

Factions and Brokers in the Russian Mafia: Investigating the Structure of the Thieves-in-Law

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This paper investigates the internal structure of the fraternity of the *vory-v-zakone*—the high-ranking members of the Russian Mafia—using a co-signing network based on 50 signed edicts (*progony*) produced by the fraternity. We find that the *vory* are a multi-ethnic, polycentric association grouped into factions based on vertical patronage relationships; these factions are interconnected by key brokers that bridge between groupings. While this structure allows for effective collective action, it also points to possible fractures that can be exploited by authorities to weaken the fraternity. This research is the first quantitative network analysis of documents produced by a higher-level coordination body within a mafia and contributes to the literature on the emergence of coalitions and factions within organizations.

KEY WORDS: Russian Mafia, *Vory-v-zakone*, organized crime, social networks

INTRODUCTION

The *vory-v-zakone* (lit. ‘thieves-in-law’) are the members of a criminal fraternity that has dominated the prison system and wider criminal underworld in the Soviet and post-Soviet space for more than a century. All members, who share the same role and official authority, are prominent, respected bosses of criminal groups. Documented since the 1920s, the *vory* fraternity has survived despite external pressures like the dissolution of the Soviet Union and the increasing authoritarianism of Putin’s regime, as well as internal threats like frequent internecine conflict. They have maintained organizational flexibility and adapted procedures to meet new challenges (Varese *et al.* 2021). This research aims to investigate the internal social structure of the *vory* and how bosses interact in the highest levels of a mafia.

A key coordination mechanism amongst the *vory* are formal, signed documents called *progony* that spell out rules and enforce decisions distributed across the post-Soviet criminal world. We collected an original database of these documents issued in 2013–2022 to construct

co-signing networks. We then use descriptive and hypothesis-testing network analysis techniques to explore the underlying social structure represented by the decisions of *vory* to sign *progonny* together. We find that the fraternity has developed a factionalized and polycentric organizational network structure with multiple centres of power that are interconnected by key brokers. While factions exist, clustering today is primarily driven by vertical patronage relationships rather than shared ethnicity or similar age, in contrast to narratives of ethnic and generational cleavages in the past among the *vory* in the existing literature.

This research contributes to the field's understanding of the structure of mafias by presenting, to our knowledge, the first direct analysis of the structure of higher-level coordination between bosses in a mafia. While prior research has furthered our understanding of numerous aspects of mafia structure, these analyses have typically focussed on the lower-level structure of mafia Families, the main operational units of the organizations. Higher-level coordination bodies that bring together the bosses of these operational units, on the other hand, have been more difficult to investigate because these associations lack written records and do not generate the same volume of evidence as the day-to-day operations of mafia Families. Our novel database of *progonny* allows us to directly scrutinize the internal proceedings of a mafia's governing body and the mechanisms that drive relationships between mafia bosses.

The rest of this paper is organized as follows. The next section presents a review of the existing literature on the *vory* and higher-level coordination bodies within mafias, as well as analytical expectations based on prior findings. The following section introduces the data and the methods. The paper then presents the main results and discusses the findings. The final section concludes.

LITERATURE REVIEW AND EXPECTATIONS

Vory background

The Russian Mafia is not a single criminal organization, nor is it exclusively Russian; instead, it is a constellation of affiliated groups that span the post-Soviet space with members from numerous countries and ethnic groups (Varese 2001; Galeotti 2004). These various organizations and associations—while distinct—are united by shared traditions and titles. Within this system, *vor-v-zakone*, often shortened to *vor*, is the title bestowed upon prominent, well-respected bosses in the post-Soviet prison system and wider criminal community; it is best rendered in English as 'criminal who adheres to the code' or 'thief-in-law' (Serio and Razinkin 1995; Frisby 1998). The term *vor-v-zakone* first emerged in the 1920s and 1930s to refer to professional criminals in the gulags and prison camps (Frisby 1998; Cheloukhine 2008). These criminals were respected by other members of the criminal community and lived by a code (*ponyatiya*), with rules prohibiting *vory* from officially marrying or cooperating with or working for the state and requiring *vory* to earn revenue solely from criminal activities (Gilinskiy and Kostjukovsky 2004; Tsereteli 2022).

For over a century, the *vory* have coordinated daily life in many post-Soviet prison systems—they collect money into and distribute from a common fund (*obshchak*) for the welfare of inmates, regulate interactions and transactions between prisoners and resolve disputes; they also remain involved in external criminal activities (Cowley *et al.* 2015; Slade and Azbel 2020). Since the 1990s, the *vory* have led many prominent criminal groups outside of prison that provide private protection and governance services to firms in both the illegal and legal markets, offering dispute resolution services and generally '[acting] as a vital lubricant for the cogs of organized crime activities' (Slade 2014: 18). Today, the *vory* are largely concentrated in the post-Soviet states, particularly Russia and Ukraine; according to PrimeCrime.ru—a news agency focussed on the *vory*—there are 399 active *vory*, of which 299 (75%) are at large (PrimeCrime n.d.).

Historically, the title of *vor* is only bestowed upon well-known criminals who are selected by existing *vory* for being respected as ‘upstanding’ members of the criminal community and abiding by the thieves’ code. The candidate undergoes an observation period by the *vory* and their subordinates (Varese 2001; Cheloukhine 2008). During this time, the candidate is nominated by at least two existing members of the fraternity who act as sponsor and ‘crowners’. After the observation period, a gathering of the *vory* (*skhodka*) is called; if the candidate has followed the thieves’ code and deserves the title, he is crowned as a *vor* and officially admitted into the fraternity. The crowners act as guarantors of the newly initiated member, vouching for their reputation (Cheloukhine 2008: 359). Newly crowned members often look to their crowners as patrons that provide protection and connections; in return, the crowners receive the support of their clients.

Once crowned, *vory* occupy top positions within hierarchical structures both within prisons and in organized crime groups. Prisons will typically have one key *vor* who then appoints a lieutenant (*polozhenets*) who manages daily life within the prison (Cheloukhine 2008; Kupatadze 2014). The lieutenant or the *vor* then appoints ‘watchers’ (*smatryashi*) who are in charge of aspects of prison life like administering the common fund (*obshchak*), regulating gambling and managing communications within and between prisons (Kupatadze 2014). Outside of prisons, the organized crime groups led by the *vory* take various forms, ranging from rigid hierarchies to loose associations of hierarchical sub-groups (Galeotti 2018; Catino 2019).

The association of the *vory* is formally egalitarian—officially, all *vory* are equal and none hold a higher position or greater authority than another. Despite the lack of formal hierarchy within the association, however, some *vory* hold more power and influence (Cowley et al. 2015: 202). For example, Handelman (1995) reports a core of senior *vory* who made major decisions and an even smaller leadership core in the late 1980s and early 1990s (Handelman 1995: 39). *Vory* frequently vie for power and seek to advance their personal interests.

These power struggles have been reported to lead to the emergence of factions that fragment the association as its members compete against each other (Slade 2014: 106). Some prior studies suggest that these factions are based upon ethnic and generational cleavages, with *vory* of the same ethnicity and age partnering together. Mironova (2023) and Slade (2014) suggest that the *vory* began to ethnically segregate in the 1980s and 1990s respectively, citing ethnic divisions between the Georgian, Slavic and Caucasian *vory* (Slade 2014: 98; Mironova 2023: 69). Other studies, however, challenge the idea that the *vory* are ethnically segregated. For example, Galeotti (2004) suggests that ethnic ties have decreased in importance within Russian organized crime generally (Galeotti 2004: 58). Mironova (2023) and Slade (2014) also report that a generational divide emerged in the 1990s during the economic turbulence of the fall of the Soviet Union and the growth and expansion of the *vory*; the economic opportunity caused a split between older *vory* who were committed to the ideology and tradition of the *vory* and younger, newer *vory* who were focussed on economic self-interest (Mironova 2023: 166). Slade (2014) investigates a split within the Kutaisi-based Georgian *vory* in 2004, finding that the subgroup of older *vory* was centralized around a key leader, Tariel Oniani, and was densely interconnected; the younger *vory*, conversely, were decentralized, less interconnected and lacked a clear leader (Slade 2014: 106). Another proposed explanation for subgroup formation is vertical patronage relationships. Differences in power between the *vory* provide an incentive for weaker *vory* to align with and support more powerful members in return for protection (Slade 2014). These alliances can then shift as the balance of power adjusts over time (Galeotti 2004). Newly crowned *vory* also often look to their crowners as patrons in return for economic or political support. These vertical patronage relationships can lead to informal authority accumulating within certain central *vory*, as those key players with many clients have power and authority that can attract new supporters.

The *vory* use two interrelated mechanisms for coordinating across their large and geographically distributed fraternity. First, the *vory* hold meetings called *skhodki*. They can be convened by any *vor* (Slade 2014: 97); any *vor* can attend, although typically only some do given the fraternity's geographic spread. Meetings occur within prisons or outside; further, there are locally and regionally focussed *skhodki* as well as general meetings for all *vory*. *Skhodki* serve two main purposes. First, they act as criminal courts where *vory* can adjudicate disputes and, particularly in prisons, levy punishments for breaking the thieves' code (Cowley et al. 2015: 200; Slade 2016; Slade and Azbel 2020). Second, *skhodki* are the main deliberative meetings for the *vory*, providing an opportunity for the association to discuss issues facing the fraternity. Topics include strategies to respond to law enforcement activities, the creation of new rules and interpretation of existing rules, the administration of the common fund, the initiation of new *vory* and the expulsion of members deemed to have violated the thieves' code, and coordination between different *vory* and organized crime groups (Gilinskiy and Kostjukovsky 2004). For example, in 2015, around 100 *vory* gathered for a *skhodka* in Armenia to resolve two major conflicts between criminal clans (PrimeCrime.ru 2015). Similarly, in 2020, approximately 30 *vory* met in Istanbul, Turkey, to discuss the status of one of their members who had been expelled from the fraternity due to a conflict with another *vor* (PrimeCrime.ru 2020).

While *skhodki* provide an opportunity for *vory* to deliberate, the second coordination mechanism—*progony*—provides a means of codifying, communicating and coordinating the *vory*'s decisions. *Progony* are documents issued and signed by *vory*. Following a meeting, an edict is published to report the decisions made and to finalize the crowning of new *vory*; *progony* are also published without an affiliated meeting to propose courses of action, new rule interpretations and the cancellation of the status of a *vor*. These documents represent the main steps of formalizing and legitimizing decisions within the association. While meetings are for deliberation, issuing a *progon* about the crowning of a new member, the stripping of the title from another or the implementation of a new rule provides an opportunity for other *vory*—especially those who could not attend the meeting—to accept or challenge the ruling. This can result in a series of edicts back and forth between opposing *vory*. *Vory* sign *progony* either because they endorse their contents or to support a more powerful patron. While signatures are necessary for a *vor* to officially show they support a document, the geographic spread of the *vory* means that some may not be able to sign a *progon* in-person; in these cases, the *progon* can be sent to them by text message (Varese 2017, 2024). To use an analogy to the US legislative bodies, *skhodki* play a similar role to meetings and committees in the Congress—these meetings provide the opportunity to debate and vote on decisions. *Progony* are similar to bills and acts. A *progon* is issued and sponsored by its signatory *vory* proposing a new change or decision like a bill. Further *progony* are sometimes then issued that disagree with or support the original *progon*, similar to how legislators in a House of Representatives committee will write supporting and dissenting opinions about a bill before it is introduced to the wider body for debate and voting. *Skhodki* and *progony* function together to enable coordination amongst the *vory*. Meetings are used to discuss, while edicts are issued to allow input from other members, enable further deliberation and adjustments, and finally formalize and communicate the decision as official and enforceable.

Mafia coordination

Similar to the *vory*, other mafias have developed higher-level coordination mechanisms for collective decision-making and communication between bosses and operational units. Historically, the Sicilian Cosa Nostra, the Calabrian 'Ndrangheta and the Italian-American Mafia established commissions or 'cupola' to enforce rules, resolve disputes within and between Families, discuss common issues and make organization-wide decisions (Gambetta 1993; Varese 2017). The Palermo Province Mafia Commission, formed in 1957, represented the 78 Cosa Nostra

Families in Palermo, while the Sicilian Regional Commission convened representatives from the 100–150 Families on the island; each member of these bodies represented a district of three geographically connected Families (Catino 2019: 156). This system endured until the 1990s, when it broke down due to increased state repression. In New York City, bosses of the city's five mafia Families each had a seat on the New York City Commission (Jacobs 2020; Thompson, *Forthcoming*); a National Commission was also established in 1931 which fulfilled a similar function for Families across the United States, although it no longer operates (DellaPosta 2017; Catino 2019). Other mafias have developed similar coordination mechanisms. The 25 syndicates of the Japanese yakuza form alliance associations, like the Kantō Hatsuka-kai between the syndicates based in Tokyo and the wider Kantō region (Hill 2003). The Triads in Hong Kong and Taiwan also had coordination bodies called headquarters or central committees, although these have largely become defunct (Varese 2017; Catino 2019). These bodies and mechanisms enable bosses to make joint decisions, manage economic ventures and resolve disputes to avoid conflict or law enforcement attention.

While all higher-level coordination bodies in mafias face coordination troubles as they try to remain secret to avoid drawing law enforcement attention, the *vory* face particular logistical challenges. Most coordination bodies historically have consisted of a small number of geographically concentrated Families in places like Palermo, Sicily, New York City and Hong Kong. While Japanese yakuza syndicates operate throughout Japan, organizing meetings is easier because syndicates are formally legal organizations and inter-syndicate associations are typically regionally defined (Baradel 2021). Further, coordination bodies in other mafias are often representative and only contain a subset of bosses; the *vory* fraternity, conversely, consists of all criminals who have gained the title. Finally, the *vory* come from a number of ethnic backgrounds and exhibit a wide range of ages, while other mafias are typically monoethnic and have bosses which tend to be older mafiosi (Gambetta 1993; Musotto 2022). Ethnicity and age present potential cleavages along which factions could form and divisions could arise, as has been reported for the *vory* in the past (Slade 2014; Mironova 2023).

The existing literature on the structure of mafias has largely focussed on levels below the higher-level coordination bodies, such as the structure within and between Families or operational units. Interactions between bosses within coordination bodies have historically been more difficult to investigate because these bodies produce less usable evidence than lower levels of the organizations. Coordination bodies meet infrequently and sporadically as needed to discuss important issues or settle disputes; these gatherings as nearly impossible for police to bug.¹ However, some studies have provided insight into the role of and interactions between bosses more generally. Much of the literature on the role of bosses in mafia structures has focussed on the concept of brokerage. Brokers are actors that bridge structural holes between otherwise-disconnected people and groups, enabling the transmission of resources, information and ideas within and between organizations (Burt 1995). Brokers both benefit personally from their positioning and lead to beneficial outcomes for the wider network. For example, Burt (2004) examines the connections between supply chain-focussed managers at a large electronics company. Connections tended to stay within business units, acting as organizationally defined factions; connections between business units were enabled by a small number of brokers that formed ties across departments and synthesized information from multiple groups (Burt 2004: 366). These gap-spanning managers enabled more effective coordination and information transmission.

¹ An exception was the bugging of the meeting of the Lombardy Regional Commission of the 'Ndrangheta during Operation *Infinito*. While the wider operation that contains this bugging has been used to investigate the structure of the 'Ndrangheta (Calderoni 2016; Calderoni *et al.* 2017; Calderoni & Superchi 2019), these studies have focussed on the organization's wider structure and the role of bosses as brokers rather than focussing on the relationships between different bosses from different Families within the Commission.

These brokers also had higher salaries, received better job evaluations and were more likely to be promoted. Other studies suggest that this extends to the members of organized crime groups: criminal brokers are able to strategically position themselves to gain information, seize business opportunities and insulate themselves from prosecution and law enforcement disruption (Morselli 2001, 2003, 2010).

Prior research suggests that mafia bosses in particular act as brokers between both other mafiosi and between mafia Families. In the early- and mid-20th century the Italian-American Mafia consisted of strongly intra-connected factions distributed across the United States that were interconnected by a small number of key brokers (DellaPosta 2017, 2023). These actors who bridged between different Families tended to be either high-status bosses or low-status outsiders who could not officially be initiated as mafiosi because they were not Italian. In particular, bosses tended to be generally well-connected both to their own Family and between Families, while the low-status outsiders bridged between groups despite generally being poorly connected to the network (DellaPosta 2023). In his study on the criminal career of Sammy Gravano in the Italian-American Mafia in the 1970s and 1980s, Morselli (2003) finds that Gravano's brokerage positioning increased as he was promoted in the organization, gaining better access to business opportunities and decreasing his personal risk. Musotto (2022) investigates the structure of the Sicilian Cosa Nostra using data from a 2008 anti-mafia operation that thwarted an attempt to rebuild the mafia's Provincial Commission. High-ranking actors in the Sicilian Cosa Nostra were generally less well-connected than mid-ranking members and well-connected actors tended to form ties with poorly-connected actors rather than with other well-connected actors and vice versa (Musotto 2022: 82). Further, older mafiosi had fewer connections, were more likely to be in leadership positions and were more likely to form bridging ties outside of their district to other groups. Studies of the Calabrian 'Ndrangheta have similarly found that bosses tend to be well-connected actors that are positioned as brokers, bridging both between otherwise-disconnected mafiosi and between their Families and other groups in the organization (Calderoni 2014, 2016; Calderoni *et al.* 2017; Calderoni and Superchi 2019). Prior research suggests that mafias tend to be split into factions, typically around formal organizational divisions into Families, that are interconnected by a small number of key bosses who have positioned themselves as brokers.

Analytical expectations

This research contributes to the literature on the *vory* and on higher-level coordination in mafias in three main ways. First, much of the qualitative research on the structure of the *vory* has focussed on the period between the 1970s and early 2000s. Our analysis provides a contemporary view of how the *vory* are structured. Second, prior ethnographic and qualitative accounts of the *vory* have presented a mixed view of their structure, with numerous reported forms and contributing factors. Our analytical approach—outlined in the next section—allows us to explore the structure of the *vory* and disentangle competing explanations. Finally, while prior studies of mafias have discussed the role of bosses, these investigations have largely looked at bosses within the wider organizational structure of mafia Families, in large part due to the difficulty of collecting data on the higher-level coordination bodies and mechanisms of mafias. Our unique dataset provides insight into how bosses interact with one another specifically within a high-level association.

Our analysis explores the structure of the *vory* and is guided by the findings and gaps in the existing literature. Based on accounts of factionalization within the *vory* (Slade 2014; Mironova 2023) and within other mafias (Calderoni *et al.* 2017; DellaPosta 2017, 2023), we expect that the *vory* will exhibit a clear community structure with densely-connected clusters. Prior research has also suggested that *vory* possess different levels of power and authority (Handelman 1995;

Cowley *et al.* 2015). We expect that the *vory* will be polycentric, with multiple centres of power forming through the power struggles and competition amongst the different bosses. Based on reports of competition and alliances amongst the *vory* and Musotto (2022)'s finding of degree disassortativity within the Sicilian Cosa Nostra, we test for polycentric rich polarization to see whether (1) the multiple poles of power tend to connect with each other and (2) whether the relationships tend to be especially strong when these key poles do connect. We expect that the factions around these key players will be connected by strategically positioned brokers similar to the role of certain bosses within other mafias like the Italian-American Mafia and the 'Ndrangheta. Finally, prior research on the *vory* has provided two alternative explanations for the emergence of factions: ethnic and generational clustering based on evidence from the 1990s and 2000s (Slade 2014; Mironova 2023) and vertical patronage relationships (Galeotti 2004; Slade 2014). These competing drivers are difficult to disentangle based purely on qualitative observation. Further, they are not necessarily mutually exclusive: *vory* could seek out patrons or clients of similar age and ethnicity because these similarities could lead to greater trust or could provide more opportunities for *vory* to meet. We test these competing hypotheses to determine which factors are most at play when *vory* form relationships.

DATA AND METHODS

Data

To investigate these expectations, the present research utilizes a novel dataset of *progony* collected as part of the CRIMGOV research grant (PI Federico Varese). As noted in the Vory Background section, *progony* are a key mechanism for coordination within the fraternity. Further, signing a *progon* is a social decision, impacted by a *vory*'s relationships with the *vory* who have drafted the document and other *vory* mentioned or impacted by its contents, as well as their support for the message itself. As such, investigating the signing decisions of the *vory* can provide insights into their intra-association coordination and their wider social structure. These documents are handwritten, often adorned with elaborate drawings and used a formulaic language. Figure 1 presents an example *progon*.

We have collected a database of 84 *progony* that were published by the Russian news agency PrimeCrime.ru, an online news source focussed on the *vory* that has been used in prior studies of the fraternity (Varese 2017; Varese *et al.* 2021; Tsereteli 2022). We filtered the database of 84 *progony* issued from 1988 onwards to focus on those published between 2013 and 2022; this ten-year period was chosen to ensure that the mafiosi who signed the documents were contemporaneous with one another. We then filtered out texts that were not signed; while edicts traditionally must be signed by those who drafted and supported them, a 2019 law making individuals who sign *progony* liable for prosecution has caused some criminals to publish their documents anonymously (see discussion in Varese 2024, pp. 48–65). These filters left a sample of 50 signed documents written and published between 2013 and 2022. We extracted the names of the *vory* who signed the *progony* in the dataset ($N = 172$).

Using these data, we first constructed a bipartite or 2-mode *vory*-to-*progon* network where an edge from actor i to document j represents that i signed j . A bipartite network is made up of two sets of nodes—in this case, the *vory* ($N = 172$) and the *progony* ($N = 50$)—that can only form ties with nodes of the other set; in this network, there are no *vory*-to-*vory* or *progon*-to-*progon* edges. We then projected the 2-mode network to create an undirected 1-mode actor network where nodes represent *vory* and edges represent instances where two actors co-signed an edict together; a weighted version based on a count overlap projection—where the weight on an edge represents the number of *progony* that a given pair of *vory* co-signed together—and an unweighted binary version were used for different analyses as appropriate. Summaries of the

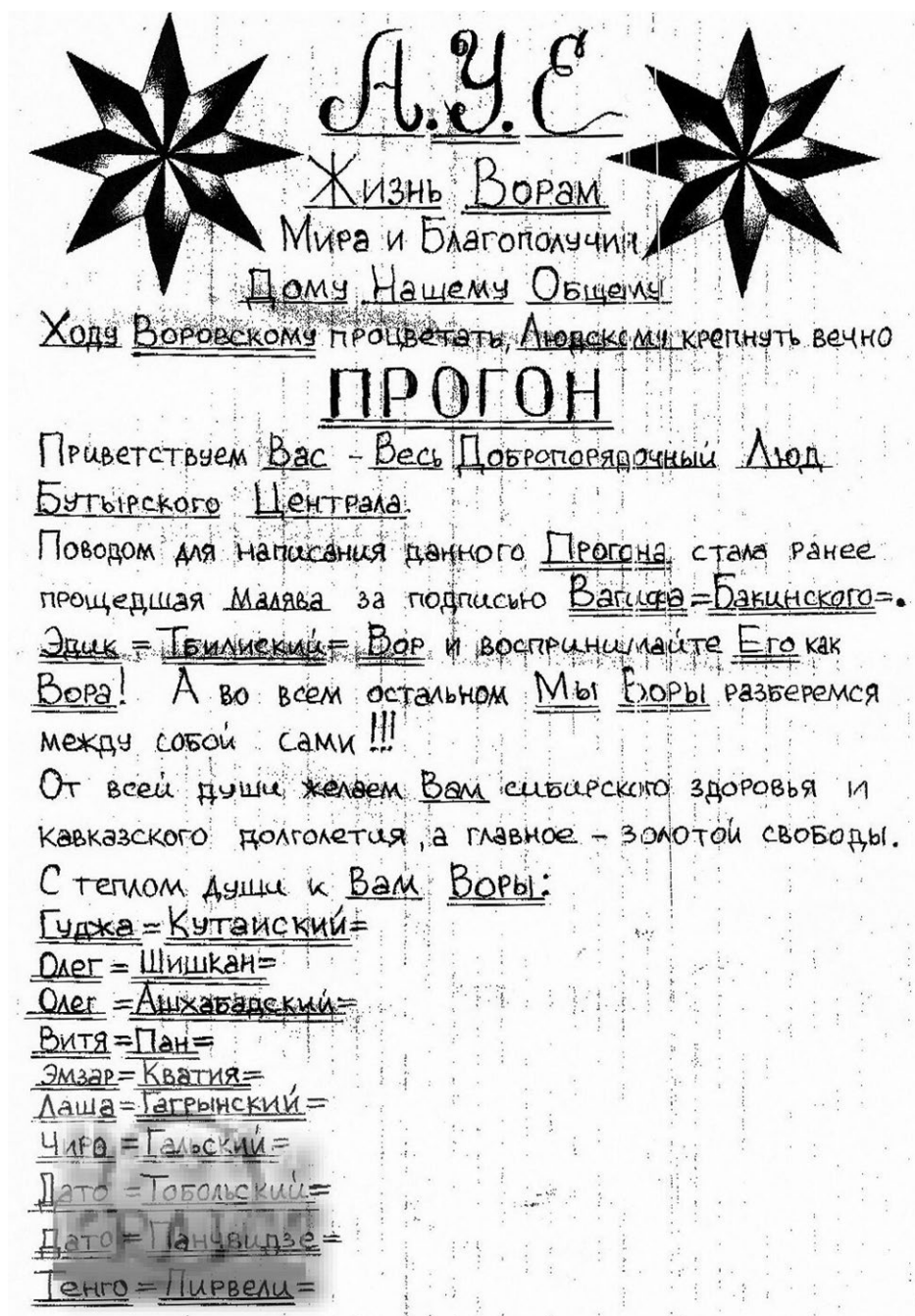


Figure 1. A photograph of a *progon* distributed in Butyrskaya Prison in Moscow in 2014 and signed by 10 vory in the bottom-left. Available at <https://www.primecrime.ru/photo/2915/>.

Table 1. Network information

	2-Mode Network	1-Mode Network
Edge Types	<i>Vor-to-progon</i>	<i>Vor-to-vor</i>
Total Nodes	222	172
<i>Vory</i>	172	172
<i>Progony</i>	50	<i>n.a.</i>
Total Edges	315	2,377
Density	0.04	0.16
Avg. Degree		
<i>Vory</i>	1.83	27.64
<i>Progony</i>	6.30	<i>n.a.</i>

2-mode and 1-mode co-signing networks are presented in [Table 1](#), while [Figure 2](#) depicts visualizations of the networks.

To supplement the main network dataset, we collected additional information from a range of sources. First, we coded the text of the documents for a thematic content analysis of the topics of the *progony*. We reviewed the texts and developed codes for the sections of the documents, then reviewed these codes to generate larger themes. Second, an interview with a former inmate at a penal colony was conducted in December 2022 to provide context on the *vory*, their place within the prison and criminal ecosystem and the role of *progony*. Finally, we collected additional data on the *vory* within our sample from PrimeCrime.ru. To investigate the role of ethnicity and age in the social structure of the *vory*, we collected the birth year and ethnic background of the actors in our network. Mafiosi were classified as either Georgian (52%), Russian (28%), South Caucasian (13%), North Caucasian (5%), or Eastern European (2%).² Further, information from PrimeCrime.ru was used to construct a matrix of crowning relationships. For each *vory*, PrimeCrime.ru reports which *vory* crowned him and any *vory* that he crowned. The crowning matrix only contains the 172 *vory* involved in signing *progony* in our database; as such, if a *vory* was crowned by another member who had not signed any *progony*, that crowner would not be in the crowning matrix. This matrix contains 667 directed ties from crowners to crownees. Of the 172 *vory* in the network, 97 acted as crowners for other *vory* in the network, while 98 were crowned by at least one other *vory* in the network; overall, 153 actors were involved in crowning ties. In the following analyses, this was operationalized as an undirected and unweighted 1-mode network where an edge represents that one *vory* crowned the other.

Methods

We used a range of analytical techniques to explore the structure of the *vory* fraternity. First, we use descriptive statistics to understand the overall level of clustering in the co-signing network and to detect brokers. We use two measures of bipartite clustering defined by [Opsahl \(2013\)](#). 2-mode reinforcement measures the extent to which two connected actors are likely to seek out additional connections together. 2-mode transitivity measures how often actors seek to form direct co-signing ties with the contacts of their connections. These measures range from 0 to 1 and represent the share of potential reinforcement configurations or triadic triples that

² 'South Caucasian' includes *vory* from Armenia and Azerbaijan, while 'North Caucasian' includes Chechen, Ingush and Avar *vory*. 'Eastern European' includes two Moldovan *vory* and one Ukrainian *vory*.

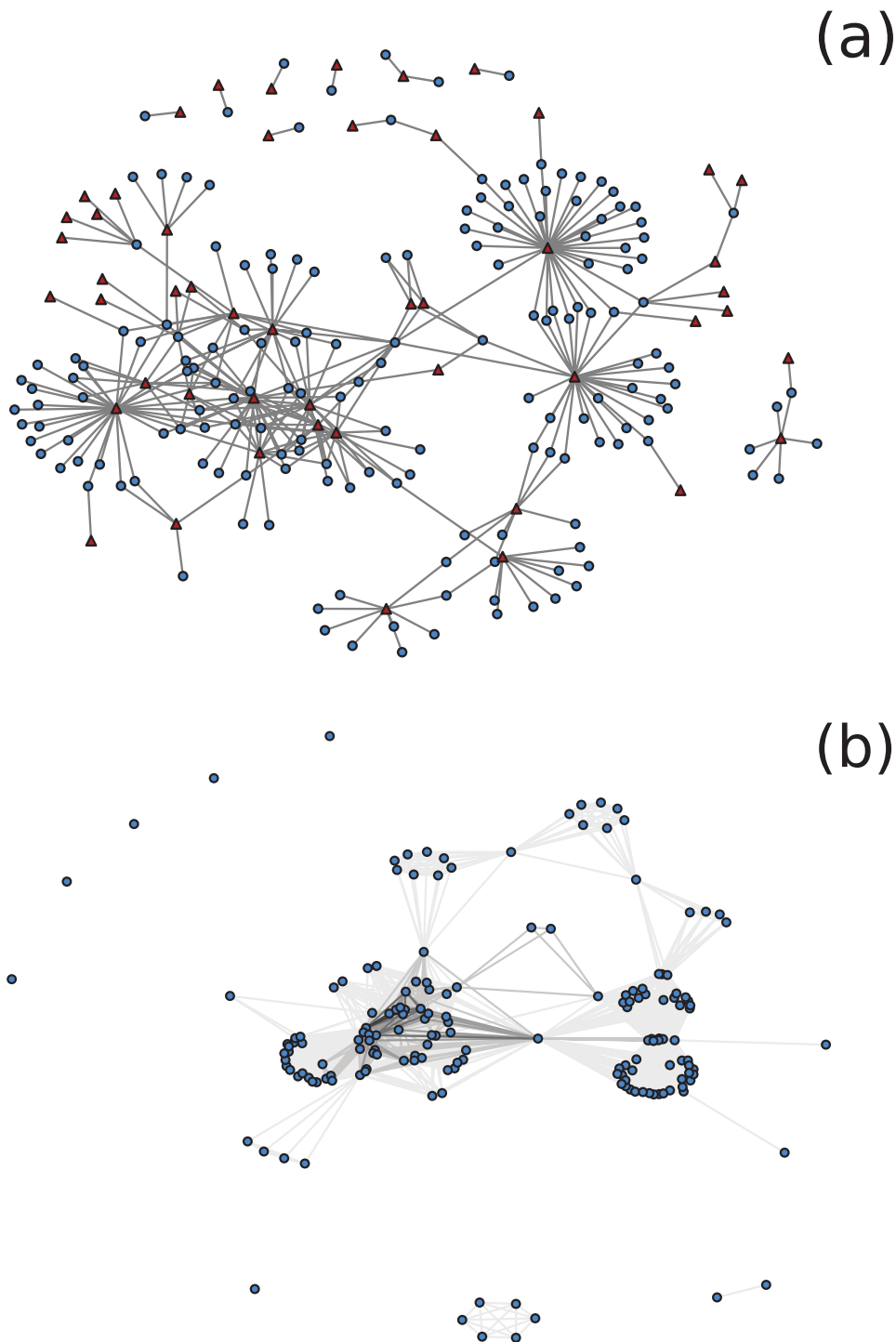


Figure 2. Visualizations of (a) the 2-mode *vor-to-progon* network where *vor*y are represented by circles and *progon*y are represented by triangles and (b) the 1-mode *vor-to-vor* network where darker edges represent higher tie weights.

occur within the observed network. Similar to other studies on mafias, we use betweenness centrality to detect brokers (Varese 2013; Calderoni 2014, 2016; Calderoni and Superchi 2019). Betweenness centrality measures the extent to which a given node lies on the shortest path between other pairs of nodes within the network, where high betweenness centrality suggests an actor bridges between different parts of the network.

To explore the presence of factions in the co-signing network in-line with reports in the literature, we used a multiple core-periphery detection algorithm described in Kojaku and Masuda (2017, 2018). This approach extends the original concept of core-periphery structure to allow for multiple core-periphery pairs, where there can be multiple sets of cores that are each densely intra-connected but not well-connected to other cores; each core has an associated periphery of nodes that are connected to their core but not to each other, as well as being poorly connected to other core-periphery pairs. The number of core-periphery pairs is optimized algorithmically and not set by the researcher. The algorithm functions similar to the Louvain method of community detection, maximizing a modularity function that considers connections within cores, between cores and their peripheries and between different core-periphery pairs by iteratively reassigning nodes to new core-periphery pairs and between the core and periphery of a given pair. The statistical significance of the multiple core-periphery configuration is determined by comparing the modularity function applied to each core-periphery assignment in the observed network to the values of the function for the same core-periphery assignment of nodes in 500 simulated networks where edges have been randomized using the configuration model. The resulting *p*-values represent the share of the simulated networks for which the objective function value for a given core-periphery pair is higher than in the observed network. We classify nodes that are within the same core-periphery pair as being part of the same faction. Kojaku and Masuda (2018) find that this algorithm gives highly similar modularity results compared to the Louvain method—a method used to discover communities and factions within other mafias (Calderoni *et al.* 2017)—when considering each core-periphery pair as a community. Despite these similarities, this algorithm was chosen over more traditional community detection approaches like the Louvain method to better account for the multiple core-periphery structure suggested by Slade (2014)’s finding that vory clustered around other charismatic or powerful vory.

Prior research on the vory suggests the association is informally unequal, with disparities in power and connectivity between different members. Some social networks contain a ‘rich club’, where prominent or central nodes are well-connected to each other and form a dominant centralized core. To investigate the extent to which central vory tend to form ties with each other, we present a range of rich-club coefficient (RCC) distributions. RCC distributions are based upon a given measure of prominence applied to all nodes and measure how well nodes of at least a given prominence level connect to each other; these values are normalized against random networks generated using an appropriate null-model. Normalized RCC values $\phi > 1$ indicates rich-club ordering and $\phi < 1$ indicates that prominent nodes are less connected than expected at random, with a floor of $\phi = 0$. These distributions have been extended to 2-mode and weighted 1-mode networks (Opsahl *et al.* 2008). The weighted network extension measures ‘the fraction of weights shared by the rich nodes compared with the total amount they could share if they were connected through the strongest links of the network’ (Opsahl *et al.* 2008: 1), while the 2-mode extension calculates the prominence of the nodes in one mode within the bipartite network and then projects to a weighted 1-mode network before calculating the RCCs. Our analysis presents four rich-club distributions: (1) bipartite, with prominence based on the number of *progency* signed; (2) unweighted 1-mode, with prominence based on degree; (3) weighted 1-mode accounting for the strength of ties, with prominence based on degree and (4) weighted 1-mode, with prominence based on node strength equal to the sum of a node’s tie weights.

Finally, we use two hypothesis-testing techniques to disentangle the effects of shared ethnicity, age similarity and vertical patronage relationships on whether *vory* sign *progon* together. First, we specify a multilevel exponential random graph model (ERGM). ERGMs are multivariate models where the dependent variable is the presence or absence of a tie between two nodes and the independent variables are parameters that represent micro-level configurations in the network like two-stars, triangles and shared attribute homophily (Robins *et al.* 2007; Hunter *et al.* 2008; Lusher *et al.* 2012). Multilevel ERGMs are an extension of these models to include parameters relating to dependencies both within a single level of a multilevel network and between the levels (Wang *et al.* 2013). Prior research on the structure of mafias and other organized crime groups have both one-level (e.g. Diviák *et al.* 2021; Breuer & Varese 2023) and multilevel ERGMs (e.g. Smith and Papachristos 2016; Coutinho *et al.* 2020; Breuer and Baradel 2025). For this analysis, we combine the 2-mode *vory*-to-*progon* network, which represents co-signing decisions, and the 1-mode crowning network, which represents vertical patronage relationships in-line with prior ethnographic findings. Since our interest is in co-signing and two actors cannot sign a *progon* together until both have been crowned as *vory*, we fix the 1-mode crowning layer—in the simulations underlying the multilevel ERGM, the crowning ties are not allowed to vary. We include parameters relating to the likelihood that two *vory* will sign the same *progon* if they have the same ethnicity, have similar ages and share a crowning tie; we also include structural parameters relating to centralization and clustering as controls. The multilevel ERGM can be interpreted similarly to a logistic regression because both levels are unweighted; however, interpreting coefficient sizes is difficult, especially when using alternating structural parameters as we do to improve convergence (for technical discussion of alternating structural parameters, see Snijders *et al.* 2006). Thus, we also use a multiple regression quadratic assignment procedure (MRQAP) model on the weighted 1-mode co-signing network. MRQAP models allow researchers to assess the extent to which a network, taken as the dependent variable, is influenced by other networks or covariance matrices (Krackhardt 1988; Dekker *et al.* 2007); this model is interpreted like a linear regression model where the dependent variable is the strength of the tie between two nodes. These models have been applied to a range of mafias, organized crime groups and street gangs (Campana and Varese 2013; Bichler and Norris 2024; Krajewski *et al.* 2022). In our MRQAP model, the dependent network is the weighted 1-mode co-signing network; the independent networks are a binary and undirected 1-mode matrix measuring whether two actors share the same ethnicity, a weighted and undirected 1-mode matrix reporting the age difference in years between pairs of actors, and a binary and undirected 1-mode matrix representing crowning relationships. Table 2 presents summary statistics for each of the matrices used in the MRQAP model; note that the density of the age difference matrix is 1 because this difference is calculated for all pairs of actors in the network.

These analyses were conducted using a range of software and packages. The two-mode reinforcement and transitivity, 2-mode RCC distribution and weighted RCC distributions were calculated using the ‘tnet’ package (version 3.0.16) in R. Betweenness centrality and the 1-mode unweighted RCC distribution were calculated using the ‘NetworkX’ package (version 3.1) in

Table 2. MRQAP matrix information

	Shared ethnicity	Age difference	Crowning relationships
Weight	Unweighted	Weighted (min. 0, max. 46)	Unweighted
Nodes	172	172	172
Edges	5,362	14,706	667
Density	0.36	1.00	0.05

Python, while the Kojaku & Masuda algorithm was implemented using the ‘cpnet’ package (version 0.0.21) based upon NetworkX. UCINET (version 6.758) was used for the MRQAP model, while MPNet was used for the multilevel ERGM.

Limitations and mitigations

While the data used for the following analyses do face some potential limitations, we have mitigated these as much as possible. PrimeCrime.ru is a trusted and reliable source of information on the *vory*, an otherwise difficult-to-study group. The website has been described as ‘perhaps the most exhaustive information resource about *vory-v-zakone* available to the public’ (Schreck 2009). Beyond academic researchers and journalists, even criminals themselves use it as a news source: Varese (2017) notes the case of a Russian criminal—whose phone was wiretapped by the police—checking PrimeCrime.ru for information about the recent death of a prominent *vor* (Varese 2017: 93; see also; Varese et al. 2021: 147). The database only contains documents and signatures whose provenance and veracity have been confirmed on PrimeCrime.ru—*progony* that *vory* have denoted as being fake have been excluded.

There is also the potential limitation of missing data. It is likely that we have not collected all of the relevant *progony* written during the observation period given that *progony* are documents shared amongst member of the post-Soviet prison and criminal community and as such are difficult to access. This is mitigated somewhat by an interview we conducted with a former prisoner who suggested that only approximately 20% of *progony* are related to the fraternity, while 80% are focussed on local day-to-day life for common prisoners (C1); we are only interested in the edicts that relate to the structure of the *vory*, which is the set that PrimeCrime.ru collects. Despite this, however, there are likely still missing relevant documents. This is a limitation that cannot be easily remedied by triangulation from other available data sources or interviews. The potential missing data limits the generalizability of our results to general coordination amongst the *vory* and to other mafias. However, *progony* signing decisions are often driven by underlying social relationships between *vory* and relate to the coordination of decisions within the association. These data, while not perfect, are still suitable for achieving our aim of exploring the social structure of this higher-level coordination body.

Further, we lack reliable geographic information for the *vory*, which could have an impact on co-signing decisions; this impact could be direct, where mafiosi in the same location have greater opportunity to physically sign together, and indirect, where criminals who have spent time together either in or out of prison may have formed personal or professional ties that could lead to co-signing. While PrimeCrime.ru does provide some geographic information about *vory*, it lacks many observations; as such, it was excluded from the analysis. The exclusion of geographic information is mitigated by the fact that mafiosi do not need to be together to co-sign a document, as edicts can be physically transported or sent by text message between criminals during the signing process before being distributed (Varese 2017, 2024).

RESULTS

Progony sample descriptive statistics

The following tables provide descriptive statistics about the dataset of *progony* used in the network analysis. Table 3 shows the number of *progony* issued by year within the database. Note that Table 3 also includes 21 *progony* that were issued prior to 2013, 6 *progony* for which a publication year could not be determined, 6 *progony* published after 2013 that were not signed, and 1 *progon* that was written by a non-*vor*; these *progony* have been excluded from the network analysis. 2013 and 2021 were the two most active years for *progony* publication, representing 25% and 19% of *progony* written between 2013–2022.

Table 3. *Progony* published per year

Year	Progony published
Unknown	6
1955–2012	21
2013	14
2014	7
2015	1
2016	4
2017	4
2018	5
2019	4
2020	4
2021	11
2022	3
Total	84

Table 4. Count of *Vory* by number of *Progony* signed

Number of <i>Progony</i> Signed	Count of <i>Vory</i>	%
1	104	60
2	35	20
3	12	7
4	8	5
5	8	5
6	2	1
7	3	2
Total	172	100

Table 4 presents the number of *vory* by how many *progony* they have signed, while Table 5 presents the number of *progony* by how many signatures they received. Note that these tables only consider *vory* and *progony* used in the network analysis. 60% of the 172 *vory* in our network only signed one *progon*, while a further 20% signed two *progony*. Similarly, nearly half of the *progony* were only signed by one actor; on the other hand, approximately 35% of *progony* had more than 5 signatures, with 22% having 10 or more. These results suggest there are centralizing tendencies in the network—a small number of *vory* sign many *progony* and *progony* with many signatures appear to attract more signatures than those with only a few signers. One potential explanation for centralization in signatures is preferential attachment, where *progony* with many signatures attract further signatures. This could arise from *vory* wanting to sign documents that have already been signed by many other *vory* to show their support and appear relevant; further, powerful *vory* are likely able to marshal the support of many of their clients, allowing them to publish well-signed *progony* that appear to have support by many of the fraternity’s members.

Table 6 summarizes the topics covered in the 50 *progony* used in the network analysis. Note that a given document is able to cover multiple topics. Cancelling or ‘de-crowning’ a *vor* is the most common topic, coming up in 54% of *progony*. De-crowning plays two important roles amongst the *vory*. First, it allows the association to police its borders, removing members who do not contribute to the community, who act in a way inconsistent with the thieves’ code, or who were potentially fraudulently admitted. Second, it is a key way in which powerful *vory* compete and vie for power—cancelling the supporters of a rival removes their allies from a position of power. Other popular topics include general discussions of the *vory*’s laws and status (10%) and changes to the rules (8%).

Table 5. Count of *Progony* by number of *Vory* signing

Number of <i>Vory</i> Signing	Count of <i>Progony</i>	%
1	24	48
2	6	12
3	0	0
4	3	6
5–9	6	12
10–19	6	12
20+	5	10
Total	50	100

Table 6. Count of *Progony* by topic

Topic	Count of <i>Progony</i>	%
Cancellation of the status of a <i>vor</i>	27	54
General speculations about <i>vory</i> ’s laws and contemporary situation in the fraternity plus invectives against specific members	5	10
Changes of laws or setting new rules	4	8
Support for a specific <i>vor</i> or specific <i>vor</i> ’s emissaries	4	8
Greetings to a new <i>vor</i> arriving to a prison	4	8
Appointments of new <i>vory</i> ’s emissaries	3	6
Requirement of actions (punishment of rule violators or cancellation of crownings)	3	6
Announcement that a membership of a <i>vor</i> is ‘under conflict’	3	6
Information about new crownings	3	6
General discussion against the use of the Internet and social media	2	4
Problems with or prohibition of gambling in prisons	2	4
Prohibition of drugs in prisons	1	2
Total <i>Progony</i>	50	

Exploratory network analysis

To better understand the social structure of the *vory*, we first focus on the extent to which there is clustering and factionalization within the co-signing network. We find preliminary evidence of moderate clustering within the 2-mode *vory*-to-*progon* network using Opsahl (2013)'s clustering measures. The reinforcement and transitivity scores for the 2-mode network are 0.23 and 0.26 respectively. *Vory* tend to both reinforce their co-signing decisions by signing other documents with the same co-signers and close triads in approximately 25% of cases where it is possible to do so. While exhibiting a trend towards clustering, *vory* also create ties outside of their clusters.

To better understand the boundaries and structures of these clusters, we apply the multiple core-periphery detection algorithm described in Kojaku and Masuda (2018). Figure 3 presents a visualization of the largest connected component of the unweighted 1-mode co-signing network where nodes are colored by their core-periphery pair, taken as topological factions; the largest connected component contains 92% of the nodes ($N = 158$) and 99% of the edges ($E = 2,361$).

Each of the factions shown in Figure 3 is statistically significant at the $p < 0.05$ level based on a statistical test using randomly-generated networks created using the configuration model as the null-model; eight of the nine detected groupings are significant at the $p < 0.001$ level. This suggests that the observed faction structure is stronger than what would be expected at random. The findings on clustering are observable in the visualization: the members of a given factor are densely connected to each other, but not to members of other factions. Through their *progon* co-signing decisions, the *vory* segment themselves into densely intraconnected clusters that are generally disconnected from other topological factions in the network.

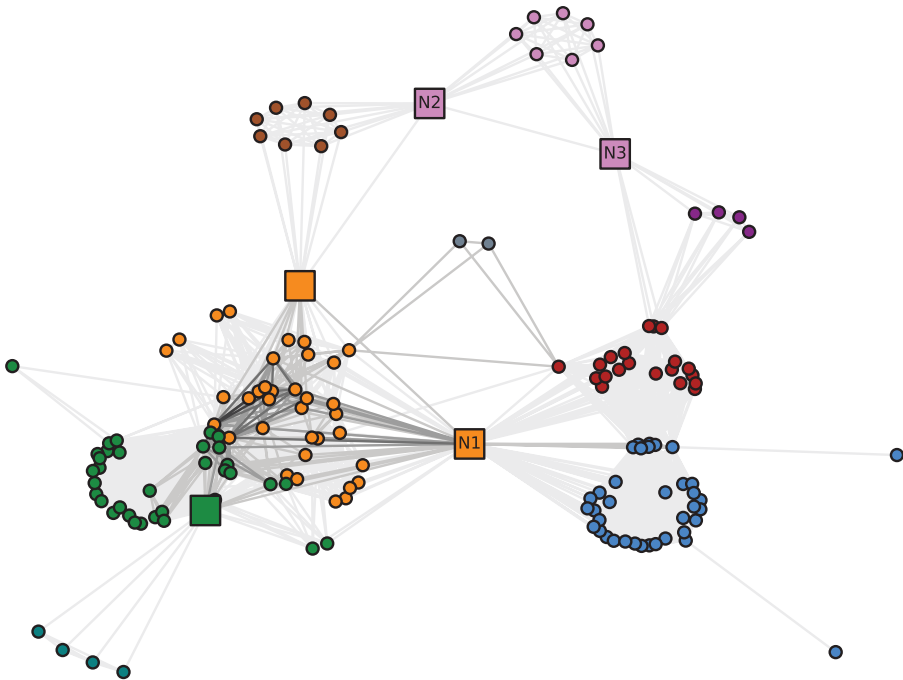


Figure 3. Visualization of the largest connected component of the 1-mode *vory*-to-*vory* network. Node colours represent faction affiliations, while the large square nodes represent the five nodes with the highest betweenness centrality scores.

There are, however, two key ways in which factions are connected. First, some factions share close relationships with each other, as evinced by strong interconnections between multiple members. For example, among the four largest factions, there are two faction pairs where each faction shares material overlap with its counterpart, suggesting close social and working relationships that would enable joint competition against other factions. Second, individual *vory* also act as key bridges between different factions. In [Figure 3](#), the five actors with the highest betweenness centrality scores—a measure of node centrality often used to identify brokers in social networks—are denoted as squares. The central node labelled N1 acts as a particularly important broker among the *vory*, with a betweenness centrality scores three times higher than the next-highest actor. This *vory*, named Niko Dgebuadze, is not a prominent or powerful actor. Instead, he is a member of multiple factions, as evinced by his direct co-signing relationships with members from four factions, and mediates exchange between the different groups. He was arrested twice for drug possession but spent as little as a year in prison. Hence, he was able to coordinate the *vory*'s communication from outside of prison and signed seven *progonny* between 2013 and 2022. According to [PrimeCrime.ru](#), he was a protégé of another more prominent *vory*—Gela Kardava—and ‘established himself as a selfless fighter’ for his protector’s interests during numerous conflicts among clans ([PrimeCrime.ru 2013](#)). The shortest paths between the four largest factions go directly through Dgebuadze. The other brokers identified as square nodes in [Figure 3](#) play a similar role, although to a lesser extent than Dgebuadze. For example, *vory* Oleg Shishkanov (N2) and Konstantin Borisov (N3) signed two *progonny* each, one of them together. The two were close friends and partners and crowned other *vory* together ([Vershov 2018](#)). Both were involved in numerous alliances within the fraternity and thus shorten paths between members of different factions. This second form of interconnection enables cohesion on the part of the entire association; while less indicative of close working relationships than overlap, these brokers enable communication and cooperation between otherwise-disconnected clusters.

Results from the rich-club coefficient distributions suggest the *vory* association shows signs of polycentric rich polarization. [Figure 4](#) shows the RCC distributions for the 2-mode and unweighted 1-mode networks. The negative effect shown in the 2-mode RCC distribution suggests that *vory* that sign more *progonny* tend to co-sign together less than expected at random; the effect size, however, still indicates some level of connectivity between frequently-signing *vory*. Conversely, the unweighted 1-mode RCC distribution suggests the co-signing network does not show strong topological rich-club ordering—nodes with many co-signers connect approximately as often as expected at random.

While the unweighted RCC distribution suggests that well-connected *vory* do not have a material tendency to connect with each other, the distributions in [Figure 5](#) suggest when prominent *vory* do connect, they tend to form stronger ties than expected at random. This is true when prominence is defined as an actor’s number of co-signers or the strength of the ties with those co-signers. *Vory* that sign many documents and those that co-sign with many others are not more likely to co-sign together, leading in multiple centres of power rather than one club of ‘rich’ nodes; when these ‘rich’ nodes do connect, however, they form strong ties.

Hypothesis-testing model results

Beyond exploring the social structure of the *vory*, we also test competing hypotheses from the literature on the drivers of connections between *vory*. First, results from the multilevel ERGM are presented in [Table 7](#). The structural controls confirm some of the findings from the Progonny Sample Descriptive Statistics and Exploratory Network Analysis sections. The *Progonny* Popularity parameter is positive and significant, suggesting that *progonny* with many signatures are more likely to attract additional signers. The term for 2-mode reinforcement is negative,

small, and statistically insignificant. The attribute parameters suggest that *vory* of the same ethnicity and who share a crowning tie are more likely to co-sign together. Heuristically, the Crowning Relationship coefficient is larger than the value for the Shared Ethnicity term, suggesting that crowning relationships are likely a more impactful driver of co-signing than shared ethnicity. However, as noted in the Methods section, interpreting and comparing the magnitudes of ERGM parameter coefficients can be difficult; to determine the relative importance of ethnicity, age and crowning relationships in co-signing decisions, we specify a series of MRQAP models.

Models 1 and 2 in Table 8 exclude shared ethnicity and crowning relationships respectively, while Model 3 contains all three relevant parameters. All three models do not find a significant effect of age similarity on co-signing behaviour. While the coefficients for shared ethnicity in Models 1 and 3 are positive and statistically significant, the effect size is small; further, the

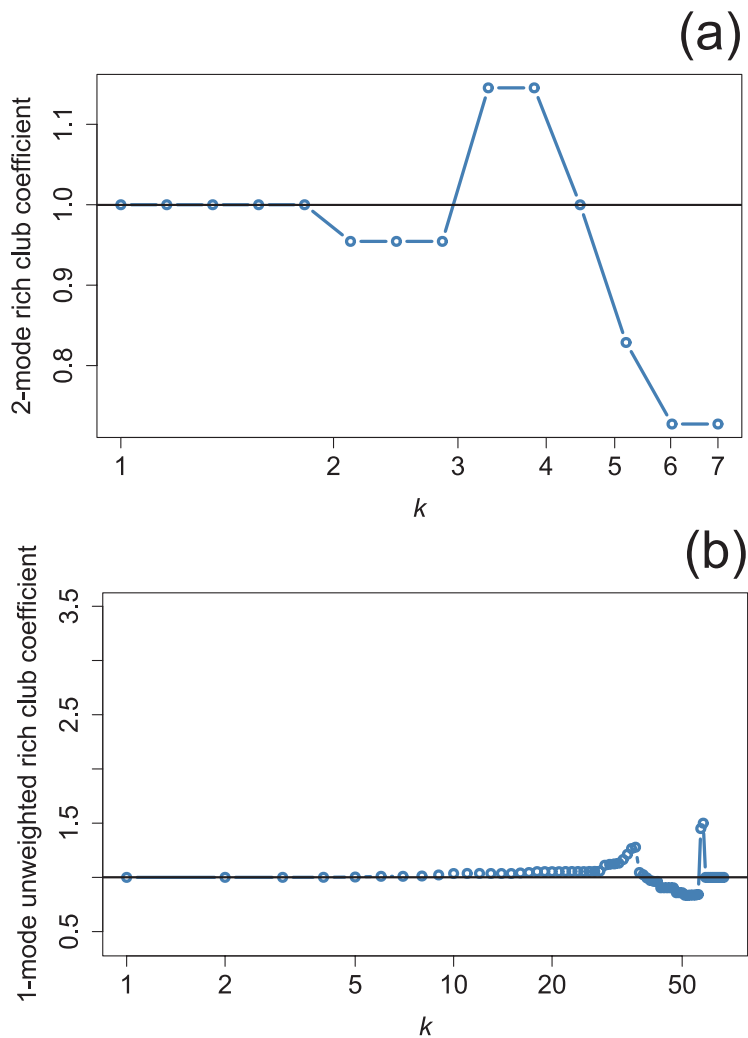


Figure 4. Rich-club coefficient distributions for (a) the 2-mode *vor*-to-*progon* network where prominence is determined by the number of *progon* a *vor* has signed and (b) the unweighted 1-mode *vor*-to-*vor* network where prominence is determined by a *vor*'s degree k .

R^2 value for Model 1—excluding the crowning relationships parameter—is much lower than the values for Models 2 and 3 which do include crowning relationships. Some effect of ethnic homophily is to be expected given prior findings in the literature on the network structure of organized crime groups (Oliver *et al.* 2014). The small effect size and low R^2 , however, suggest that ethnicity-based clustering is not a material determinant of the observed network structure. The crowning relationship parameter, on the other hand, is both statistically significant and a much stronger determinant of co-signing relationships; its coefficient size is nearly nine times larger than that for shared ethnicity and the parameter's inclusion in the model drives most of the explained variance based on the increase in R^2 . Further, the coefficient values for the shared ethnicity and crowning relationship parameters are largely similar across models regardless of whether the other parameter is included; this suggests that the parameters are not collinear and that they are independent. Rather than *vory* crowning new recruits of the same ethnic group,

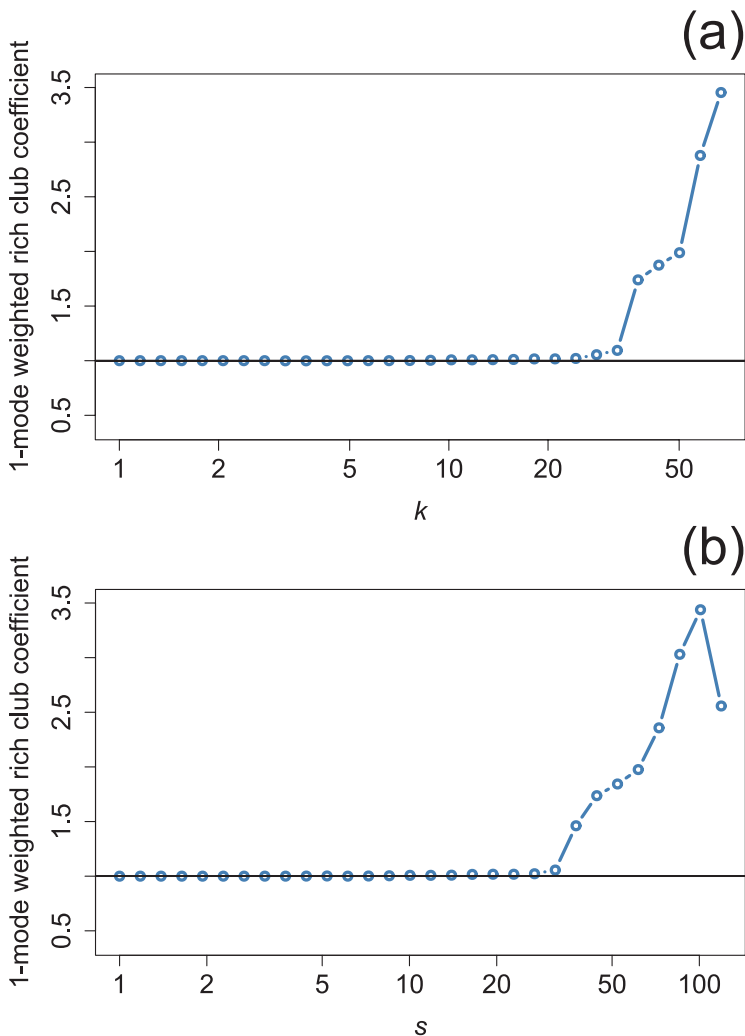


Figure 5. Rich-club coefficient distributions for the weighted 1-mode *vory*-to-*vory* network where prominence is determined by (a) a *vory*'s degree k and (b) a *vory*'s strength s

Table 7. Multilevel ERGM results

Parameters	Coefficient	SE	t-ratio	SACF
Edge Statistic	−11.788*	0.658	0.057	0.310
<i>Structural Effects</i>				
Progency Popularity	4.339*	0.367	0.049	0.247
Vory Co-Signing Reinforcement	−0.032	0.018	−0.023	0.032
<i>Attribute Effects</i>				
Age Difference	−0.001	0.001	−0.006	0.044
Shared Ethnicity	0.080*	0.015	−0.006	0.081
Crowning Relationship	0.540*	0.050	0.028	0.117

Statistical significance indicated by *. Parameters for which the absolute value of the ratio between its coefficient and standard error is greater than 2 are considered significant.

Table 8. MRQAP results

Variables	Model 1		Model 2		Model 3	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Intercept	0.178***	0.000	0.182***	0.000	0.161***	0.000
Shared Ethnicity	0.060***	0.017	--	--	0.058***	0.017
Age Difference	−0.001	0.001	−0.002	0.001	−0.002	0.001
Crowning Relationship	--	--	0.513***	0.026	0.512***	0.026
<i>Model Fit</i>						
R ²	0.004***		0.052***		0.056***	
R ² (adj.)	0.004***		0.052***		0.055***	

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

the crowning relationships appear to cut across the ethnicity cleavage, with *vory* showing no material observed preference for those from their ethnic group.

For the analyses presented in this section that utilized the weighted 1-mode network—the RCC distributions and MRQAP model—the results are robust to the projection method used. The [Supplementary Materials](#) include results for these two analyses using the Newman projection for 2-mode networks (Newman 2001) which mirror the findings in the Results section using the count overlap projection. The [Supplementary Materials](#) also include goodness-of-fit results for the multilevel ERGM, which suggest the model was well-behaved, non-degenerate and tended to capture the structural characteristics of the observed network well.

DISCUSSION

The findings presented in the Results section depict the *vory* as a multiethnic, multigenerational association structured around factions but interconnected by a small number of key brokers. Overall, members cluster around multiple poles of power that are poorly connected to each other, creating polycentric polarization; when these poles connect, however, they tend to form strong ties. These findings of polycentricity and factionalization are in-line with prior research.

Despite this, the fraternity is more cohesive than prior qualitative accounts suggest. Different topological factions share interconnections among multiple members. This fragmented system is further held together by a small number of *vory* that have relationships across multiple factions. Similar to the department-bridging managers in Burt (2004)'s study or Italian-American Mafia bosses that connect disparate Families in DellaPosta (2017, 2023)—both of which bridge formal divisions—a small set of *vory* act as brokers between the informal factions identified in the co-signing network. While the *vory* are factionalized, they maintain interconnectivity that can allow for cooperation, coordination and reconciliation.

Prior accounts disagree on the basis for factionalization. We find that factions are not ethnically or generationally defined; instead, they are more associated with crowning relationships and vertical patronage ties that cross-cut ethnic and generational cleavages. This fact has likely contributed to the historical and present resiliency of the *vory* fraternity. Unlike other mafias, the *vory* face unique challenges because they are not monoethnic and contain bosses with a wider range of ages than other mafias. These factors present cleavages along which the association could split in times of internal conflict or external pressure, leaving the fraternity vulnerable to schisms. Cross-cutting institutional relationships like crowning and patronage, however, act to buttress against the tendency for actors to form ties with similar others that can result in disconnected homogenous communities. While it is unlikely that the *vory* intentionally designed this structure, it likely played a part in maintaining the fraternity through decades of state repression and violent conflict. Despite this, viewing the *progonny* co-signing network reveals the *vory* system to be fragile and vulnerable to fragmentation generally. While vertical patronage relationships can strengthen against demographic attribute-based factionalization, the network is still based on strongly intraconnected communities tenuously held together by a few key brokers.

These findings can provide insight into the high-level structures of other mafias. While the ability to generalize our results is limited by the specific nature of the data and differences in context and organizational structure between the *vory* and other mafias, trends in recent years and decades suggest that other mafias may have become more similar to the *vory*. The higher-level coordinating bodies of many mafias like the Sicilian Cosa Nostra, the Italian-American Mafia and the Hong Kong and Taiwanese triads have become defunct due to increased police pressure; even for those where formal coordination mechanisms still exist—like the 'Ndrangheta and the yakuza—increased law enforcement attention in the past two decades has weakened their efficacy. Further, this police pressure has made regular meetings attended by all bosses or representatives more difficult. The lack of formal coordinating bodies and growing logistical problems are similar to the problems facing the *vory*. As they become more disparate and lose formal coordination structures, our findings suggest that mafias may face factionalization as weaker bosses seek the protection of more influential ones; this further creates opportunities for brokers to bridge structural holes and connect not just between Families but also between clusters of bosses.

CONCLUSION

Despite internal conflict and external pressures, the *vory* have existed for more than a century. Prior qualitative evidence on the structure of the fraternity has been mixed and contradictory. Our exploratory analysis based on their *progonny* co-signing decisions finds that the *vory* today are fragmented but interconnected. Key poles of power draw other members towards them using vertical patronage relationships. Clusters are largely disconnected, but a small set of strategically positioned brokers bridge between groups. Finally, we find that co-signing decisions are primarily driven by patronage relationships—operationalized using

crowning ties—while ethnicity and age are not material determinants of co-signing. The *vory* are a largely multiethnic, multigenerational, polycentric association that is both factionalized and interconnected.

Our findings contribute to the literature on the *vory* by providing insight into the underlying social structure of the association. Further, we contribute to the literature on mafia structure by providing a first look inside a mafia's higher-level coordination body. Despite limitations around potential missing data, a lack of geographic data and differences in context, our results provide insight into how bosses in other mafias may interact, especially as these other mafias increasingly face the same problems as the *vory* like the inability to meet and the destruction of formal higher-level coordination bodies. Finally, our findings have implications for the formation of factions and organizational structure in non-criminal organizations; while the *vory* face particular issues as criminals, legal-market organizations like corporations and legislative bodies also face challenges from informal power hierarchies, attribute differences and the growth of siloed subgroups.

Future research can build upon our findings in three main ways. First, our analysis focuses on *progency* co-signing, which is one way in which *vory* interact; future studies can look to collect additional relational information on the *vory* to better understand the whole social structure of the fraternity. Second, our research suggests that using non-standard data sources can enable analysis of the structure of higher-level coordination within other mafias, presenting a future avenue for better understanding other mafias and comparing between them. Finally, our findings on factionalization and brokers are similar to those of [Burt \(2004\)](#)'s analysis of mid-level managers in a large electronics company; future research should look to compare cluster formation and brokerage across different types of organizations. For example, the role of brokers may differ between legal and illegal settings and between settings where factions are organizationally defined or arise from informal social relationships. The story of the *vory* provides insights into how factions can arise informally and how organizations can remain resilient and enable coordination.

SOURCES

Interviews

C1: Interview with former penal colony convict who spent 2 years in prison. 12/12/2022.

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SUPPLEMENTARY MATERIAL

Supplementary material is available at *British Journal of Criminology* online.

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