Gender, Race/Ethnicity, and Prison Informal Organization*

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Abstract

Considerable research has examined the structure and correlates of school-based peer networks, but little is known about network structure and content in more coercive institutions, such as prisons, where peer ties may be viewed with considerable suspicion. This study investigates the informal social organization within prison using unique network data collected within a male unit and a female unit in two Pennsylvania prisons. Our network approach provides standardized metrics to test theoretically-driven hypotheses about the structure and role of prison peer relationships, and also enables comparisons across the two gendered social contexts. Here, we draw on past research to operationalize and test hypotheses for social organization in a women's prison unit (n=131) and then compare and contrast these results to those from a study of a similar men's prison unit (n=205). We are interested, in particular, in the roles of gender and race/ethnicity in shaping the observed peer network patterns.

Gender, Race, and Prison Informal Organization

The ongoing era of mass incarceration, along with the deleterious individual and collateral consequences of imprisonment, necessitate further research of the "black box" of lived prison experiences (Travis, Western, and Redburn 2014). Criminologists have long theorized and investigated the informal organization within prisons, but studies in this vein have noticeably declined since the "golden age" of prison research almost a half-century ago (Simon 2000; Wacquant 2002). Recent network studies in prison settings potentially reverse this trend to operationalize and test theoretically-driven hypotheses for prisoner social organization and culture (Kreager et al. 2016, 2017; Schaefer et al. 2017). Although providing important insights, existing network studies have yet to focus on the social structures within contemporary women's prisons.

This study explores gender, race/ethnicity, and prison informal social organization using unique network data collected within units of Pennsylvania women's and men's prisons. Our network approach provides standardized metrics to test theoretically-driven hypotheses and enable comparisons across different social contexts. Additionally, network methods have implications for understanding the mechanisms underlying the diffusion of criminal, social and health outcomes in prison contexts. Here, we draw on past research to operationalize and test hypotheses for social organization in a women's prison unit and then compare and contrast these results to those from a recent study of a similar men's prison unit (Schaefer, Bouchard, Young, and Kreager, 2017).

Social Structures in Women's Prisons

In his seminal work, *The Society of Captives,* Sykes (1958) defined the pains of imprisonment (e.g., loss of security, heterosexual contact, goods, and autonomy) as a means for understanding

the origins of inmate society in a men's prison. He argued that individual adaptations to prison deprivations resulted in observed argot roles and prisoner interactional dynamics. Most of the adaptations Sykes (1958) observed undermined prisoner solidarity because they placed selfish desires above community cohesion and shared goals. It was only the "real men" who adhered to the convict code, garnered peer respect, and minimized collective pains through inmate solidarity rather than peer exploitation or rebellion. In conjunction with institutional support, "real men" thus contributed to prison stability and humanity in an inherently coercive environment.

Although differing little from Sykes (1958) in their definitions of prison deprivations, early scholars of women's prisons found strikingly different female adaptations to prison life. Rather than a context of exploitation or cohesive group hierarchy, both Giallombardo (1966) and Ward and Kassebaum (1965) found complex systems of affective dyadic and kinship ties in women's prisons, often focused on homosexual romantic or sexual relationships. They argued that women, more than men, were most affected by the loss of familial and friendship ties during confinement, and thus elevated "pseudo-families" (Selling 1931) and affective dyadic relationships as core social structures to ease these pains, structures that are relatively rare in men's prisons due to cultural expectations for masculinity and independence. Drawing on the importation perspective, Ward and Kassebaum (1965) argued that women's differential reactions to prison's deprivations arose due to gender role socialization processes that promoted prison-based homosexual relationships as alternate means of fulfilling psychological and physical needs associated with caregiving. Structurally, the prevalence of homosexuality was thought to create "…a non-cohesive aggregate of homosexual dyads and friendship cliques" (Ward and Kassebaum 1965:78).

Giallombardo (1966) shared the view that pre-prison gender socialization makes family isolation particularly frustrating for female inmates compared to their male counterparts, and that sexual relationships provide a means of adapting to this salient deprivation. However, she also emphasized the importance, and often non-sexual nature, of pseudo-family kinship ties for structural stability within women's prisons. Although, as with Ward and Kassebaum (1965), the homosexual marital dyad remained the fundamental building block of female inmate social structure, it's inherent instability due to jealousy, infidelity, prison release, and conflict prompted Giallombardo (1966) to argue that the web of relatively stable kinship ties enveloping homosexual dyads was the more important informal structure in women's prisons. Kinship networks were not only more stable over time, but able to incorporate the wider circle of unattached or divorced inmates who desired social affiliation but were unwilling or unable to enter the homosexual dyad. In the aggregate, Giallombardo (1966:163) then stated of the prisoner social structure, "The Alderson inmate community may be viewed as a large network of loosely structured nuclear families, matricentric families of varying sizes, and other kinship dyadic configurations or family fragments."

Subsequently, and paralleling research in men's prisons, research of women's prisons pointed toward heterogeneity in female prisoners' social roles that exist above homosexual or kinship relationships. Heffernan (1972) suggested that female inmates clustered into homophilous subsystems based on pre-existing offense characteristics and orientations toward prison. Thus, noncriminal "square" inmates were characterized by limited criminal histories, "white collar" employment offenses, or domestic homicide events and tended to group together with other "square" inmates. In contrast, professional "cool" criminals with histories of burglary, robbery, or other "rackets" grouped together and distinguished themselves from habitual "life"

criminals with histories of drug use, drug selling, shoplifting, or juvenile offending. Kruttschnitt and Gartner (2005) also suggested that the punitiveness of contemporary neoliberal prisons produced larger numbers of isolated prisoners in today's women's prisons compared to those of the past. These various expectations for social structures within women's prisons are most easily approached through the current paper's network lens.

Race, Gender, and Prison Informal Organization

Beginning in the 1970's, rising racial/ethnic antagonisms became central themes of men's prison literature (Jacobs 1977; Skarbek 2014). Corresponding with urban deindustrialization, the crack epidemic, and a burgeoning era of hyperincarceration, racial inequality is now a dominant lens for understanding contemporary confinement and its consequences (Alexander 2012; Pager 2008; Pettit 2012; Western 2006). Similarly, penologists commonly focus on racial gangs and conflicts as primary features of the informal social order in modern men's prisons (Kreager and Kruttschnitt 2018; Skarbek 2014).

A similar focus on race is not apparent within research of women's prisons. In her ethnography, Giallombardo (1966:159) claimed that "…kinship ties span racial lines and cut across differences in social class." This observation that affective ties trumped racial and class homophily became increasingly relevant for later research of women's prison informal organization (Kruttschnitt 1983; Owen 1998). In their longitudinal study of the California Institution for Women (CIW), Kruttschnitt and Gartner (2005:91) found that "Despite women's alienation from and suspicion of others, serious violence, racial conflict, and gang activity were rare at CIW, even in the 1990's as the criminal justice system sent more women to CIW…" They also did not find the same level of minority overrepresentation in CIW. In sum, penologists have

found stark differences in the racial dynamics in men's and women's prisons, with race a much more significant structural characteristic in men's than women's carceral contexts.

A Network Approach

The social systems of interest to past criminologists were rarely directly measured given the limits of ethnographic or survey study designs. For example, Sykes (1958) spoke at length about inmate "cohesion", "informal social systems", and "leadership", yet was unable to directly measure these concepts except through qualitative observations of inmate "argot roles." A network approach provides a particularly attractive alternative for uncovering inmate social systems. A social network perspective emphasizes the interdependence of social relationships that form the bases of inmate societies (Kreager et al. 2016).

Practically, this approach requires the collection of both individual characteristics and the ties that bind individuals into demarcated social structures (e.g., prison units). Unit-level network data then provide quantitative and replicable metrics for testing the structural hypotheses posed by early prison ethnographers, including the antecedents of prison status hierarchies and the structure and composition of prison pseudo-kinship groups. Although not the focus of this paper, network data can also be linked to longitudinal health, victimization, recidivism, and family outcomes to understand how prison roles and experiences affect prisoners' and their families' health and behavioral trajectories over time. In sum, results from network analyses provide measurable and replicable results that are appropriate for testing general science research questions, and also comparing health and safety outcomes across prison regimes.

The Prison Inmate Networks Study (PINS)

The Prison Inmate Networks Study (PINS) is an interdisciplinary project focused on the informal social organization within a "good behavior" unit of a Pennsylvania medium security men's

prison (see Kreager et al. 2017; Schaefer et al. 2017). In the summer of 2015, researchers administered computer-assisted personal interviews (CAPI) to 142 prisoners (69% of the unit). The primary research question was quite simple: How do inmates organize themselves, socially, inside prison walls? Collecting peer nomination data for "get along with most" ties, the authors found that prisoner respondents were actually quite social, with 98% getting along with at least one other unit resident and the majority nominating between 3 and 4 peers (Schaefer et al. 2017).

Aggregating the peer nomination data from all unit respondents allowed for an assessment of the unit's overall social structure. There were three key takeaways from this global network analysis using exponential random graph modelling (ERGM) techniques (Schaefer et al. 2017). First, and consistent with prior theory and research, inmate respondents tended toward racial/ethnic homophily. Hispanic prisoners had the most homophilous ties, being 3.5 times more likely to nominate a Hispanic peer compared to someone from another racial category. Similarly, Whites were twice as likely and Blacks were approximately 1.5 times as likely to nominate a same-race, as opposed to an other-race, peer.

Second, even though homophily on race/ethnicity and other characteristics (e.g., religion) was present, the unit conformed to a core-periphery social structure rather than a collection of cohesive subgroups. More than 98% of the unit's residents belonged to a single network component. Although a community-detection algorithm identified inmate subgroups within the unit network, the subgroup structure was not strong and clear demarcations did not exist.

Third, and relevant to the core-periphery global structure, it was found that unit "old heads" (i.e., those older inmates with longer unit tenures) had greater power and influence on the unit, which allowed them to occupy central positions in the unit's informal organization, broker race/ethnic divides, and maintain unit cohesion (see also Kreager et al. 2017). Rather than driven

by race-based gang affiliations or other markers of subgroup membership (e.g., neighborhood affiliation), the observed "good behavior" unit was dominated by elder leaders who got along with one another and fostered a single unit community.

A stated advantage of the PINS network approach is the comparability of network metrics across different social contexts. Schaefer et al. (2017) leveraged this to compare the observed prison unit to the school networks from the National Longitudinal Study of Adolescent Health (Add Health). Structurally, there were surprisingly few differences between the unit's networks and friendship networks in school settings. For example, Add Health schools that showed similar racial heterogeneity as that found in PINS also showed levels of racial homophily at the dyadic level. The present study extends such comparability to the network properties between the PINS unit and a similar "good behavior" unit in a women's prison.

The Women's Prison Inmate Networks Study (WO-PINS)

The Women's Prison Inmate Networks Study (WO-PINS) examines the informal organization within two Pennsylvania women's prisons. The current study focuses on the first data collection, completed in the summer of 2017, of a "good behavior" unit in a minimum-security women's prison (similar set-up to the male prison unit that is used for comparison). The unit had a maximum capacity of 135 prisoners housed in a separate building within the prison. Inmates were held in six-person rooms laid out in a single floor. As in PINS, researchers administered CAPI surveys to respondents in face-to-face interviews over approximately a one-hour period. Of the 131 possible respondents, 104 (79%) participated in the in-prison survey.

WO-PINS data stemmed from two sources. First, the in-person surveys collected peer nomination data for relational ties central to this study's analyses. Second, the PA Department of

Corrections (PADOC) provided administrative data for all unit residents. This data included inmate demographic, sentence, and prison movement records over time.

During the CAPI surveys, respondents were asked to nominate other unit residents that they "get along with most." These positive relational ties were initially unlimited, and respondents nominated peers from an alphabetized roster of all unit inmates listed on a CAPI laptop. In a subsequent task, the top 10 nominations were rank ordered and these "closest" relationships form the basis of this analysis. Respondents were also asked to nominate up to three peers who were "the most powerful and influential on the unit." Paralleling Schaefer et al.'s (2017) PINS analysis, we use the number of received power and influence nominations as an indicator of unit status.

PADOC provided demographic data on prisoner race/ethnicity, religion, age, and education (highest grade in school). They also provided information on Security Threat Group/Gang affiliation, offense severity, and time in prison.

Present and Planned Analyses

For this submission, we present a descriptive comparison between the PINS and WO-PINS samples oriented toward the above discussion. In particular, we focus on (1) the associations between inmate characteristics and the number of "get along with best" nominations received (i.e., indegree) as a means to assess if certain kinds of inmates were more integrated into the prison network, and (2) if inmates who share a particular characteristic are likely to nominate each other for a "get along with best" tie (i.e., homophily) as a means to evaluate network clustering on the attribute. For binary covariates, homophily is estimated as an odds ratio: namely the odds of an inmate having tie to someone with the exact same value on an attribute (e.g., same race) relative to the odds of a tie to someone with a different value (e.g., different

race) on the attribute (Moody 2001). For continuous covariates, homophily is measured using Moran's I, which ranges from -1 to 1 and captures the correlation of attribute scores among inmates who share a tie relative to the correlation expected by chance given the distribution of scores in the population (Moran 1950). We also show network graphs of the male and female units focusing on ties among inmates representing "get along with best" (i.e., friendships) in order to visualize the structural similarities and differences between the two unit's social contexts.

In future analyses, we examine the intersection between race and gender in the two units and estimate Exponential Random Graph Models (ERGMs) of the WO-PINS network to better understand which factors drive tie formations. We will also parallel Schaefer et al. (2017) and estimate community detection algorithms to identify potential subgroups (e.g., pseudo-families) within the female unit that may further differentiate it from the male unit.

Preliminary Results

[Table 1 about here]

Table 1 compares the descriptive statistics from the PINS and WO-PINS samples, and Figure 1 presents the sociometric graphs of the two units. There are several interesting differences between the social structures in the two units. First, looking at the global (unit) network structures in Figure 1, both units form a single "community" where no clear partitions or well-defined subgroups are visible. In both units, there are no disconnected dyads, triads, or small clusters. Indeed, there are no isolates (i.e., inmates with no incoming or outgoing ties) in the men's unit and only one isolate (unlisted in Figure 1) in the women's unit. The overall structures for both units thus suggest a vibrant community without high levels of social isolation or intergroup social distance.

[Figure 1 about here]

Second, racial homophily is much higher in the men's unit (OR=3.47) than in the women's unit (OR=2.00). This difference in racial segregation is visible in Figure 1, with clear racial boundaries between Black, White, and Hispanic inmates visible in the men's unit (although it should also be noted that interracial ties between central members indicate that the unit consists of a connected community). In the women's unit, inmates are less likely to cluster on race, with greater evidence of friendships crossing racial boundaries. In addition, Table 1 reveals that the women's unit displayed less clustering on religion compared to the men's unit (OR_M=1.76 vs. OR_W=1.36). Given that race and religion are often associated with one another (e.g., Black Muslims), this reduction in religious clustering in the women's unit is consistent with that seen for race and is also consistent with the prior literature on women's imprisonment. Relatedly, there are fewer Muslims overall (and more Catholics) in the women's unit than in the men's, pointing to gendered and religious differences in prison demographic composition.

Third, the female unit's network density of .097 (i.e., the proportion of dyads exhibiting a network tie) is over three times larger than that observed in the male unit (.030). Similarly, female inmates, on average, nominated approximately three times as many peers ($\bar{x}$=9.9, sd=11.0) than male inmates nominated ($\bar{x}$=3.9, sd=3.07). Rates of reciprocity (i.e., the proportion of $i \rightarrow j$ ties matched by a $j \rightarrow i$ tie) were also higher among females (.39) compared to males (.31), which is suggestive of closer relationships. In addition, the female inmate network displayed higher levels of transitive closure than males, which is a sign of clustering into groups. For females, 32% of triads with ties $i \rightarrow j$ and $j \rightarrow k$ also had an $i \rightarrow k$ tie, whereas for males, the proportion is approximately half that at 17%. Overall, these results suggest that women's friendship ties are more prevalent, cohesive and stronger in the observed prison unit compared to

men's friendships. The results also suggest, contradicting Kruttschnitt and Gartner's (2005) expectation, that friendship networks in women's prison are not sparse or disconnected dyads due to the punitiveness of neoliberal prisons.

Fourth, there are significant correlations between the number of received "get along with best" nominations for both male (r=.47***) and female (r=.40***) time in prison and male (r=.57***) and female (r=.56***) "power and influence" received nominations. In other words, male and female inmates who have served longer prison terms and who are perceived as powerful (i.e., "old heads") are also likely to be among the most well-liked on the unit. That said, patterns of association *between* high status inmates differ markedly across the two units. Focusing on the Homophily columns in Table 1, the positive network autocorrelation for power indegree among males (I =.29) reveals that powerful and influential *male* inmates have a tendency towards associating with one another, while less powerful and influential male inmates also associate with one another (homophily). By contrast, in the *female* unit, the network autocorrelation statistic is negative (I=-.07), indicating that female inmates are <u>not</u> sorting into friendships based on having similar levels of perceived power/influence in the network. This pattern suggests that, within the male setting, "old heads" form a single "core" at the center of the unit's friendship network structure. In the female unit, however, each of the "old heads" may have their own friendship cluster that is disconnected at the leadership level. We will pursue these patterns more fully through subgroup (i.e., community detection) and qualitative analysis where respondents were asked to explain why they perceived particular inmates as powerful and influential (Kreager et al. 2017; Schaefer et al. 2017).

In sum, these preliminary analyses point to several theoretically interesting patterns and between-gender differences that will be explored further using more sophisticated network

analyses such as ERGMS and community detection methods. The results of this project will not only inform our understanding of the gendered and racial social worlds within prisons, but also point toward methodologies that are well-suited to uncovering the structures and cultures within these environments.

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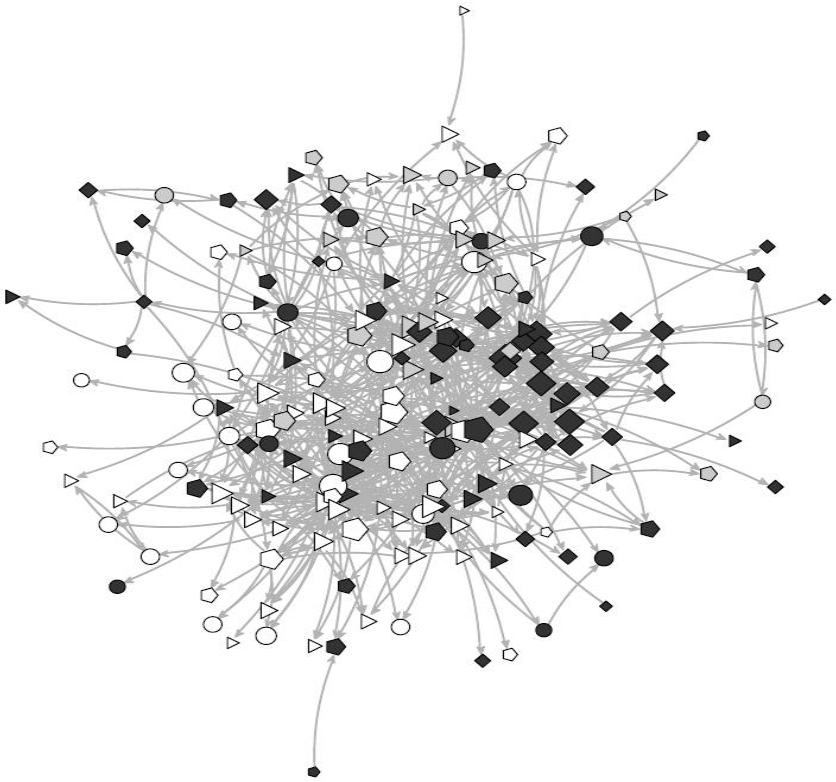
Table 1. Descriptive Comparison of PINS and WO-PINS Samples

	Male Inmates (N=205)				**Female Inmates** (N=131)			
	Mean, %	SD	Indegree[A] (M, *r*)	Homophily[B] (OR, Moran's I)	Mean, %	SD	Indegree[A] (M, *r*)	Homophily[B] (OR, Moran's I)
Race				OR = 3.47***				OR=2.00***
White	38.5%		3.50		58.0%		4.01	
Black	46.9%		4.06		33.6%		4.70	
Hispanic	14.1%		3.83		8.4%		2.36	
Religion				OR = 1.76***				OR=1.36***
Muslim	21.4%		4.25		7.6%		3.3	
Catholic	18.5%		3.97		58.8%		4.04	
Protestant	20.5%		4.10		22.9%		4.30	
Other	24.4%		3.28		3.1%		1.50	
None	15.1%		3.03		7.6%		5.90	
Gang or ATG	6.8%		*.11†*	OR = .94	0%		--	--
Misconduct	29.3%		*-.06*	OR = 1.21***	65.7%		*.07*	OR=1.09
Age	39.5	11.1	*.15**	I = .30***	47.1	12.4	*.11*	I = .33***
Highest Grade	11.2	1.6	*.11*	I = .06	12.0	1.9	*.11*	I = .10
Offense Severity	10.0	3.4	*.32****	I = .14***	12.3	4.3	*.17†*	I = .32***
Years in Prison	6.0	7.2	*.47****	I = .37***	11.0	10.8	*.40****	I = .52***
Power Indegree	.8	2.4	*.57****	I = .29***	4.5	7.8	*.56****	I = -.07*

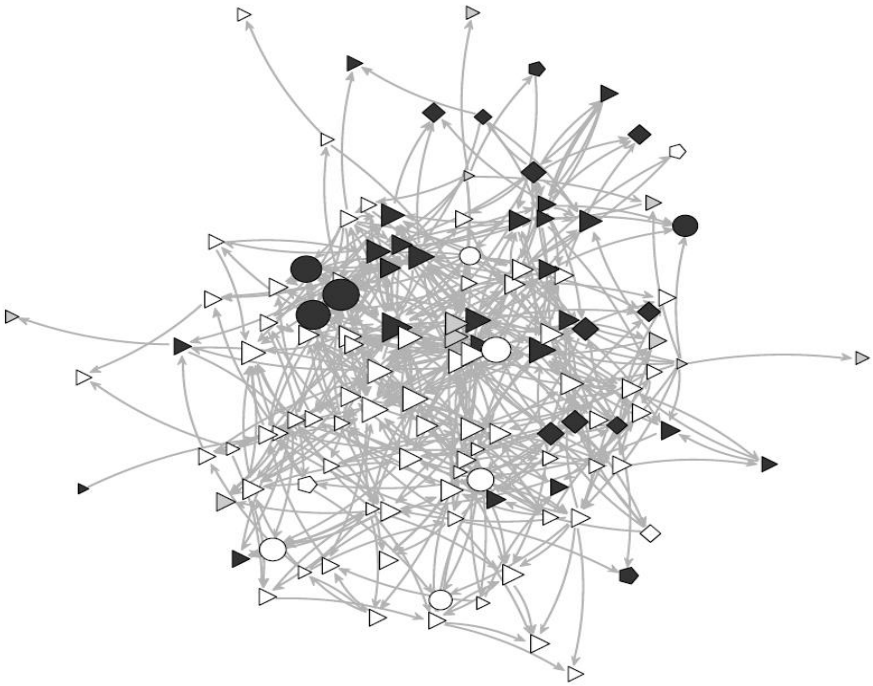
† $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests).

[A] The Indegree column lists the mean (M) incoming nominations or correlation (*r*) between incoming nominations and each covariate.

[B] All statistics are based on all unit members (N_{male}=205, N_{female}=131) except homophily, which only uses survey participants (N_{male}=133, N_{female}=103).



(a)



(b)

Figure 1. "Get Along with Best" Networks in (a) PINS and (b) WO-PINS
(nodes sized by indegree, Race – black=Black, white=White, gray=Hispanic, Religion – triangle=Christian, square=Muslim, circle=Other, pentagon=None)