	–	[.080]	–
Independent variables						
Gang affiliate	–	–	–	–	[.326]	–
Total weeks in DS***	1.700	1.704	1.590	1.585	1.625	1.625
Covariate						
Age***	25.217	6.780	29.885	10.136	28.365	9.436
Black***	[.567]	–	[.518]	–	[.534]	–
Serious mental illness*	[.314]	–	[.336]	–	[.329]	–
Most serious conviction type						
*Violent****	[.666]	–	[.621]	–	[.636]	–
*Nonviolent**	[.261]	–	[.278]	–	[.273]	–
*Drug****	[.073]	–	[.100]	–	[.091]	–
Prior incarceration***	[.541]	–	[.496]	–	[.510]	–
Minimum sentence length (months)**	61.960	67.273	65.883	73.916	64.606	71.841
Initial classification level						
*Close****	[.330]	–	[.209]	–	[.179]	–
Medium	[.585]	–	[.566]	–	[.572]	–
*Minimum****	[.085]	–	[.224]	–	[.248]	–
Any prior violent misconduct***	[.449]	–	[.352]	–	[.384]	–
Total prior misconduct***	2.582	2.606	2.134	2.325	2.280	2.430

SD = standard deviation; DS = disciplinary segregation.
*$p \leq .05$; **$p \leq .01$; ***$p \leq .001$.

if there was any record of a past or present association with a known gang from the DOCs security threat group (STG) list (1 = *yes*, 0 = *no*). Recent scholarship has highlighted the high correspondence between measures of gang affiliation from administrative data sources and self-report survey designs (see Pyrooz, Decker, and Owens 2020). Such findings suggest that administrative data does do an adequate job at capturing those who truly are gang affiliated. As for time in disciplinary segregation, this study defines it as the number of weeks spent in segregation during an inmate's first placement before being returned back to the general inmate population. Weeks were calculated by dividing the number of days by 7, such that 1 day was equal to .143 weeks.[1]

The analyses in this study included several demographic, criminal history, and in-prison behavioral risk factors based on their theoretical relevance as predictors of institutional misconduct in the extensive empirical literature (e.g., Cunningham and Sorenson 2007; Gendreau, Goggin, and Law 1997; Gonçalves et al. 2014; Harer and Steffensmeier 1996; Steiner, Butler, and Ellison 2014; Walters and Crawford 2014; Worrall and Morris 2011). More specifically, we included three demographic variables: *age at intake* (measured in years), *racial minority* (1 = *Black*, 0 = *other*), and *seriously mentally ill* (has Axis I or II diagnosis: 1 = *yes*, 0 = *no*). We also used four criminal history measures: *current offense type* (dummy coded into three categories: *drug* [e.g., drug possession, driving under the influence], *nonviolent* [e.g., property crimes], and *violent crimes* [e.g., robbery, rape, murder]), *prior incarceration* (any prior commitment to the DOC custody: (1 = *yes*, 0 = *no*), *minimum sentence length* (measured in months),[2] and *initial classification level* (dummy coded into three categories: *minimum, medium*, and *close custody*). Finally, we included two measures of in-prison behavior that occur during the current commitment prior to placement in disciplinary segregation: *any violent misconduct* (1 = *yes*, 0 = *no*), and *total number of misconducts* (i.e., sum of all drug, nonviolent, and violent offenses).

Analysis plan

This study presents its analyses in three stages. First, we examine descriptive statistics of the gang-affiliated inmate sample and compare these data to the descriptive statistics for non-gang-affiliated inmates. Second, to test Hypothesis 1 and 2, we use multivariate binary logistic regression[3] to estimate the association of time spent in disciplinary segregation and gang affiliation with being found guilty of the three post-disciplinary segregation institutional misconduct measures. Third, to test Hypothesis 3, we evaluated the association of the time spent in disciplinary segregation on subsequent violent, non-violent, and drug institutional misconduct separated by inmate gang affiliation status. We also conduct a series of two-tailed *z*-tests for the equality of coefficients to evaluate if there are any statistically significant differences between the gang affiliated and non-gang affiliated models across the three outcome types.[4]

Results

Table 1 displays the descriptive statistics of the study sample, which we separate by gang affiliation status. One third of the inmates in this study are known by DOC officials to affiliate with a gang. Group comparisons reveal that gang-affiliated inmates tend to be younger in age (25 years old at intake vs. 30 years old at intake) and are more likely to be Black than non-gang-affiliated inmates (57% vs. 52%). Gang affiliates are, however, less likely to have a serious mental illness than their non-gang counterparts (32% vs. 34%). These analyses also show that gang affiliates are more likely than non-affiliates to have a conviction for a violent offense (67% vs. 62%), a prior incarceration (54% vs. 50%), a shorter sentence length (62 months vs. 66 months), and an initial classification of close custody (33% vs. 21%). Finally, gang affiliates engage in significantly more incidents of prior misconduct than non-gang affiliates (2.6 violations vs. 2.1 violations), particularly for violent rule infractions (45% vs. 35%). As a possible result, gang affiliates had a slightly longer duration spent in disciplinary segregation (1.7 weeks vs. 1.6 weeks). Bivariate comparisons indicate that gang-affiliated inmates are significantly more likely to engage in all three types of post-segregation institutional misconduct, including violent (26% vs. 15%), nonviolent (47% vs. 37%), and drug rule violations (10% vs. 7%).

Table 2 shows the results for the statistical tests for Hypothesis 1 and 2. Specifically, it presents the results for the impact of time in disciplinary segregation and gang affiliation on the three outcome measures, net of the additional risk factors of institutional misconduct. As for Hypothesis 1, the

Table 2. Full sample logistic regression analysis for predictors of post-disciplinary segregation misconduct (N = 11,936).

	Violent misconduct			Nonviolent misconduct			Drug misconduct		
	b	*SE*	*OR*	*b*	*SE*	*OR*	*b*	*SE*	*OR*
Gang affiliate	.418***	.052	1.52	.239***	.043	1.27	.296***	.073	1.34
Total weeks in DS	−.021	.015	.98	−.033**	.012	.97	.004	.018	1.00
Age	−.044***	.004	.96	−.029***	.003	.97	−.035***	.005	.97
Black	.379***	.054	1.46	.022	.041	1.02	−.443***	.074	.64
Serious mental illness	.517***	.054	1.68	.525***	.043	1.69	.345***	.073	1.41
Most serious conviction type[a]									
Nonviolent	−.055	.061	.95	.114*	.048	1.12	.121	.083	1.13
Drug	−.654***	.111	.52	−.447***	.076	.64	−.137	.145	.87
Prior incarceration	−.018	.060	.98	.021	.046	1.02	.234**	.082	1.26
Natural log of sentence length	−.110**	.035	.90	−.167***	.028	.85	.046	.050	1.05
Initial classification level[b]									
Close	.070	.066	1.07	.076	.053	1.08	.018	.092	1.02
Minimum	−.104	.076	.90	−.225***	.057	.80	−.140	.107	.87
Any prior violent misconduct	.435***	.051	1.54	−.244***	.042	.78	−.029	.072	.97
Total prior misconducts	.046***	.009	1.05	.103***	.009	1.11	.054***	.012	1.06

b = unstandardized coefficient; SE = standard error; OR = odds ratio; DS = disciplinary segregation.
[a]Reference category is violent.
[b]Reference category is medium.
*$p \leq .05$; **$p \leq .01$; ***$p \leq .001$.

results show that, on average, the number of weeks spent in disciplinary segregation has no statistically significant effect on the subsequent engagement of violent or drug misconduct ($p > .05$); however, the analyses do reveal a weak and negative, but statistically significant ($p \leq .01$) relationship with nonviolent misconduct ($b = -.032$, SE = .012). To illustrate, each additional week spent in disciplinary segregation reduces the odds of engaging in nonviolent misconduct by 3%. Regarding Hypothesis 2, the findings indicate that gang affiliation, on average, significantly relates ($p \leq .001$) to violent misconduct ($b = .418$, SE = .052), nonviolent misconduct ($b = .239$, SE = .043), and drug misconduct ($b = .296$, SE = .073). In terms of magnitude, the odds ratios indicate affiliating with a gang increases one's odds of engaging in violent misconduct by 52%, nonviolent misconduct by 27%, and drug misconduct by 34%.

To test Hypothesis 3, we perform a series of conditional analyses to assess if a differential effect of disciplinary segregation on violent (Table 3), nonviolent (Table 4), and drug misconduct (Table 5) exists according to gang affiliation status. These findings largely indicate that the same risk factors are associated with post-segregation misconduct in both inmate subgroups (see Table 2). These tables show, for example, that the number of weeks in disciplinary segregation has no significant influence on subsequent violent (Table 3) or drug misconduct (Table 5) among gang- or non-gang-affiliated inmates. These results, however, indicate that the time spent in disciplinary segregation significantly relates to nonviolent misconduct among gang affiliates ($b = -.052$, SE = .020), but not among non-gang affiliates (Table 4). The magnitude of this effect among gang affiliates is still relatively weak (OR = .95), where an increase of one week spent in disciplinary segregation leads to a reduction in the odds of nonviolent misconduct of 5%.

While the results of Hypothesis 3 mostly fall in line with their respective null hypothesis (i.e., there is no statistically significant association between time spent in disciplinary segregation and subsequent institutional misconduct rule violations in five of the six models we examined), additional important information can be gleaned from the covariates in Tables 3–5. In particular, conditional analyses reveal, for example, that the influence of additional risk factors helps to explain more variance in the misconduct patterns of non-gang-affiliated inmates than for gang-affiliated inmates. More specifically, our equality of coefficients tests indicate that some risk factors are more influential among non-gang affiliates than gang affiliates. This general pattern of findings suggest that these predictor variables are important for explaining the misconduct patterns of non-gang affiliates, but

Table 3. Conditional effects of logistic regression analysis for predictors of post-disciplinary segregation violent misconduct.

	Gang Affiliates (N = 3,886)			Non-Gang Affiliates (N = 8,050)			Equality of Coefficients[a]
	b	*SE*	*OR*	*b*	*SE*	*OR*	*z*
Total weeks in DS	–.039	.023	.96	–.004	.020	1.00	
Age	–.057***	.008	.94	–.039***	.005	.96	
Black	.245**	.085	1.28	.452***	.070	1.57	
Serious mental illness	.540***	.084	1.72	.503***	.070	1.65	
Most serious conviction type[b]							
Nonviolent	.097	.094	1.10	–.172*	.081	.84	2.17*
Drug	–.540**	.180	.58	–.721***	.143	.49	
Prior incarceration	–.031	.101	.97	.005	.076	1.00	
Natural log of sentence length	–.099	.055	.91	–.134**	.047	.87	
Initial classification level[c]							
Close	.030	.095	1.03	.146	.092	1.16	
Minimum	.118	.140	1.12	–.178	.092	.84	
Any prior violent misconduct	.390***	.079	1.48	.459***	.066	1.58	
Total prior misconducts	.016	.014	1.02	.068***	.013	1.07	–2.72**

b = unstandardized coefficient; SE = standard error; OR = odds ratio; DS = disciplinary segregation.
[a]Table presents statistically significant z-values.
[b]Reference category is violent.
[c]Reference category is medium.
*$p \leq .05$; **$p \leq .01$; ***$p \leq .001$.

Table 4. Conditional effects of the logistic regression analysis for predictors of post-disciplinary segregation nonviolent misconduct.

	Gang Affiliates (*N* = 3,886)			Non-Gang Affiliates (*N* = 8,050)			Equality of Coefficients[a]
	b	*SE*	*OR*	*b*	*SE*	*OR*	*z*
Total weeks in DS	–.052**	.020	.95	–.021	.015	.98	
Age	–.037***	.006	.96	–.026***	.003	.97	
Black	–.149*	.073	.86	.081	.051	1.08	–2.58**
Serious mental illness	.520***	.075	1.68	.529***	.053	1.70	
Most serious conviction type[b]							
Nonviolent	–.048	.083	.95	.195***	.059	1.22	–2.39*
Drug	–.394**	.138	.67	–.449***	.092	.64	
Prior incarceration	–.061	.087	.94	.071	.054	1.07	
Natural log of sentence length	–.150**	.048	.86	–.189***	.035	.83	
Initial classification level[c]							
Close	.008	.082	1.01	.166*	.071	1.18	
Minimum	–.020	.125	.98	–.287***	.065	.75	
Any prior violent misconduct	–.264***	.070	.77	–.243***	.052	.78	
Total prior misconducts	.083***	.014	1.09	.115***	.012	1.12	

b = unstandardized coefficient; SE = standard error; OR = odds ratio; DS = disciplinary segregation.
[a]Table presents statistically significant z-values.
[b]Reference category is violent.
[c]Reference category is medium.
*$p \leq .05$; **$p \leq .01$; ***$p \leq .001$.

Table 5. Conditional effects of logistic regression analysis for predictors of post-disciplinary segregation drug misconduct.

	Gang Affiliates (*N* = 3,886)			Non-Gang Affiliates (*N* = 8,050)			Equality of Coefficients[a]
	b	*SE*	*OR*	*b*	*SE*	*OR*	*z*
Total weeks in DS	–.038	.034	.96	.028	.024	1.03	
Age	–.011***	.010	.99	–.044***	.006	.96	2.83**
Black	–.415***	.116	.66	–.438***	.097	.65	
Serious mental illness	.414***	.113	1.51	.287**	.096	1.33	
Most serious conviction type[b]							
Nonviolent	.212	.127	1.24	.054	.109	1.06	
Drug	–.168	.246	.85	–.162	.180	.85	
Prior incarceration	.048	.140	1.05	.292**	.104	1.34	
Natural log of sentence length	–.011	.077	.99	.099	.066	1.10	
Initial classification level[c]							
Close	.029	.132	1.03	–.014	.130	.99	
Minimum	–.265	.216	.77	–.057	.126	.94	
Any prior violent misconduct	–.100	.112	.90	.037	.095	1.04	
Total prior misconducts	.050**	.019	1.05	.059***	.015	1.06	

b = unstandardized coefficient; SE = standard error; OR = odds ratio; DS = disciplinary segregation.
[a]Table presents statistically significant z-values.
[b]Reference category is violent.
[c]Reference category is medium.
*$p \leq .05$; **$p \leq .01$; ***$p \leq .001$.

for gang affiliates, the major driver of their engagement in institutional misbehavior appears to relate more directly to their gang affiliation status.

Discussion and conclusions

Prior scholarship and practical knowledge clearly document the negative influence of gangs and gang-affiliated inmates on measures of institutional safety and order (e.g., Gaes et al. 2002; Griffin and Hepburn 2006; Pyrooz et al. 2016; Sheldon 1991; Skarbek 2014). One strategy that authorities employ to keep the peace within correctional institutions, therefore, is to target and place gang affiliates into restrictive housing settings (see Pyrooz 2016; Pyrooz and Mitchell 2019; Winterdyk and

Ruddell 2010). Reviews of state prison system policies show, for example, that a prime determinant for placement in this type of housing in a majority of jurisdictions is gang affiliation status (Butler, Griffin, and Johnson 2013). Survey research also reveals that the preponderance of correctional administrators believe restrictive housing is responsible for improving institutional security (Mears 2008; Mears and Castro 2006). Despite the potential appeal and simplicity of this correctional policy, however, there is far too little theoretical development or empirical knowledge available regarding what effect this setting has on the subsequent behavior of its inhabitants generally and among gang affiliates more specifically.

Drawing from the prior literature on gang affiliation, restrictive housing, and institutional misconduct, we conceptualize two potential hypotheses on the impact of time spent in isolated confinement among inmates who affiliate with gangs. According to the gang suppression hypothesis, a longer period of isolating gang affiliates in restrictive housing leads to improvements in behavior. In contrast, according to the gang intensifying hypothesis, a longer period of isolating gang affiliates in restrictive housing leads to detriments in behavior. Using official data obtained from a large Midwestern State DOC, we evaluated these two conflicting hypotheses by examining what effect time spent in restrictive housing – in the form of short-term disciplinary segregation – had on the subsequent institutional behavior of gang-affiliated inmates.

The results of this study provide mixed support for our research hypotheses and provide clear evidence for neither a gang suppression nor gang intensifying effect. Specifically, we find evidence in favor of gang affiliates being more likely than non-gang affiliates to engage in all three types of institutional misconduct in the general inmate population within six months from release from disciplinary segregation. This finding supports the general scholarship on the over involvement of gang affiliates in criminal activity (e.g., Gaes et al. 2002; Griffin and Hepburn 2006; Pyrooz et al. 2016). It further indicates that correctional authorities and scholars have correctly identified gang affiliates as a particularly problematic subgroup of inmates to manage in correctional institutions.

This investigation, however, revealed mixed findings for the first and third research hypotheses. In particular, we find that, on average, the number of weeks spent in disciplinary segregation has no statistically significant association with subsequent violent or drug rule infractions among gang affiliated inmates, and further that this experience has a similar impact on these outcomes among non-gang affiliates. Our results also show, however, that there is a weak, but statistically significant, negative effect of time in disciplinary segregation on subsequent nonviolent misconduct among gang affiliates, and that this experience is not statistically associated with this outcome for non-gang affiliates.

Although these results appear to partially support the gang suppression hypothesis, we caution the reader from inferring such a conclusion at this stage. For one, our analyses reveal a statistically significant difference in only one of the three misconduct categories we examine. Additionally, there is simply no theoretical rationale that would expect restrictive housing to decrease subsequent nonviolent rule violations, but not violent or drug-related violations. And second, despite reaching statistical significance, the effect sizes are relatively small in terms of magnitude. As such, replication of such findings is warranted.

Limitations and future directions

Readers should keep several points in mind when interpreting the results of the current study. First, this investigation relies on administrative data collected by the DOC for other internal purposes. As a result, we were forced to restrict our analyses here only to the data available, and the reliability of some of the measures we include is unknown. For example, our gang affiliation variable involves an official designation of any known past or present association with an STG from the DOC list. Due to the complexity in verifying gang affiliation, it remains possible that authorities may misidentify some gang and non-gang affiliates. Recent scholarship, however, has demonstrated high correspondence between self-reported gang affiliation and administrative identification of gang affiliation status

(Pyrooz et al. 2020). It is also possible that variations in outcome may exist among gang-affiliated inmates based on factors such as embeddedness within the gang (Pyrooz et al. 2012; Pyrooz, Sweeten, and Piquero 2013). For example, lower-level affiliates may feel a greater need to reestablish themselves as an active member of the gang after discharge from isolation, whereas higher ranking affiliates may more easily carry their group status in and out of restrictive housing settings. These considerations highlight a need for more primary research within correctional institutions, which could help increase both the type and quality of data available to evaluators. As more data become available, we would also encourage scholars to promote a research agenda that considers the underlying sources that give rise to the behavior that results in inmates – gang affiliated or otherwise – being placed in restrictive housing. Data that are capable of addressing the individual differences of inmates and how those differences are expressed in inmate institutional behavior will only help glean a more holistic understanding of the role of restrictive housing within institutions.

Second, our sample consists of adult males experiencing a stay in short-term disciplinary segregation during their incarceration in a large Midwestern state prison system. These findings, therefore, may not generalize to other groups of inmates (e.g., juveniles, women), correctional systems (e.g., other states, jails), or types of restrictive housing (e.g., administrative segregation, protective custody). This study further limits its investigation to only the first stay in disciplinary segregation. It remains possible that an accumulation of stays, or a substantial increase in the amount of time spent in isolation (e.g., 90 days or more), may be necessary to achieve either a gang suppression or intensifying effect. Furthermore, this study only speaks to the average association of time spent in disciplinary segregation and subsequent institutional misconduct for groups of inmates (i.e., all inmates, gang affiliates, and non-gang affiliates). Future studies should look to test intra-individual longitudinal designs to better observe individual continuity or change in misconduct behavior following stints in disciplinary segregation. Finally, we focus here on institutional outcomes. It is also possible that a gang suppression or intensifying effect may manifest itself in post-release behavior, such as parole violations or new criminal conduct. We strongly encourage researchers to further explore these possibilities.

Despite these limitations, this investigation fills a gap in the empirical and theoretical understanding of the impact of time spent in restrictive housing among gang-affiliated inmates. This work further contributes to the growing body of quantitative literature finding that use of short-term disciplinary segregation is not effective in reducing subsequent inmate misconduct in prison (Labrecque and Smith 2019a; Lucas and Jones 2019; Morris 2016). And while this study fails to detect a consistent gang suppression or intensifying effect of time spent in disciplinary segregation on subsequent rule violations, it does conceptualize a potential theoretical framework on which future restrictive housing studies can build upon.

Broader considerations

The policy implications of these results are significant. Gang affiliates have been shown to represent an especially noncompliant subgroup of inmates who engage in a disproportionate amount of institutional misconduct in custody. Despite the fact that disciplinary segregation temporarily incapacitates individuals from violating the rules in the general inmate population, this study reveals that this experience has no meaningful effect on the post-segregation institutional behavior of gang affiliates. If the purpose of disciplinary segregation is to improve institutional safety and order, then this finding calls into question the merits of the practice as a source of a specific deterrent effect. The possibility of disciplinary segregation being a source of an incapacitation effect, however, was not captured in the current study. Although it is reasonable to assume that such effects are minor given that the mean duration spent in disciplinary segregation was relatively short (i.e., around 12 days).

Even after considering the legal, moral, and financial burdens associated with restrictive housing, we concede that at some level it may be necessary for maintaining safety and order within

correctional institutions. These facilities, after all, house inmates who engage in violence and other types of serious misbehavior while in custody. This study, however, shows that increasing the time spent in isolation has no substantive influence on one's post-release behavior in prison, which begs the question of whether longer durations, rather than shorter ones, are prudent. We propose, therefore, that officials reserve the use of disciplinary segregation only when absolutely necessary, such as in response to violent or other serious misconduct. In this investigation, 55% of the segregation placements for gang-affiliated inmates are in response to non-violent rule violations (see Table 1). Correctional staff could use other tactics in addressing these less-serious rule infractions, such as removing privileges, or enforcing other less extreme restrictions. Finally, we recommend that authorities hold inmates in disciplinary segregation for the shortest duration of time possible. Not only does this practice fail to improve behavior but it is also substantively more expensive. We argue that this funding would be more wisely spent on other services, such as rehabilitative programming.

Since most inmates in restrictive housing will eventually return to the general prison population (Labrecque and Mears 2019; Mears and Bales 2010), it is time for authorities to consider alternative strategies to prevent and respond to institutional misbehavior. At best, the punitive focus of disciplinary segregation only teaches inmates how not to behave. This practice fails to provide inmates with opportunities to learn new skills that will help them behave more pro-socially in future difficult situations (see Spiegler 2016). In contrast, there is an abundance of correctional rehabilitation literature that documents how high-quality treatment services work to improve offender behavior (Bonta and Andrews 2017; MacKenzie 2006; Smith 2013), even with gang affiliates (Di Placido et al. 2006). This research also highlights how reentry services help to improve offender outcomes (Duwe 2015; Visher et al. 2017). It stands, theoretically, that the greater reliance and proactive use of rehabilitative services coupled with more reintegrative planning for inmates exiting restrictive housing, may aid in reducing both the amount of institutional misconduct and the requisite need for restrictive housing in the first place (Labrecque and Smith 2019b; Smith 2016).

Notes

1. We tested the functional form of the relationship between weeks spent in disciplinary segregation and all three categories of subsequent misconduct. Results of lowess smoothing suggest linear relationships. Additionally, the measure was positively skewed and contained outliers. Sensitivity analyses were estimated using a three-category ordinal-level measure and the results were substantively similar to those presented in the text.
2. We gave this variable a maximum score of 420 months (35 years) and naturally log it in our analyses due to its highly positive skew.
3. As a supplemental analysis, we also perform negative binomial regression analyses using count dependent variables. The results are substantively similar to those of the binary logistic regression.
4. Researchers have questioned the utility of formally testing the equality of coefficients across groups in a sample when using logistic regression (e.g., Allison 1999; Mood 2010; Williams 2009). We have opted to present formal tests for non-zero differences between logistic regression coefficients for gang and non-gang affiliates. Given the pattern of findings observed in the data, we believe such a test is not a major threat to the conclusions drawn. As such, we use the formula recommended by Brame et al. (1998): $z = \frac{\theta_1 - \theta_2}{\sqrt{SE\theta_1^2 + SE\theta_2^2}}$.

Acknowledgments

We would like to thank J.C. Barnes, Kelsey Mattick, Lindsey M. Mueller, and John Wooldredge for their thoughtful comments on an earlier draft.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This project was supported by a grant from the National Institute of Justice [Award #2014-IJ-CX-0003]. The opinions, findings, and conclusions expressed in this article are those of the authors and do not necessarily reflect those of the Department of Justice.

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